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**SOFTWARE DESIGN DOCUMENT
SAF Workstation CSCI (6)**

Volume 2 of 2 Sections 2.4.3.4.87 - 2.9.7 and Appendices

June, 1991

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Prepared by:

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Prepared for:

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A Simulation Network (SIMNET) project Software Design Document that describes the Semi-Automated Forces (SAF) Workstation Computer Software Configuration Item (CSCI number 6) of the SIMNET hardware and software training system for vehicle crew training and operational training.

14. SUBJECT TERMS

SIMNET Software Design Document for the SAF Workstation CSCI (CSCI 6).

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2.4.3.4.87 *LOCAL-IMAGE-TABLE*

Definition 87

>saf>simnet-objects>draw-vehicles.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: IMAGE-FOR-VEHICLE
>saf>simnet-objects>draw-vehicles.lisp
INIT-IMAGES
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.4.3.4.88 *REMOTE-IMAGE-TABLE*

Definition 88

>saf>simnet-objects>draw-vehicles.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: IMAGE-FOR-VEHICLE
>saf>simnet-objects>draw-vehicles.lisp
INIT-IMAGES
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.4.3.4.89 INIT-IMAGES

Definition 89

>saf>simnet-objects>draw-vehicles.lisp
Type: Function
Arguments: ()
Outputs:
Calls: UPDATE-SCALE
>saf>simnet-objects>draw-vehicles.lisp
TANK-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
MECH-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
AMMO-TRUCK-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
FUEL-TRUCK-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
SUPPLY-TRUCK-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
MORTAR-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
HOWITZER-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
COMMAND-POST-IMAGE


```
>saf>simnet-objects>draw-vehicles.lisp
UNKNOWN-VEHICLE-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
SMOKE-CLOUD-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
FAADS-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
*LOCAL-IMAGE-TABLE*
>saf>simnet-objects>draw-vehicles.lisp
*REMOTE-IMAGE-TABLE*
>saf>simnet-objects>draw-vehicles.lisp
Called by: (INITIALIZATION *SAF-INITIALIZATION-LIST* Init Images)
No Source File Record
Description: None
```

2.4.3.4.90 Init Images

Definition 90

```
>saf>simnet-objects>draw-vehicles.lisp
Type: ADD-INITIALIZATION
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.4.3.4.91 'IMAGE-FOR-VEHICLE

Definition 91

```
>saf>simnet-objects>draw-vehicles.lisp
Type: EXPORT
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.4.3.4.92 IMAGE-FOR-VEHICLE

Definition 92

```
>saf>simnet-objects>draw-vehicles.lisp
Type: Function
Arguments: (VEHICLE-TYPE SOURCE)
Outputs:
Calls: MAX-VEH-TYPES
>saf>network>vars.lisp
REMOTE
>saf>network>vars.lisp
*IMAGE-ARRAY*
>saf>simnet-objects>draw-vehicles.lisp
```

```

*LOCAL-IMAGE-TABLE*
>saf>simnet-objects>draw-vehicles.lisp
*REMOTE-IMAGE-TABLE*
>saf>simnet-objects>draw-vehicles.lisp
Called by:  ERASE-SANDBOX-OBJECT
            >saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
            >saf>sandbox>sandbox-object.lisp
(METHOD ERASE VEHICLE)
            >saf>objects>vehicle.lisp
(METHOD DRAW VEHICLE)
            >saf>objects>vehicle.lisp

```

Description: None

2.4.3.5 CSU `simnet-objects>new-draw-vehicles.lisp`

This unit contains new code for drawing vehicles on the PVD. Instead of using graphics drawing primitives, as in `draw-vehicles.lisp`, it gets the images from two special fonts, `bluefor-icons.bfd`, and `opfor-icons.bfd`, located in the `saf>fonts` directory. This is considerably faster than the old method. However, because the fonts provided a fairly small set of images, the code in this unit can only draw vehicles in one of 8 fixed orientations, while the code in `draw-vehicles.lisp` can draw the image at any orientation. The "rotation-number" for a given angle is computed by the substitution *find-icon-rotation*.

2.4.3.5.1 $\pi/8$

Definition 1

```

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments:  ()
Outputs:
Calls: None
Called by:  DRAW-VEHICLE
            >saf>simnet-objects>new-draw-vehicles.lisp
            FIND-ICON-ROTATION
            >saf>simnet-objects>new-draw-vehicles.lisp
Description: None

```

2.4.3.5.2 $3\pi/8$

Definition 2

```

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments:  ()
Outputs:
Calls: None
Called by:  DRAW-VEHICLE
            >saf>simnet-objects>new-draw-vehicles.lisp
            FIND-ICON-ROTATION
            >saf>simnet-objects>new-draw-vehicles.lisp
Description: None

```

2.4.3.5.3 $5\pi/8$ **Definition 3**

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: **DRAW-VEHICLE**
>saf>simnet-objects>new-draw-vehicles.lisp
FIND-ICON-ROTATION
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.4 $7\pi/8$ **Definition 4**

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: **DRAW-VEHICLE**
>saf>simnet-objects>new-draw-vehicles.lisp
FIND-ICON-ROTATION
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.5 $9\pi/8$ **Definition 5**

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: **DRAW-VEHICLE**
>saf>simnet-objects>new-draw-vehicles.lisp
FIND-ICON-ROTATION
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.6 $11\pi/8$ **Definition 6**

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None

Called by: DRAW-VEHICLE
 >saf>simnet-objects>new-draw-vehicles.lisp
 FIND-ICON-ROTATION
 >saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.7 $13\pi/8$

Definition 7

 >saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: DRAW-VEHICLE
 >saf>simnet-objects>new-draw-vehicles.lisp
 FIND-ICON-ROTATION
 >saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.8 $15\pi/8$

Definition 8

 >saf>simnet-objects>new-draw-vehicles.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: DRAW-VEHICLE
 >saf>simnet-objects>new-draw-vehicles.lisp
 FIND-ICON-ROTATION
 >saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.9 FIND-ICON-ROTATION

Definition 9

 >saf>simnet-objects>new-draw-vehicles.lisp
Type: Subst
Arguments: (ANGLE)
Outputs:
Calls: $\pi/8$
 >saf>simnet-objects>new-draw-vehicles.lisp
 $3\pi/8$
 >saf>simnet-objects>new-draw-vehicles.lisp
 $5\pi/8$
 >saf>simnet-objects>new-draw-vehicles.lisp
 $7\pi/8$
 >saf>simnet-objects>new-draw-vehicles.lisp
 $9\pi/8$
 >saf>simnet-objects>new-draw-vehicles.lisp

11 π /8
>saf>simnet-objects>new-draw-vehicles.lisp
13 π /8
>saf>simnet-objects>new-draw-vehicles.lisp
15 π /8
>saf>simnet-objects>new-draw-vehicles.lisp
Called by: DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.10 *ICON-TABLE*

Definition 10

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
VEHICLE-ICON
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.11 *ICON-HASH-TABLE*

Definition 11

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
VEHICLE-ICON
>saf>simnet-objects>new-draw-vehicles.lisp
INIT-VEHICLE-ICON-TABLE
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.12 INIT-VEHICLE-ICON-TABLE

Definition 12

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *ICON-HASH-TABLE*
>saf>simnet-objects>new-draw-vehicles.lisp

Called by: (INITIALIZATION *SAF-INITIALIZATION-LIST* Init Icons)
No Source File Record
Description: None

2.4.3.5.13 VEHICLE-ICON

Definition 13

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Subst
Arguments: (TYPE ROTATION COUNTRY)
Outputs:
Calls: *ICON-TABLE*
>saf>simnet-objects>new-draw-vehicles.lisp
ICON-HASH-TABLE
>saf>simnet-objects>new-draw-vehicles.lisp
Called by: DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.14 DRAW-VEHICLE-ICON

Definition 14

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Subst
Arguments: (RASTER ICON X Y FONT ALU)
Outputs:
Calls: None
Called by: DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
Description: None

2.4.3.5.15 DRAW-VEHICLE

Definition 15

>saf>simnet-objects>new-draw-vehicles.lisp
Type: Function
Arguments: (RASTER TYPE X Y BEARING COUNTRY ALU SENSITIVEP)
Outputs:
Calls: WITH-INTEGER-CONVERSION-MODE
>map>utilities.lisp
WITH-MAP-GRAPHICS
>map>utilities.lisp
WORLD-TO-SCREEN
>map>utilities.lisp
 $\pi/8$
>saf>simnet-objects>new-draw-vehicles.lisp
 $3\pi/8$
>saf>simnet-objects>new-draw-vehicles.lisp
 $5\pi/8$
>saf>simnet-objects>new-draw-vehicles.lisp
 $7\pi/8$

```

>saf>simnet-objects>new-draw-vehicles.lisp
9π/8
>saf>simnet-objects>new-draw-vehicles.lisp
11π/8
>saf>simnet-objects>new-draw-vehicles.lisp
13π/8
>saf>simnet-objects>new-draw-vehicles.lisp
15π/8
>saf>simnet-objects>new-draw-vehicles.lisp
FIND-ICON-ROTATION
>saf>simnet-objects>new-draw-vehicles.lisp
*ICON-TABLE*
>saf>simnet-objects>new-draw-vehicles.lisp
*ICON-HASH-TABLE*
>saf>simnet-objects>new-draw-vehicles.lisp
VEHICLE-ICON
>saf>simnet-objects>new-draw-vehicles.lisp
DRAW-VEHICLE-ICON
>saf>simnet-objects>new-draw-vehicles.lisp
Called by:  ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
(METHOD ERASE VEHICLE)
>saf>objects>vehicle.lisp
(METHOD DRAW VEHICLE)
>saf>objects>vehicle.lisp
Description:  None

```

2.4.3.6 CSU simnet-objects>draw-effects

This unit contains functions to draw and erase effects, such as vehicle-impacts, ground-bursts, artillery rounds, and mine explosions. When effect-packets are received from the Simhost by the RUDP process, they are placed on a queue that is emptied by the update process, which calls these functions to display the effects on the PVD.

2.4.3.6.1 DRAW-IMPACT

Definition 1

```

>saf>simnet-objects>draw-effects.lisp
Type: Function
Arguments: (IMPACTOR-X IMPACTOR-Y IMPACTEE-X IMPACTEE-Y ROUND-
SIZE ALU &OPTIONAL (WINDOW *PVD-DISPLAY*))
Outputs:
Calls: WITH-INTEGER-CONVERSION-MODE
>map>utilities.lisp
WITH-MAP-GRAPHICS
>map>utilities.lisp
WITH-FAST-MAP-GRAPHICS
>map>utilities.lisp
*PVD-DISPLAY*
>saf>sys>vars.lisp

```

Called by: ERASE-IMPACT
>saf>simnet-objects>draw-effects.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp

Description: None

2.4.3.6.2 ERASE-IMPACT

Definition 2

>saf>simnet-objects>draw-effects.lisp
Type: Function
Arguments: (IMPACTOR-X IMPACTOR-Y IMPACTEE-X IMPACTEE-Y ROUND-SIZE)
Outputs:
Calls: *ERASE-EFFECTS-ALU*
>saf>sys>vars.lisp
DRAW-IMPACT
>saf>simnet-objects>draw-effects.lisp
Called by: PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.4.3.6.3 AMMO-TYPE-RADIUS

Definition 3

>saf>simnet-objects>draw-effects.lisp
Type: Function
Arguments: (IGNORE)
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
MIN-IMAGE-SCALE
>saf>simnet-objects>draw-vehicles.lisp
Called by: PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.4.3.6.4 MINE-AMMO-TYPE

Definition 4

>saf>simnet-objects>draw-effects.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None

Called by: HANDLE-ARTY
>saf>simnet-objects>draw-effects.lisp
Description: None

2.4.3.6.5 HANDLE-ARTY

Definition 5

>saf>simnet-objects>draw-effects.lisp
Type: Function
Arguments: (X Y AMMO-TYPE)
Outputs:
Calls: *ERASE-EFFECTS-ALU*
>saf>sys>vars.lisp
BOMB-EFFECTS-ALU
>saf>sys>vars.lisp
YELLOW-EFFECTS-ALU
>saf>sys>vars.lisp
EFFECTS-QUEUE
>saf>sys>vars.lisp
QUEUE-PUSH-LAST
>saf>sys>macros.lisp
QUEUE-ERASE-EFFECT
>saf>sys>macros.lisp
MINE-AMMO-TYPE
>saf>simnet-objects>draw-effects.lisp
DRAW-ARTY
>saf>simnet-objects>draw-effects.lisp
Called by: PROCESS-INDIRECT-FIRE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.4.3.6.6 DRAW-ARTY

Definition 6

>saf>simnet-objects>draw-effects.lisp
Type: Function
Arguments: (X Y ALU)
Outputs:
Calls: WITH-INTEGER-CONVERSION-MODE
>map>utilities.lisp
WITH-MAP-GRAPHICS
>map>utilities.lisp
WITH-FAST-MAP-GRAPHICS
>map>utilities.lisp
PVD-DISPLAY
>saf>sys>vars.lisp
MIN-IMAGE-SCALE
>saf>simnet-objects>draw-vehicles.lisp
Called by: HANDLE-ARTY
>saf>simnet-objects>draw-effects.lisp
Description: None

2.4.3.6.7 ERASE-ELASPED-EFFECTS

Definition 7

>saf>simnet-objects>draw-effects.lisp
 Type: Function
 Arguments: (TIME-LIMIT)
 Outputs:
 Calls: *EFFECTS-QUEUE*
 >saf>sys>vars.lisp
 Called by: UPDATE-TOP-LEVEL-AUX
 >saf>sys>update-process.lisp
 Description: erase effects that have been displayed for longer than the passed time

2.4.3.7 CSU simnet-objects>draw-units

This CSU defines the function *draw-unit* that draws unit icons on the PVD. This function uses a hash-table linking unit names to characters. The character corresponds to the icon for the unit, in the font fonts>opfor-icons.bfd.

2.4.3.7.1 *UNIT-ICON-TABLE*

Definition 1

>saf>simnet-objects>draw-units.lisp
 Type: Variable
 Arguments: ()
 Outputs:
 Calls: None
 Called by: DISPLAY-FOR-TASK-ORG
 >saf>ui>task-org.lisp
 DRAW-UNIT
 >saf>simnet-objects>draw-units.lisp
 UNIT-ICON
 >saf>simnet-objects>draw-units.lisp
 INIT-UNIT-ICON-TABLE
 >saf>simnet-objects>draw-units.lisp
 Description: None

2.4.3.7.2 INIT-UNIT-ICON-TABLE

Definition 2

>saf>simnet-objects>draw-units.lisp
 Type: Function
 Arguments: ()
 Outputs:
 Calls: VEH-MAIN-BATTLE-TANK
 >saf>network>vars.lisp
 VEH-PERSONNEL-CARRIER
 >saf>network>vars.lisp
 VEH-ATTACK-HELICOPTER
 >saf>network>vars.lisp

VEH-SCOUT-HELICOPTER
>saf>network>vars.lisp
VEH-FIGHTER-BOMBER
>saf>network>vars.lisp
VEH-ANTI-AIRCRAFT
>saf>network>vars.lisp
UNIT-ICON-TABLE
>saf>simnet-objects>draw-units.lisp
Called by: (INITIALIZATION *SAF-INITIALIZATION-LIST* Init Icons)
No Source File Record
Description: None

2.4.3.7.3 Init Icons

Definition 3

>saf>simnet-objects>draw-units.lisp
Type: ADD-INITIALIZATION
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.4.3.7.4 UNIT-ICON

Definition 4

>saf>simnet-objects>draw-units.lisp
Type: Subst
Arguments: (INDEX)
Outputs:
Calls: *UNIT-ICON-TABLE*
>saf>simnet-objects>draw-units.lisp
Called by: DISPLAY-FOR-TASK-ORG
>saf>ui>task-org.lisp
DRAW-UNIT
>saf>simnet-objects>draw-units.lisp
Description: None

2.4.3.7.5 DRAW-UNIT

Definition 5

>saf>simnet-objects>draw-units.lisp
Type: Function
Arguments: (STREAM X Y UNIT-TYPE VEHICLE-TYPE ALU)
Outputs:

Calls: WITH-INTEGGER-CONVERSION-MODE

>map>utilities.lisp

WITH-MAP-GRAPHICS

>map>utilities.lisp

UNIT-ICON-TABLE

>saf>simnet-objects>draw-units.lisp

UNIT-ICON

>saf>simnet-objects>draw-units.lisp

Called by: DRAW-SANDBOX-UNIT

>saf>sandbox>sandbox-object.lisp

Description: None

2.4.3.7.6 '(DRAW-PLATOON DRAW-SCOUT-PLATOON DRAW-IVIS- PLATOON DRAW-COMPANY DRAW-BATTALION DRAW- PAIR

Definition 6

DRAW-FLIGHT DRAW-SQUADRON DRAW-COMPANY-TEAM-- DRAW-DIV-
RECON-CO)

>saf>simnet-objects>draw-units.lisp

Type: EXPORT

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.5 WORLD STATE CSC

This CSC contains the code to represent the state of the vehicles and units on the SIMNET battlefield. It also contains the code which is called by the RUDP process to update the state of the world. The drawing code is called by the RUDP process whenever new information about vehicles states is received and by the update process whenever the terrain is redrawn. This CSC also contains code that graphically depicts the hierarchy of data types used to represent the states of vehicles and units on the SIMNET battlefield.

This CSC contains the following CSUs:

```
simnet-objects>macros.lisp csu
objects>defobject.lisp csu
objects>simnet-name-mixin.lisp csu
objects>gunner.lisp csu
objects>simnet-agent.lisp csu
objects>composite-object.lisp csu
objects>vehicle.lisp csu
simnet-objects>vehicle-tracking.lisp csu
objects>grapher-node.lisp csu
objects>object-grapher.lisp csu
```

2.5.1 CSU simnet-objects>macros.lisp

Defines macros used to access and modify vehicle descriptor lists, which are used in the update process. Each list has a vehicle id, a vehicle instance, a packet-copy, and a new-flag. The update process reads a vehicle id from a Simhost message packet, and uses the vehicle id as a reference into an array of vehicle descriptor lists. There it recovers the vehicle instance corresponding to the vehicle id. The new-flag tells whether the vehicle descriptor list is "new", and is used to determine if the vehicle has disappeared from simnet; a disappeared vehicle will stop sending new messages. The packet-copy entry in the list is no longer in use.

2.5.1.1 ACCESS-ID

Definition 1

```
>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER)
Outputs:
Calls: None
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
HANDLE-NAN-ERROR
>saf>simnet-objects>vehicle-tracking.lisp
ASSOCIATE-VEHICLE-HOLDER
>saf>simnet-objects>macros.lisp
Description: None
```

2.5.1.2 ACCESS-VEHICLE-INSTANCE

Definition 2

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER)
Outputs:
Calls: None
Called by: POLL-COMPLETED
>saf>sys>update-process.lisp
ERASE-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
REDRAW-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
HANDLE-NAN-ERROR
>saf>simnet-objects>vehicle-tracking.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.1.3 ACCESS-NEW-FLAG

Definition 3

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER)
Outputs:
Calls: None
Called by: POLL-COMPLETED
>saf>sys>update-process.lisp
Description: None

2.5.1.4 SET-DRAWN-FLAG

Definition 4

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER VALUE)
Outputs:
Calls: None
Called by: (NCWHOPPER DRAW SIMNET-AGENT)
No Source File Record
(NCWHOPPER ERASE SIMNET-AGENT)
No Source File Record
Description: None

2.5.1.5 SET-NEW-FLAG

Definition 5

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER VALUE)
Outputs:
Calls: None
Called by: POLL-COMPLETED
>saf>sys>update-process.lisp
(METHOD UPDATE-POSITION SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.5.1.6 LOOKUP-ID

Definition 6

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (ID ARRAY)
Outputs:
Calls: None
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
GET-VEHICLE-HOLDER
>saf>simnet-objects>vehicle-tracking.lisp
ASSOCIATE-VEHICLE-HOLDER
>saf>simnet-objects>macros.lisp
Description: None

2.5.1.7 SET-ID

Definition 7

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (ID ARRAY VALUE)
Outputs:
Calls: None
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
HANDLE-NAN-ERROR
>saf>simnet-objects>vehicle-tracking.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
ASSOCIATE-VEHICLE-HOLDER
>saf>simnet-objects>macros.lisp
Description: None

2.5.1.8 ACCESS-PAINTED-FLAG

Definition 8

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (VEHICLE-HOLDER)
Outputs:
Calls: None
Called by: POLL-COMPLETED
>saf>sys>update-process.lisp
REDRAW-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
PAINTED-P
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.1.9 ASSOCIATE-VEHICLE-HOLDER

Definition 9

>saf>simnet-objects>macros.lisp
Type: Macro
Arguments: (VEHICLE-HOLDER ARRAY)
Outputs:
Calls: ACCESS-ID
>saf>simnet-objects>macros.lisp
LOOKUP-ID
>saf>simnet-objects>macros.lisp
SET-ID
>saf>simnet-objects>macros.lisp
ASSOCIATE-VEHICLE-HOLDER
>saf>simnet-objects>macros.lisp
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
ASSOCIATE-VEHICLE-HOLDER
>saf>simnet-objects>macros.lisp
Description: None

2.5.1.10 IS-STATUS

Definition 10

>saf>simnet-objects>macros.lisp
Type: Subst
Arguments: (TYPE STATUS)
Outputs:
Calls: None
Called by: INFERIORS-FOR-TASK-ORG
>saf>ui>task-org.lisp
(METHOD DRAW-COMPARTMENT-IMAGE B-COMPARTMENT-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-COMPARTMENT-IMAGE A-COMPARTMENT-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp


```
(METHOD DRAW-TURRET-IMAGE RD-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE SQ-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-HULL-IMAGE HULL-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE FIGHTER-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
```

Description: None

2.5.1.11 DEFINE-ARRAY-ACCESSORS

Definition 11

```
>saf>simnet-objects>macros.lisp
Type: Macro
Arguments: (NAME &REST INDICIES)
Outputs:
Calls: DEFINE-ARRAY-ACCESSORS
>saf>simnet-objects>macros.lisp
Called by: DEFINE-ARRAY-ACCESSORS
>saf>simnet-objects>macros.lisp
Description: None
```

2.5.1.12 X-COMP

Definition 12

```
>saf>simnet-objects>macros.lisp
Type: DEFINE-ARRAY-ACCESSORS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.5.1.13 Y-COMP

Definition 13

```
>saf>simnet-objects>macros.lisp
Type: DEFINE-ARRAY-ACCESSORS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.5.1.14 Z-COMP**Definition 14**

`>saf>simnet-objects>macros.lisp`
Type: **DEFINE-ARRAY-ACCESSORS**
Arguments: `()`
Outputs:
Calls: **None**
Called by: **None**
Description: **None**

2.5.1.15 DEFINE-FLAVOR-ARRAY-ACCESSORS**Definition 15**

`>saf>simnet-objects>macros.lisp`
Type: **Macro**
Arguments: `(FLAVOR IV ACCESSOR)`
Outputs:
Calls: **DEFINE-FLAVOR-ARRAY-ACCESSORS**
`>saf>simnet-objects>macros.lisp`
Called by: **DEFINE-FLAVOR-ARRAY-ACCESSORS**
`>saf>simnet-objects>macros.lisp`
Description: **None**

2.5.2 CSU objects>defobject.lisp

This unit defines the macro *defobject* that is used to create SAF object classes. Objects are an extra layer over the Symbolics flavors system that allow convenient add-ons to flavors capabilities to be handled automatically. Objects are used to represent scenarios, sub-tasks, unit-tasks, overlays, control-measure-points (points used to construct control-measures), control measure behaviors, control measures, units and vehicles. An object type called *simnet-agent* is subclassed to create classes for vehicles and units.

In addition to defining an underlying flavor for the object class, *defobject* records the object created on the list **all-objects**, defines a predicate method that allows a lisp entity to be tested for being an object instance of this kind. Objects can have special kinds of slots called "class slots". Class slots differ from ordinary slots in that there is really only one slot value for all the instances that exist. By setting this slot in one instance, you change it in all existing instances. When new objects are created, they are given the then current class-wide value for the class slot. In CLOS, the Common Lisp Object System, such slots are called "shared slots". See Sonya E. Keene's *Object-Oriented Programming in Common Lisp*, section 4.1.

When *defobject* is called, it also generates slot-methods for any class-slots the object may have.

2.5.2.1 The SAF Object Hierarchy

The following outline shows the SAF Object Hierarchy. An object's subclasses are shown as indented "sub-items". Mixins, [shown in brackets] are mixed in by all objects at or below the outline level at which the mixin appears. For example, *storable-mixin* is mixed into every object, while *gunner* and *simnet-name-mixin* are mixed into *simnet-agent* and its two subclasses, *vehicle* and *composite-object*.

A graphical diagram of this hierarchy can be viewed using the object grapher; see section 2.5.10, CSU objects>object-grapher.lisp.

```
[storable-mixin]
  scenario
  sub-task
  unit-task
  overlay
  control-measure-point
    route-point
  control-measure-behavior
    zone-behavior
    area-behavior
    line-behavior
    cm-point-behavior
    route-behavior
  control-measure
    generic-area
      zone
      area
    line
    cm-point
    route
  simnet-agent [gunner] [simnet-name-mixin]
    vehicle
    composite-object
```

2.5.2.2 *ALL-OBJECTS*

Definition 1

```
>saf>objects>defobject.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-PARENTLESS-OBJECTS
  >saf>objects>object-grapher.lisp
  CLEAR-ALL-GRAPH-NODES
  >saf>objects>object-grapher.lisp
  DEFOBJECT
  >saf>objects>defobject.lisp
Description: None
```

2.5.2.3 GENERATE-OBJECT-CLASS-SLOT-METHODS

Definition 2

>saf>objects>defobject.lisp
 Type: Function
 Arguments: (OBJECT-NAME CLASS-SLOTS)
 Outputs:
 Calls: None
 Called by: DEFOBJECT
 >saf>objects>defobject.lisp
 Description: None

2.5.2.4 DEFINE-PREDICATE-METHOD

Definition 3

>saf>objects>defobject.lisp
 Type: Function
 Arguments: (OBJECT-NAME)
 Outputs:
 Calls: None
 Called by: DEFOBJECT
 >saf>objects>defobject.lisp
 Description: generates a method which returns t if self is of type object-name

2.5.2.5 DEFOBJECT

Definition 4

>saf>objects>defobject.lisp
 Type: Macro
 Arguments: (NAME SLOTS MIXINS &REST OPTIONS)
 Outputs:
 Calls: *ALL-OBJECTS*
 >saf>objects>defobject.lisp
 GENERATE-OBJECT-CLASS-SLOT-METHODS
 >saf>objects>defobject.lisp
 DEFINE-PREDICATE-METHOD
 >saf>objects>defobject.lisp
 DEFOBJECT
 >saf>objects>defobject.lisp
 Called by: DEFOBJECT
 >saf>objects>defobject.lisp
 Description: None

2.5.3 CSU objects>simnet-name-mixin.lisp

This CSU defines a flavor mixin called *simnet-name-mixin*. All simnet-agent objects mix it in, to get slots for their battalion, company, bumper number, and unit name string. A method for creating the bumper number is no longer in use; the Simhost now creates the bumper number and passes it to the Workstation.

2.5.3.1 SIMNET-NAME-MIXIN

Definition 1

>saf>objects>simnet-name-mixin.lisp
Type: DEFOBJECT
Arguments: ()
Outputs:
Calls: None
Called by: SIMNET-AGENT
>saf>objects>simnet-agent.lisp
VEHICLE
>saf>objects>vehicle.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
Description: None

2.5.3.2 (METHOD UNIT-NAME SIMNET-NAME-MIXIN)

Definition 2

>saf>objects>simnet-name-mixin.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.3.3 (METHOD SET-UNIT-NAME SIMNET-NAME-MIXIN)

Definition 3

>saf>objects>simnet-name-mixin.lisp
Type: Method
Arguments: (NEW-NAME)
Outputs:
Calls: None
Called by: None
Description: None

2.5.3.4 (METHOD CLEAR-UNIT-NAME SIMNET-NAME-MIXIN)

Definition 4

>saf>objects>simnet-name-mixin.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.3.5 CONVERT-TYPE-FOR-NAME

Definition 5

>saf>objects>simnet-name-mixin.lisp
Type: Function
Arguments: (UNIT-TYPE TACTICS)
Outputs:
Calls: TACTICS-NATO
>saf>network>vars.lisp
Called by: (METHOD MAKE-UNIT-NAME SIMNET-NAME-MIXIN)
>saf>objects>simnet-name-mixin.lisp
Description: None

2.5.3.6 CONVERT-APPEARANCE-FOR-NAME

Definition 6

>saf>objects>simnet-name-mixin.lisp
Type: Function
Arguments: (VEHICLE)
Outputs:
Calls: VEH-MAIN-BATTLE-TANK
>saf>network>vars.lisp
VEH-PERSONNEL-CARRIER
>saf>network>vars.lisp
VEH-ATTACK-HELICOPTER
>saf>network>vars.lisp
VEH-SCOUT-HELICOPTER
>saf>network>vars.lisp
VEH-FIGHTER-BOMBER
>saf>network>vars.lisp
VEH-ANTI-AIRCRAFT
>saf>network>vars.lisp
Called by: (METHOD MAKE-UNIT-NAME SIMNET-NAME-MIXIN)
>saf>objects>simnet-name-mixin.lisp
Description: None

2.5.3.7 MAKE-BATTALION-NAME

Definition 7

>saf>objects>simnet-name-mixin.lisp
Type: Function
Arguments: (TACTICS TYPE)
Outputs:
Calls: TACTICS-NATO
>saf>network>vars.lisp
TACTICS-WARSAW
>saf>network>vars.lisp
Called by: None
Description: None

2.5.3.8 (METHOD MAKE-UNIT-NAME SIMNET-NAME-MIXIN)

Definition 8

>saf>objects>simnet-name-mixin.lisp
Type: Method
Arguments: ()
Outputs:
Calls: CONVERT-TYPE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
CONVERT-APPEARANCE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
GET-SUBORDINATES-INSTANCES
>saf>objects>simnet-agent.lisp
TACTICS
>saf>bmi>presentation-types.lisp
Called by: None
Description: None

2.5.3.9 SIMNET-NAME-MIXIN

Definition 9

>saf>objects>simnet-name-mixin.lisp
Type: COMPILE-FLAVOR-METHODS
Arguments: ()
Outputs:
Calls: None
Called by: SIMNET-AGENT
>saf>objects>simnet-agent.lisp
VEHICLE
>saf>objects>vehicle.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
Description: None

2.5.4 CSU objects>gunner.lisp

This CSU defines the *gunner* object, used as a mixin by all simnet-agent instances, to provide the weapons capability to vehicles and units. Methods allow control of rules of engagement.

2.5.4.1 *MARKSMAN*

Definition 1

>saf>objects>gunner.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: SET-GLOBAL-FIRE-PARAMETERS

>saf>objects>gunner.lisp
(METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp

Description: None

2.5.4.2 *COMPETENT*

Definition 2

>saf>objects>gunner.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: SET-GLOBAL-FIRE-PARAMETERS

>saf>objects>gunner.lisp
(METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp

Description: None

2.5.4.3 *NOVICE*

Definition 3

>saf>objects>gunner.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: SET-GLOBAL-FIRE-PARAMETERS

>saf>objects>gunner.lisp
(METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp

Description: None

2.5.4.4 SET-GLOBAL-FIRE-PARAMETERS

Definition 4

>saf>objects>gunner.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *MARKSMAN*
>saf>objects>gunner.lisp
COMPETENT
>saf>objects>gunner.lisp
NOVICE
>saf>objects>gunner.lisp
Called by: None
Description: None

2.5.4.5 GUNNER

Definition 5

>saf>objects>gunner.lisp
Type: DEFOBJECT
Arguments: ()
Outputs:
Calls: None
Called by: SIMNET-AGENT
>saf>objects>simnet-agent.lisp
VEHICLE
>saf>objects>vehicle.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
Description: None

2.5.4.6 (METHOD GET-GUNNER-PARMS GUNNER)

Definition 6

>saf>objects>gunner.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.4.7 (METHOD SET-GUNNER-PARMS GUNNER)

Definition 7

>saf>objects>gunner.lisp
Type: Method
Arguments: (FIRE-PERMISSION MAX-RANGE MMSHIP COORDS RADIUS)
Outputs:
Calls: None

Called by: None
Description: None

2.5.4.8 (METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)

Definition 8

>saf>objects>gunner.lisp
Type: Method
Arguments: ()
Outputs:
Calls: SINGLE-POINT
>map>control.lisp
PVD-DISPLAY
>saf>sys>vars.lisp
TARGETING
>saf>network>vars.lisp
HOLD_FIRE
>saf>network>vars.lisp
FIRE_AT_WILL
>saf>network>vars.lisp
FIRE_AT_POSITION
>saf>network>vars.lisp
FIRE_AT_POSITION
>saf>network>vars.lisp
NET-MSG
>saf>rudp>outgoing.lisp
MARKSMAN
>saf>objects>gunner.lisp
COMPETENT
>saf>objects>gunner.lisp
NOVICE
>saf>objects>gunner.lisp
WORKSTATION-MMSHIP-CHANGE
>saf>bmi>bmi-frame.lisp
WORLD-COORDS
>saf>cm>control-measure.lisp
Called by: None
Description: None

2.5.4.9 GUNNER

Definition 9

>saf>objects>gunner.lisp
Type: COMPILE-FLAVOR-METHODS
Arguments: ()
Outputs:
Calls: None

Called by: SIMNET-AGENT
 >saf>objects>simnet-agent.lisp
 VEHICLE
 >saf>objects>vehicle.lisp
 COMPOSITE-OBJECT
 >saf>objects>composite-object.lisp

Description: None

2.5.5 CSU objects>simnet-agent.lisp

This unit contains the definition of *simnet-agent*, the object that is subclassed to represent vehicles and units. Simnet-agent is the basic active simnet entity. It has slots for all the relevant data, including appearance, unit type, alignment, position, whether the source is local or remote, superior, list of inferiors, tactics, display highlighting, formation, unit-tasking, fuel and ammo.

Simnet-agent also mixes in the mixins *gunner*, *simnet-agent-mixin*, and *storable-mixin*.

This unit includes simnet-agent methods for creating, printing, accessing subordinates and superior, handling formations and Combat Instruction Sets, color display, erasure, mouse response, and IVIS control. SAF Command-Processor commands controlling the view presented on the PVD are also defined, as are simnet-agent presentation types.

2.5.5.1 SIMNET-AGENT

Definition 1

>saf>objects>simnet-agent.lisp
 Type: DEFOBJECT
 Arguments: ()
 Outputs:
 Calls: None
 Called by: VEHICLE
 >saf>objects>vehicle.lisp
 COMPOSITE-OBJECT
 >saf>objects>composite-object.lisp
 (PRESENTATION-MOUSE-HANDLER MOUSE-UNIT-OPERATIONS)
 No Source File Record
 SET-INFERIORS-PORT-AND-SUPERIOR-ID
 >saf>sys>new-storage.lisp
 LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 FILTERED-SAVE-INSTANCE
 >saf>sys>new-storage.lisp
 SAVE-FOR-TASKING-P
 >saf>sys>new-storage.lisp
 (METHOD SET-HIGHLIGHTED-PRESENTATION SUB-TASK-PANE AFTER)
 >saf>ui>subordinate-tasking.lisp
 OPORD
 >saf>ui>opord.lisp
 (COMMAND-PARSER-FUNCTION COM-UNIT-OPS)
 No Source File Record
 (NCWHOPPER SET-HIGHLIGHTED-PRESENTATION MAP-WINDOW)

No Source File Record
(METHOD SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE
AFTER)
>saf>ui>task-org.lisp
(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE)
No Source File Record
CLEAR-OVERLAYS
>saf>ui>mouse-interface.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD INTERVENE SIMNET-AGENT RESUPPLY)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
Description: None

2.5.5.2 (METHOD MAKE-INSTANCE SIMNET-AGENT AFTER)

Definition 2

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (&REST INIT-ARGS)
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.3 (METHOD PRINT-SELF SIMNET-AGENT)

Definition 3

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (STREAM PRINT-DEPTH SLASHIFY-P)
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.4 (METHOD VEHICLEP SIMNET-AGENT)

Definition 4

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.5 (METHOD COMPOSITE-OBJECT-P SIMNET-AGENT)

Definition 5

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.6 (METHOD SET-VEHICLE-LOADS SIMNET-AGENT)

Definition 6

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: (AMMO-REMAINING-LIST FUEL-REMAINING)

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.7 (METHOD REINIT SIMNET-AGENT)

Definition 7

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.8 (METHOD MAYBE-REPARSE-SUBORDINATES SIMNET-AGENT)

Definition 8

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: GET-VEHICLE

>saf>simnet-objects>vehicle-tracking.lisp

Called by: None

Description: None

2.5.5.9 (METHOD GET-SUBORDINATES SIMNET-AGENT)

Definition 9

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.10 (METHOD SET-SUBORDINATES SIMNET-AGENT)

Definition 10

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: (NEW-SUBORDINATES-IDS)

Outputs:

Calls: GET-VEHICLE

>saf>simnet-objects>vehicle-tracking.lisp

Called by: None

Description: None

2.5.5.11 (METHOD GET-SUBORDINATES-INSTANCES SIMNET-AGENT)

Definition 11

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.12 (METHOD SET-SUBORDINATES-INSTANCES SIMNET-AGENT)

Definition 12

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: (NEW-SUBORDINATES)

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.13 GET-SUBORDINATES-INSTANCES

Definition 13

>saf>objects>simnet-agent.lisp
Type: DEFSETF
Arguments: ()
Outputs:
Calls: None
Called by: RETURN-SCENARIO-OBJECT-LIST
>saf>sys>new-storage.lisp
SUBORDINATE-TASK
>saf>ui>subordinate-tasking.lisp
INFERIORS-FOR-TASK-ORG
>saf>ui>task-org.lisp
ALL-CHILDREN
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD RESUME-ALL-SUBORDINATES SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD GET-ALL-SUBORDINATES SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD MAKE-UNIT-NAME SIMNET-NAME-MIXIN)
>saf>objects>simnet-name-mixin.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.5.5.14 GET-SUBORDINATES

Definition 14

>saf>objects>simnet-agent.lisp
Type: DEFSETF
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD UPDATE-ECHELON SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.5.5.15 (METHOD GET-ALL-SUBORDINATES SIMNET-AGENT)

Definition 15

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: GET-SUBORDINATES-INSTANCES
>saf>objects>simnet-agent.lisp
Called by: None
Description: None

**2.5.5.16 '(GET-SUPERIOR SET-SUPERIOR GET-SUPERIOR-
INSTANCE SET-SUPERIOR-INSTANCE GET-ALL-
SUPERIORS)**

Definition 16

>saf>objects>simnet-agent.lisp
Type: EXPORT
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.17 (METHOD GET-SUPERIOR SIMNET-AGENT)

Definition 17

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.18 (METHOD SET-SUPERIOR SIMNET-AGENT)

Definition 18

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (NEW-SUPERIOR-ID)
Outputs:
Calls: VEHICLE-ID-IRRELEVANT
>saf>sys>constants.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.19 (METHOD GET-SUPERIOR-INSTANCE SIMNET-AGENT)

Definition 19

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.20 (METHOD SET-SUPERIOR-INSTANCE SIMNET-AGENT)

Definition 20

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: (NEW-SUPERIOR)

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.21 GET-SUPERIOR

Definition 21

>saf>objects>simnet-agent.lisp

Type: DEFSETF

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD UPDATE-ECHELON SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

COM-COMMANDERS-EYE-VIEW

>saf>objects>simnet-agent.lisp

Description: None

2.5.5.22 GET-SUPERIOR-INSTANCE

Definition 22

>saf>objects>simnet-agent.lisp

Type: DEFSETF

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD MOUSE-GESTURE-ITEM-LIST VEHICLE APPEND)

>saf>objects>vehicle.lisp

PROCESS-RESET-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.5.5.23 (METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)

Definition 23

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: ALIGNED-OFFENSE
 >saf>sys>vars.lisp
 ALIGNED-DEFENSE
 >saf>sys>vars.lisp
 ALIGNED-USSR
 >saf>sys>vars.lisp
 ALIGNED-US
 >saf>sys>vars.lisp
 FIND-FORMATIONS
 >saf>sys>interim-model.lisp
 OPFOR
 >saf>network>vars.lisp
 BLUEFOR
 >saf>network>vars.lisp
Called by: None
Description: None

2.5.5.24 (METHOD POSSIBLE-CISS SIMNET-AGENT)

Definition 24

 >saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: ALIGNED-OFFENSE
 >saf>sys>vars.lisp
 ALIGNED-DEFENSE
 >saf>sys>vars.lisp
 ALIGNED-USSR
 >saf>sys>vars.lisp
 ALIGNED-US
 >saf>sys>vars.lisp
 CISS-FOR-ECHELON
 >saf>sys>interim-model.lisp
 OPFOR
 >saf>network>vars.lisp
 BLUEFOR
 >saf>network>vars.lisp
Called by: None
Description: None

2.5.5.25 (METHOD HIGHLIGHT SIMNET-AGENT)

Definition 25

 >saf>objects>simnet-agent.lisp
Type: Method
Arguments: (ON)
Outputs:

Calls: WITH-INTEGER-CONVERSION-MODE

>map>utilities.lisp

WITH-MAP-GRAPHICS

>map>utilities.lisp

WITH-FAST-MAP-GRAPHICS

>map>utilities.lisp

PVD-DISPLAY

>saf>sys>vars.lisp

ERASE-VEHICLES-ALU

>saf>sys>vars.lisp

TRIM-ALU

>saf>sys>vars.lisp

Called by: None

Description: None

2.5.5.26 (METHOD HIGHLIGHT SIMNET-AGENT BEFORE)

Definition 26

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: (ON)

Outputs:

Calls: None

Called by: None

Description: None

2.5.5.27 (METHOD ALU SIMNET-AGENT)

Definition 27

>saf>objects>simnet-agent.lisp

Type: Method

Arguments: ()

Outputs:

Calls: VEH-DESTROYED

>saf>sys>constants.lisp

ALIGNED-FOE

>saf>sys>vars.lisp

ALIGNED-OFFENSE

>saf>sys>vars.lisp

ALIGNED-OFFENSE

>saf>sys>vars.lisp

ALIGNED-DEFENSE

>saf>sys>vars.lisp

ALIGNED-DEFENSE

>saf>sys>vars.lisp

ALIGNED-FRIEND

>saf>sys>vars.lisp

ALIGNED-USSR

>saf>sys>vars.lisp

ALIGNED-USSR

>saf>sys>vars.lisp

ALIGNED-US

```
>saf>sys>vars.lisp
ALIGNED-US
>saf>sys>vars.lisp
*FRIEND-ALLIANCE*
>saf>sys>vars.lisp
*FOE-ALLIANCE*
>saf>sys>vars.lisp
*OFFENSE-ALU*
>saf>sys>vars.lisp
*DEFENSE-ALU*
>saf>sys>vars.lisp
*TRIM-ALU*
>saf>sys>vars.lisp
*PAINT-VEHICLES-AS-ICONS*
>saf>sys>vars.lisp
VEHICLE-STATUS
>saf>network>packet-layouts.lisp
IS-STATUS
>saf>simnet-objects>macros.lisp
```

Called by: None

Description: None

2.5.5.28 (METHOD COUNTRY SIMNET-AGENT)

Definition 28

```
>saf>objects>simnet-agent.lisp
```

Type: Method

Arguments: ()

Outputs:

Calls: ALIGNED-FOE

```
>saf>sys>vars.lisp
ALIGNED-OFFENSE
```

```
>saf>sys>vars.lisp
ALIGNED-OFFENSE
```

```
>saf>sys>vars.lisp
ALIGNED-DEFENSE
```

```
>saf>sys>vars.lisp
ALIGNED-DEFENSE
```

```
>saf>sys>vars.lisp
ALIGNED-FRIEND
```

```
>saf>sys>vars.lisp
ALIGNED-USSR
```

```
>saf>sys>vars.lisp
ALIGNED-USSR
```

```
>saf>sys>vars.lisp
ALIGNED-US
```

```
>saf>sys>vars.lisp
ALIGNED-US
```

```
>saf>sys>vars.lisp
*FRIEND-ALLIANCE*
```

```
>saf>sys>vars.lisp
*FOE-ALLIANCE*
```

```
>saf>sys>vars.lisp
```

Called by: None
Description: None

2.5.5.29 (METHOD GET-TEMPLATE SIMNET-AGENT)

Definition 29

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
TACTICS
>saf>bmi>presentation-types.lisp
Called by: None
Description: None

2.5.5.30 (ERASE SIMNET-AGENT)

Definition 30

>saf>objects>simnet-agent.lisp
Type: DEFWHOPPER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.31 (METHOD ERASE SIMNET-AGENT BEFORE)

Definition 31

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (&OPTIONAL (WINDOW *PVD-DISPLAY*))
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
Called by: None
Description: None

2.5.5.32 (DRAW SIMNET-AGENT)

Definition 32

>saf>objects>simnet-agent.lisp
Type: DEFWHOPPER
Arguments: ()
Outputs:
Calls: None

Called by: None
Description: None

2.5.5.33 (METHOD DRAW SIMNET-AGENT AFTER)

Definition 33

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (&OPTIONAL (WINDOW *PVD-DISPLAY*))
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
Called by: None
Description: None

2.5.5.34 COM-OMNISCIENT-VIEW

Definition 34

>saf>objects>simnet-agent.lisp
Type: CP Command
Arguments: ()
Outputs:
Calls: *VIEW-VEHICLE-ID*
>saf>sys>vars.lisp
OPFOR-IO
>saf>sys>vars.lisp
SAY
>saf>sys>macros.lisp
UNHIGHLIGHT-VIEWPORTS
>saf>objects>simnet-agent.lisp
WORKSTATION-BATTLE-VIEW
>saf>bmi>bmi-frame.lisp
Called by: None
Description: None

2.5.5.35 COM-SAF-OMNISCIENT-VIEW

Definition 35

>saf>objects>simnet-agent.lisp
Type: CP Command
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.36 COM-COMMANDERS-EYE-VIEW

Definition 36

>saf>objects>simnet-agent.lisp
Type: CP Command
Arguments: ()
Outputs:
Calls: *VIEW-VEHICLE-ID*
>saf>sys>vars.lisp
GET-SUPERIOR
>saf>objects>simnet-agent.lisp
UNHIGHLIGHT-VIEWPORTS
>saf>objects>simnet-agent.lisp
HIGHLIGHT-VIEWPORTS
>saf>objects>simnet-agent.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.37 COM-SAF-COMMANDERS-EYE-VIEW

Definition 37

>saf>objects>simnet-agent.lisp
Type: CP Command
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.38 UNHIGHLIGHT-VIEWPORTS

Definition 38

>saf>objects>simnet-agent.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *VIEW-VEHICLE-ID*
>saf>sys>vars.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
HIGHLIGHT-ON-TASK-ORG
>saf>ui>task-org.lisp
Called by: COM-SET-VIEWPORT
>saf>ui>commands.lisp
COM-COMMANDERS-EYE-VIEW
>saf>objects>simnet-agent.lisp
COM-OMNISCIENT-VIEW
>saf>objects>simnet-agent.lisp
Description: None

2.5.5.39 HIGHLIGHT-VIEWPORTS

Definition 39

>saf>objects>simnet-agent.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *VIEW-VEHICLE-ID*
>saf>sys>vars.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
HIGHLIGHT-ON-TASK-ORG
>saf>ui>task-org.lisp
Called by: COM-SET-VIEWPORT
>saf>ui>commands.lisp
(METHOD DRAW-TASK-ORGANIZATION TASK-ORG-PANE AFTER)
>saf>ui>task-org.lisp
COM-COMMANDERS-EYE-VIEW
>saf>objects>simnet-agent.lisp
Description: None

2.5.5.40 (METHOD SHOW-INFERIORS SIMNET-AGENT)

Definition 40

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: DISPLAY-TASK-ORG
>saf>ui>task-org.lisp
Called by: None
Description: None

2.5.5.41 (METHOD HIDE-INFERIORS SIMNET-AGENT)

Definition 41

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: DISPLAY-TASK-ORG
>saf>ui>task-org.lisp
Called by: None
Description: None

2.5.5.42 MOUSE-GESTURE-ITEM-LIST

Definition 42

>saf>objects>simnet-agent.lisp
Type: DEFGeneric
Arguments: ()

Outputs:

Calls: None

Called by: (METHOD MOUSE-GESTURE-MENU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

Description: None

2.5.5.43 (METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)

Definition 43

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: RAD-TO-MIL
>saf>sys>constants.lisp
RADIO-OUTPUT
>saf>sys>vars.lisp
PRETTY-ALIGNMENT-TABLE
>saf>sys>vars.lisp
MATH-TO-COMPASS
>saf>sys>macros.lisp
FORMAT-COORDINATES
>saf>sys>utilities.lisp
QUERY-SUB-STATE
>saf>network>vars.lisp
LOCAL
>saf>network>vars.lisp
NET-MSG
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.5.5.44 (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)

Definition 44

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (BUTTON WINDOW)
Outputs:
Calls: *STEALTH-SITE-NUMBER*
>saf>sys>vars.lisp
STEALTH-HOST-NUMBER
>saf>sys>vars.lisp
FV
>saf>sys>utilities.lisp
ATTACH-STEALTH
>saf>network>commands.lisp
LOCAL
>saf>network>vars.lisp
ATTACH-STEALTH
>saf>network>commands.lisp

TOP-LEVEL-UNIT-P

>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-FRONT
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-BACK
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-UP
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-DOWN
>saf>simnet-objects>vehicle-tracking.lisp
DISPLAY-TASK-ORG
>saf>ui>task-org.lisp

Called by: None

Description: None

2.5.5.45 (METHOD MOUSE-GESTURE-MENU SIMNET-AGENT)

Definition 45

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (BUTTON WINDOW)
Outputs:
Calls: MENU-CHOOSE
>saf>sys>utilities.lisp
MOUSE-GESTURE-ITEM-LIST
>saf>objects>simnet-agent.lisp

Called by: None

Description: None

2.5.5.46 (METHOD MOUSE-GESTURE SIMNET-AGENT)

Definition 46

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (BUTTON WINDOW)
Outputs:
Calls: LOCAL
>saf>network>vars.lisp
OPORD
>saf>ui>opord.lisp

Called by: None

Description: None

2.5.5.47 GET-A-VEHICLE-TO-FOLLOW

Definition 47

>saf>objects>simnet-agent.lisp
Type: Function
Arguments: ()
Outputs:

Calls: TOP-LEVEL-UNITS
 >saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.48 FACE-DIRECTION

Definition 48

 >saf>objects>simnet-agent.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: SINGLE-POINT
 >map>control.lisp
 NET-MSG
 >saf>rudp>outgoing.lisp
Called by: (METHOD INTERVENE SIMNET-AGENT FACE-DIRECTION)
 >saf>objects>intervention.lisp
 FACE-DIRECTION
 >saf>objects>simnet-agent.lisp
Description: None

2.5.5.49 *PRINT-CHANGE-STATUS-MESSAGES*

Definition 49

 >saf>objects>simnet-agent.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD UPDATE-ECHELON SIMNET-AGENT)
 >saf>objects>simnet-agent.lisp
Description: None

2.5.5.50 (METHOD UPDATE-POSITION SIMNET-AGENT)

Definition 50

 >saf>objects>simnet-agent.lisp
Type: Method
Arguments: (NEW-X NEW-Y NEW-DIRECTION NEW-TURRET &OPTIONAL
(FORCE NIL))
Outputs:
Calls: *PVD-DISPLAY*
 >saf>sys>vars.lisp
 SET-NEW-FLAG
 >saf>simnet-objects>macros.lisp
 GET-VEHICLE-HOLDER
 >saf>simnet-objects>vehicle-tracking.lisp
 PAINTED-P
 >saf>simnet-objects>vehicle-tracking.lisp

Called by: None
Description: None

2.5.5.51 (METHOD UPDATE-APPEARANCE SIMNET-AGENT)

Definition 51

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (APPEAR STAT ALIGN TACT BUMP)
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
VEHICLE-STATUS
>saf>network>packet-layouts.lisp
PAINTED-P
>saf>simnet-objects>vehicle-tracking.lisp
TACTICS
>saf>bmi>presentation-types.lisp
Called by: None
Description: None

2.5.5.52 (METHOD UPDATE-ECHELON SIMNET-AGENT)

Definition 52

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: (UTYPE JOB-DESC SUP INFS PORT)
Outputs:
Calls: VEHICLE-ID-IRRELEVANT
>saf>sys>constants.lisp
OPFOR-IO
>saf>sys>vars.lisp
SAY
>saf>sys>macros.lisp
GET-SUBORDINATES
>saf>objects>simnet-agent.lisp
GET-SUPERIOR
>saf>objects>simnet-agent.lisp
PRINT-CHANGE-STATUS-MESSAGES
>saf>objects>simnet-agent.lisp
TOP-LEVEL-UNIT-P
>saf>simnet-objects>vehicle-tracking.lisp
REMOVE-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
DELAYED-DISPLAY-UNIT-GRAPH
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: None

2.5.5.53 (METHOD FWA-P SIMNET-AGENT)

Definition 53

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.54 (METHOD RWA-P SIMNET-AGENT)

Definition 54

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.55 (METHOD AIR-VEHICLE-P SIMNET-AGENT)

Definition 55

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.56 (METHOD GROUND-VEHICLE-P SIMNET-AGENT)

Definition 56

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.5.57 (METHOD RESUME-ALL-SUBORDINATES SIMNET-AGENT)

Definition 57

>saf>objects>simnet-agent.lisp
Type: Method
Arguments: ()

Outputs:**Calls:** RESUME

>saf>network>vars.lisp

NET-MSG

>saf>rudp>outgoing.lisp

GET-SUBORDINATES-INSTANCES

>saf>objects>simnet-agent.lisp

Called by: None**Description:** None**2.5.5.58 (METHOD IMMEDIATE-INTERVENTION SIMNET-AGENT)****Definition 58**

>saf>objects>simnet-agent.lisp

Type: Method**Arguments:** ()**Outputs:****Calls:** MENU-CHOOSE

>saf>sys>utilities.lisp

INTERVENE

>saf>objects>intervention.lisp

Called by: None**Description:** None**2.5.5.59 (METHOD IVIS-CONTROL SIMNET-AGENT)****Definition 59**

>saf>objects>simnet-agent.lisp

Type: Method**Arguments:** ()**Outputs:****Calls:** IVIS-CONTROL

>saf>network>vars.lisp

NET-MSG

>saf>rudp>outgoing.lisp

Called by: None**Description:** None**2.5.5.60 SIMNET-AGENT****Definition 60**

>saf>objects>simnet-agent.lisp

Type: COMPILE-FLAVOR-METHODS**Arguments:** ()**Outputs:****Calls:** None

Called by: VEHICLE

```
>saf>objects>vehicle.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
(PRESENTATION-MOUSE-HANDLER MOUSE-UNIT-OPERATIONS)
No Source File Record
SET-INFERIORS-PORT-AND-SUPERIOR-ID
>saf>sys>new-storage.lisp
LOAD-SCENARIO
>saf>sys>new-storage.lisp
FILTERED-SAVE-INSTANCE
>saf>sys>new-storage.lisp
SAVE-FOR-TASKING-P
>saf>sys>new-storage.lisp
(METHOD SET-HIGHLIGHTED-PRESENTATION SUB-TASK-PANE AFTER)
>saf>ui>subordinate-tasking.lisp
OPORD
>saf>ui>opord.lisp
(COMMAND-PARSER-FUNCTION COM-UNIT-OPS)
No Source File Record
(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION MAP-WINDOW)
No Source File Record
(METHOD SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE
AFTER)
>saf>ui>task-org.lisp
(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE)
No Source File Record
CLEAR-OVERLAYS
>saf>ui>mouse-interface.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD INTERVENE SIMNET-AGENT RESUPPLY)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
```

Description: None

2.5.5.61 SIMNET-AGENT

Definition 61

```
>saf>objects>simnet-agent.lisp
Type: DEFINE-PRESENTATION-TYPE
Arguments: ()
Outputs:
Calls: None
Called by: VEHICLE
```

```
>saf>objects>vehicle.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
(PRESENTATION-MOUSE-HANDLER MOUSE-UNIT-OPERATIONS)
No Source File Record
```

```

SET-INFERIORS-PORT-AND-SUPERIOR-ID
>saf>sys>new-storage.lisp
LOAD-SCENARIO
>saf>sys>new-storage.lisp
FILTERED-SAVE-INSTANCE
>saf>sys>new-storage.lisp
SAVE-FOR-TASKING-P
>saf>sys>new-storage.lisp
(METHOD SET-HIGHLIGHTED-PRESENTATION SUB-TASK-PANE AFTER)
>saf>ui>subordinate-tasking.lisp
OPORD
>saf>ui>opord.lisp
(COMMAND-PARSER-FUNCTION COM-UNIT-OPS)
No Source File Record
(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION MAP-WINDOW)
No Source File Record
(METHOD SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE
AFTER)
>saf>ui>task-org.lisp
(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE)
No Source File Record
CLEAR-OVERLAYS
>saf>ui>mouse-interface.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD INTERVENE SIMNET-AGENT RESUPPLY)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp

```

Description: None

2.5.5.62 MOUSE-UNIT-OPERATIONS

Definition 62

```

>saf>objects>simnet-agent.lisp
Type: DEFINE-PRESENTATION-TO-COMMAND-TRANSLATOR
Arguments:  ()
Outputs:
Calls: None
Called by:  None
Description: None

```

2.5.6 CSU objects>composite-object.lisp

This unit defines the *composite-object* class, used to represent groups of vehicles. These include companies, platoons, and flights of 2, 3, or 4 aircraft. Methods are defined to implement immediate intervention and mouse-response.

2.5.6.1 COMPOSITE-OBJECT

Definition 1

>saf>objects>composite-object.lisp
Type: DEFOBJECT
Arguments: ()
Outputs:
Calls: None
Called by: CHOOSE-UNITS-FOR-CM
>saf>cm>control-measure.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.6.2 (METHOD SET-CONTINUE-MISSION COMPOSITE-OBJECT)

Definition 2

>saf>objects>composite-object.lisp
Type: Method
Arguments: (VALUE)
Outputs:
Calls: CONTINUE-MISSION
>saf>network>vars.lisp
Called by: None
Description: None

**2.5.6.3 (METHOD IMMEDIATE-INTERVENTION-CHOICES
COMPOSITE-OBJECT)**

Definition 3

>saf>objects>composite-object.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

**2.5.6.4 (METHOD MOUSE-GESTURE-ITEM-LIST COMPOSITE-
OBJECT APPEND)**

Definition 4

>saf>objects>composite-object.lisp
Type: Method
Arguments: (BUTTON WINDOW)
Outputs:
Calls: IVIS-CONTROL
>saf>network>vars.lisp
LOCAL
>saf>network>vars.lisp

Called by: None
 Description: None

2.5.6.5 COMPOSITE-OBJECT

Definition 5

>saf>objects>composite-object.lisp
 Type: COMPILE-FLAVOR-METHODS
 Arguments: ()
 Outputs:
 Calls: None
 Called by: CHOOSE-UNITS-FOR-CM
 >saf>cm>control-measure.lisp
 MAKE-AGENT
 >saf>simnet-objects>vehicle-tracking.lisp
 Description: None

2.5.7 CSU objects>vehicle.lisp

There are two kinds of simnet-agent objects: vehicles and composites. This unit defines the *vehicle* object class and related methods. The methods handle drawing, erasing, mouse-response, immediate intervention, and reinitialization. Vehicles are individual physical entities that are visible on Simnet, composite objects represent groups of vehicles.

2.5.7.1 VEHICLE

Definition 1

>saf>objects>vehicle.lisp
 Type: DEFOBJECT
 Arguments: ()
 Outputs:
 Calls: None
 Called by: (WRITE-INSTANCE-VARIABLE SET-VEHICLE FORMATION-
 OBJECT VEHICLE)
 No Source File Record
 (WRITE-INSTANCE-VARIABLE (SETF .VEHICLE) FORMATION-OBJECT
 VEHICLE)
 No Source File Record
 (READ-INSTANCE-VARIABLE VEHICLE FORMATION-OBJECT VEHICLE)
 No Source File Record
 (READ-INSTANCE-VARIABLE .VEHICLE FORMATION-OBJECT VEHICLE)
 No Source File Record
 (METHOD DRAW-ALTITUDE FORMATION-OBJECT)
 >saf>interface>formations.lisp
 (METHOD DRAW FORMATION-OBJECT)
 >saf>interface>formations.lisp
 (METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)
 >saf>bmi>bmi-frame.lisp

(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

```
>saf>bmi>bmi-frame.lisp
ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
FORMATION-OBJECT
>saf>interface>formations.lisp
```

Description: None

2.5.7.2 (METHOD DRAW VEHICLE)

Definition 2

```
>saf>objects>vehicle.lisp
Type: Method
Arguments: (&OPTIONAL (WINDOW *PVD-DISPLAY*))
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
*TRIM-ALU*
>saf>sys>vars.lisp
*PAINT-VEHICLES-AS-ICONS*
>saf>sys>vars.lisp
VEHICLE-STATUS
>saf>network>packet-layouts.lisp
DRAW-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
IMAGE-FOR-VEHICLE
>saf>simnet-objects>draw-vehicles.lisp
DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp
Called by: None
Description: None
```

2.5.7.3 (METHOD ERASE VEHICLE)

Definition 3

```
>saf>objects>vehicle.lisp
Type: Method
Arguments: (&OPTIONAL (WINDOW *PVD-DISPLAY*))
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
*ERASE-VEHICLES-ALU*
>saf>sys>vars.lisp
*PAINT-VEHICLES-AS-ICONS*
>saf>sys>vars.lisp
```

VEHICLE-STATUS
>saf>network>packet-layouts.lisp
ERASE-IMAGE
>saf>simnet-objects>draw-vehicles.lisp
IMAGE-FOR-VEHICLE
>saf>simnet-objects>draw-vehicles.lisp
DRAW-VEHICLE
>saf>simnet-objects>new-draw-vehicles.lisp

Called by: None

Description: None

2.5.7.4 (METHOD MOUSE-GESTURE-ITEM-LIST VEHICLE APPEND)

Definition 4

>saf>objects>vehicle.lisp
Type: Method
Arguments: (BUTTON WINDOW)
Outputs:
Calls: LOCAL
>saf>network>vars.lisp
GET-SUPERIOR-INSTANCE
>saf>objects>simnet-agent.lisp

Called by: None

Description: None

2.5.7.5 (METHOD IMMEDIATE-INTERVENTION-CHOICES VEHICLE)

Definition 5

>saf>objects>vehicle.lisp
Type: Method
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.7.6 (METHOD REINIT VEHICLE)

Definition 6

>saf>objects>vehicle.lisp
Type: Method
Arguments: ()
Outputs:
Calls: VEHICLE-STATUS
>saf>network>packet-layouts.lisp
VEHICLE-REINIT
>saf>network>vars.lisp

TARGETING

>saf>network>vars.lisp

NET-MSG

>saf>rudp>outgoing.lisp

Called by: None

Description: None

2.5.7.7 VEHICLE**Definition 7**

>saf>objects>vehicle.lisp

Type: COMPILE-FLAVOR-METHODS

Arguments: ()

Outputs:

Calls: None

Called by: (WRITE-INSTANCE-VARIABLE SET-VEHICLE FORMATION-OBJECT VEHICLE)

No Source File Record

(WRITE-INSTANCE-VARIABLE (SETF .VEHICLE) FORMATION-OBJECT

VEHICLE)

No Source File Record

(READ-INSTANCE-VARIABLE VEHICLE FORMATION-OBJECT VEHICLE)

No Source File Record

(READ-INSTANCE-VARIABLE .VEHICLE FORMATION-OBJECT VEHICLE)

No Source File Record

(METHOD DRAW-ALTITUDE FORMATION-OBJECT)

>saf>interface>formations.lisp

(METHOD DRAW FORMATION-OBJECT)

>saf>interface>formations.lisp

(METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

ERASE-SANDBOX-OBJECT

>saf>sandbox>sandbox-object.lisp

DRAW-SANDBOX-OBJECT

>saf>sandbox>sandbox-object.lisp

MAKE-AGENT

>saf>simnet-objects>vehicle-tracking.lisp

FORMATION-OBJECT

>saf>interface>formations.lisp

Description: None

2.5.8 CSU simnet-objects>vehicle-tracking.lisp

This unit contains functions which "track" where vehicle instances are and allow them to be iterated over. When an operation has to be performed on all vehicles satisfying a given condition, these functions make it easy to do. Similar functions are also provided to track top-level units. This unit also handles the creation of all simnet-agents.

2.5.8.1 MAP-OVER-ALL-VEHICLES**Definition 1**

>saf>simnet-objects>vehicle-tracking.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: *ALL-VEHICLES*
>saf>sys>vars.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
Description: current vehicle map-over-all-vehicles is working on - no it isn't!

2.5.8.2 MAP-OVER-ALL-VEHICLE-HOLDERS**Definition 2**

>saf>simnet-objects>vehicle-tracking.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: *ALL-VEHICLES*
>saf>sys>vars.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
ERASE-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
REDRAW-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
Description: vehicle map-over-all-vehicle-holders is working on

2.5.8.3 GET-VEHICLE-HOLDER**Definition 3**

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (ID &OPTIONAL (VEHICLES *ALL-VEHICLES*))
Outputs:

Calls: ***ALL-VEHICLES***

>saf>sys>vars.lisp

LOOKUP-ID

>saf>simnet-objects>macros.lisp

Called by: **POLL-COMPLETED**

>saf>sys>update-process.lisp

PAINTED-P

>saf>simnet-objects>vehicle-tracking.lisp

GET-VEHICLE

>saf>simnet-objects>vehicle-tracking.lisp

(METHOD UPDATE-POSITION SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(NCWHOPPER DRAW SIMNET-AGENT)

No Source File Record

(NCWHOPPER ERASE SIMNET-AGENT)

No Source File Record

Description: None

2.5.8.4 GET-VEHICLE

Definition 4

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: (ID &OPTIONAL (VEHICLES *ALL-VEHICLES*))

Outputs:

Calls: ***ALL-VEHICLES***

>saf>sys>vars.lisp

ACCESS-VEHICLE-INSTANCE

>saf>simnet-objects>macros.lisp

GET-VEHICLE-HOLDER

>saf>simnet-objects>vehicle-tracking.lisp

Called by: **UPDATE-TOP-LEVEL-AUX**

>saf>sys>update-process.lisp

MAP-PREDICATE-OVER-VEHICLES

>saf>simnet-objects>vehicle-tracking.lisp

MAP-OVER-ALL-VEHICLES

>saf>simnet-objects>vehicle-tracking.lisp

HIGHLIGHT-VIEWPORTS

>saf>objects>simnet-agent.lisp

UNHIGHLIGHT-VIEWPORTS

>saf>objects>simnet-agent.lisp

(METHOD GET-SUPERIOR-INSTANCE SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD SET-SUPERIOR SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD GET-SUPERIOR SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD SET-SUBORDINATES SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD MAYBE-REPARSE-SUBORDINATES SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

PROCESS-VEHICLE-LOAD-PKT

>saf>rudp>handle-incoming.lisp

```

PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-ECHELON-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-POSITION-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SHELL-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-CONTACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
FV
>saf>sys>utilities.lisp

```

Description: None

2.5.8.5 PAINTED-P

Definition 5

```

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (ID &OPTIONAL (VEHICLES *ALL-VEHICLES*))
Outputs:
Calls: *ALL-VEHICLES*
>saf>sys>vars.lisp
ACCESS-PAINTED-FLAG
>saf>simnet-objects>macros.lisp
GET-VEHICLE-HOLDER
>saf>simnet-objects>vehicle-tracking.lisp
Called by: (METHOD UPDATE-APPEARANCE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD UPDATE-POSITION SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

```


2.5.8.6 MAP-OVER-ALL-VEHICLES

Definition 6

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (FUNC &REST ARGS)
Outputs:
Calls: GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.8.7 MAP-PREDICATE-OVER-VEHICLES

Definition 7

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (PREDICATE &REST ARGS)
Outputs:
Calls: MAX-VEHICLES
>saf>sys>constants.lisp
ALL-VEHICLES
>saf>sys>vars.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
GET-PREDICATE-ARGS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: None
Description: return a list of vehicles that pass the predicate

2.5.8.8 GET-PREDICATE-ARGS

Definition 8

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (ARGS)
Outputs:
Calls: None
Called by: MAP-PREDICATE-OVER-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
Description: minor function used only by map-predicate-over-vehicles to get arguments
for predicate
when caller specified initial vehicle list

2.5.8.9 MAP-OVER-ALL-VEHICLE-HOLDERS

Definition 9

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (FUNC &REST ARGS)
Outputs:
Calls: None
Called by: MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
ERASE-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
REDRAW-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.8.10 *TOP-LEVEL-UNITS*

Definition 10

>saf>simnet-objects>vehicle-tracking.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: MOVE-TOP-LEVEL-UNIT-DOWN
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-UP
>saf>simnet-objects>vehicle-tracking.lisp
INSERT-LOCAL-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
LOCAL-TOP-LEVEL-UNIT-POSITION
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-BACK
>saf>simnet-objects>vehicle-tracking.lisp
ADD-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
REMOVE-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
CLEAR-TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
TOP-LEVEL-UNIT-P
>saf>simnet-objects>vehicle-tracking.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
Description: the global list. only to be accessed by the following functions! -tom m.

2.5.8.11 '(TOP-LEVEL-UNITS LOCAL REMOTE)**Definition 11**

>saf>simnet-objects>vehicle-tracking.lisp
Type: EXPORT
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.8.12 TOP-LEVEL-UNITS**Definition 12**

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (&OPTIONAL (FILTER NIL) (UNIT-LIST *TOP-LEVEL-UNITS*))
Outputs:
Calls: LOCAL
>saf>network>vars.lisp
REMOTE
>saf>network>vars.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: GET-CURRENT-TOP-UNITS
>saf>sys>new-storage.lisp
SUBORDINATE-TASK
>saf>ui>subordinate-tasking.lisp
(METHOD DRAW-TASK-ORGANIZATION TASK-ORG-PANE)
>saf>ui>task-org.lisp
ALL-LOCAL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
GET-A-VEHICLE-TO-FOLLOW
>saf>objects>simnet-agent.lisp
COM-COMMANDERS-EYE-VIEW
>saf>objects>simnet-agent.lisp
Description: None

2.5.8.13 TOP-LEVEL-UNIT-P**Definition 13**

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT &OPTIONAL (UNIT-LIST *TOP-LEVEL-UNITS*))
Outputs:
Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp

Called by: (METHOD UPDATE-ECHELON SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.5.8.14 CLEAR-TOP-LEVEL-UNITS

Definition 14

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp
Called by: COMPLETE-C2-RESET
>saf>network>top-level.lisp
Description: None

2.5.8.15 REMOVE-TOP-LEVEL-UNIT

Definition 15

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MOVE-TOP-LEVEL-UNIT-DOWN
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-UP
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-BACK
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-FRONT
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD UPDATE-ECHELON SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.5.8.16 ADD-TOP-LEVEL-UNIT

Definition 16

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:

Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-TO-FRONT
>saf>simnet-objects>vehicle-tracking.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.5.8.17 MOVE-TOP-LEVEL-UNIT-TO-FRONT

Definition 17

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: REMOVE-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
ADD-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
Description: None

2.5.8.18 MOVE-TOP-LEVEL-UNIT-TO-BACK

Definition 18

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp
REMOVE-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
Description: None

2.5.8.19 LOCAL-TOP-LEVEL-UNIT-POSITION

Definition 19

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: LOCAL
>saf>network>vars.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp

Called by: MOVE-TOP-LEVEL-UNIT-DOWN
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-UP
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.8.20 INSERT-LOCAL-TOP-LEVEL-UNIT

Definition 20

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT POSITION)
Outputs:
Calls: LOCAL
>saf>network>vars.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: MOVE-TOP-LEVEL-UNIT-DOWN
>saf>simnet-objects>vehicle-tracking.lisp
MOVE-TOP-LEVEL-UNIT-UP
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.8.21 MOVE-TOP-LEVEL-UNIT-UP

Definition 21

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:
Calls: *TOP-LEVEL-UNITS*
>saf>simnet-objects>vehicle-tracking.lisp
REMOVE-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
LOCAL-TOP-LEVEL-UNIT-POSITION
>saf>simnet-objects>vehicle-tracking.lisp
INSERT-LOCAL-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp

Description: None

2.5.8.22 MOVE-TOP-LEVEL-UNIT-DOWN

Definition 22

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: (UNIT)
Outputs:

Calls: ***TOP-LEVEL-UNITS***

>saf>simnet-objects>vehicle-tracking.lisp

REMOVE-TOP-LEVEL-UNIT

>saf>simnet-objects>vehicle-tracking.lisp

LOCAL-TOP-LEVEL-UNIT-POSITION

>saf>simnet-objects>vehicle-tracking.lisp

INSERT-LOCAL-TOP-LEVEL-UNIT

>saf>simnet-objects>vehicle-tracking.lisp

Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)

>saf>objects>simnet-agent.lisp

Description: None

2.5.8.23 ALL-CHILDREN

Definition 23

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: (UNIT)

Outputs:

Calls: GET-SUBORDINATES-INSTANCES

>saf>objects>simnet-agent.lisp

ALL-CHILDREN

>saf>simnet-objects>vehicle-tracking.lisp

Called by: ALL-LOCAL-VEHICLES

>saf>simnet-objects>vehicle-tracking.lisp

ALL-CHILDREN

>saf>simnet-objects>vehicle-tracking.lisp

Description: None

2.5.8.24 ALL-LOCAL-VEHICLES

Definition 24

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: (&OPTIONAL (ARRAY NIL))

Outputs:

Calls: LOCAL

>saf>network>vars.lisp

TOP-LEVEL-UNITS

>saf>simnet-objects>vehicle-tracking.lisp

ALL-CHILDREN

>saf>simnet-objects>vehicle-tracking.lisp

Called by: RETURN-SCENARIO-OBJECT-LIST

>saf>sys>new-storage.lisp

RESET-ALL-OVERLAYS-AND-TASKS

>saf>ui>subordinate-tasking.lisp

CHOOSE-UNITS-FOR-CM

>saf>cm>control-measure.lisp

(PRESENTATION-FUNCTION LOCAL-UNIT DATA-TYPE-EQUIVALENT-STACK)

No Source File Record

(PRESENTATION-FUNCTION LOCAL-UNIT DATA-TYPE-EQUIVALENT)

No Source File Record

Description: None

2.5.8.25 HANDLE-NAN-ERROR

Definition 25

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: (VEHICLE-HOLDER)

Outputs:

Calls: *ALL-VEHICLES*

>saf>sys>vars.lisp

ACCESS-ID

>saf>simnet-objects>macros.lisp

ACCESS-VEHICLE-INSTANCE

>saf>simnet-objects>macros.lisp

SET-ID

>saf>simnet-objects>macros.lisp

Called by: None

Description:

2.5.8.26 REDRAW-VEHICLES

Definition 26

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: ()

Outputs:

Calls: *POLL-WHERE-ARE-THEY-FLAG*

>saf>sys>vars.lisp

ACCESS-VEHICLE-INSTANCE

>saf>simnet-objects>macros.lisp

ACCESS-PAINTED-FLAG

>saf>simnet-objects>macros.lisp

MAP-OVER-ALL-VEHICLE-HOLDERS

>saf>simnet-objects>vehicle-tracking.lisp

MAP-OVER-ALL-VEHICLE-HOLDERS

>saf>simnet-objects>vehicle-tracking.lisp

Called by: DRAW-MAP

>saf>sys>update-process.lisp

Description: None

2.5.8.27 ERASE-ALL-VEHICLES

Definition 27

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: ()
Outputs:
Calls: ACCESS-VEHICLE-INSTANCE
>saf>simnet-objects>macros.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
Called by: COMPLETE-C2-RESET
>saf>network>top-level.lisp
Description: None

2.5.8.28 *DISPLAY-UNIT-GRAPH-DELAY*

Definition 28

>saf>simnet-objects>vehicle-tracking.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: DELAYED-DISPLAY-UNIT-GRAPH-1
>saf>simnet-objects>vehicle-tracking.lisp
DELAYED-DISPLAY-UNIT-GRAPH
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.5.8.29 DELAYED-DISPLAY-UNIT-GRAPH

Definition 29

>saf>simnet-objects>vehicle-tracking.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *DELAYED-DISPLAY-PROCESS-NAME*
>saf>sys>vars.lisp
DEFAULT-UNIT-GRAPH-DELAY
>saf>sys>vars.lisp
DISPLAY-UNIT-GRAPH-DELAY
>saf>simnet-objects>vehicle-tracking.lisp
DELAYED-DISPLAY-UNIT-GRAPH-1
>saf>simnet-objects>vehicle-tracking.lisp

Called by: (METHOD UPDATE-ECHELON SIMNET-AGENT)

>saf>objects>simnet-agent.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp

Description: None

2.5.8.30 DELAYED-DISPLAY-UNIT-GRAPH-1

Definition 30

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: ()

Outputs:

Calls: *DISPLAY-UNIT-GRAPH-DELAY*

>saf>simnet-objects>vehicle-tracking.lisp

DISPLAY-TASK-ORG

>saf>ui>task-org.lisp

Called by: DELAYED-DISPLAY-UNIT-GRAPH

>saf>simnet-objects>vehicle-tracking.lisp

Description: None

2.5.8.31 MAKE-AGENT

Definition 31

>saf>simnet-objects>vehicle-tracking.lisp

Type: Function

Arguments: (ID X

Y

BEARING

TURRET-BEARING

APPEARANCE

STATUS

ALIGNMENT

TACTICS

BUMPER

ECHELON

JOB-DESC

SUPERIOR

INFERIORS

SOURCE

PORT

UNIQ-ID

TOP-SUP-UNIQ-ID

REL-ID)

Outputs:

Calls: VEHICLE-ID-IRRELEVANT
 >saf>sys>constants.lisp
 ALL-VEHICLES
 >saf>sys>vars.lisp
 VIEW-VEHICLE-ID
 >saf>sys>vars.lisp
 RETURN-AND-REMOVE-SANDBOX-FROM-ALIST
 >saf>sys>vars.lisp
 DB-INSTANCES
 >saf>sys>vars.lisp
 LOCAL
 >saf>network>vars.lisp
 REMOTE
 >saf>network>vars.lisp
 ACCESS-ID
 >saf>simnet-objects>macros.lisp
 LOOKUP-ID
 >saf>simnet-objects>macros.lisp
 SET-ID
 >saf>simnet-objects>macros.lisp
 ASSOCIATE-VEHICLE-HOLDER
 >saf>simnet-objects>macros.lisp
 SIMNET-AGENT
 >saf>objects>simnet-agent.lisp
 SIMNET-AGENT
 >saf>objects>simnet-agent.lisp
 SIMNET-AGENT
 >saf>objects>simnet-agent.lisp
 COMPOSITE-OBJECT
 >saf>objects>composite-object.lisp
 COMPOSITE-OBJECT
 >saf>objects>composite-object.lisp
 VEHICLE
 >saf>objects>vehicle.lisp
 VEHICLE
 >saf>objects>vehicle.lisp
 ADD-TOP-LEVEL-UNIT
 >saf>simnet-objects>vehicle-tracking.lisp
 SANDBOX-OBJECT
 >saf>bmi>presentation-types.lisp
 FORMATION
 >saf>cm>control-measure.lisp
 SANDBOX-OBJECT
 >saf>bmi>presentation-types.lisp
 Called by: PROCESS-VEHICLE-PAE-PKT
 >saf>rudp>handle-incoming.lisp
 Description: None

2.5.9 CSU objects>grapher-node.lisp

This CSU defines the flavor used to represent nodes in the diagram constructed by the object-grapher. A presentation type for the node is defined, as well as methods for drawing a node, and constructing the inferiors of a node.

2.5.9.1 GRAPHER-NODE

Definition 1

>saf>objects>grapher-node.lisp
 Type: Flavor
 Arguments: ()
 Outputs:
 Calls: None
 Called by: None
 Description: None

2.5.9.2 GRAPHER-NODE

Definition 2

>saf>objects>grapher-node.lisp
 Type: DEFINE-PRESENTATION-TYPE
 Arguments: ()
 Outputs:
 Calls: None
 Called by: OBJECT-GRAPHER-NODE
 >saf>objects>object-grapher.lisp
 (PRESENTATION-MOUSE-HANDLER EDIT-OBJECT)
 No Source File Record
 (PRESENTATION-MOUSE-HANDLER TOGGLE-THIS-NODE)
 No Source File Record
 (PRESENTATION-MOUSE-HANDLER GRAPHER-NODE-TO-FLAVOR-NAME)
 No Source File Record
 (METHOD COM-TOGGLE-INFERIOR-VISIBILITY-PARSER OBJECT-GRAPHER)
 No Source File Record
 CLEAR-ALL-GRAPH-NODES
 >saf>objects>object-grapher.lisp
 MAKE-OBJECT-GRAPHER-NODE
 >saf>objects>object-grapher.lisp
 (METHOD GRAPHER-NODE-DRAW GRAPHER-NODE)
 >saf>objects>grapher-node.lisp
 Description: None

2.5.9.3 (METHOD GRAPHER-NODE-INFERIOR-NODES GRAPHER-NODE)

Definition 3

>saf>objects>grapher-node.lisp
 Type: Method
 Arguments: ()
 Outputs:
 Calls: MAP
 >map>defsystem.lisp
 Called by: None
 Description: None

2.5.9.4 (METHOD GRAPHER-NODE-DRAW GRAPHER-NODE)

Definition 4

```

>saf>objects>grapher-node.lisp
Type: Method
Arguments: (STREAM)
Outputs:
Calls: GRAPHER-NODE
       >saf>objects>grapher-node.lisp
       GRAPHER-NODE
       >saf>objects>grapher-node.lisp
Called by: None
Description: None

```

2.5.9.5 GRAPHER-NODE

Definition 5

```

>saf>objects>grapher-node.lisp
Type: COMPILE-FLAVOR-METHODS
Arguments: ()
Outputs:
Calls: None
Called by: OBJECT-GRAPHER-NODE
          >saf>objects>object-grapher.lisp
          (PRESENTATION-MOUSE-HANDLER EDIT-OBJECT)
          No Source File Record
          (PRESENTATION-MOUSE-HANDLER TOGGLE-THIS-NODE)
          No Source File Record
          (PRESENTATION-MOUSE-HANDLER GRAPHER-NODE-TO-FLAVOR-
NAME)
          No Source File Record
          (METHOD COM-TOGGLE-INFERIOR-VISIBILITY-PARSER OBJECT-
GRAPHER)
          No Source File Record
          CLEAR-ALL-GRAPH-NODES
          >saf>objects>object-grapher.lisp
          MAKE-OBJECT-GRAPHER-NODE
          >saf>objects>object-grapher.lisp
          (METHOD GRAPHER-NODE-DRAW GRAPHER-NODE)
          >saf>objects>grapher-node.lisp
Description: None

```

2.5.10 CSU objects>object-grapher.lisp

This CSU defines a utility called *object-grapher*, which is a SAF developer's tool used to draw a diagram of the SAF object hierarchy. It can be invoked from the Lisp command line with "select activity object-grapher". Included are the program-framework for the object-grapher, some supporting functions and methods, and several CP commands.

2.5.10.1 OBJECT-COMPONENTS

Definition 1

>saf>objects>object-grapher.lisp
Type: Function
Arguments: (FLAVOR-NAME)
Outputs:
Calls: None
Called by: GET-PARENTLESS-OBJECTS
>saf>objects>object-grapher.lisp
Description: None

2.5.10.2 PRESENT-OBJECT

Definition 2

>saf>objects>object-grapher.lisp
Type: Function
Arguments: (FLAVOR-NAME &OPTIONAL (STREAM *STANDARD-OUTPUT*))
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.3 OBJECT-DEPENDENTS

Definition 3

>saf>objects>object-grapher.lisp
Type: Function
Arguments: (FLAVOR-NAME)
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.4 MAKE-OBJECT-GRAPHER-NODE

Definition 4

>saf>objects>object-grapher.lisp
Type: Function
Arguments: (OBJECT PRINTER-FN INFERIOR-PRODUCER-FN)
Outputs:
Calls: GRAPHER-NODE
>saf>objects>grapher-node.lisp
GRAPHHER-NODE
>saf>objects>grapher-node.lisp
Called by: GET-PARENTLESS-OBJECTS
>saf>objects>object-grapher.lisp
MAKE-OBJECT-GRAPHER-NODE-1
>saf>objects>object-grapher.lisp
Description: None

2.5.10.5 CLEAR-ALL-GRAPH-NODES

Definition 5

>saf>objects>object-grapher.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *ALL-OBJECTS*
>saf>objects>defobject.lisp
 GRAPHER-NODE
>saf>objects>grapher-node.lisp
 GRAPHER-NODE
>saf>objects>grapher-node.lisp
Called by: (METHOD COM-GRAPH-OBJECTS-INTERNAL OBJECT-GRAPHER)
 No Source File Record
Description: None

2.5.10.6 GET-PARENTLESS-OBJECTS

Definition 6

>saf>objects>object-grapher.lisp
Type: Function
Arguments: (NODE-PRINTER NODE-INFERIOR-PRODUCER)
Outputs:
Calls: MAP
>map>defsystem.lisp
 ALL-OBJECTS
>saf>objects>defobject.lisp
 OBJECT-COMPONENTS
>saf>objects>object-grapher.lisp
 MAKE-OBJECT-GRAPHER-NODE
>saf>objects>object-grapher.lisp
Called by: (METHOD REDISPLAY-GRAPH OBJECT-GRAPHER)
>saf>objects>object-grapher.lisp
Description: None

2.5.10.7 OBJECT-GRAPHER

Definition 7

>saf>objects>object-grapher.lisp
Type: DEFINE-PROGRAM-FRAMEWORK
Arguments: ()
Outputs:
Calls: None
Called by: LEFT-ON-GRAPH OBJECTS-AT-TOP-LEVEL-OBJECT-GRAPHER-MENU-COMMAND
>saf>objects>object-grapher.lisp
 DEFINE-OBJECT-GRAPHER-COMMAND
>saf>objects>object-grapher.lisp
Description: None

2.5.10.8 (METHOD REDISPLAY-GRAPH OBJECT-GRAPHER)

Definition 8

>saf>objects>object-grapher.lisp
Type: Method
Arguments: (STREAM)
Outputs:
Calls: GET-PARENTLESS-OBJECTS
>saf>objects>object-grapher.lisp
Called by: None
Description: None

2.5.10.9 OBJECT-GRAPHER-NODE

Definition 9

>saf>objects>object-grapher.lisp
Type: Flavor
Arguments: ()
Outputs:
Calls: GRAPHER-NODE
>saf>objects>grapher-node.lisp
GRAPHHER-NODE
>saf>objects>grapher-node.lisp
Called by: None
Description: None

2.5.10.10 GRAPHER-NODE-TO-FLAVOR-NAME

Definition 10

>saf>objects>object-grapher.lisp
Type: DEFINE-PRESENTATION-TRANSLATOR
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.11 OBJECT-GRAPHER-NODE

Definition 11

>saf>objects>object-grapher.lisp
Type: COMPILE-FLAVOR-METHODS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.12 (COM-GRAPH-OBJECTS MENU-ACCELERATOR Graph Objects)

Definition 12

>saf>objects>object-grapher.lisp
Type: DEFINE-OBJECT-GRAPHER-COMMAND
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.13 (COM-TOGGLE-INFERIOR-VISIBILITY)

Definition 13

>saf>objects>object-grapher.lisp
Type: DEFINE-OBJECT-GRAPHER-COMMAND
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.14 TOGGLE-THIS-NODE

Definition 14

>saf>objects>object-grapher.lisp
Type: DEFINE-PRESENTATION-TO-COMMAND-TRANSLATOR
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.5.10.15 EDIT-OBJECT

Definition 15

>saf>objects>object-grapher.lisp
Type: DEFINE-PRESENTATION-TO-COMMAND-TRANSLATOR
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6 SAF COMMAND PROTOCOL INTERFACE CSC

The SAF Command Protocol (CP) Interface CSC contains the code which allows the SAF Workstation CSCI to communicate with the SAF Simhost CSCI. It is based on the IP/UDP layer provided by the Genera system code. This layer allows a Symbolics workstation to open a connection to the simhost and to send and receive packets through that connection. The SAF command protocol interface defines the protocol packets, provides a reliable transmission layer on top of that, and then provides a command layer over that. The reliable protocol layer and the handling of received packets runs in an independent process called the Reliable Universal Datagram Protocol (RUDP) process. An independent process is used so that the user will not stop the RUDP layer by leaving a menu up for a long time. This would result in a great deal of retransmission and the possible dropping of the connection. Since all command packets are generated in response to user commands, the code for generating the command packets and handing them over to the RUDP process for transmission is located in the user process. The rationale for RUDP, and a conceptual overview of the RUDP algorithm, are discussed in Appendix A2. Figure 2.6-1 shows the sub-level CSCs of the SAF CP Interface CSC.

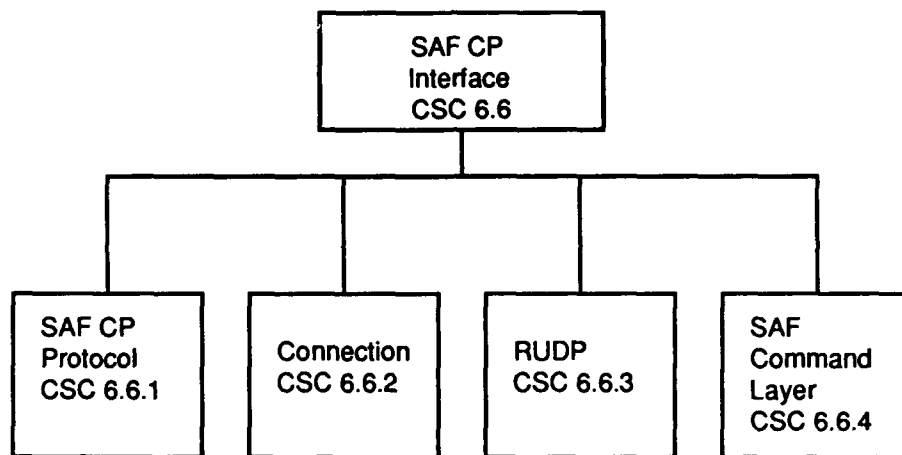


Figure 2.6-1 CSCs of the SAF CP Interface CSC

2.6.1 SAF Command Protocol (CP) CSC

This CSC defines the data types and packets in the SAF command protocol. In order for the communications system to work it is necessary that the definition of the SAF command protocol match that being used by the simhost. For each data type used by the SAF command protocol, this CSC defines access and storage macros. These macros are necessary because the Symbolics workstation uses a typed data representation with a little endian byte ordering scheme while the MIPS simhost uses an untyped representation with a big endian byte ordering scheme. This CSC contains the following CSUs.

```
network>defstorage.lisp csu
network>packet-layouts.lisp csu
```

2.6.1.1 CSU network>defstorage.lisp

This unit defines the byte-flipping macros and storage data types that store and access packet data structures used by RUDP. These include functions for 32-bit IEEE floats, 16-bit MC68000-class shorts, and 32-bit integers. The mode line at the top of the file declares it to be part of the lmfs: (Lisp Machine File System) package. The file includes a long comment section at the end explaining how lmfs:defstorage works. The Symbolics function lmfs:defstorage, part of the Symbolics "Optional Sources", is not documented in the Symbolics manuals. Its source code is not provided as a part of the "Basic Sources" that come with the machine. It creates low-level memory storage templates, and accessors for them, similar to C structs. Using defstorage correctly requires expertise; don't change these functions unless you really know what you're doing. The easiest way to learn about defstorage is to examine the packet data structures in CSU network>packet-layouts.lisp, and compare them to the C structs defined in the Simhost header file messages.h.

In addition to lmfs:defstorage, there are other associated functions and variables that are part of the Symbolics defstorage system. The variable *defstorage-index-offset* is used to store the name of another variable whose value is an offset into a defstorage template. This double indirection explains why *defstorage-index-offset* is preceded by a double comma in the double-backquoted portions of the forms defining the defstorage data-types. The function defstorage-encode-runtime-info, also used in these forms, determines the number of bytes occupied by a defstorage data-type, such as net-short or net-int. For example, in the function defined by the first form in this unit, named by the property list (:property net-float defstorage-processor), defstorage-encode-runtime-info is used to give net-float a size of 4 bytes. Then generate-defstorage-accessor, another associated function of the Symbolics defstorage system, is used to assign the 4 byte locations, in reverse order, for the accessor 8ary. Notice the use of the double-comma before the variable *defstorage-index-offset*, in the forms used to determine the locations of the numbered bytes.

2.6.1.1.1 (PROPERTY NET-FLOAT DEFSTORAGE-PROCESSOR)

Definition 1

```
>saf>network>defstorage.lisp
Type: Function
Arguments: (ACCESSOR IGNORE SPEC)
Outputs:
Calls: None
Called by: None
Description: None
```

2.6.1.1.2 (PROPERTY NET-SHORT DEFSTORAGE-PROCESSOR)

Definition 2

```
>saf>network>defstorage.lisp
Type: Function
Arguments: (ACCESSOR IGNORE SPEC)
Outputs:
Calls: None
Called by: None
Description: None
```

2.6.1.1.3 (PROPERTY NET-INT DEFSTORAGE-PROCESSOR)**Definition 3**

>saf>network>defstorage.lisp

Type: Function

Arguments: (ACCESSOR IGNORE SPEC)

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.1.4 (PROPERTY NET-INT DEFSTORAGE-DESCRIBE)**Definition 4**

>saf>network>defstorage.lisp

Type: Function

Arguments: (P BYTE IGNORE ELTLEN &OPTIONAL DIMS COEFS)

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.1.5 DEFSTORAGE-STORE-NET-CHAR-SUBSTRING**Definition 5**

>saf>network>defstorage.lisp

Type: Function

Arguments: (VAL 8ARRAY 8START LEN)

Outputs:

Calls: None

Called by: SEND-CHANGE-FORMATION

>saf>network>commands.lisp
SEND-DELETE-CM

>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY

>saf>network>commands.lisp
SEND-DELETE-OVERLAY

>saf>network>commands.lisp
SEND-ROUTE

>saf>network>commands.lisp
SEND-LINE

>saf>network>commands.lisp
SEND-ZONE

>saf>network>commands.lisp
SEND-AREA

>saf>network>commands.lisp
SEND-POINT

>saf>network>commands.lisp
SEND-CREATE

>saf>network>commands.lisp

(PROPERTY CHANGE-FORMATION-REQUEST-FORMATION SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY DELETE-CM-REQUEST-CM-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY DELETE-CM-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY EXECUTE-OVERLAY-REQUEST-INITIAL-CIS SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY EXECUTE-OVERLAY-REQUEST-ROUTE-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY EXECUTE-OVERLAY-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY DELETE-OVERLAY-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ROUTE-REQUEST-ROUTE-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ROUTE-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY LINE-REQUEST-CIS SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY LINE-REQUEST-LINE-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY LINE-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ZONE-REQUEST-CIS SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ZONE-REQUEST-TYPE SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ZONE-REQUEST-ZONE-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY ZONE-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY AREA-REQUEST-CIS SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY AREA-REQUEST-TYPE SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY AREA-REQUEST-AREA-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY AREA-REQUEST-OVERLAY-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY POINT-REQUEST-CIS SETF-METHOD-INTERNAL)
No Source File Record

```

(PROPERTY POINT-REQUEST-ROUTE-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY POINT-REQUEST-POINT-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY POINT-REQUEST-OVERLAY-NAME SETF-METHOD-
INTERNAL)
No Source File Record
(PROPERTY CM-ID-NAME SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY GENERIC-MESSAGE-MESSAGE SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY VEHICLE-APPEARANCE-APPEARANCE-MARKING SETF-
METHOD-INTERNAL)
No Source File Record
(PROPERTY VEHICLE-PAE-APPEARANCE-MARKING SETF-METHOD-
INTERNAL)
No Source File Record
(PROPERTY VEHICLE-APPEARANCE-DESCRIPTOR-MARKING SETF-
METHOD-INTERNAL)
No Source File Record
(PROPERTY CREATE-REQUEST-CREATE-FORMATION SETF-METHOD-
INTERNAL)
No Source File Record
(PROPERTY VEHICLE-STATUS-JOB-DESCRIPTION SETF-METHOD-
INTERNAL)
No Source File Record
(PROPERTY VEHICLE-STATUS-UNIT-TYPE SETF-METHOD-INTERNAL)
No Source File Record
(PROPERTY NET-CHAR DEFSTORAGE-PROCESSOR)
>saf>network>defstorage.lisp

```

Description: None

2.6.1.1.6 DEFSTORAGE-MAKE-NET-CHAR-SUBSTRING

Definition 6

```

>saf>network>defstorage.lisp
Type: Function
Arguments: (8ARRAY START LEN)
Outputs:
Calls: None
Called by: PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
CHANGE-FORMATION-REQUEST-FORMATION
>saf>network>packet-layouts.lisp
DELETE-CM-REQUEST-CM-NAME
>saf>network>packet-layouts.lisp
DELETE-CM-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp

```

EXECUTE-OVERLAY-REQUEST-INITIAL-CIS
>saf>network>packet-layouts.lisp
EXECUTE-OVERLAY-REQUEST-ROUTE-NAME
>saf>network>packet-layouts.lisp
EXECUTE-OVERLAY-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
DELETE-OVERLAY-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
ROUTE-REQUEST-ROUTE-NAME
>saf>network>packet-layouts.lisp
ROUTE-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
LINE-REQUEST-CIS
>saf>network>packet-layouts.lisp
LINE-REQUEST-LINE-NAME
>saf>network>packet-layouts.lisp
LINE-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
ZONE-REQUEST-CIS
>saf>network>packet-layouts.lisp
ZONE-REQUEST-TYPE
>saf>network>packet-layouts.lisp
ZONE-REQUEST-ZONE-NAME
>saf>network>packet-layouts.lisp
ZONE-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
AREA-REQUEST-CIS
>saf>network>packet-layouts.lisp
AREA-REQUEST-TYPE
>saf>network>packet-layouts.lisp
AREA-REQUEST-AREA-NAME
>saf>network>packet-layouts.lisp
AREA-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
POINT-REQUEST-CIS
>saf>network>packet-layouts.lisp
POINT-REQUEST-ROUTE-NAME
>saf>network>packet-layouts.lisp
POINT-REQUEST-POINT-NAME
>saf>network>packet-layouts.lisp
POINT-REQUEST-OVERLAY-NAME
>saf>network>packet-layouts.lisp
CM-ID-NAME
>saf>network>packet-layouts.lisp
GENERIC-MESSAGE-MESSAGE
>saf>network>packet-layouts.lisp
VEHICLE-APPEARANCE-APPEARANCE-MARKING
>saf>network>packet-layouts.lisp
VEHICLE-PAE-APPEARANCE-MARKING
>saf>network>packet-layouts.lisp
VEHICLE-APPEARANCE-DESCRIPTOR-MARKING
>saf>network>packet-layouts.lisp
CREATE-REQUEST-CREATE-FORMATION
>saf>network>packet-layouts.lisp

VEHICLE-STATUS-JOB-DESCRIPTION

>saf>network>packet-layouts.lisp

VEHICLE-STATUS-UNIT-TYPE

>saf>network>packet-layouts.lisp

(PROPERTY NET-CHAR DEFSTORAGE-PROCESSOR)

>saf>network>defstorage.lisp

Description: None

2.6.1.1.7 (PROPERTY NET-CHAR DEFSTORAGE-PROCESSOR)

Definition 7

>saf>network>defstorage.lisp

Type: Function

Arguments: (ACCESSOR IGNORE SPEC)

Outputs:

Calls: DEFSTORAGE-STORE-NET-CHAR-SUBSTRING

>saf>network>defstorage.lisp

DEFSTORAGE-MAKE-NET-CHAR-SUBSTRING

>saf>network>defstorage.lisp

Called by: None

Description: None

2.6.1.1.8 AREF-4-BYTES

Definition 8

>saf>network>defstorage.lisp

Type: Subst

Arguments: (ARRAY OFFSET)

Outputs:

Calls: None

Called by: TELEPORT-REQUEST-TELEPORT-POSITION-Z

>saf>network>packet-layouts.lisp

TELEPORT-REQUEST-TELEPORT-POSITION-Y

>saf>network>packet-layouts.lisp

TELEPORT-REQUEST-TELEPORT-POSITION-X

>saf>network>packet-layouts.lisp

TELEPORT-REQUEST-TELEPORT-HEADING

>saf>network>packet-layouts.lisp

MINEFIELD-REQUEST-MINEFIELD-BOUNDS

>saf>network>packet-layouts.lisp

MINEFIELD-REQUEST-MINEFIELD-SENSITIVITY

>saf>network>packet-layouts.lisp

ARTY-REQUEST-ARTY-POSITION-Z

>saf>network>packet-layouts.lisp

ARTY-REQUEST-ARTY-POSITION-Y

>saf>network>packet-layouts.lisp

ARTY-REQUEST-ARTY-POSITION-X

>saf>network>packet-layouts.lisp

CREATE-REQUEST-CREATE-POSITION-Z

>saf>network>packet-layouts.lisp

CREATE-REQUEST-CREATE-POSITION-Y

>saf>network>packet-layouts.lisp


```

CREATE-REQUEST-CREATE-POSITION-X
>saf>network>packet-layouts.lisp
CREATE-REQUEST-CREATE-HEADING
>saf>network>packet-layouts.lisp
POSITION-DESC-Z
>saf>network>packet-layouts.lisp
POSITION-DESC-Y
>saf>network>packet-layouts.lisp
POSITION-DESC-X
>saf>network>packet-layouts.lisp
(PROPERTY NET-DOUBLE DEFSTORAGE-PROCESSOR)
>saf>network>defstorage.lisp

```

Description: None

2.6.1.1.9 (PROPERTY NET-DOUBLE DEFSTORAGE-PROCESSOR)

Definition 9

```

>saf>network>defstorage.lisp
Type: Function
Arguments: (ACCESSOR IGNORE SPEC)
Outputs:
Calls: AREF-4-BYTES
>saf>network>defstorage.lisp
Called by: None
Description: None

```

2.6.1.2 CSU network>packet-layouts.lisp

This unit contains packet layouts created with the Symbolics function `lmfs:defstorage`. This function, part of the Lisp Machine File System package, allows you to create actual storage templates in memory, like C structs, something usually unnecessary on the Lisp machine. It is used here to create packet layouts, for use in RUDP, that the MIPS Simhost will be able to interpret correctly. The `defstorage` calls also create accessor functions to the template fields. For example, the accessor for the *message-type* field of the *opfor-header* template has the name *opfor-header-message-type*. The *opfor-header* call to `defstorage` (see `rudp>incoming.lisp`) also creates 'argument-less' functions called *opfor-header-size-in-bytes* and *opfor-header-size-in-bits* that return the size of the *opfor-header* field. Documentation and source code for `defstorage` are hard to find; for more accessible and detailed information on packet layouts, see the C header file *messages.h*, residing on the Simhost.

Many of the packet layouts contain the keyword `:alterant`. This causes `defstorage` to create an alterant function with the name `ALTER-[structure name]`. This function works just like a `defstruct` alterant, and is used to write to the packets. Alterant functions are used in the macro `defsend`, in CSU `network>commands.lisp`. This macro calls `alter-opfor-header` to write to the *opfor* header, then it builds the name of an alterant by appending the strings "ALTER-", message, and "-REQUEST", and calls it. The string constructed is the name of an alterant for a packet type, such as `POINT-REQUEST`. (All the packet types have names ending in "-REQUEST".)

2.6.1.2.1 NET-FLOAT

Definition 1

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.2 NET-DOUBLE

Definition 2

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.3 NET-INT

Definition 3

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.4 NET-SHORT

Definition 4

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.5 OPFOR-HEADER

Definition 5

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.6 RUDP-HDR

Definition 6

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.7 BURST-DESC

Definition 7

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.8 CREATION

Definition 8

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.9 MINEFIELD-CREATION

Definition 9

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.10 VEHICLE-STATUS

Definition 10

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.11 POSITION-DESCRIPTOR

Definition 11

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.12 WHERE-ARE-THEY

Definition 12

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.13 GROUND-IMPACT

Definition 13

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.14 VEHICLE-IMPACT

Definition 14

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.15 INDIRECT-FIRE

Definition 15

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.16 INTERVISIBILITY

Definition 16

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.17 NOTIFY

Definition 17

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.18 VEHICLE-DEATH

Definition 18

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.19 POSITION-DESC

Definition 19

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.20 CREATE-REQUEST

Definition 20

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.21 RESET-REQUEST

Definition 21

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.22 ARTY-REQUEST

Definition 22

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.23 READ-CONFIG-REQUEST

Definition 23

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.24 ATTACH-REQUEST

Definition 24

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.25 DETACH-REQUEST

Definition 25

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.26 POLL-REQUEST

Definition 26

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.27 MINEFIELD-REQUEST

Definition 27

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.28 RESUPPLY-REQUEST

Definition 28

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.29 TELEPORT-REQUEST

Definition 29

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.30 TARGETING-REQUEST

Definition 30

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.31 MACHINE-STATUS

Definition 31

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.32 DISCONNECT-REQUEST

Definition 32

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.33 QUERY-SUB-STATE-REQUEST

Definition 33

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.34 STATUS-REPORT

Definition 34

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.35 SUB-STATE

Definition 35

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.36 IVIS-CONTACT

Definition 36

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.37 IVIS-SPOT

Definition 37

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.38 IVIS-SHELL

Definition 38

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.39 IVIS-CONTROL-REQUEST

Definition 39

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.40 IVIS-FINE-CONTROL-REQUEST

Definition 40

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.41 CONTINUE-MISSION-REQUEST

Definition 41

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.42 XYPOINT

Definition 42

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.43 ASSIGN-ROUTE-REQUEST

Definition 43

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.44 VEHICLE-POSITION-DESCRIPTOR

Definition 44

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.45 VEHICLE-APPEARANCE-DESCRIPTOR

Definition 45

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.46 VEHICLE-ECHELON-DESCRIPTOR

Definition 46

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.47 VEHICLE-PAE

Definition 47

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.48 VEHICLE-POSITION

Definition 48

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.49 VEHICLE-POSITION-POLL-COMPLETED

Definition 49

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.50 VEHICLE-APPEARANCE

Definition 50

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.51 VEHICLE-ECHELON

Definition 51

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.52 GENERIC-MESSAGE

Definition 52

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.53 CM-ID

Definition 53

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.54 CM-POINT-LIST

Definition 54

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.55 POINT-REQUEST

Definition 55

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.56 AREA-REQUEST

Definition 56

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.57 ZONE-REQUEST

Definition 57

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.58 LINE-REQUEST

Definition 58

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.59 ROUTE-PT

Definition 59

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.60 ROUTE-REQUEST

Definition 60

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.61 DELETE-OVERLAY-REQUEST

Definition 61

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.62 EXECUTE-OVERLAY-REQUEST

Definition 62

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.63 DELETE-CM-REQUEST

Definition 63

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.64 HALT-REQUEST

Definition 64

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.65 RESUME-REQUEST

Definition 65

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.66 HOLD-REQUEST

Definition 66

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.67 CHANGE-SPEED-REQUEST

Definition 67

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.68 CHANGE-ALTITUDE-REQUEST

Definition 68

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.69 CHANGE-FORMATION-REQUEST

Definition 69

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.70 FOLLOW-VEHICLE-REQUEST

Definition 70

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.71 SIMULATOR-IN-COMMAND-REQUEST

Definition 71

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.72 GO-TO-POINT-REQUEST

Definition 72

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.73 LAND-REQUEST

Definition 73

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.74 RESUME-MISSION-REQUEST

Definition 74

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.75 FACE-DIRECTION-REQUEST

Definition 75

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.76 ENROUTE-MOVEMENT-REQUEST

Definition 76

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.1.2.77 STEALTH-POS

Definition 77

>saf>network>packet-layouts.lisp

Type: DEFSTORAGE

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.78 ATTACH-STEALTH-REQUEST

Definition 78

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.79 REJOIN-UNIT-REQUEST

Definition 79

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.80 ATTACK-REQUEST

Definition 80

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.81 VEHICLE-LOAD

Definition 81

>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.1.2.82 VEHICLE-REINIT-REQUEST

Definition 82

```
>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments:  ()
Outputs:
Calls: None
Called by:  None
Description: None
```

2.6.1.2.83 CHECK-STATION-REQUEST

Definition 83

```
>saf>network>packet-layouts.lisp
Type: DEFSTORAGE
Arguments:  ()
Outputs:
Calls: None
Called by:  None
Description: None
```

2.6.2. Connection CSC

The Connection CSC contains the code required to open and close IP/UDP connections with simhosts. It also includes the code to get packets from the connection. It is the interface between the RUDP code and the Genera network code. Opening up a connection to a simhost starts up a RUDP process on the SAF workstation. This process is given packets to put on its transmit queue, which it sends reliably to the simhost. It takes the report packets which are received from the simhost and updates the workstation's world state description and the appropriate displays. The Connection CSC contains the following CSUs:

```
network>connection csu
network>ip-tcp-patch.lisp csu
network>vars.lisp csu
network>top-level.lisp csu
```

2.6.2.1 CSU network>connection.lisp

This unit contains the software to establish and close the RUDP connection between the workstation and the simhost. It uses the `neti:define-protocol` function from the Network Internals package to define the simnet protocol.

2.6.2.1.1 SIMNET

Definition 1

```
>saf>network>connection.lisp
Type: DEFINE-PROTOCOL
Arguments:  ()
```

Outputs:

Calls: None

Called by: INIT-CONN-1

>saf>network>connection.lisp

SPECIFY-SIMNET-PORT

>saf>network>connection.lisp

GET-HOSTS-WITH-SIMNET-SERVICE

>saf>network>vars.lisp

Description: None

2.6.2.1.2 *TARGET-NUMBER-OF-WIRED-PACKET-BUFFERS*

Definition 2

>saf>network>connection.lisp

Type: SETQ

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.1.3 INIT-CONN

Definition 3

>saf>network>connection.lisp

Type: Function

Arguments: (&OPTIONAL (HOST SIMULATION-HOST))

Outputs:

Calls: SIMULATION-HOST

>saf>network>vars.lisp

SPECIFY-SIMNET-PORT

>saf>network>connection.lisp

INIT-CONN-1

>saf>network>connection.lisp

EXIT-CONN

>saf>network>connection.lisp

FLUSH-ALL-RUDP-BUFFERS

>saf>rudp>utils.lisp

Called by: INITIALIZE-CONNECTION

>saf>network>connection.lisp

Description: None

2.6.2.1.4 INITIALIZE-CONNECTION

Definition 4

>saf>network>connection.lisp

Type: Function

Arguments: (HOST)

Outputs:

Calls: GET-FORMATION-DATA
 >saf>sys>interim-model.lisp
 SIMULATION-HOST
 >saf>network>vars.lisp
 LAST-PACKET-IN-TIME
 >saf>rudp>vars.lisp
 LAST-PACKET-IN-WARNING-STATE
 >saf>rudp>vars.lisp
 INIT-CONN
 >saf>network>connection.lisp

Called by: (PRESENTATION-MOUSE-HANDLER MAKE-CONNECTION)
 No Source File Record

Description: returns t if a connection is made, nil otherwise.

2.6.2.1.5 SPECIFY-SIMNET-PORT

Definition 5

 >saf>network>connection.lisp
 Type: Function
 Arguments: (&OPTIONAL NONSTANDARD-PORT)
 Outputs:
 Calls: GET-LOCAL-HOST-SAF-PORT
 >saf>network>vars.lisp
 SIMNET
 >saf>network>connection.lisp
 Called by: INIT-CONN
 >saf>network>connection.lisp
 Description: None

2.6.2.1.6 INIT-CONN-1

Definition 6

 >saf>network>connection.lisp
 Type: Function
 Arguments: (HOST TIME-OUT)
 Outputs:
 Calls: *OPFOR-FRAME*
 >saf>sys>vars.lisp
 ENQUEUE
 >saf>sys>macros.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 SERVICE-ACCESS-PATH
 >saf>rudp>vars.lisp
 PACKET-IMMEDIATE-QUEUE
 >saf>rudp>vars.lisp
 SIMNET
 >saf>network>connection.lisp
 BUSY-WAIT-ON-CONN
 >saf>network>connection.lisp
 TRANSMIT-SYNCH
 >saf>rudp>outgoing.lisp

Called by: INIT-CONN
 >saf>network>connection.lisp
Description: None

2.6.2.1.7 BUSY-WAIT-ON-CONN

Definition 7

 >saf>network>connection.lisp
Type: Function
Arguments: (SAP TIME-OUT)
Outputs:
Calls: *SIM-CONN*
 >saf>rudp>vars.lisp
Called by: INIT-CONN-1
 >saf>network>connection.lisp
Description: None

2.6.2.1.8 CONN-P

Definition 8

 >saf>network>connection.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *SIM-CONN*
 >saf>rudp>vars.lisp
Called by: EXIT-CONN
 >saf>network>connection.lisp
 STANDALONEP
 >saf>network>connection.lisp
Description: None

2.6.2.1.9 STANDALONEP

Definition 9

 >saf>network>connection.lisp
Type: Function
Arguments: ()
Outputs:
Calls: CONN-P
 >saf>network>connection.lisp
Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 (METHOD COM-CREATE-UNITS INTERNAL SAF)
 No Source File Record
 COM-CLEAR
 >saf>ui>commands.lisp
 (METHOD DISPLAY-CONNECTION-STATE BMI)
 >saf>bmi>bmi-frame.lisp

UPDATE-TOP-LEVEL-AUX
>saf>sys>update-process.lisp
PROCESS-RUDP-PACKETS
>saf>ui>processes.lisp
NETWORK-PROCESS-WAKE-UP
>saf>ui>processes.lisp

Description: None

2.6.2.1.10 EXIT-CONN

Definition 10

>saf>network>connection.lisp
Type: Function
Arguments: ()
Outputs:
Calls: VEHICLE-ID-IRRELEVANT
>saf>sys>constants.lisp
OPFOR-FRAME
>saf>sys>vars.lisp
SIM-CONN
>saf>rudp>vars.lisp
CONN-P
>saf>network>connection.lisp
FLUSH-ALL-RUDP-BUFFERS
>saf>rudp>utils.lisp
RESET-ALL-OVERLAYS-AND-TASKS
>saf>ui>subordinate-tasking.lisp
Called by: (PRESENTATION-MOUSE-HANDLER END-CONNECTION)
No Source File Record
UI-EXIT-CONNECTION
>saf>network>connection.lisp
INIT-CONN
>saf>network>connection.lisp
SIGNAL-RUDP-ERROR
>saf>rudp>utils.lisp
Description: None

2.6.2.1.11 UI-EXIT-CONNECTION

Definition 11

>saf>network>connection.lisp
Type: Function
Arguments: ()
Outputs:
Calls: EXIT-CONN
>saf>network>connection.lisp
Called by: CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rudp>outgoing.lisp
Description: None

2.6.2.2 CSU network>ip-tcp-patch.lisp

This unit contains a fix to the Symbolics IP/TCP (Internet Protocol / Transmission Control Protocol) system, allowing the communication between the simhost and workstation to continue even when the operating system would normally close the connection, having run out of buffers. The patch does this by locating and freeing buffers that are no longer in use.

2.6.2.2.1 (METHOD GIVE-BACK-BUFFERS UDP-CONN)

Definition 1

>saf>network>ip-tcp-patch.lisp

Type: Method

Arguments: (&OPTIONAL IGNORE)

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.2.2 INHIBIT-FDEFINE-WARNINGS

Definition 2

>saf>network>ip-tcp-patch.lisp

Type: SETF

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.2.3 (METHOD PACKET-BUFFER-PANIC UDP-PROTOCOL)

Definition 3

>saf>network>ip-tcp-patch.lisp

Type: Method

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.2.4 INHIBIT-FDEFINE-WARNINGS

Definition 4

>saf>network>ip-tcp-patch.lisp

Type: SETF

Arguments: ()

Outputs:

Calls: None
 Called by: None
 Description: None

2.6.2.3 CSU network>vars.lisp

This unit contains variable definitions that are used globally within the network module. Notice, in particular, the definitions of the incoming packet-type numbers, used to route incoming opfor-sub-packets to their specific packet-handlers. This is a block of 28 definitions:

```

;messages from butterfly to symbolics
(defparameter CREATION      100)

...
(defparameter VEHICLE-LOAD  127)
  
```

2.6.2.3.1 GET-HOSTS-WITH-SIMNET-SERVICE

Definition 1

```

>saf>network>vars.lisp
Type: Function
Arguments: ()
Outputs:
Calls: NAME
      >saf>sysdcl.lisp
      SIMNET
      >saf>network>connection.lisp
Called by: READ-OBJECT-FILE
          >saf>interface>object-menu.lisp
          SELECT-HOST
          >saf>interface>model-menu.lisp
          (PRESENTATION-MOUSE-HANDLER MAKE-CONNECTION)
          No Source File Record
Description: None
  
```

2.6.2.3.2 GET-LOCAL-HOST-SAF-PORT

Definition 2

```

>saf>network>vars.lisp
Type: Subst
Arguments: ()
Outputs:
Calls: None
Called by: CREATE-STORED-INSTANCE
          >saf>sys>new-storage.lisp
          (METHOD TOP-LEVEL SAF)
          >saf>ui>frame.lisp
          SPECIFY-SIMNET-PORT
          >saf>network>connection.lisp
  
```

COM-SAF-SHOW-PORT

>saf>network>vars.lisp

COM-SHOW-SAF-PORT

>saf>network>vars.lisp

Description: None

2.6.2.3.3 COM-SHOW-SAF-PORT

Definition 3

>saf>network>vars.lisp

Type: CP Command

Arguments: ()

Outputs:

Calls: GET-LOCAL-HOST-SAF-PORT

>saf>network>vars.lisp

Called by: None

Description: None

2.6.2.3.4 COM-SAF-SHOW-PORT

Definition 4

>saf>network>vars.lisp

Type: CP Command

Arguments: ()

Outputs:

Calls: GET-LOCAL-HOST-SAF-PORT

>saf>network>vars.lisp

Called by: None

Description: None

2.6.2.3.5 SIMULATION-HOST

Definition 5

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD DISPLAY-CONNECTION-STATE BMI)

>saf>bmi>bmi-frame.lisp

INITIALIZE-CONNECTION

>saf>network>connection.lisp

INIT-CONN

>saf>network>connection.lisp

Description: None

2.6.2.3.6 RETRANSMIT_PERIOD

Definition 6

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: NETWORK-PROCESS-WAKE-UP

>saf>ui>processes.lisp

Description: None

2.6.2.3.7 TRANSMIT_WARNING_LENGTH

Definition 7

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.8 MISSION-CONTROL-AWAIT

Definition 8

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.9 MISSION-CONTROL-NOTIFY

Definition 9

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.10 MISSION-CONTROL-IMMEDIATE

Definition 10

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.11 MISSION-CONTROL-ABORT

Definition 11

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.12 MISSION-CONTROL-NODISTRIBUTE

Definition 12

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.13 CREATION

Definition 13

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.14 WHERE-ARE-THEY

Definition 14

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.15 GROUND-IMPACT

Definition 15

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.16 VEHICLE-IMPACT

Definition 16

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.17 INTERVISIBILITY

Definition 17

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.18 NOTIFY

Definition 18

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.19 VEHICLE-STATUS

Definition 19

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (WRITE-INSTANCE-VARIABLE (SETF VEHICLE-STATUS) SIMNET-AGENT VEHICLE-STATUS)
No Source File Record
(READ-INSTANCE-VARIABLE VEHICLE-STATUS SIMNET-AGENT VEHICLE-STATUS)
No Source File Record
(METHOD REINIT VEHICLE)
>saf>objects>vehicle.lisp
(METHOD ERASE VEHICLE)
>saf>objects>vehicle.lisp
(METHOD DRAW VEHICLE)
>saf>objects>vehicle.lisp
(METHOD UPDATE-APPEARANCE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
INFERIORS-FOR-TASK-ORG
>saf>ui>task-org.lisp
SIMNET-AGENT
>saf>objects>simnet-agent.lisp
Description: None

2.6.2.3.20 INDIRECT-FIRE

Definition 20

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.21 REGISTER

Definition 21

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.22 UNREGISTER

Definition 22

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.23 ACTIVITY-COMPLETE

Definition 23

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.24 RADIO-STATUS

Definition 24

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.25 RADIO-MESSAGE

Definition 25

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.26 MACHINE-STATUS

Definition 26

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: PROCESS-MACHINE-STATUS-PKT
 >saf>rdp>handle-incoming.lisp
Description: None

2.6.2.3.27 MINEFIELD-CREATION

Definition 27

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.28 SUB-STATE

Definition 28

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.29 IVIS-CONTACT

Definition 29

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.30 IVIS-SPOT

Definition 30

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.31 IVIS-SHELL

Definition 31

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.32 VEHICLE-PAE

Definition 32

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.33 VEHICLE-POSITION

Definition 33

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.34 VEHICLE-POSITION-POLL-COMPLETED

Definition 34

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.35 VEHICLE-APPEARANCE

Definition 35

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.36 VEHICLE-ECHELON

Definition 36

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.37 GENERIC-MESSAGE

Definition 37

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.38 STEALTH-POS

Definition 38

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.39 VEHICLE-LOAD

Definition 39

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.40 CREATE

Definition 40

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: CREATE-STORED-INSTANCE

>saf>sys>new-storage.lisp

REALLY-MAKE-SANDBOX-OBJECT

>saf>bmi>bmi-frame.lisp

Description: None

2.6.2.3.41 RESET

Definition 41

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: RESET-SIM

>saf>network>top-level.lisp

Description: None

2.6.2.3.42 ARTY

Definition 42

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: BOMB-BUTTON

>saf>network>commands.lisp

Description: None

2.6.2.3.43 READ-CONFIG

Definition 43

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.44 VEHICLE-REINIT

Definition 44

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD REINIT VEHICLE)
>saf>objects>vehicle.lisp
Description: None

2.6.2.3.45 RESUME

Definition 45

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT REJOIN-UNIT)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT RESUME)
>saf>objects>intervention.lisp
(METHOD RESUME-ALL-SUBORDINATES SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.6.2.3.46 RESUPPLY

Definition 46

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT RESUPPLY)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.47 ATTACH

Definition 47

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.48 DETACH

Definition 48

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.49 TELEPORT

Definition 49

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.50 READ-ACTIVITIES

Definition 50

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.51 START-ACTIVITY

Definition 51

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.52 POLL

Definition 52

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: UPDATE-TOP-LEVEL-AUX
 >saf>sys>update-process.lisp
Description: None

2.6.2.3.53 RADIO-COMMAND

Definition 53

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.54 MINEFIELD

Definition 54

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.55 DISCONNECT

Definition 55

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.56 QUERY-SUB-STATE

Definition 56

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)
 >saf>objects>simnet-agent.lisp
Description: None

2.6.2.3.57 IVIS-CONTROL

Definition 57

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST COMPOSITE-OBJECT
APPEND)
>saf>objects>composite-object.lisp
(METHOD IVIS-CONTROL SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
SEND-IVIS-MESSAGES
>saf>network>commands.lisp
Description: None

2.6.2.3.58 IVIS-FINE-CONTROL

Definition 58

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SEND-AN-IVIS-FINE-CONTROL-PACKET
>saf>network>commands.lisp
Description: None

2.6.2.3.59 CONTINUE-MISSION

Definition 59

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (WRITE-INSTANCE-VARIABLE (SETF CONTINUE-MISSION)
COMPOSITE-OBJECT CONTINUE-MISSION)
No Source File Record
(READ-INSTANCE-VARIABLE CONTINUE-MISSION COMPOSITE-OBJECT
CONTINUE-MISSION)
No Source File Record
(METHOD SET-CONTINUE-MISSION COMPOSITE-OBJECT)
>saf>objects>composite-object.lisp
COMPOSITE-OBJECT
>saf>objects>composite-object.lisp
Description: None

2.6.2.3.60 ASSIGN-ROUTE

Definition 60

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.61 POINT

Definition 61

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (PRESENTATION-MOUSE-HANDLER DELETE-POINT)
No Source File Record
(PRESENTATION-MOUSE-HANDLER MOVE-POINT)
No Source File Record
PRESENT-TABLE
>saf>interface>model-menu.lisp
(METHOD DRAG-UP-DOWN POINT)
>saf>interface>model-menu.lisp
(METHOD ERASE-POINT-AND-LINES POINT)
>saf>interface>model-menu.lisp
(METHOD DRAG POINT)
>saf>interface>model-menu.lisp
RECORD-NEW-POINT
>saf>interface>model-menu.lisp
RESCALE-POINT-LIST
>saf>interface>model-menu.lisp
FIND-SURROUNDING-POINTS
>saf>interface>model-menu.lisp
GET-POINT-LEFT
>saf>interface>model-menu.lisp
GET-POINT-RIGHT
>saf>interface>model-menu.lisp
DELETE-POINT-IF-THERE
>saf>interface>model-menu.lisp
PRESENT-GRAPH
>saf>interface>model-menu.lisp
SORT-CMS
>saf>cm>overlay.lisp
(METHOD MOVE-CONTROL-MEASURE ZONE)
>saf>cm>zone.lisp
(METHOD COPY ZONE)
>saf>cm>zone.lisp
(METHOD MOVE-CONTROL-MEASURE AREA)
>saf>cm>area.lisp

(METHOD COPY AREA)
>saf>cm>area.lisp
(METHOD ORTHOGONALIZE GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD INSERT-POINT-BEFORE GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD INSERT-POINT-AFTER GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD DELETE-POINT GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD MOVE-POINT GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD PAINT-NAME GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD INITIALIZE-POINTS GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD COPY LINE)
>saf>cm>line.lisp
(METHOD MOVE-CONTROL-MEASURE LINE)
>saf>cm>line.lisp
(METHOD INSERT-POINT-BEFORE LINE)
>saf>cm>line.lisp
(METHOD INSERT-POINT-AFTER LINE)
>saf>cm>line.lisp
(METHOD DELETE-POINT LINE)
>saf>cm>line.lisp
(METHOD MOVE-POINT LINE)
>saf>cm>line.lisp
(METHOD ORTHOGONALIZE LINE)
>saf>cm>line.lisp
(METHOD INITIALIZE-POINTS LINE)
>saf>cm>line.lisp
MAKE-POINT
>saf>cm>point.lisp
(PRESENTATION-MOUSE-HANDLER CM-POINT-GESTURE)
No Source File Record
(METHOD DELETE-POINT CM-POINT)
>saf>cm>point.lisp
(METHOD MOVE-POINT CM-POINT)
>saf>cm>point.lisp
(METHOD COPY ROUTE)
>saf>cm>route.lisp
(METHOD INSERT-POINT-BEFORE ROUTE)
>saf>cm>route.lisp
(METHOD INSERT-POINT-AFTER ROUTE)
>saf>cm>route.lisp
(METHOD DELETE-POINT ROUTE)
>saf>cm>route.lisp
(METHOD MOVE-POINT ROUTE)
>saf>cm>route.lisp
(METHOD ORTHOGONALIZE ROUTE)
>saf>cm>route.lisp
(METHOD INITIALIZE-POINTS ROUTE)
>saf>cm>route.lisp

SKIRT-LAKE

>saf>cm>water-avoidance.lisp

FINAL-RELAX-POINTS

>saf>cm>water-avoidance.lisp

RELAX-POINTS-AUX

>saf>cm>water-avoidance.lisp

PRUNE-TO-POINT

>saf>cm>water-avoidance.lisp

MOUSE-ON-BRIDGE-APPROACH-POINT

>saf>cm>road-routes.lisp

GET-ROAD-SEGMENT-POINT

>saf>cm>road-routes.lisp

GET-ROAD-POINT

>saf>cm>road-routes.lisp

(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-GESTURE)

No Source File Record

(NCWHOPPER INSERT-POINT-BEFORE CONTROL-MEASURE)

No Source File Record

(NCWHOPPER INSERT-POINT-AFTER CONTROL-MEASURE)

No Source File Record

(NCWHOPPER DELETE-POINT CONTROL-MEASURE)

No Source File Record

(NCWHOPPER MOVE-POINT CONTROL-MEASURE)

No Source File Record

(METHOD INTERVENE SIMNET-AGENT LAND)

>saf>objects>intervention.lisp

(METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)

>saf>objects>intervention.lisp

FACE-DIRECTION

>saf>objects>simnet-agent.lisp

SEND-POINT

>saf>network>commands.lisp

BOMB-BUTTON

>saf>network>commands.lisp

PRESENT-TABLE

>saf>interface>model-menu.lisp

MAKE-GRAPH-GIVEN-POINTS

>saf>interface>model-menu.lisp

MAKE-COPY-OF-INSTANCE-POINT

>saf>interface>model-menu.lisp

ADD-NEW-POINT

>saf>interface>model-menu.lisp

PRESENT-GRAPH

>saf>interface>model-menu.lisp

(METHOD SEND-OVERLAY-TO-SIMHOST OVERLAY)

>saf>cm>overlay.lisp

CISS-FOR-CONTROL-MEASURE

>saf>sys>interim-model.lisp

Description: None

2.6.2.3.62 AREA**Definition 62**

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: MAKE-ZONE-BEHAVIOR
 >saf>cm>zone.lisp
 MAKE-AREA
 >saf>cm>area.lisp
 MAKE-AREA-BEHAVIOR
 >saf>cm>area.lisp
 MAKE-LINE-BEHAVIOR
 >saf>cm>line.lisp
 MAKE-POINT-BEHAVIOR
 >saf>cm>point.lisp
 MAKE-ROUTE-BEHAVIOR
 >saf>cm>route.lisp
 MAKE-ROUTE-POINT
 >saf>cm>route-point.lisp
 MAKE-CONTROL-MEASURE-POINT
 >saf>cm>control-measure-point.lisp
 SEND-AREA
 >saf>network>commands.lisp
 MAKE-AREA
 >saf>cm>area.lisp
 (METHOD COPY AREA)
 >saf>cm>area.lisp
Description: None

2.6.2.3.63 ZONE**Definition 63**

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: MAKE-ZONE
 >saf>cm>zone.lisp
 SEND-ZONE
 >saf>network>commands.lisp
 MAKE-ZONE
 >saf>cm>zone.lisp
 (METHOD COPY ZONE)
 >saf>cm>zone.lisp
Description: None

2.6.2.3.64 LINE**Definition 64**

>saf>network>vars.lisp
 Type: Parameter
 Arguments: ()
 Outputs:
 Calls: None
 Called by: MAKE-GRAPH-GIVEN-POINTS
 >saf>interface>model-menu.lisp
 MAKE-LINE
 >saf>cm>line.lisp
 FIND-SEGMENT-CROSS-POINTS
 >saf>cm>water-avoidance.lisp
 PRINT-MESSAGE
 >saf>rudp>handle-incoming.lisp
 SEND-LINE
 >saf>network>commands.lisp
 (METHOD TOP-LEVEL CONFIGURATION-MENU)
 >saf>interface>formations.lisp
 MAKE-LINE
 >saf>cm>line.lisp
 (METHOD COPY LINE)
 >saf>cm>line.lisp
 (METHOD INTERVENE SIMNET-AGENT FORMATION)
 >saf>objects>intervention.lisp
 Description: None

2.6.2.3.65 ROUTE**Definition 65**

>saf>network>vars.lisp
 Type: Parameter
 Arguments: ()
 Outputs:
 Calls: None
 Called by: (WRITE-INSTANCE-VARIABLE (SETF ROUTE) SUB-TASK ROUTE)
 No Source File Record
 (READ-INSTANCE-VARIABLE ROUTE SUB-TASK ROUTE)
 No Source File Record
 (LOCATE-INSTANCE-VARIABLE (LOCF ROUTE) CM-POINT-BEHAVIOR
 ROUTE)
 No Source File Record
 (WRITE-INSTANCE-VARIABLE (SETF ROUTE) CM-POINT-BEHAVIOR
 ROUTE)
 No Source File Record
 (READ-INSTANCE-VARIABLE ROUTE CM-POINT-BEHAVIOR ROUTE)
 No Source File Record
 (METHOD REEXECUTE-SUB-TASK SUB-TASK)
 >saf>ui>subordinate-tasking.lisp
 (METHOD DISPLAY-SUB-TASKING SUB-TASK)
 >saf>ui>subordinate-tasking.lisp

```

(METHOD CHOOSE-SUB-TASK-PARAMETERS SUB-TASK)
>saf>ui>subordinate-tasking.lisp
(METHOD EXECUTE-SUB-TASK SUB-TASK)
>saf>ui>subordinate-tasking.lisp
(METHOD MAKE-INSTANCE SUB-TASK AFTER)
>saf>ui>subordinate-tasking.lisp
(METHOD COPY-BEHAVIOR CM-POINT-BEHAVIOR)
>saf>cm>point.lisp
(METHOD SEND-BEH-INFO CM-POINT-BEHAVIOR)
>saf>cm>point.lisp
(METHOD CHOOSE-SUB-TASK-PARAMETERS SUB-TASK)
>saf>ui>subordinate-tasking.lisp
MAKE-POINT-BEHAVIOR
>saf>cm>point.lisp
MAKE-ROUTE
>saf>cm>route.lisp
CM-ROUTE?
>saf>cm>route.lisp
FIND-ROUTE-AROUND-WATER
>saf>cm>water-avoidance.lisp
ROAD-SEGMENTS-FROM-INTERSECTIONS
>saf>cm>road-routes.lisp
FIND-SHORTEST-ROUTE
>saf>cm>road-routes.lisp
EXPAND-ROAD-ROUTE
>saf>cm>road-routes.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
MAKE-ROUTE
>saf>cm>route.lisp
(METHOD COPY ROUTE)
>saf>cm>route.lisp
CM-ROUTE?
>saf>cm>route.lisp
SUB-TASK
>saf>ui>subordinate-tasking.lisp
CM-POINT-BEHAVIOR
>saf>cm>point.lisp

```

Description: None

2.6.2.3.66 DELETE-OVERLAY

Definition 66

```

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:

```

Calls: None
Called by: None
Description: None

2.6.2.3.67 EXECUTE-OVERLAY

Definition 67

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD REEXECUTE-SUB-TASK SUB-TASK)
>saf>ui>subordinate-tasking.lisp
(METHOD EXECUTE-SUB-TASK SUB-TASK)
>saf>ui>subordinate-tasking.lisp
Description: None

2.6.2.3.68 HALT

Definition 68

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT HALT)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.69 CHANGE-SPEED

Definition 69

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (LOCATE-INSTANCE-VARIABLE (LOCF CHANGE-SPEED)
CONTROL-MEASURE-BEHAVIOR CHANGE-SPEED)
No Source File Record
(WRITE-INSTANCE-VARIABLE (SETF CHANGE-SPEED) CONTROL-
MEASURE-BEHAVIOR CHANGE-SPEED)
No Source File Record
(READ-INSTANCE-VARIABLE CHANGE-SPEED CONTROL-MEASURE-
BEHAVIOR CHANGE-SPEED)
No Source File Record
(METHOD REVIEW-DATA LINE)
>saf>cm>line.lisp
(METHOD REVIEW-DATA CM-POINT)
>saf>cm>point.lisp

```

(METHOD COPY-BEHAVIOR LINE-BEHAVIOR)
>saf>cm>line.lisp
(METHOD SEND-BEH-INFO LINE-BEHAVIOR)
>saf>cm>line.lisp
(METHOD COPY-BEHAVIOR CM-POINT-BEHAVIOR)
>saf>cm>point.lisp
(METHOD SEND-BEH-INFO CM-POINT-BEHAVIOR)
>saf>cm>point.lisp
MAKE-ZONE-BEHAVIOR
>saf>cm>zone.lisp
MAKE-AREA-BEHAVIOR
>saf>cm>area.lisp
MAKE-LINE-BEHAVIOR
>saf>cm>line.lisp
MAKE-POINT-BEHAVIOR
>saf>cm>point.lisp
MAKE-ROUTE-BEHAVIOR
>saf>cm>route.lisp
(METHOD SEND-CM-INFO GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD INTERVENE SIMNET-AGENT SPEED)
>saf>objects>intervention.lisp
CONTROL-MEASURE-BEHAVIOR
>saf>cm>control-measure.lisp

```

Description: None

2.6.2.3.70 CHANGE-FORMATION

Definition 70

```

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT FORMATION)
>saf>objects>intervention.lisp
Description: None

```

2.6.2.3.71 DELETE-CM

Definition 71

```

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD SEND-OVERLAY-TO-SIMHOST OVERLAY)
>saf>cm>overlay.lisp
Description: None

```


2.6.2.3.72 FOLLOW-VEHICLE

Definition 72

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.73 GO-TO-POINT

Definition 73

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.74 RESUME-MISSION

Definition 74

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.75 FACE-DIRECTION

Definition 75

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: *PVD-DISPLAY*
>saf>sys>vars.lisp
OPFOR-IO
>saf>sys>vars.lisp
POINT
>saf>interface>model-menu.lisp
POINT
>saf>interface>model-menu.lisp

Called by: (METHOD INTERVENE SIMNET-AGENT FACE-DIRECTION)
>saf>objects>intervention.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp

Description: None

2.6.2.3.76 TARGETING

Definition 76

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD REINIT VEHICLE)
>saf>objects>vehicle.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp
Description: None

2.6.2.3.77 ATTACH-STEALTH

Definition 77

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
ATTACH-STEALTH
>saf>network>commands.lisp
Description: None

2.6.2.3.78 HOLD

Definition 78

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT HOLD)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.79 CHANGE-ALTITUDE

Definition 79

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD INTERVENE SIMNET-AGENT ALTITUDE)

>saf>objects>intervention.lisp

Description: None

2.6.2.3.80 ENROUTE-MOVEMENT

Definition 80

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD INTERVENE SIMNET-AGENT ENROUTE-MOVEMENT)

>saf>objects>intervention.lisp

Description: None

2.6.2.3.81 SIMULATOR-IN-COMMAND

Definition 81

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)

>saf>objects>intervention.lisp

Description: None

2.6.2.3.82 REJOIN-UNIT

Definition 82

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD INTERVENE SIMNET-AGENT REJOIN-UNIT)

>saf>objects>intervention.lisp

Description: None

2.6.2.3.83 LAND

Definition 83

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT LAND)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.84 ATTACK

Definition 84

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT ATTACK)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.85 CHECK-STATION

Definition 85

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.86 RUNNING-FIRE-ATTACK

Definition 86

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT ATTACK)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.87 POP-UP-ATTACK

Definition 87

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT ATTACK)
>saf>objects>intervention.lisp
Description: None

2.6.2.3.88 WHERE-ARE-THEY-REQUEST

Definition 88

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.89 VEHICLE-STATUS-REQUEST

Definition 89

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.90 TACTICS-NATO

Definition 90

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
MAKE-BATTALION-NAME
>saf>objects>simnet-name-mixin.lisp
CONVERT-TYPE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp

```

PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
*BLUEFOR-SYNONYMS*
>saf>sys>interim-model.lisp

```

Description: None

2.6.2.3.91 TACTICS-WARSAW

Definition 91

```

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
MAKE-BATTALION-NAME
>saf>objects>simnet-name-mixin.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
*OPFOR-SYNONYMS*
>saf>sys>interim-model.lisp

```

Description: None

2.6.2.3.92 OPFOR

Definition 92

```

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
(DEFUN-IN-FLAVOR ACCEPT-TACTICS-AND-TEAM BMI)
No Source File Record
(PRESENTATION-FUNCTION TACTICS DATA-TYPE-EQUIVALENT)
No Source File Record
(METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

```

FIND-FORMATIONS

>saf>sys>interim-model.lisp

OPFOR-SYNONYMS

>saf>sys>interim-model.lisp

Description: None

2.6.2.3.93 BLUEFOR

Definition 93

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

(DEFUN-IN-FLAVOR ACCEPT-TACTICS-AND-TEAM BMI)

No Source File Record

(PRESENTATION-FUNCTION TACTICS DATA-TYPE-EQUIVALENT)

No Source File Record

(METHOD POSSIBLE-CISS SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

BLUEFOR-SYNONYMS

>saf>sys>interim-model.lisp

Description: None

2.6.2.3.94 RESET-ALL-VEHICLES

Definition 94

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-RESET-PKT

>saf>rudp>handle-incoming.lisp

PRINT-RESET-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.6.2.3.95 ARTY-TYPE-GROUND

Definition 95

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None
Called by: *ARTY-TYPE*
 >saf>network>commands.lisp
Description: None

2.6.2.3.96 ARTY-TYPE-VEHICLE

Definition 96

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.97 ARTY-TYPE-DEATH

Definition 97

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.98 READ-FORMATIONS

Definition 98

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.99 READ-VEHICLE-PARMS

Definition 99

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.100 READ-UNIT-CONFIG

Definition 100

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.101 READ-HITMODELS

Definition 101

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.102 READ-DAMAGES

Definition 102

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.103 READ-DETECTIONS

Definition 103

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.104 RESUPPLY-TYPE-FUEL

Definition 104

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.105 RESUPPLY-TYPE-AMMO

Definition 105

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.106 HOLD_FIRE

Definition 106

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
 >saf>objects>gunner.lisp
Description: None

2.6.2.3.107 FIRE_AT_WILL

Definition 107

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
 >saf>objects>gunner.lisp
Description: None

2.6.2.3.108 FIRE_AT_POSITION

Definition 108

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: (METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp
Description: None

2.6.2.3.109 FIRE_AT_WHAT_LEADER_SHOOTS
Definition 109

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.110 FIRE_AT_DESIGNATED_TARGETS
Definition 110

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.111 MAX-WEAPONS
Definition 111

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.2.3.112 *PRETTY-WEAPON-TABLE*
Definition 112

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
DEFINE-SIMNET-WEAPON
>saf>network>vars.lisp
Description: None

2.6.2.3.113 DEFINE-SIMNET-WEAPON
Definition 113

>saf>network>vars.lisp
Type: Macro
Arguments: (WEAPON-TYPE INT-VALUE PRETTY-STRING)
Outputs:
Calls: *PRETTY-WEAPON-TABLE*
>saf>network>vars.lisp
DEFINE-SIMNET-WEAPON
>saf>network>vars.lisp
Called by: DEFINE-SIMNET-WEAPON
>saf>network>vars.lisp
Description: None

2.6.2.3.114 WEAPON-105MM
Definition 114

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.115 WEAPON-25MM
Definition 115

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.116 WEAPON-SAGGER
Definition 116

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:

Calls: None
Called by: None
Description: None

2.6.2.3.117 WEAPON-SPIRAL

Definition 117

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.118 WEAPON-ROCKET

Definition 118

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.119 WEAPON-BOMB

Definition 119

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.120 WEAPON-ADA-MISSILE

Definition 120

>saf>network>vars.lisp
Type: DEFINE-SIMNET-WEAPON
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.121 MAX-VEH-TYPES

Definition 121

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: IMAGE-FOR-VEHICLE
>saf>simnet-objects>draw-vehicles.lisp
PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.2.3.122 VEH-SPECIAL

Definition 122

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.123 VEH-MAIN-BATTLE-TANK

Definition 123

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: INIT-UNIT-ICON-TABLE
>saf>simnet-objects>draw-units.lisp
CONVERT-APPEARANCE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
CACHE-FORMATION-INFO
>saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.124 VEH-PERSONNEL-CARRIER

Definition 124

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: INIT-UNIT-ICON-TABLE
>saf>simnet-objects>draw-units.lisp
CONVERT-APPEARANCE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
CACHE-FORMATION-INFO
>saf>sandbox>sandbox.lisp

Description: None

2.6.2.3.125 VEH-COMMAND-POST

Definition 125

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.126 VEH-AMMUNITION-TRUCK

Definition 126

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.127 VEH-FUEL-TRUCK

Definition 127

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.128 VEH-SUPPLY-TRUCK

Definition 128

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:

Calls: None
Called by: None
Description: None

2.6.2.3.129 VEH-MORTAR-CARRIER
Definition 129

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: CACHE-FORMATION-INFO
 >saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.130 VEH-SP-HOWITZER
Definition 130

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: CACHE-FORMATION-INFO
 >saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.131 VEH-RECOVERY-VEHICLE
Definition 131

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.132 VEH-FIST-VEHICLE
Definition 132

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.133 VEH-ATTACK-HELICOPTER

Definition 133

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: INIT-UNIT-ICON-TABLE
 >saf>simnet-objects>draw-units.lisp
 CONVERT-APPEARANCE-FOR-NAME
 >saf>objects>simnet-name-mixin.lisp
 CACHE-FORMATION-INFO
 >saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.134 VEH-SCOUT-HELICOPTER

Definition 134

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: INIT-UNIT-ICON-TABLE
 >saf>simnet-objects>draw-units.lisp
 CONVERT-APPEARANCE-FOR-NAME
 >saf>objects>simnet-name-mixin.lisp
Description: None

2.6.2.3.135 VEH-FIGHTER-BOMBER-A

Definition 135

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.136 VEH-FIGHTER-BOMBER

Definition 136

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: INIT-UNIT-ICON-TABLE
>saf>simnet-objects>draw-units.lisp
CONVERT-APPEARANCE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
CACHE-FORMATION-INFO
>saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.137 VEH-SMOKE-CLOUD
Definition 137

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.138 VEH-ANTI-AIRCRAFT
Definition 138

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: INIT-UNIT-ICON-TABLE
>saf>simnet-objects>draw-units.lisp
CONVERT-APPEARANCE-FOR-NAME
>saf>objects>simnet-name-mixin.lisp
CACHE-FORMATION-INFO
>saf>sandbox>sandbox.lisp
Description: None

2.6.2.3.139 VEH-TANKER-AIRCRAFT
Definition 139

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.140 VEH-AWACS-AIRCRAFT
Definition 140

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.141 VEH-FIGHTER-BOMBER-B
Definition 141

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.142 VEH-FIGHTER-BOMBER-C
Definition 142

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.143 VEH-FIGHTER-BOMBER-D
Definition 143

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.144 VEH-INTERCEPTOR
Definition 144

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.145 VEH-MISSILE
Definition 145

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.146 *PRETTY-TYPE-TABLE*
Definition 146

 >saf>network>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-SUB-STATE-PKT
 >saf>rudp>handle-incoming.lisp
Description: None

2.6.2.3.147 (AREF *PRETTY-TYPE-TABLE* 0)
Definition 147

 >saf>network>vars.lisp
Type: SETF
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.148 HEAT-25
Definition 148

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.149 HEAT-105

Definition 149

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.150 SABOT-25

Definition 150

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.151 SABOT-105

Definition 151

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.152 TOW-2K

Definition 152

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.153 FAAD-MISSILE

Definition 153

>saf>network>vars.lisp

Type: Parameter

Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.154 HELLFIRE-MISSILE
Definition 154

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.155 MAVERICK-MISSILE
Definition 155

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.156 DRAGON-MISSILE
Definition 156

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.157 BOMB500
Definition 157

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.2.3.158 **HE107**
Definition 158

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.2.3.159 **HE155**
Definition 159

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
 AMMO-TYPE
 >saf>network>commands.lisp
Description: None

2.6.2.3.160 **WP107**
Definition 160

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.2.3.161 **FUZE-POINT-DETONATING**
Definition 161

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
 FUZE-TYPE
 >saf>network>commands.lisp
Description: None

2.6.2.3.162 FUZE-PROXIMITY**Definition 162**

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: SET-BOMB-PARAMETERS
>saf>network>commands.lisp
Description: None

2.6.2.3.163 LOCAL**Definition 163**

>saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: GET-CURRENT-TOP-UNITS
>saf>sys>new-storage.lisp
SUBORDINATE-TASK
>saf>ui>subordinate-tasking.lisp
(METHOD DRAW-TASK-ORGANIZATION TASK-ORG-PANE)
>saf>ui>task-org.lisp
ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
ALL-LOCAL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
INSERT-LOCAL-TOP-LEVEL-UNIT
>saf>simnet-objects>vehicle-tracking.lisp
LOCAL-TOP-LEVEL-UNIT-POSITION
>saf>simnet-objects>vehicle-tracking.lisp
TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST VEHICLE APPEND)
>saf>objects>vehicle.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST COMPOSITE-OBJECT APPEND)
>saf>objects>composite-object.lisp
(METHOD MOUSE-GESTURE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp

(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)

```
>saf>objects>simnet-agent.lisp  
PROCESS-VEHICLE-PAE-PKT  
>saf>rudp>handle-incoming.lisp  
PROCESS-RESET-PKT  
>saf>rudp>handle-incoming.lisp
```

Description: None

2.6.2.3.164 REMOTE

Definition 164

```
>saf>network>vars.lisp  
Type: Parameter  
Arguments: ()  
Outputs:  
Calls: None  
Called by: IMAGE-FOR-VEHICLE  
>saf>simnet-objects>draw-vehicles.lisp  
MAKE-AGENT  
>saf>simnet-objects>vehicle-tracking.lisp  
TOP-LEVEL-UNITS  
>saf>simnet-objects>vehicle-tracking.lisp  
PROCESS-VEHICLE-PAE-PKT  
>saf>rudp>handle-incoming.lisp
```

Description: None

2.6.2.3.165 VEH-TARGET-PERSON

Definition 165

```
>saf>network>vars.lisp  
Type: Parameter  
Arguments: ()  
Outputs:  
Calls: None  
Called by: None  
Description: None
```

2.6.2.3.166 VEH-TARGET-VEH

Definition 166

```
>saf>network>vars.lisp  
Type: Parameter  
Arguments: ()  
Outputs:  
Calls: None  
Called by: None  
Description: None
```

2.6.2.3.167 VEH-SAFETY-FAN-L
Definition 167

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.168 VEH-SAFETY-FAN-R
Definition 168

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.169 VEH-TARGET-BORE
Definition 169

 >saf>network>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.170 INDIRECT-FIRE-BURST-HEIGHT
Definition 170

 >saf>network>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.2.3.171 *RELATIVE-DISPLAY*
Definition 171

 >saf>network>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()

Outputs:

Calls: None

Called by: (NCWHOPPER DRAW SIMNET-AGENT)

No Source File Record

Description: None

2.6.2.3.172 UNHANDLED-MESSAGE-HALT
Definition 172

>saf>network>vars.lisp

Type: DEFINE-DEBUG-OPTION

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.173 PRINT-OUTPUT-COMMANDS
Definition 173

>saf>network>vars.lisp

Type: DEFINE-DEBUG-OPTION

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.2.3.174 *WAITING-FOR-RESET*
Definition 174

>saf>network>vars.lisp

Type: DEFINE-DEBUG-OPTION

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-RESET-PKT

>saf>rudp>handle-incoming.lisp

RESET-SIM

>saf>network>top-level.lisp

Description: None

2.6.2.4 CSU network>top-level.lisp

This unit contains some high level functions and utility functions for use within the network module. These include get-opfor-subpacket, a function that pulls opfor sub-packets out of udp-packets, complete-c2-reset, which performs a Command and Control ("c2") reset of SAF, and reset-sim, a function that waits for a reset from the simhost.

2.6.2.4.1 GET-OPFOR-SUB-PACKET**Definition 1**

>saf>network>top-level.lisp
Type: Function
Arguments: (UDP-PKT HEADER-SIZE LENGTH)
Outputs:
Calls: None
Called by: PROCESS-ALL-MSGs-IN-UDP-PKT
>saf>rudp>incoming.lisp
Description: None

2.6.2.4.2 COMPLETE-C2-RESET**Definition 2**

>saf>network>top-level.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *ALL-VEHICLES*
>saf>sys>vars.lisp
VIEW-VEHICLE-ID
>saf>sys>vars.lisp
OPFOR-FRAME
>saf>sys>vars.lisp
RADIO-OUTPUT
>saf>sys>vars.lisp
WHERE-ARE-THEY-POLL-WAIT
>saf>sys>vars.lisp
RESET-SBX-UNIQUE-UNIT-ID
>saf>sys>vars.lisp
CLEAR-SANDBOX-ALIST
>saf>sys>vars.lisp
MY-CONCEIVED-UNITS
>saf>sys>vars.lisp
CLEAR-TOP-LEVEL-UNITS
>saf>simnet-objects>vehicle-tracking.lisp
ERASE-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
RESET-FRAGO-COUNT
>saf>ui>subordinate-tasking.lisp
CLEAR-TOP-LEVEL-TASKING
>saf>ui>subordinate-tasking.lisp
RESET-ALL-OVERLAYS-AND-TASKS
>saf>ui>subordinate-tasking.lisp
REMOVE-UNIT-POINTERS-IN-BEHAVIORS
>saf>cm>control-measure.lisp
Called by: COM-CLEAR
>saf>ui>commands.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.2.4.3 *RESET-WAIT-LIMIT*

Definition 3

>saf>network>top-level.lisp
Type: DEFINE-CONNECTION-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: RESET-SIM
>saf>network>top-level.lisp
Description: None

2.6.2.4.4 RESET-SIM

Definition 4

>saf>network>top-level.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *OPFOR-IO*
>saf>sys>vars.lisp
RESET
>saf>rudp>handle-incoming.lisp
WAITING-FOR-RESET
>saf>network>vars.lisp
RESET-WAIT-LIMIT
>saf>network>top-level.lisp
RESET
>saf>rudp>handle-incoming.lisp
NET-MSG
>saf>rudp>outgoing.lisp
Called by: COM-CLEAR
>saf>ui>commands.lisp
Description: None

2.6.3 Reliable Universal Datagram Protocol (RUDP) CSC

This CSC provides a reliable protocol layer over the IP/UDP (Internet Protocol/Universal Datagram Protocol) layer in the system code. RUDP provides packet acknowledgement, ordering, and retransmission while still preserving the basic packet structure of the command protocol. The command layer generates packets in response to user commands and passes them to the RUDP process. The RUDP process transmits these packets to the simhost with a sequential id number. When the simhost RUDP sends back a report packet it will include an acknowledgement of the last packet it has received. If the workstation does not get an acknowledgement within a time interval, it will retransmit all the packets since the last acknowledgement. If the simhost has no reports to send back, it will use a special acknowledgement packet. When the RUDP process receives a packet from the simhost, it also acknowledges it. This CSC is composed of the following CSUs:

```
rudp>vars.lisp csu
rudp>outgoing.lisp csu
rudp>incoming.lisp csu
rudp>utils.lisp csu
```

Further information about RUDP can be found in Appendix A2. Further information about RUDP and the SAF Command Protocol can be found in the SAF Command Protocol appendix to the SAF Parameter Editor CSCI software design document.

2.6.3.1 CSU `rudp>vars.lisp`

This unit contains variable definitions that are specific to the RUDP protocols. These include `*rudp-area*`, the "cons area" in memory for the rudp packets, variables to hold the start, end and current byte in a packet, a CVV (Choose Variable Values) type used to represent time in 60ths of a second, and options (accessed by the choose-user-options feature in robo-cop-control) for RUDP and IVIS.

The IVIS options relate to the Simhost cognitive/perceptual model that allows SAF-controlled vehicles to send out IVIS messages resembling those a human tank commander might send in response to his observations of other vehicles. For example, `*reappear-latency*` has a value of 900 seconds (15 minutes). This causes the simulated "commander" of a SAF tank to view a vehicle that reappears from behind an obstacle as the same one (already reported) that he saw disappear earlier, provided it has not been out of sight for more than 15 minutes. As a result, he will not send a new IVIS message reporting the sighting of a new vehicle. The `*cluster-distance*` parameter controls how tight a cluster of vehicles has to be for it to be reported as a unit-sighting (platoon, battalion, etc.). Whenever these options are initialized or changed, their values are transmitted to the MIPS Simhost, where the actual code for this functionality resides.

2.6.3.1.1 `*RUDP-AREA*`

Definition 1

```
>saf>rudp>vars.lisp
Type: Variable
Arguments:  ()
Outputs:
Calls: None
```

Called by: (PROPERTY RUDP-PACKET RESOURCE-CONSTRUCTOR)
No Source File Record
Description: None

2.6.3.1.2 *SIM-CONN*
Definition 2

>saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: NETWORK-PROCESS-WAKE-UP
>saf>ui>processes.lisp
RETRANSMIT-QUEUED-PACKET
>saf>rudp>outgoing.lisp
TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
GET-RUDP-BUFFER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
POLL-FOR-MESSAGES
>saf>rudp>incoming.lisp
FLUSH-ALL-RUDP-BUFFERS
>saf>rudp>utils.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp

SEND-CHANGE-FORMATION

>saf>network>commands.lisp

SEND-CHANGE-ALTITUDE

>saf>network>commands.lisp

SEND-CHANGE-SPEED

>saf>network>commands.lisp

SEND-HOLD

>saf>network>commands.lisp

SEND-RESUME

>saf>network>commands.lisp

SEND-HALT

>saf>network>commands.lisp

SEND-DELETE-CM

>saf>network>commands.lisp

SEND-EXECUTE-OVERLAY

>saf>network>commands.lisp

SEND-DELETE-OVERLAY

>saf>network>commands.lisp

SEND-ROUTE

>saf>network>commands.lisp

SEND-LINE

>saf>network>commands.lisp

SEND-ZONE

>saf>network>commands.lisp

SEND-AREA

>saf>network>commands.lisp

SEND-POINT

>saf>network>commands.lisp

SEND-ASSIGN-ROUTE

>saf>network>commands.lisp

SEND-CONTINUE-MISSION

>saf>network>commands.lisp

SEND-IVIS-FINE-CONTROL

>saf>network>commands.lisp

SEND-IVIS-CONTROL

>saf>network>commands.lisp

SEND-QUERY-SUB-STATE

>saf>network>commands.lisp

SEND-DISCONNECT

>saf>network>commands.lisp

SEND-TELEPORT

>saf>network>commands.lisp

SEND-RESUPPLY

>saf>network>commands.lisp

SEND-DETACH

>saf>network>commands.lisp

SEND-ATTACH

>saf>network>commands.lisp

SEND-READ-CONFIG

>saf>network>commands.lisp

SEND-ARTY

>saf>network>commar.ds.lisp

SEND-RESET

>saf>network>commands.lisp

SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
EXIT-CONN
>saf>network>connection.lisp
CONN-P
>saf>network>connection.lisp
BUSY-WAIT-ON-CONN
>saf>network>connection.lisp
INIT-CONN-1
>saf>network>connection.lisp
DEFSEND
>saf>network>commands.lisp

Description: connection to the simulation host

2.6.3.1.3 *SERVICE-ACCESS-PATH*

Definition 3

>saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: INIT-CONN-1
>saf>network>connection.lisp
Description: path to simnet service on simulation host

2.6.3.1.4 *RUDP-TYPE-SYNCH*

Definition 4

>saf>rudp>vars.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
Description: None

2.6.3.1.5 *RUDP-TYPE-DATA*

Definition 5

>saf>rudp>vars.lisp
Type: Constant
Arguments: ()
Outputs:

Calls: None
Called by: PROCESS-INCOMING-RUDP-PACKET
 >saf>rudp>incoming.lisp
Description: None

2.6.3.1.6 *RUDP-TYPE-ACK*

Definition 6

 >saf>rudp>vars.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: TRANSMIT-ACK
 >saf>rudp>outgoing.lisp
Description: None

2.6.3.1.7 *PKT*

Definition 7

 >saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: RETRANSMIT-QUEUED-PACKET
 >saf>rudp>outgoing.lisp
 TRANSMIT-ACK
 >saf>rudp>outgoing.lisp
 TRANSMIT-SYNCH
 >saf>rudp>outgoing.lisp
 SEND-CHECK-STATION
 >saf>network>commands.lisp
 SEND-VEHICLE-REINIT
 >saf>network>commands.lisp
 SEND-ATTACK
 >saf>network>commands.lisp
 SEND-REJOIN-UNIT
 >saf>network>commands.lisp
 SEND-ATTACH-STEALTH
 >saf>network>commands.lisp
 SEND-ENROUTE-MOVEMENT
 >saf>network>commands.lisp
 SEND-FACE-DIRECTION
 >saf>network>commands.lisp
 SEND-RESUME-MISSION
 >saf>network>commands.lisp
 SEND-LAND
 >saf>network>commands.lisp
 SEND-GO-TO-POINT
 >saf>network>commands.lisp

SEND-SIMULATOR-IN-COMMAND

>saf>network>commands.lisp

SEND-FOLLOW-VEHICLE

>saf>network>commands.lisp

SEND-CHANGE-FORMATION

>saf>network>commands.lisp

SEND-CHANGE-ALTITUDE

>saf>network>commands.lisp

SEND-CHANGE-SPEED

>saf>network>commands.lisp

SEND-HOLD

>saf>network>commands.lisp

SEND-RESUME

>saf>network>commands.lisp

SEND-HALT

>saf>network>commands.lisp

SEND-DELETE-CM

>saf>network>commands.lisp

SEND-EXECUTE-OVERLAY

>saf>network>commands.lisp

SEND-DELETE-OVERLAY

>saf>network>commands.lisp

SEND-ROUTE

>saf>network>commands.lisp

SEND-LINE

>saf>network>commands.lisp

SEND-ZONE

>saf>network>commands.lisp

SEND-AREA

>saf>network>commands.lisp

SEND-POINT

>saf>network>commands.lisp

SEND-ASSIGN-ROUTE

>saf>network>commands.lisp

SEND-CONTINUE-MISSION

>saf>network>commands.lisp

SEND-IVIS-FINE-CONTROL

>saf>network>commands.lisp

SEND-IVIS-CONTROL

>saf>network>commands.lisp

SEND-QUERY-SUB-STATE

>saf>network>commands.lisp

SEND-DISCONNECT

>saf>network>commands.lisp

SEND-TELEPORT

>saf>network>commands.lisp

SEND-RESUPPLY

>saf>network>commands.lisp

SEND-DETACH

>saf>network>commands.lisp

SEND-ATTACH

>saf>network>commands.lisp

SEND-READ-CONFIG

>saf>network>commands.lisp

SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp

Description: None

2.6.3.1.8 *PKT-START*

Definition 8

>saf>rudp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: RETRANSMIT-QUEUED-PACKET

>saf>rudp>outgoing.lisp
TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp

SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp

SEND-RESET

>saf>network>commands.lisp

SEND-MINEFIELD

>saf>network>commands.lisp

SEND-POLL

>saf>network>commands.lisp

SEND-TARGETING

>saf>network>commands.lisp

SEND-CREATE

>saf>network>commands.lisp

DEFSEND

>saf>network>commands.lisp

Description: None

2.6.3.1.9 *PKT-END*

Definition 9

>saf>rudp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: RETRANSMIT-QUEUED-PACKET

>saf>rudp>outgoing.lisp

TRANSMIT-ACK

>saf>rudp>outgoing.lisp

TRANSMIT-SYNCH

>saf>rudp>outgoing.lisp

SEND-CHECK-STATION

>saf>network>commands.lisp

SEND-VEHICLE-REINT

>saf>network>commands.lisp

SEND-ATTACK

>saf>network>commands.lisp

SEND-REJOIN-UNIT

>saf>network>commands.lisp

SEND-ATTACH-STEALTH

>saf>network>commands.lisp

SEND-ENROUTE-MOVEMENT

>saf>network>commands.lisp

SEND-FACE-DIRECTION

>saf>network>commands.lisp

SEND-RESUME-MISSION

>saf>network>commands.lisp

SEND-LAND

>saf>network>commands.lisp

SEND-GO-TO-POINT

>saf>network>commands.lisp

SEND-SIMULATOR-IN-COMMAND

>saf>network>commands.lisp

SEND-FOLLOW-VEHICLE

>saf>network>commands.lisp

SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp

SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp

Description: None

2.6.3.1.10 *PKT-PTR*

Definition 10

>saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: RETRANSMIT-QUEUED-PACKET
>saf>rudp>outgoing.lisp
TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp

SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
• >saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp

SEND-POLL

>saf>network>commands.lisp

SEND-TARGETING

>saf>network>commands.lisp

SEND-CREATE

>saf>network>commands.lisp

DEFSEND

>saf>network>commands.lisp

Description: None

2.6.3.1.11 *RUDP-PACKETS-PROCESSED*

Definition 11

>saf>rdp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-INCOMING-RUDP-PACKET

>saf>rdp>incoming.lisp

Description: None

2.6.3.1.12 *LAST-SEQUENCE-IN*

Definition 12

>saf>rdp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: RETRANSMIT-QUEUED-PACKET

>saf>rdp>outgoing.lisp

TRANSMIT-ACK

>saf>rdp>outgoing.lisp

TRANSMIT-SYNCH

>saf>rdp>outgoing.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rdp>incoming.lisp

SEND-CHECK-STATION

>saf>network>commands.lisp

SEND-VEHICLE-REINIT

>saf>network>commands.lisp

SEND-ATTACK

>saf>network>commands.lisp

SEND-REJOIN-UNIT

>saf>network>commands.lisp

SEND-ATTACH-STEALTH

>saf>network>commands.lisp

SEND-ENROUTE-MOVEMENT

>saf>network>commands.lisp

SEND-FACE-DIRECTION

>saf>network>commands.lisp

SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp

SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp

Description: None

2.6.3.1.13 *NEXT-SEQUENCE-OUT*

Definition 13

>saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp

SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp

SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp

Description: None

2.6.3.1.14 *ACK-NEEDED*

Definition 14

>saf>rudp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rudp>outgoing.lisp
PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp

SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp

```
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp
```

Description: None

2.6.3.1.15 *RETRANSMIT-TIMER*

Definition 15

```
>saf>rdp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: NETWORK-PROCESS-WAKE-UP
>saf>ui>processes.lisp
RETRANSMIT-QUEUED-PACKET
>saf>rdp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rdp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Description: None

2.6.3.1.16 *RETRANSMIT-QUEUE*

Definition 16

```
>saf>rdp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
```


Called by: RETRANSMIT-ALL-QUEUED-PACKETS

```
>saf>rdp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
FLUSH-RUDP-RETRANSMIT-BUFFERS
>saf>rdp>outgoing.lisp
SIGNAL-RUDP-ERROR
>saf>rdp>utils.lisp
```

Description: None

2.6.3.1.17 *RUDP-OUTPUT-STREAM*

Definition 17

```
>saf>rdp>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD TOP-LEVEL SAF)
>saf>ui>frame.lisp
RETRANSMIT-QUEUED-PACKET
>saf>rdp>outgoing.lisp
TRANSMIT-ACK
>saf>rdp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rdp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
PROCESS-INCOMING-RUDP-PACKET
>saf>rdp>incoming.lisp
SIGNAL-RUDP-ERROR
>saf>rdp>utils.lisp
DEBUG-RUDP
>saf>rdp>utils.lisp
```

Description: None

2.6.3.1.18 *RUDP-OUTPUT-STREAM*

Definition 18

```
>saf>rdp>vars.lisp
Type: SETQ
Arguments: ()
Outputs:
Calls: None
```

Called by: (METHOD TOP-LEVEL SAF)

```
>saf>ui>frame.lisp
RETRANSMIT-QUEUED-PACKET
>saf>rdp>outgoing.lisp
TRANSMIT-ACK
>saf>rdp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rdp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
PROCESS-INCOMING-RUDP-PACKET
>saf>rdp>incoming.lisp
SIGNAL-RUDP-ERROR
>saf>rdp>utils.lisp
DEBUG-RUDP
>saf>rdp>utils.lisp
```

Description: None

2.6.3.1.19 *PACKET-REQUEST-QUEUE*

Definition 19

```
>saf>rdp>vars.lisp
```

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: NETWORK-PROCESS-WAKE-UP

```
>saf>ui>processes.lisp
NET-MSG
>saf>rdp>outgoing.lisp
PROCESS-OUTGOING-RUDP
>saf>rdp>outgoing.lisp
FLUSH-RUDP-PENDING-TRANSMIT-BUFFERS
>saf>rdp>outgoing.lisp
```

Description: None

2.6.3.1.20 *PACKET-IMMEDIATE-QUEUE*

Definition 20

```
>saf>rdp>vars.lisp
```

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: NETWORK-PROCESS-WAKE-UP

>saf>ui>processes.lisp

NET-MSG

>saf>rdp>outgoing.lisp

PROCESS-OUTGOING-RUDP

>saf>rdp>outgoing.lisp

FLUSH-RUDP-PENDING-TRANSMIT-BUFFERS

>saf>rdp>outgoing.lisp

INIT-CONN-1

>saf>network>connection.lisp

Description: None

2.6.3.1.21 *RUDP-RECEIVE-QUEUE*

Definition 21

>saf>rdp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: UPDATE-PROCESS-WAKE-UP

>saf>sys>update-process.lisp

PROCESS-RECEIVED-PACKETS

>saf>rdp>incoming.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rdp>incoming.lisp

FLUSH-RUDP-RECEIVE-BUFFERS

>saf>rdp>incoming.lisp

Description: None

2.6.3.1.22 *LAST-PACKET-IN-TIME*

Definition 22

>saf>rdp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: CHECK-FOR-RETRANSMIT-OR-ACK

>saf>rdp>outgoing.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rdp>incoming.lisp

INITIALIZE-CONNECTION

>saf>network>connection.lisp

Description: None

2.6.3.1.23 *LAST-PACKET-IN-WARNING-STATE*

Definition 23

>saf>rudp>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: CHECK-FOR-RETRANSMIT-OR-ACK

>saf>rudp>outgoing.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rudp>incoming.lisp

INITIALIZE-CONNECTION

>saf>network>connection.lisp

Description: None

2.6.3.1.24 CVV-PRINT-60THS

Definition 24

>saf>rudp>vars.lisp

Type: Function

Arguments: (OBJECT STREAM)

Outputs:

Calls: None

Called by: None

Description: None

2.6.3.1.25 CVV-READ-60THS

Definition 25

>saf>rudp>vars.lisp

Type: Function

Arguments: (STREAM)

Outputs:

Calls: None

Called by: None

Description: None

2.6.3.1.26 (GET '60THS 'CHOOSE-VARIABLE-VALUES-KEYWORD)

Definition 26

>saf>rudp>vars.lisp

Type: SETF

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.3.1.27 *RUDP-OPTIONS*

Definition 27

>saf>rdp>vars.lisp
Type: DEFINE-USER-OPTION-ALIST
Arguments: ()
Outputs:
Calls: None
Called by: DEFINE-RUDP-OPTION
>saf>rdp>vars.lisp
Description: None

2.6.3.1.28 *LAST-PACKET-IN-SHUTDOWN-STATE*

Definition 28

>saf>rdp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
Description: None

2.6.3.1.29 *BARE-ACK-PERIOD*

Definition 29

>saf>rdp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
Description: None

2.6.3.1.30 *RETRANSMIT-PERIOD*

Definition 30

>saf>rdp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rdp>outgoing.lisp
Description: None

2.6.3.1.31 *TRANSMIT-QUEUE-WARNING-LENGTH*

Definition 31

>saf>rudp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Description: None

2.6.3.1.32 *TRANSMIT-QUEUE-ERROR-LENGTH*

Definition 32

>saf>rudp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
SIGNAL-RUDP-ERROR
>saf>rudp>utils.lisp
Description: None

2.6.3.1.33 *MAX-RECEIVE-QUEUE-LENGTH*

Definition 33

>saf>rudp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
Description: None

2.6.3.1.34 *DEBUG-RUDP*

Definition 34

>saf>rudp>vars.lisp
Type: DEFINE-RUDP-OPTION
Arguments: ()
Outputs:
Calls: None

Called by: RETRANSMIT-QUEUED-PACKET

>saf>rudp>outgoing.lisp

TRANSMIT-ACK

>saf>rudp>outgoing.lisp

TRANSMIT-SYNCH

>saf>rudp>outgoing.lisp

DEQUEUE-OUTGOING

>saf>rudp>outgoing.lisp

PUT-MSG-IN-RETRANSMIT-QUEUE

>saf>rudp>outgoing.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rudp>incoming.lisp

DEBUG-RUDP

>saf>rudp>utils.lisp

Description: None

2.6.3.1.35 *IVIS-OPTIONS*

Definition 35

>saf>rudp>vars.lisp

Type: DEFINE-USER-OPTION-ALIST

Arguments: ()

Outputs:

Calls: None

Called by: SEND-AN-IVIS-FINE-CONTROL

>saf>network>commands.lisp

DEFINE-IVIS-OPTION

>saf>rudp>vars.lisp

Description: None

2.6.3.1.36 *IVIS-OPTIONS*

Definition 36

>saf>rudp>vars.lisp

Type: SETQ

Arguments: ()

Outputs:

Calls: None

Called by: SEND-AN-IVIS-FINE-CONTROL

>saf>network>commands.lisp

DEFINE-IVIS-OPTION

>saf>rudp>vars.lisp

Description: None

2.6.3.1.37 *REAPPEAR-LATENCY*

Definition 37

>saf>rudp>vars.lisp

Type: DEFINE-IVIS-OPTION

Arguments: ()

Outputs:

Calls: None
Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 STORE-SCENARIO
 >saf>sys>new-storage.lisp
 SEND-AN-IVIS-FINE-CONTROL-PACKET
 >saf>network>commands.lisp
Description: None

2.6.3.1.38 *RANGE-THRESHOLD*

Definition 38

 >saf>rudp>vars.lisp
Type: DEFINE-IVIS-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 STORE-SCENARIO
 >saf>sys>new-storage.lisp
 SEND-AN-IVIS-FINE-CONTROL-PACKET
 >saf>network>commands.lisp
Description: None

2.6.3.1.39 *UPDATE-RATE*

Definition 39

 >saf>rudp>vars.lisp
Type: DEFINE-IVIS-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 STORE-SCENARIO
 >saf>sys>new-storage.lisp
 SEND-AN-IVIS-FINE-CONTROL-PACKET
 >saf>network>commands.lisp
Description: None

2.6.3.1.40 *CLUSTER-DISTANCE*

Definition 40

 >saf>rudp>vars.lisp
Type: DEFINE-IVIS-OPTION
Arguments: ()
Outputs:
Calls: None

Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 STORE-SCENARIO
 >saf>sys>new-storage.lisp
 SEND-AN-IVIS-FINE-CONTROL-PACKET
 >saf>network>commands.lisp
Description: None

2.6.3.2 CSU rudp>outgoing.lisp

This unit contains the code to send packets to the simhost. This includes a function to put a header onto an RUDP packet, buffer handling functions, and functions to handle acknowledgement or retransmission of packets.

2.6.3.2.1 PREPEND-RUDP-HEADER

Definition 1

 >saf>rudp>outgoing.lisp
Type: Subst
Arguments: (PKT PKT-PTR PKT-END PKT-TYPE PKT-SEQ PKT-ACK)
Outputs:
Calls: None
Called by: TRANSMIT-ACK
 >saf>rudp>outgoing.lisp
 TRANSMIT-SYNCH
 >saf>rudp>outgoing.lisp
 SEND-CHECK-STATION
 >saf>network>commands.lisp
 SEND-VEHICLE-REINIT
 >saf>network>commands.lisp
 SEND-ATTACK
 >saf>network>commands.lisp
 SEND-REJOIN-UNIT
 >saf>network>commands.lisp
 SEND-ATTACH-STEALTH
 >saf>network>commands.lisp
 SEND-ENROUTE-MOVEMENT
 >saf>network>commands.lisp
 SEND-FACE-DIRECTION
 >saf>network>commands.lisp
 SEND-RESUME-MISSION
 >saf>network>commands.lisp
 SEND-LAND
 >saf>network>commands.lisp
 SEND-GO-TO-POINT
 >saf>network>commands.lisp
 SEND-SIMULATOR-IN-COMMAND
 >saf>network>commands.lisp
 SEND-FOLLOW-VEHICLE
 >saf>network>commands.lisp
 SEND-CHANGE-FORMATION
 >saf>network>commands.lisp

SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp

SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp

Description: None

2.6.3.2.2 TRANSMIT-MSG

Definition 2

>saf>rudp>outgoing.lisp
Type: Subst
Arguments: (UDP-MSG END-OF-MSG)
Outputs:
Calls: *SIM-CONN*
>saf>rudp>vars.lisp
Called by: TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp

SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp

SEND-POLL

>saf>network>commands.lisp

SEND-TARGETING

>saf>network>commands.lisp

SEND-CREATE

>saf>network>commands.lisp

DEFSEND

>saf>network>commands.lisp

Description: None

2.6.3.2.3 GET-RUDP-BUFFER

Definition 3

>saf>rdp>outgoing.lisp

Type: Subst

Arguments: ()

Outputs:

Calls: *SIM-CONN*

>saf>rdp>vars.lisp

Called by: RETRANSMIT-QUEUED-PACKET

>saf>rdp>outgoing.lisp

TRANSMIT-ACK

>saf>rdp>outgoing.lisp

TRANSMIT-SYNCH

>saf>rdp>outgoing.lisp

Description: None

2.6.3.2.4 FLUSH-RUDP-RETRANSMIT-BUFFERS

Definition 4

>saf>rdp>outgoing.lisp

Type: Function

Arguments: ()

Outputs:

Calls: DEQUEUE

>saf>sys>macros.lisp

RETRANSMIT-QUEUE

>saf>rdp>vars.lisp

RUDP-PACKET

>saf>rdp>utils.lisp

FREE-RUDP-PACKET

>saf>rdp>utils.lisp

Called by: TRANSMIT-SYNCH

>saf>rdp>outgoing.lisp

FLUSH-ALL-RUDP-BUFFERS

>saf>rdp>utils.lisp

Description: None

2.6.3.2.5 FLUSH-RUDP-PENDING-TRANSMIT-BUFFERS

Definition 5

>saf>rdp>outgoing.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *PACKET-REQUEST-QUEUE*
>saf>rdp>vars.lisp
PACKET-IMMEDIATE-QUEUE
>saf>rdp>vars.lisp
Called by: FLUSH-ALL-RUDP-BUFFERS
>saf>rdp>utils.lisp
Description: None

2.6.3.2.6 DO-ALL-QUEUED-REQUESTS

Definition 6

>saf>rdp>outgoing.lisp
Type: Macro
Arguments: (QUEUE)
Outputs:
Calls: DEQUEUE
>saf>sys>macros.lisp
DO-ALL-QUEUED-REQUESTS
>saf>rdp>outgoing.lisp
Called by: PROCESS-OUTGOING-RUDP
>saf>rdp>outgoing.lisp
DO-ALL-QUEUED-REQUESTS
>saf>rdp>outgoing.lisp
Description: None

2.6.3.2.7 PROCESS-OUTGOING-RUDP

Definition 7

>saf>rdp>outgoing.lisp
Type: Function
Arguments: ()
Outputs:
Calls: DEQUEUE
>saf>sys>macros.lisp
PACKET-REQUEST-QUEUE
>saf>rdp>vars.lisp
PACKET-IMMEDIATE-QUEUE
>saf>rdp>vars.lisp
DO-ALL-QUEUED-REQUESTS
>saf>rdp>outgoing.lisp
Called by: RUDP-TRANSMIT-AND-RECEIVE
>saf>rdp>utils.lisp
Description: None

2.6.3.2.8 '(NET-MSG REQUEST IMMEDIATE)

Definition 8

>saf>rudp>outgoing.lisp
 Type: EXPORT
 Arguments: ()
 Outputs:
 Calls: None
 Called by: None
 Description: None

2.6.3.2.9 NET-MSG

Definition 9

>saf>rudp>outgoing.lisp
 Type: Function
 Arguments: (TYPE QUEUE-TYPE &REST ARGS)
 Outputs:
 Calls: ENQUEUE
 >saf>sys>macros.lisp
 PACKET-REQUEST-QUEUE
 >saf>rudp>vars.lisp
 PACKET-IMMEDIATE-QUEUE
 >saf>rudp>vars.lisp
 SAF
 >saf>ui>frame.lisp
 Called by: (METHOD REEXECUTE-SUB-TASK SUB-TASK)
 >saf>ui>subordinate-tasking.lisp
 CREATE-STORED-INSTANCE
 >saf>sys>new-storage.lisp
 (METHOD EXECUTE-SUB-TASK SUB-TASK)
 >saf>ui>subordinate-tasking.lisp
 REALLY-MAKE-SANDBOX-OBJECT
 >saf>bmi>bmi-frame.lisp
 UPDATE-TOP-LEVEL-AUX
 >saf>sys>update-process.lisp
 (METHOD SEND-OVERLAY-TO-SIMHOST OVERLAY)
 >saf>cm>overlay.lisp
 (METHOD INTERVENE SIMNET-AGENT FORMATION)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT REJOIN-UNIT)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT RESUME)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT ATTACK)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT LAND)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT RESUPPLY)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)

```

>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT ALTITUDE)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT SPEED)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT ENROUTE-MOVEMENT)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT HOLD)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT HALT)
>saf>objects>intervention.lisp
(METHOD REINIT VEHICLE)
>saf>objects>vehicle.lisp
(METHOD IVIS-CONTROL SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD RESUME-ALL-SUBORDINATES SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp
RESET-SIM
>saf>network>top-level.lisp
ATTACH-STEALTH
>saf>network>commands.lisp
SEND-AN-IVIS-FINE-CONTROL-PACKET
>saf>network>commands.lisp
SEND-IVIS-MESSAGES
>saf>network>commands.lisp
BOMB-BUTTON
>saf>network>commands.lisp

```

Description: None

2.6.3.2.10 PUT-MSG-IN-RETRANSMIT-QUEUE

Definition 10

```

>saf>rudp>outgoing.lisp
Type: Function
Arguments: (SEQ UDP-MSG END-OF-MSG)
Outputs:
Calls: ENQUEUE
>saf>sys>macros.lisp
*RETRANSMIT-TIMER*
>saf>rudp>vars.lisp
*RETRANSMIT-QUEUE*
>saf>rudp>vars.lisp
*RUdp-OUTPUT-STREAM*
>saf>rudp>vars.lisp
*RUdp-OUTPUT-STREAM*

```



```
>saf>rudp>vars.lisp
*TRANSMIT-QUEUE-WARNING-LENGTH*
>saf>rudp>vars.lisp
*TRANSMIT-QUEUE-ERROR-LENGTH*
>saf>rudp>vars.lisp
*DEBUG-RUDP*
>saf>rudp>vars.lisp
RUDP-PACKET
>saf>rudp>utils.lisp
GET-RUDP-PACKET
>saf>rudp>utils.lisp
RETRANSMIT-QUEUE-ITEM
>saf>rudp>utils.lisp
MAKE-RETRANSMIT-QUEUE-ITEM
>saf>rudp>utils.lisp
DEBUG-RUDP
>saf>rudp>utils.lisp
SIGNAL-RUDP-ERROR
>saf>rudp>utils.lisp
Called by: TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp
```

SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp
SEND-POLL

```
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp
```

Description: None

2.6.3.2.11 DEQUEUE-OUTGOING

Definition 11

```
>saf>rudp>outgoing.lisp
Type: Function
Arguments: (ACK)
Outputs:
Calls: DEQUEUE
>saf>sys>macros.lisp
LAST-ITEM-ON
>saf>sys>macros.lisp
NEXT-ITEM-OFF
>saf>sys>macros.lisp
*RETRANSMIT-TIMER*
>saf>rudp>vars.lisp
*RETRANSMIT-QUEUE*
>saf>rudp>vars.lisp
*RUDP-OUTPUT-STREAM*
>saf>rudp>vars.lisp
*RUDP-OUTPUT-STREAM*
>saf>rudp>vars.lisp
*DEBUG-RUDP*
>saf>rudp>vars.lisp
RUDP-PACKET
>saf>rudp>utils.lisp
FREE-RUDP-PACKET
>saf>rudp>utils.lisp
DEBUG-RUDP
>saf>rudp>utils.lisp
SIGNAL-RUDP-ERROR
>saf>rudp>utils.lisp
Called by: PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
Description: None
```

2.6.3.2.12 CHECK-FOR-RETRANSMIT-OR-ACK

Definition 12

```
>saf>rudp>outgoing.lisp
Type: Function
Arguments: ()
Outputs:
```

Calls: *OPFOR-FRAME*
 >saf>sys>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp
 RETRANSMIT-TIMER
 >saf>rdp>vars.lisp
 RETRANSMIT-QUEUE
 >saf>rdp>vars.lisp
 RUDP-OUTPUT-STREAM
 >saf>rdp>vars.lisp
 RUDP-OUTPUT-STREAM
 >saf>rdp>vars.lisp
 LAST-PACKET-IN-TIME
 >saf>rdp>vars.lisp
 LAST-PACKET-IN-WARNING-STATE
 >saf>rdp>vars.lisp
 LAST-PACKET-IN-SHUTDOWN-STATE
 >saf>rdp>vars.lisp
 BARE-ACK-PERIOD
 >saf>rdp>vars.lisp
 RETRANSMIT-PERIOD
 >saf>rdp>vars.lisp
 UI-EXIT-CONNECTION
 >saf>network>connection.lisp
 TRANSMIT-ACK
 >saf>rdp>outgoing.lisp
 RETRANSMIT-ALL-QUEUED-PACKETS
 >saf>rdp>outgoing.lisp
 Called by: RUDP-TRANSMIT-AND-RECEIVE
 >saf>rdp>utils.lisp
 Description: None

2.6.3.2.13 TRANSMIT-SYNCH

Definition 13

 >saf>rdp>outgoing.lisp
 Type: Function
 Arguments: ()
 Outputs:
 Calls: *SIM-CONN*
 >saf>rdp>vars.lisp
 RUDP-TYPE-SYNCH
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp

```

*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
*RETRANSMIT-TIMER*
>saf>rdp>vars.lisp
*RUDP-OUTPUT-STREAM*
>saf>rdp>vars.lisp
*RUDP-OUTPUT-STREAM*
>saf>rdp>vars.lisp
*DEBUG-RUDP*
>saf>rdp>vars.lisp
DEBUG-RUDP
>saf>rdp>utils.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
GET-RUDP-BUFFER
>saf>rdp>outgoing.lisp
FLUSH-RUDP-RETRANSMIT-BUFFERS
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
Called by:  INIT-CONN-1
            >saf>network>connection.lisp
Description:  None

```

2.6.3.2.14 TRANSMIT-ACK

Definition 14

```

>saf>rdp>outgoing.lisp
Type: Function
Arguments:  ()
Outputs:
Calls: *SIM-CONN*
       >saf>rdp>vars.lisp
       *RUDP-TYPE-ACK*
       >saf>rdp>vars.lisp
       *PKT*
       >saf>rdp>vars.lisp
       *PKT-START*
       >saf>rdp>vars.lisp
       *PKT-END*
       >saf>rdp>vars.lisp
       *PKT-PTR*
       >saf>rdp>vars.lisp
       *LAST-SEQUENCE-IN*
       >saf>rdp>vars.lisp
       *NEXT-SEQUENCE-OUT*
       >saf>rdp>vars.lisp
       *ACK-NEEDED*
       >saf>rdp>vars.lisp

```

RUDP-OUTPUT-STREAM

>saf>rdp>vars.lisp

RUDP-OUTPUT-STREAM

>saf>rdp>vars.lisp

DEBUG-RUDP

>saf>rdp>vars.lisp

DEBUG-RUDP

>saf>rdp>utils.lisp

PREPEND-RUDP-HEADER

>saf>rdp>outgoing.lisp

TRANSMIT-MSG

>saf>rdp>outgoing.lisp

GET-RUDP-BUFFER

>saf>rdp>outgoing.lisp

Called by: CHECK-FOR-RETRANSMIT-OR-ACK

>saf>rdp>outgoing.lisp

Description: None

2.6.3.2.15 RETRANSMIT-QUEUED-PACKET

Definition 15

>saf>rdp>outgoing.lisp

Type: Function

Arguments: (RETRANSMIT-QUEUE-ITEM)

Outputs:

Calls: *SIM-CONN*

>saf>rdp>vars.lisp

PKT

>saf>rdp>vars.lisp

PKT-START

>saf>rdp>vars.lisp

PKT-END

>saf>rdp>vars.lisp

PKT-PTR

>saf>rdp>vars.lisp

LAST-SEQUENCE-IN

>saf>rdp>vars.lisp

RETRANSMIT-TIMER

>saf>rdp>vars.lisp

RUDP-OUTPUT-STREAM

>saf>rdp>vars.lisp

RUDP-OUTPUT-STREAM

>saf>rdp>vars.lisp

DEBUG-RUDP

>saf>rdp>vars.lisp

DEBUG-RUDP

>saf>rdp>utils.lisp

GET-RUDP-BUFFER

>saf>rdp>outgoing.lisp

Called by: RETRANSMIT-ALL-QUEUED-PACKETS

>saf>rdp>outgoing.lisp

Description: None

2.6.3.2.16 RETRANSMIT-ALL-QUEUED-PACKETS

Definition 16

```

>saf>rudp>outgoing.lisp
Type: Function
Arguments:  ()
Outputs:
Calls: MAPQUEUE
      >saf>sys>macros.lisp
      *RETRANSMIT-QUEUE*
      >saf>rudp>vars.lisp
      RETRANSMIT-QUEUED-PACKET
      >saf>rudp>outgoing.lisp
Called by: CHECK-FOR-RETRANSMIT-OR-ACK
          >saf>rudp>outgoing.lisp
Description: None

```

2.6.3.3 CSU rudp>incoming.lisp

This unit contains the code to receive and acknowledge packets from the simhost. The function *process-incoming-rudp-packet* takes an incoming packet, with its start and end memory locations, strips off a header that is only used by RUDP, and decides how to handle the packet. At the end of this function, data packets are pushed onto **rudp-receive-queue**.

The Update process repeatedly calls the function *process-recieved-packets*, defined in this unit, to service this queue. This function in turn calls *process-all-msgs-in-udp-pkt*, which unpacks the udp-packet and makes a series of calls to *process-sim-pkt*, one for each opfor-sub-packet in the udp-packet. Finally, *process-sim-pkt* uses *opfor-header-message-type* to get the message-type number from the opfor-sub-packet, and uses this number as an index into the function array accessor *lookup-handler-function*. The handler function for that type number is then applied to the opfor-sub-packet *pkt* by *funcall*. See section 2.6.4.1, CSU rudp>handle-incoming.lisp, for the definition of *lookup-handler-function*.

Notice that *process-all-msgs-in-udp-pkt*, keeps track of the offset in *udp-pkt* by adding the current offset to the value returned by *process-sim-packet*. Since this number is just the value returned through the funcall by the handler function, it is essential to the unpacking process that each handler function returns the number of data bytes it has processed.

The accessor *opfor-header-message-type*, used to get the message type number from the opfor sub-packet, is created automatically by *lmfs:defstorage* in the call

```

(lmfs:defstorage (opfor-header :alterant)
  (vehicle-id net-short)
  (message-type net-short))

```

found in *network>packet-layouts.lisp*. This call shows that the message-type field is a net-short (2 byte) field, occupying the 3rd and 4th bytes of the opfor-header. The vehicle-id takes up the first two bytes. The keyword *:alterant* makes it possible to write to the memory locations in the template.

The definition is analogous to the C structure declaration

```
struct opfor-header {  
    net-short vehicle-id;  
    net-short message-type;  
};
```

with net-short defined to be a 2-byte integer type.

2.6.3.3.1 FLUSH-RUDP-RECEIVE-BUFFERS

Definition 1

```
>saf>rudp>incoming.lisp  
Type: Function  
Arguments: ()  
Outputs:  
Calls: DEQUEUE  
       >saf>sys>macros.lisp  
       *RUDP-RECEIVE-QUEUE*  
       >saf>rudp>vars.lisp  
       RUDP-PACKET  
       >saf>rudp>utils.lisp  
       FREE-RUDP-PACKET  
       >saf>rudp>utils.lisp  
Called by: FLUSH-ALL-RUDP-BUFFERS  
           >saf>rudp>utils.lisp  
Description: None
```

2.6.3.3.2 PROCESS-INCOMING-RUDP

Definition 2

```
>saf>rudp>incoming.lisp  
Type: Function  
Arguments: ()  
Outputs:  
Calls: POLL-FOR-MESSAGES  
       >saf>rudp>incoming.lisp  
Called by: RUDP-TRANSMIT-AND-RECEIVE  
           >saf>rudp>utils.lisp  
Description: None
```

2.6.3.3.3 POLL-FOR-MESSAGES

Definition 3

```
>saf>rudp>incoming.lisp  
Type: Function  
Arguments: ()  
Outputs:
```


Calls: *SIM-CONN*

>saf>rudp>vars.lisp

PROCESS-INCOMING-RUDP-PACKET

>saf>rudp>incoming.lisp

Called by: PROCESS-INCOMING-RUDP

>saf>rudp>incoming.lisp

Description: This function will keep on processing incoming packets until there aren't any more

2.6.3.3.4 PROCESS-INCOMING-RUDP-PACKET

Definition 4

>saf>rudp>incoming.lisp

Type: Function

Arguments: (PKT START END)

Outputs:

Calls: ENQUEUE

>saf>sys>macros.lisp

RUDP-TYPE-DATA

>saf>rudp>vars.lisp

RUDP-PACKETS-PROCESSED

>saf>rudp>vars.lisp

LAST-SEQUENCE-IN

>saf>rudp>vars.lisp

ACK-NEEDED

>saf>rudp>vars.lisp

RUDP-OUTPUT-STREAM

>saf>rudp>vars.lisp

RUDP-OUTPUT-STREAM

>saf>rudp>vars.lisp

RUDP-RECEIVE-QUEUE

>saf>rudp>vars.lisp

LAST-PACKET-IN-TIME

>saf>rudp>vars.lisp

LAST-PACKET-IN-WARNING-STATE

>saf>rudp>vars.lisp

MAX-RECEIVE-QUEUE-LENGTH

>saf>rudp>vars.lisp

DEBUG-RUDP

>saf>rudp>vars.lisp

RUDP-PACKET

>saf>rudp>utils.lisp

GET-RUDP-PACKET

>saf>rudp>utils.lisp

RECEIVE-QUEUE-ITEM

>saf>rudp>utils.lisp

MAKE-RECEIVE-QUEUE-ITEM

>saf>rudp>utils.lisp

DEBUG-RUDP

>saf>rudp>utils.lisp

DEQUEUE-OUTGOING

>saf>rudp>outgoing.lisp

Called by: POLL-FOR-MESSAGES
>saf>rudp>incoming.lisp
Description: None

2.6.3.3.5 PROCESS-RECEIVED-PACKETS

Definition 5

>saf>rudp>incoming.lisp
Type: Function
Arguments: ()
Outputs:
Calls: DEQUEUE
>saf>sys>macros.lisp
RUDP-RECEIVE-QUEUE
>saf>rudp>vars.lisp
RUDP-PACKET
>saf>rudp>utils.lisp
FREE-RUDP-PACKET
>saf>rudp>utils.lisp
PROCESS-ALL-MSGS-IN-UDP-PKT
>saf>rudp>incoming.lisp
Called by: UPDATE-TOP-LEVEL-AUX
>saf>sys>update-process.lisp
Description: None

2.6.3.3.6 PROCESS-SIM-PKT

Definition 6

>saf>rudp>incoming.lisp
Type: Function
Arguments: (PKT)
Outputs:
Calls: *PACKET-HANDLER-FUNCTION-TABLE*
>saf>rudp>handle-incoming.lisp
LOOKUP-HANDLER-FUNCTION
>saf>rudp>handle-incoming.lisp
Called by: PROCESS-ALL-MSGS-IN-UDP-PKT
>saf>rudp>incoming.lisp
Description: None

2.6.3.3.7 PROCESS-ALL-MSGS-IN-UDP-PKT

Definition 7

>saf>rudp>incoming.lisp
Type: Function
Arguments: (UDP-PKT START END)
Outputs:

Calls: GET-OPFOR-SUB-PACKET
 >saf>network>top-level.lisp
 PROCESS-SIM-PKT
 >saf>rudp>incoming.lisp
Called by: PROCESS-RECEIVED-PACKETS
 >saf>rudp>incoming.lisp
Description: None

2.6.3.4 CSU rudp>utils.lisp

This unit contains the top level RUDP function, *rudp-transmit-and-receive*, and some utility functions and definitions for use within the RUDP communications software. These include the resource *rudp-packet*, which allocates and deallocates packet-sized memory chunks, several queue structures, and *flush-all-rudp-buffers*, a function used to shut down RUDP before reestablishing a lost connection.

2.6.3.4.1 RUDP-PACKET

Definition 1

 >saf>rudp>utils.lisp
Type: DEFRESOURCE
Arguments: ()
Outputs:
Calls: None
Called by: DEQUEUE-OUTGOING
 >saf>rudp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp
 FLUSH-RUDP-RETRANSMIT-BUFFERS
 >saf>rudp>outgoing.lisp
 PROCESS-RECEIVED-PACKETS
 >saf>rudp>incoming.lisp
 PROCESS-INCOMING-RUDP-PACKET
 >saf>rudp>incoming.lisp
 FLUSH-RUDP-RECEIVE-BUFFERS
 >saf>rudp>incoming.lisp
 FREE-RUDP-PACKET
 >saf>rudp>utils.lisp
 GET-RUDP-PACKET
 >saf>rudp>utils.lisp
Description: None

2.6.3.4.2 GET-RUDP-PACKET

Definition 2

 >saf>rudp>utils.lisp
Type: Subst
Arguments: ()
Outputs:

Calls: RUDP-PACKET
 >saf>rudp>utils.lisp
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp
 PROCESS-INCOMING-RUDP-PACKET
 >saf>rudp>incoming.lisp
Description: None

2.6.3.4.3 FREE-RUDP-PACKET

Definition 3

 >saf>rudp>utils.lisp
Type: Subst
Arguments: (PACKET)
Outputs:
Calls: RUDP-PACKET
 >saf>rudp>utils.lisp
Called by: DEQUEUE-OUTGOING
 >saf>rudp>outgoing.lisp
 FLUSH-RUDP-RETRANSMIT-BUFFERS
 >saf>rudp>outgoing.lisp
 PROCESS-RECEIVED-PACKETS
 >saf>rudp>incoming.lisp
 FLUSH-RUDP-RECEIVE-BUFFERS
 >saf>rudp>incoming.lisp
Description: None

2.6.3.4.4 RETRANSMIT-QUEUE-ITEM

Definition 4

 >saf>rudp>utils.lisp
Type: DEFSTRUCT
Arguments: ()
Outputs:
Calls: None
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp
 MAKE-RETRANSMIT-QUEUE-ITEM
 >saf>rudp>utils.lisp
 RETRANSMIT-QUEUE-ITEM-P
 >saf>rudp>utils.lisp
 COPY-RETRANSMIT-QUEUE-ITEM
 >saf>rudp>utils.lisp
 MAKE-RETRANSMIT-QUEUE-ITEM-INTERNAL
 >saf>rudp>utils.lisp
Description: None

2.6.3.4.5 MAKE-RETRANSMIT-QUEUE-ITEM

Definition 5

>saf>rudp>utils.lisp
Type: Subst
Arguments: (SEQ RETRANSMIT-ARRAY END-OF-MSG)
Outputs:
Calls: RETRANSMIT-QUEUE-ITEM
>saf>rudp>utils.lisp
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Description: None

2.6.3.4.6 RECEIVE-QUEUE-ITEM

Definition 6

>saf>rudp>utils.lisp
Type: DEFSTRUCT
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
MAKE-RECEIVE-QUEUE-ITEM
>saf>rudp>utils.lisp
RECEIVE-QUEUE-ITEM-P
>saf>rudp>utils.lisp
COPY-RECEIVE-QUEUE-ITEM
>saf>rudp>utils.lisp
MAKE-RECEIVE-QUEUE-ITEM-INTERNAL
>saf>rudp>utils.lisp
Description: None

2.6.3.4.7 MAKE-RECEIVE-QUEUE-ITEM

Definition 7

>saf>rudp>utils.lisp
Type: Subst
Arguments: (ARRAY START END)
Outputs:
Calls: RECEIVE-QUEUE-ITEM
>saf>rudp>utils.lisp
Called by: PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
Description: None

2.6.3.4.8 DEBUG-RUDP

Definition 8

>saf>rudp>utils.lisp
Type: Subst
Arguments: (CONTROL-STRING &REST ARGS)
Outputs:
Calls: *RUDP-OUTPUT-STREAM*
>saf>rudp>vars.lisp
RUDP-OUTPUT-STREAM
>saf>rudp>vars.lisp
DEBUG-RUDP
>saf>rudp>vars.lisp
Called by: RETRANSMIT-QUEUED-PACKET
>saf>rudp>outgoing.lisp
TRANSMIT-ACK
>saf>rudp>outgoing.lisp
TRANSMIT-SYNCH
>saf>rudp>outgoing.lisp
DEQUEUE-OUTGOING
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
Description: None

2.6.3.4.9 RUDP-TRANSMIT-AND-RECEIVE

Definition 9

>saf>rudp>utils.lisp
Type: Function
Arguments: ()
Outputs:
Calls: PROCESS-INCOMING-RUDP
>saf>rudp>incoming.lisp
PROCESS-OUTGOING-RUDP
>saf>rudp>outgoing.lisp
CHECK-FOR-RETRANSMIT-OR-ACK
>saf>rudp>outgoing.lisp
Called by: PROCESS-RUDP-PACKETS
>saf>ui>processes.lisp
Description: None

2.6.3.4.10 SIGNAL-RUDP-ERROR

Definition 10

>saf>rudp>utils.lisp
Type: Function
Arguments: (TYPE)
Outputs:

Calls: *OPFOR-FRAME*
 >saf>sys>vars.lisp
 RETRANSMIT-QUEUE
 >saf>rudp>vars.lisp
 RUDP-OUTPUT-STREAM
 >saf>rudp>vars.lisp
 RUDP-OUTPUT-STREAM
 >saf>rudp>vars.lisp
 TRANSMIT-QUEUE-ERROR-LENGTH
 >saf>rudp>vars.lisp
 EXIT-CONN
 >saf>network>connection.lisp
 FLUSH-ALL-RUDP-BUFFERS
 >saf>rudp>utils.lisp
 Called by: DEQUEUE-OUTGOING
 >saf>rudp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp
 Description: None

2.6.3.4.11 FLUSH-ALL-RUDP-BUFFERS

Definition 11

>saf>rudp>utils.lisp
 Type: Function
 Arguments: .()
 Outputs:
 Calls: *SIM-CONN*
 >saf>rudp>vars.lisp
 FLUSH-RUDP-RECEIVE-BUFFERS
 >saf>rudp>incoming.lisp
 FLUSH-RUDP-RETRANSMIT-BUFFERS
 >saf>rudp>outgoing.lisp
 FLUSH-RUDP-PENDING-TRANSMIT-BUFFERS
 >saf>rudp>outgoing.lisp
 Called by: SIGNAL-RUDP-ERROR
 >saf>rudp>utils.lisp
 EXIT-CONN
 >saf>network>connection.lisp
 INIT-CONN
 >saf>network>connection.lisp
 Description: None

2.6.4. SAF Command Layer CSC

This CSC contains the topmost layer of the SAF command network communications protocol. In this layer the commands to be sent out to the simhost are put together and submitted to the RUDP layer to be transmitted in the user process. The reports from the

simhost are processed in this layer after passing through the RUDP layer. The contents of these reports update the workstation's world state and displays. This code runs in the RUDP process. This CSC contains the following CSUs:

```
rudp>handle-incoming lisp csu
network>commands lisp csu
```

2.6.4.1 CSU `rudp>handle-incoming.lisp`

This unit contains the functions that are called when packets are received from the simhost. There are 28 different incoming packet types, numbered from 100 to 127. A list of the packet types can be found in `network>vars.lisp`. When the Update process pulls a packet off **rudp-receive-queue**, it retrieves the packet's header message type and uses it as an index into an array of functions, obtaining a function that can handle that message type. This happens in `rudp>incoming.lisp`.

The Update process then calls functions from the array **packet-handler-functions-table** using the accessor *lookup-handler-function*, defined in this unit by a *defsubst*. These functions, called *packet-handlers*, are all built by the macro *def-packet-handler*, which defines them, compiles them, and puts them onto the array **packet-handler-functions-table** for later use. (The size of this array, **number-of-packet-types** is set to 140, leaving space for new packet types that may be developed.) Each of the functions reads information from a specific type of packet, and makes calls to drawing routines to accomplish the necessary screen updates. For example, the packet-handler *vehicle-impact*, defined in the form `(def-packet-handler vehicle-impact ...)`, eventually calls the drawing functions *draw-impact* and *queue-erase-effect*.

It is important for each packet-handler function to return the number of bytes it has processed; this is how *process-all-msgs-in-udp-pkt* (in `rudp>incoming.lisp`) knows where the next opfor-sub-packet begins.

2.6.4.1.1 **NUMBER-OF-PACKET-TYPES**

Definition 1

```
>saf>rudp>handle-incoming.lisp
Type: Variable
Arguments:  ()
Outputs:
Calls: None
Called by:  None
Description: None
```

2.6.4.1.2 **PACKET-HANDLER-FUNCTION-TABLE**

Definition 2

```
>saf>rudp>handle-incoming.lisp
Type: Variable
Arguments:  ()
Outputs:
Calls: None
```


Called by: PROCESS-SIM-PKT
 >saf>rudp>incoming.lisp
 LOOKUP-HANDLER-FUNCTION
 >saf>rudp>handle-incoming.lisp
 SET-HANDLER-FUNCTION
 >saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.3 *PACKET-PRINT-FUNCTION-TABLE*

Definition 3

 >saf>rudp>handle-incoming.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-VEHICLE-LOAD-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-STEALTH-POS-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-GENERIC-MESSAGE-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-PAE-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-ECHELON-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-APPEARANCE-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-POSITION-POLL-COMPLETED-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-POSITION-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-IVIS-SHELL-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-IVIS-SPOT-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-IVIS-CONTACT-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-SUB-STATE-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-MINEFIELD-CREATION-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-MACHINE-STATUS-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-RESET-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-INDIRECT-FIRE-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-GROUND-IMPACT-PKT
 >saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-IMPACT-PKT

>saf>rudp>handle-incoming.lisp

LOOKUP-PRINT-FUNCTION

>saf>rudp>handle-incoming.lisp

SET-PRINT-FUNCTION

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.4 *PACKET-OPTIONS*

Definition 4

>saf>rudp>handle-incoming.lisp

Type: DEFINE-USER-OPTION-ALIST

Arguments: ()

Outputs:

Calls: None

Called by: DEFINE-PACKET-OPTION

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.5 *PRINT-MESSAGES*

Definition 5

>saf>rudp>handle-incoming.lisp

Type: DEFINE-PACKET-OPTION

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-VEHICLE-LOAD-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-STEALTH-POS-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-GENERIC-MESSAGE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-PAE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-ECHELON-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-APPEARANCE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-POSITION-POLL-COMPLETED-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-POSITION-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-IVIS-SHELL-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-IVIS-SPOT-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-IVIS-CONTACT-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-SUB-STATE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-MINEFIELD-CREATION-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-MACHINE-STATUS-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-RESET-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-INDIRECT-FIRE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-GROUND-IMPACT-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-IMPACT-PKT

>saf>rudp>handle-incoming.lisp

DEF-PACKET-HANDLER

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.6 SET-HANDLER-FUNCTION

Definition 6

>saf>rudp>handle-incoming.lisp

Type: Subst

Arguments: (TYPE-NUMBER FUNCTION)

Outputs:

Calls: *PACKET-HANDLER-FUNCTION-TABLE*

>saf>rudp>handle-incoming.lisp

Called by: DEF-PACKET-HANDLER

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.7 LOOKUP-HANDLER-FUNCTION

Definition 7

>saf>rudp>handle-incoming.lisp

Type: Subst

Arguments: (TYPE-NUMBER)

Outputs:

Calls: *PACKET-HANDLER-FUNCTION-TABLE*

>saf>rudp>handle-incoming.lisp

Called by: PROCESS-SIM-PKT

>saf>rudp>incoming.lisp

Description: None

2.6.4.1.8 SET-PRINT-FUNCTION

Definition 8

>saf>rudp>handle-incoming.lisp

Type: Subst

Arguments: (TYPE-NUMBER FUNCTION)

Outputs:

Calls: *PACKET-PRINT-FUNCTION-TABLE*

>saf>rudp>handle-incoming.lisp

Called by: DEF-PACKET-HANDLER
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.9 LOOKUP-PRINT-FUNCTION

Definition 9

>saf>rudp>handle-incoming.lisp
Type: Subst
Arguments: (TYPE-NUMBER)
Outputs:
Calls: *PACKET-PRINT-FUNCTION-TABLE*
>saf>rudp>handle-incoming.lisp
Called by: DEF-PACKET-HANDLER
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.10 (COMPILE LOAD EVAL)

Definition 10

>saf>rudp>handle-incoming.lisp
Type: EVAL-WHEN
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.11 DEF-PACKET-HANDLER

Definition 11

>saf>rudp>handle-incoming.lisp
Type: Macro
Arguments: ((PACKET-TYPE &KEY PRINT-FUNCTION HANDLER-FUNCTION))
Outputs:
Calls: *PRINT-MESSAGES*
>saf>rudp>handle-incoming.lisp
SET-HANDLER-FUNCTION
>saf>rudp>handle-incoming.lisp
SET-PRINT-FUNCTION
>saf>rudp>handle-incoming.lisp
LOOKUP-PRINT-FUNCTION
>saf>rudp>handle-incoming.lisp
DEF-PACKET-HANDLER
>saf>rudp>handle-incoming.lisp
SAF
>saf>ui>frame.lisp
Called by: DEF-PACKET-HANDLER
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.12 VEHICLE-IMPACT

Definition 12

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.13 GROUND-IMPACT

Definition 13

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.14 INDIRECT-FIRE

Definition 14

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.15 RESET

Definition 15

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: RESET-SIM
>saf>network>top-level.lisp
Description: None

2.6.4.1.16 MACHINE-STATUS

Definition 16

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-MACHINE-STATUS-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.17 MINEFIELD-CREATION

Definition 17

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.18 SUB-STATE

Definition 18

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.19 IVIS-CONTACT

Definition 19

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.20 IVIS-SPOT

Definition 20

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()

Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.21 IVIS-SHELL

Definition 21

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.22 VEHICLE-POSITION

Definition 22

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.23 VEHICLE-POSITION-POLL-COMPLETED

Definition 23

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.24 VEHICLE-APPEARANCE

Definition 24

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.25 VEHICLE-ECHELON

Definition 25

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.26 VEHICLE-PAE

Definition 26

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.27 GENERIC-RADIO-MESSAGE

Definition 27

>saf>rudp>handle-incoming.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.28 GENERIC-ERROR-MESSAGE

Definition 28

>saf>rudp>handle-incoming.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.6.4.1.29 GENERIC-BEEP-MESSAGE

Definition 29

>saf>rudp>handle-incoming.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-GENERIC-MESSAGE-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.30 PRINT-MESSAGE

Definition 30

>saf>rudp>handle-incoming.lisp

Type: Function

Arguments: (MESSAGE STREAM)

Outputs:

Calls: LINE

>saf>cm>line.lisp

LINE

>saf>cm>line.lisp

LINE

>saf>cm>line.lisp

Called by: PROCESS-GENERIC-MESSAGE-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.31 GENERIC-MESSAGE

Definition 31

>saf>rudp>handle-incoming.lisp

Type: DEF-PACKET-HANDLER

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.6.4.1.32 *OLD-STEALTH-PARAMETERS*

Definition 32

>saf>rudp>handle-incoming.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-STEALTH-POS-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.6.4.1.33 STEALTH-POS

Definition 33

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.1.34 VEHICLE-LOAD

Definition 34

>saf>rudp>handle-incoming.lisp
Type: DEF-PACKET-HANDLER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.6.4.2 CSU network>commands.lisp

This unit contains a macro *defsend* that creates easy-to-use "sending commands" for various types of messages. In each case the macro will use *defun* to generate a function whose name consists of "SEND-" concatenated with the name of the message type; e.g., SEND-RESET for a reset message. This enables programmers to use a form like (send-reset a1 a2), and leave the details encapsulated in the *defsend* macro. This creates a centralized command interface to the lower-level message-sending functions.

After *defsend* is defined, it is used to create sending commands for a variety of message types, including those covering creation of units, targeting, teleporting, radios, ivis control, control-measures, and immediate interventions.

2.6.4.2.1 DEFSEND

Definition 1

>saf>network>commands.lisp
Type: Macro
Arguments: (MESSAGE ARGS QUALIFIERS ALTERS &REST BODY)
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 PKT
 >saf>rudp>vars.lisp
 PKT-START
 >saf>rudp>vars.lisp

```

*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
DEFSEND
>saf>network>commands.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: DEFSEND
>saf>network>commands.lisp
CALLERS-OF-DEF
>tom>doc-file.lisp
NAME-OF-FORM
>tom>doc-file.lisp
Description: None

```

2.6.4.2.2 SEND-CREATE

Definition 2

```

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*

```

```
>saf>rdp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.3 SEND-TARGETING

Definition 3

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.4 SEND-POLL

Definition 4

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
```

Outputs:

Calls: RUDP_TYPE_DATA

>saf>sys>constants.lisp

SIM-CONN

>saf>rudp>vars.lisp

PKT

>saf>rudp>vars.lisp

PKT-START

>saf>rudp>vars.lisp

PKT-END

>saf>rudp>vars.lisp

PKT-PTR

>saf>rudp>vars.lisp

LAST-SEQUENCE-IN

>saf>rudp>vars.lisp

NEXT-SEQUENCE-OUT

>saf>rudp>vars.lisp

ACK-NEEDED

>saf>rudp>vars.lisp

PREPEND-RUDP-HEADER

>saf>rudp>outgoing.lisp

TRANSMIT-MSG

>saf>rudp>outgoing.lisp

PUT-MSG-IN-RETRANSMIT-QUEUE

>saf>rudp>outgoing.lisp

Called by: None

Description: None

2.6.4.2.5 SEND-MINEFIELD

Definition 5

>saf>network>commands.lisp

Type: DEFSEND

Arguments: ()

Outputs:

Calls: RUDP_TYPE_DATA

>saf>sys>constants.lisp

SIM-CONN

>saf>rudp>vars.lisp

PKT

>saf>rudp>vars.lisp

PKT-START

>saf>rudp>vars.lisp

PKT-END

>saf>rudp>vars.lisp

PKT-PTR

>saf>rudp>vars.lisp

LAST-SEQUENCE-IN

>saf>rudp>vars.lisp

NEXT-SEQUENCE-OUT

```
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
Called by:    None
Description:  None
```

2.6.4.2.6 SEND-RESET

Definition 6

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments:  ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
Called by:    None
Description:  None
```

2.6.4.2.7 SEND-ARTY

Definition 7

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments:  ()
Outputs:
```

Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp
 PREPEND-RUDP-HEADER
 >saf>rdp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rdp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rdp>outgoing.lisp

Called by: None

Description: None

2.6.4.2.8 SEND-READ-CONFIG

Definition 8

>saf>network>commands.lisp
 Type: DEFSEND
 Arguments: ().
 Outputs:
 Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp

```
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.9 SEND-ATTACH

Definition 9

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.10 SEND-DETACH

Definition 10

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
```


Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp
 PREPEND-RUDP-HEADER
 >saf>rdp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rdp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rdp>outgoing.lisp

Called by: None

Description: None

2.6.4.2.11 SEND-RESUPPLY

Definition 11

 >saf>network>commands.lisp
 Type: DEFSEND
 Arguments: ()
 Outputs:
 Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp

```
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.12 SEND-TELEPORT

Definition 12

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.13 MAKE-ORTHOGONAL-LIST

Definition 13

```
>saf>network>commands.lisp
Type: Function
Arguments: (ELEMENT TUPLE-LIST)
Outputs:
```

Calls: MAKE-ORTHOGONAL-LIST
 >saf>network>commands.lisp
Called by: MAKE-ORTHOGONAL-LIST
 >saf>network>commands.lisp
Description: None

2.6.4.2.14 *BOMBS-PER-PACKET*

Definition 14

 >saf>network>commands.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: BOMB-BUTTON
 >saf>network>commands.lisp
 SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.4.2.15 *AMMO-TYPE*

Definition 15

 >saf>network>commands.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: HE155
 >saf>network>vars.lisp
Called by: BOMB-BUTTON
 >saf>network>commands.lisp
 SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.4.2.16 *FUZE-TYPE*

Definition 16

 >saf>network>commands.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: FUZE-POINT-DETONATING
 >saf>network>vars.lisp
Called by: BOMB-BUTTON
 >saf>network>commands.lisp
 SET-BOMB-PARAMETERS
 >saf>network>commands.lisp
Description: None

2.6.4.2.17 *ARTY-TYPE*

Definition 17

>saf>network>commands.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: ARTY-TYPE-GROUND
>saf>network>vars.lisp
Called by: BOMB-BUTTON
>saf>network>commands.lisp
Description: None

2.6.4.2.18 *ARTY-SPREAD*

Definition 18

>saf>network>commands.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: BOMB-BUTTON
>saf>network>commands.lisp
SET-BOMB-PARAMETERS
>saf>network>commands.lisp
Description: None

2.6.4.2.19 BOMB-BUTTON

Definition 19

>saf>network>commands.lisp
Type: Function
Arguments: ()
Outputs:
Calls: SINGLE-POINT
>map>control.lisp
VEHICLE-ID-IRRELEVANT
>saf>sys>constants.lisp
PVD-DISPLAY
>saf>sys>vars.lisp
ARTY
>saf>network>vars.lisp
POINT
>saf>interface>model-menu.lisp
BOMBS-PER-PACKET
>saf>network>commands.lisp
AMMO-TYPE
>saf>network>commands.lisp
FUZE-TYPE

```
>saf>network>commands.lisp
*ARTY-TYPE*
>saf>network>commands.lisp
*ARTY-SPREAD*
>saf>network>commands.lisp
NET-MSG
>saf>rudp>outgoing.lisp
POINT
>saf>interface>model-menu.lisp
Called by: COM-BOMB-BUTTON
>saf>ui>commands.lisp
Description: None
```

2.6.4.2.20 SEND-DISCONNECT

Definition 20

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: None
Description: None
```

2.6.4.2.21 SET-BOMB-PARAMETERS

Definition 21

>saf>network>commands.lisp
Type: Function
Arguments: ()
Outputs:
Calls: OPFOR-CHOOSE-VARIABLE-VALUES
 >saf>sys>cl-tv-patches.lisp
 BOMB500
 >saf>network>vars.lisp
 HE107
 >saf>network>vars.lisp
 HE155
 >saf>network>vars.lisp
 WP107
 >saf>network>vars.lisp
 FUZE-POINT-DETONATING
 >saf>network>vars.lisp
 FUZE-PROXIMITY
 >saf>network>vars.lisp
 BOMBS-PER-PACKET
 >saf>network>commands.lisp
 AMMO-TYPE
 >saf>network>commands.lisp
 FUZE-TYPE
 >saf>network>commands.lisp
 ARTY-SPREAD
 >saf>network>commands.lisp
Called by: COM-SAF-SET-BOMB-PARAMETERS
 >saf>ui>commands.lisp
Description: None

2.6.4.2.22 SEND-QUERY-SUB-STATE

Definition 22

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN

```
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.23 SEND-IVIS-CONTROL

Definition 23

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.24 SEND-IVIS-MESSAGES

Definition 24

>saf>network>commands.lisp
Type: Function
Arguments: (ID)
Outputs:
Calls: *IVIS-TO-SIMNET*
>saf>sys>vars.lisp
IVIS-TO-SBX
>saf>sys>vars.lisp
IVIS-CONTROL
>saf>network>vars.lisp
NET-MSG
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.25 SEND-IVIS-FINE-CONTROL

Definition 25

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp
PKT-PTR
>saf>rudp>vars.lisp
LAST-SEQUENCE-IN
>saf>rudp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rudp>vars.lisp
ACK-NEEDED
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.26 SEND-AN-IVIS-FINE-CONTROL-PACKET**Definition 26**

>saf>network>commands.lisp
Type: Function
Arguments: ()
Outputs:
Calls: VEHICLE-ID-IRRELEVANT
>saf>sys>constants.lisp
IVIS-FINE-CONTROL
>saf>network>vars.lisp
REAPPEAR-LATENCY
>saf>rudp>vars.lisp
RANGE-THRESHOLD
>saf>rudp>vars.lisp
UPDATE-RATE
>saf>rudp>vars.lisp
CLUSTER-DISTANCE
>saf>rudp>vars.lisp
NET-MSG
>saf>rudp>outgoing.lisp
Called by: LOAD-SCENARIO
>saf>sys>new-storage.lisp
SEND-AN-IVIS-FINE-CONTROL
>saf>network>commands.lisp
Description: None

2.6.4.2.27 SEND-AN-IVIS-FINE-CONTROL**Definition 27**

>saf>network>commands.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *IVIS-OPTIONS*
>saf>rudp>vars.lisp
IVIS-OPTIONS
>saf>rudp>vars.lisp
SEND-AN-IVIS-FINE-CONTROL-PACKET
>saf>network>commands.lisp
Called by: None
Description: None

2.6.4.2.28 SEND-CONTINUE-MISSION**Definition 28**

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:

Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 PKT
 >saf>rudp>vars.lisp
 PKT-START
 >saf>rudp>vars.lisp
 PKT-END
 >saf>rudp>vars.lisp
 PKT-PTR
 >saf>rudp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rudp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rudp>vars.lisp
 ACK-NEEDED
 >saf>rudp>vars.lisp
 PREPEND-RUDP-HEADER
 >saf>rudp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rudp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp

Called by: None

Description: None

2.6.4.2.29 SEND-ASSIGN-ROUTE

Definition 29

>saf>network>commands.lisp
 Type: DEFSEND
 Arguments: ()
 Outputs:
 Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 PKT
 >saf>rudp>vars.lisp
 PKT-START
 >saf>rudp>vars.lisp
 PKT-END
 >saf>rudp>vars.lisp
 PKT-PTR
 >saf>rudp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rudp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rudp>vars.lisp

```

*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp

```

Called by: None

Description: None

2.6.4.2.30 SEND-POINT

Definition 30

```

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
POINT
>saf>interface>model-menu.lisp
ROUTE
>saf>cm>route.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
ROUTE

```

```
>saf>cm>route.lisp
ROUTE
>saf>cm>route.lisp
POINT
>saf>interface>model-menu.lisp
Called by:  None
Description: None
```

2.6.4.2.31 SEND-AREA

Definition 31

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments:  ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
AREA
>saf>cm>area.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
AREA
>saf>cm>area.lisp
AREA
>saf>cm>area.lisp
Called by:  None
Description: None
```

2.6.4.2.32 SEND-ZONE

Definition 32

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
ZONE
>saf>cm>zone.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp
PKT-PTR
>saf>rudp>vars.lisp
LAST-SEQUENCE-IN
>saf>rudp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rudp>vars.lisp
ACK-NEEDED
>saf>rudp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
ZONE
>saf>cm>zone.lisp
ZONE
>saf>cm>zone.lisp
Called by: None
Description: None

2.6.4.2.33 SEND-LINE

Definition 33

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:

Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 LINE
 >saf>cm>line.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp
 DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
 >saf>network>defstorage.lisp
 PREPEND-RUDP-HEADER
 >saf>rdp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rdp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rdp>outgoing.lisp
 LINE
 >saf>cm>line.lisp
 LINE
 >saf>cm>line.lisp

Called by: None.

Description: None

2.6.4.2.34 SEND-ROUTE

Definition 34

 >saf>network>commands.lisp
 Type: DEFSEND
 Arguments: ()
 Outputs:
 Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 ROUTE
 >saf>cm>route.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END

```

>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
ROUTE
>saf>cm>route.lisp
ROUTE
>saf>cm>route.lisp

```

Called by: None

Description: None

2.6.4.2.35 SEND-DELETE-OVERLAY

Definition 35

```

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp

```

DEFSTORAGE-STORE-NET-CHAR-SUBSTRING

>saf>network>defstorage.lisp

PREPEND-RUDP-HEADER

>saf>rdp>outgoing.lisp

TRANSMIT-MSG

>saf>rdp>outgoing.lisp

PUT-MSG-IN-RETRANSMIT-QUEUE

>saf>rdp>outgoing.lisp

Called by: None

Description: None

2.6.4.2.36 SEND-EXECUTE-OVERLAY

Definition 36

>saf>network>commands.lisp

Type: DEFSEND

Arguments: ()

Outputs:

Calls: RUDP_TYPE_DATA

>saf>sys>constants.lisp

ROUTE

>saf>cm>route.lisp

SIM-CONN

>saf>rdp>vars.lisp

PKT

>saf>rdp>vars.lisp

PKT-START

>saf>rdp>vars.lisp

PKT-END

>saf>rdp>vars.lisp

PKT-PTR

>saf>rdp>vars.lisp

LAST-SEQUENCE-IN

>saf>rdp>vars.lisp

NEXT-SEQUENCE-OUT

>saf>rdp>vars.lisp

ACK-NEEDED

>saf>rdp>vars.lisp

DEFSTORAGE-STORE-NET-CHAR-SUBSTRING

>saf>network>defstorage.lisp

PREPEND-RUDP-HEADER

>saf>rdp>outgoing.lisp

TRANSMIT-MSG

>saf>rdp>outgoing.lisp

PUT-MSG-IN-RETRANSMIT-QUEUE

>saf>rdp>outgoing.lisp

ROUTE

>saf>cm>route.lisp

ROUTE

>saf>cm>route.lisp

Called by: None

Description: None

2.6.4.2.37 SEND-DELETE-CM

Definition 37

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp
PKT-PTR
>saf>rudp>vars.lisp
LAST-SEQUENCE-IN
>saf>rudp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rudp>vars.lisp
ACK-NEEDED
>saf>rudp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.38 SEND-HALT

Definition 38

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp

```
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.39 SEND-RESUME

Definition 39

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.40 SEND-HOLD

Definition 40

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rdp>vars.lisp
PKT
>saf>rdp>vars.lisp
PKT-START
>saf>rdp>vars.lisp
PKT-END
>saf>rdp>vars.lisp
PKT-PTR
>saf>rdp>vars.lisp
LAST-SEQUENCE-IN
>saf>rdp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rdp>vars.lisp
ACK-NEEDED
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.41 SEND-CHANGE-SPEED

Definition 41

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rdp>vars.lisp
PKT
>saf>rdp>vars.lisp
PKT-START
>saf>rdp>vars.lisp
PKT-END
>saf>rdp>vars.lisp
PKT-PTR
>saf>rdp>vars.lisp

```

*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp

```

Called by: None

Description: None

2.6.4.2.42 SEND-CHANGE-ALTITUDE

Definition 42

```

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp

```

Called by: None

Description: None

2.6.4.2.43 SEND-CHANGE-FORMATION

Definition 43

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp
PKT-PTR
>saf>rudp>vars.lisp
LAST-SEQUENCE-IN
>saf>rudp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rudp>vars.lisp
ACK-NEEDED
>saf>rudp>vars.lisp
DEFSTORAGE-STORE-NET-CHAR-SUBSTRING
>saf>network>defstorage.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.44 SEND-FOLLOW-VEHICLE

Definition 44

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp

```

*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp

```

Called by: None

Description: None

2.6.4.2.45 SEND-SIMULATOR-IN-COMMAND

Definition 45

```

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp

```

Called by: None

Description: None

2.6.4.2.46 SEND-GO-TO-POINT

Definition 46

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rdp>vars.lisp
PKT
>saf>rdp>vars.lisp
PKT-START
>saf>rdp>vars.lisp
PKT-END
>saf>rdp>vars.lisp
PKT-PTR
>saf>rdp>vars.lisp
LAST-SEQUENCE-IN
>saf>rdp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rdp>vars.lisp
ACK-NEEDED
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.47 SEND-LAND

Definition 47

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rdp>vars.lisp
PKT
>saf>rdp>vars.lisp
PKT-START
>saf>rdp>vars.lisp
PKT-END
>saf>rdp>vars.lisp
PKT-PTR
>saf>rdp>vars.lisp

```
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.48 SEND-RESUME-MISSION

Definition 48

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rudp>vars.lisp
*PKT*
>saf>rudp>vars.lisp
*PKT-START*
>saf>rudp>vars.lisp
*PKT-END*
>saf>rudp>vars.lisp
*PKT-PTR*
>saf>rudp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rudp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rudp>vars.lisp
*ACK-NEEDED*
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.49 SEND-FACE-DIRECTION

Definition 49

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rdp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rdp>vars.lisp
 ACK-NEEDED
 >saf>rdp>vars.lisp
 PREPEND-RUDP-HEADER
 >saf>rdp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rdp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rdp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.50 SEND-ENROUTE-MOVEMENT

Definition 50

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rdp>vars.lisp
 PKT
 >saf>rdp>vars.lisp
 PKT-START
 >saf>rdp>vars.lisp
 PKT-END
 >saf>rdp>vars.lisp
 PKT-PTR
 >saf>rdp>vars.lisp

```
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.51 SEND-ATTACH-STEALTH

Definition 51

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None

Description: None

2.6.4.2.52 ATTACH-STEALTH

Definition 52

>saf>network>commands.lisp
Type: Function
Arguments: (ID SITE HOST)
Outputs:
Calls: NET-MSG
>saf>rudp>outgoing.lisp
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
ATTACH-STEALTH
>saf>network>commands.lisp
Description: None

2.6.4.2.53 SEND-REJOIN-UNIT

Definition 53

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
SIM-CONN
>saf>rudp>vars.lisp
PKT
>saf>rudp>vars.lisp
PKT-START
>saf>rudp>vars.lisp
PKT-END
>saf>rudp>vars.lisp
PKT-PTR
>saf>rudp>vars.lisp
LAST-SEQUENCE-IN
>saf>rudp>vars.lisp
NEXT-SEQUENCE-OUT
>saf>rudp>vars.lisp
ACK-NEEDED
>saf>rudp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rudp>outgoing.lisp
TRANSMIT-MSG
>saf>rudp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.54 SEND-ATTACK**Definition 54**

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 PKT
 >saf>rudp>vars.lisp
 PKT-START
 >saf>rudp>vars.lisp
 PKT-END
 >saf>rudp>vars.lisp
 PKT-PTR
 >saf>rudp>vars.lisp
 LAST-SEQUENCE-IN
 >saf>rudp>vars.lisp
 NEXT-SEQUENCE-OUT
 >saf>rudp>vars.lisp
 ACK-NEEDED
 >saf>rudp>vars.lisp
 PREPEND-RUDP-HEADER
 >saf>rudp>outgoing.lisp
 TRANSMIT-MSG
 >saf>rudp>outgoing.lisp
 PUT-MSG-IN-RETRANSMIT-QUEUE
 >saf>rudp>outgoing.lisp
Called by: None
Description: None

2.6.4.2.55 SEND-VEHICLE-REINIT**Definition 55**

>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
 >saf>sys>constants.lisp
 SIM-CONN
 >saf>rudp>vars.lisp
 PKT
 >saf>rudp>vars.lisp
 PKT-START
 >saf>rudp>vars.lisp
 PKT-END
 >saf>rudp>vars.lisp
 PKT-PTR
 >saf>rudp>vars.lisp

```
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None
Description: None

2.6.4.2.56 SEND-CHECK-STATION

Definition 56

```
>saf>network>commands.lisp
Type: DEFSEND
Arguments: ()
Outputs:
Calls: RUDP_TYPE_DATA
>saf>sys>constants.lisp
*SIM-CONN*
>saf>rdp>vars.lisp
*PKT*
>saf>rdp>vars.lisp
*PKT-START*
>saf>rdp>vars.lisp
*PKT-END*
>saf>rdp>vars.lisp
*PKT-PTR*
>saf>rdp>vars.lisp
*LAST-SEQUENCE-IN*
>saf>rdp>vars.lisp
*NEXT-SEQUENCE-OUT*
>saf>rdp>vars.lisp
*ACK-NEEDED*
>saf>rdp>vars.lisp
PREPEND-RUDP-HEADER
>saf>rdp>outgoing.lisp
TRANSMIT-MSG
>saf>rdp>outgoing.lisp
PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rdp>outgoing.lisp
```

Called by: None
Description: None

2.7 GLOBALS CSC

This CSC contains constants, variables, fonts and macros which are used in multiple SAF Workstation CSCs. It contains some menu code used to change the values of some of the simulation global variables. It also contains the code used to read the SAF parameter files on the simhost when the workstation first connects to the simhost. These files determine what units can be created and what symbols to use to display these units. This CSC contains the following CSUs:

```
sys>constants.lisp csu
sys>vars.lisp csu
sys>macros.lisp csu
sys>reader-macros.lisp csu
sys>cl-tv-patches.lisp csu
sys>zl-tv-patches.lisp csu
fonts>character-style-defs.lisp csu
fonts>janus-logos.bfd csu
fonts>military-icons.bfd csu
ui>parameter-menus.lisp csu
sys>interim-model.lisp csu
```

2.7.1 CSU sys>constants.lisp

This unit contains constants used throughout the SAF code. These include mathematical constants for angle conversion, some constants used by RUDP, and some vehicle state constants.

Forms immediately preceded by #+ignore have been effectively excluded from the code by a dispatching macro reference to the *features* list. This is a Common Lisp entity, described in Steele's reference *Common Lisp*.

Mils are a military unit of angle measure. There are 6400 mils in a circle. Zero is north, or up, and the values increase clockwise, not counterclockwise like radians.

2.7.1.1 π Definition 1

```
>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
DRAW-STEALTH
>saf>sys>utilities.lisp
CVV-MILS-READER
>saf>sys>macros.lisp
```

CVV-MILS-PRINTER
>saf>sys>macros.lisp
MILS-TO-RADIANS-MATH
>saf>sys>macros.lisp
MILS-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
RADIANS-MATH-TO-MILS
>saf>sys>macros.lisp
MATH-ANGLE
>saf>sys>macros.lisp
RADIANS-MATH-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
RADIANS-COMPASS-TO-RADIANS-MATH
>saf>sys>macros.lisp

Description: None

2.7.1.2 2π

Definition 2

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
CVV-MILS-READER
>saf>sys>macros.lisp
CVV-MILS-PRINTER
>saf>sys>macros.lisp
MILS-TO-RADIANS-MATH
>saf>sys>macros.lisp
MILS-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
RADIANS-MATH-TO-MILS
>saf>sys>macros.lisp
MATH-ANGLE
>saf>sys>macros.lisp
RADIANS-MATH-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
RADIANS-COMPASS-TO-RADIANS-MATH
>saf>sys>macros.lisp

Description: None

2.7.1.3 180DEG**Definition 3**

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.4 3200MIL**Definition 4**

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.5 -180DEG**Definition 5**

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.6 -3200MIL**Definition 6**

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.7 90DEG

Definition 7

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
CVV-MILS-READER
>saf>sys>macros.lisp
CVV-MILS-PRINTER
>saf>sys>macros.lisp
MILS-TO-RADIANS-MATH
>saf>sys>macros.lisp
RADIANS-MATH-TO-MILS
>saf>sys>macros.lisp
MATH-ANGLE
>saf>sys>macros.lisp
RADIANS-MATH-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
RADIANS-COMPASS-TO-RADIANS-MATH
>saf>sys>macros.lisp
Description: None

2.7.1.8 1600MIL

Definition 8

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.9 -90DEG

Definition 9

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.10 -1600MIL

Definition 10

>saf>sys>constants.lisp

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.11 360DEG

Definition 11

>saf>sys>constants.lisp

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.12 6400MIL

Definition 12

>saf>sys>constants.lisp

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.13 RAD-TO-DEG

Definition 13

>saf>sys>constants.lisp

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: APPROX-SIN

>saf>sys>macros.lisp

APPROX-COS

>saf>sys>macros.lisp

Description: None

2.7.1.14 DEG-TO-RAD

Definition 14

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.15 RAD-TO-MIL

Definition 15

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp
(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
CVV-MILS-PRINTER
>saf>sys>macros.lisp
RADIANS-MATH-TO-MILS
>saf>sys>macros.lisp
RADIANS-COMPASS-TO-MILS
>saf>sys>macros.lisp
MATH-TO-COMPASS
>saf>sys>macros.lisp
Description: None

2.7.1.16 MIL-TO-RAD

Definition 16

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)
>saf>bmi>bmi-frame.lisp
CVV-MILS-READER
>saf>sys>macros.lisp
MILS-TO-RADIANS-MATH
>saf>sys>macros.lisp
MILS-TO-RADIANS-COMPASS
>saf>sys>macros.lisp
Description: None

2.7.1.17 HALFPI

Definition 17

`>saf>sys>constants.lisp`

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: APPROX-SIN

`>saf>sys>macros.lisp`

Description: None

2.7.1.18 5-DEG

Definition 18

`>saf>sys>constants.lisp`

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.19 DEG-TO-MIL

Definition 19

`>saf>sys>constants.lisp`

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.20 UNKNOWN-HEADING

Definition 20

`>saf>sys>constants.lisp`

Type: Constant

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.1.21 RUDP_TYPE_SYNCH

Definition 21

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.22 RUDP_TYPE_DATA

Definition 22

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: SEND-CHECK-STATION
>saf>network>commands.lisp
SEND-VEHICLE-REINIT
>saf>network>commands.lisp
SEND-ATTACK
>saf>network>commands.lisp
SEND-REJOIN-UNIT
>saf>network>commands.lisp
SEND-ATTACH-STEALTH
>saf>network>commands.lisp
SEND-ENROUTE-MOVEMENT
>saf>network>commands.lisp
SEND-FACE-DIRECTION
>saf>network>commands.lisp
SEND-RESUME-MISSION
>saf>network>commands.lisp
SEND-LAND
>saf>network>commands.lisp
SEND-GO-TO-POINT
>saf>network>commands.lisp
SEND-SIMULATOR-IN-COMMAND
>saf>network>commands.lisp
SEND-FOLLOW-VEHICLE
>saf>network>commands.lisp
SEND-CHANGE-FORMATION
>saf>network>commands.lisp
SEND-CHANGE-ALTITUDE
>saf>network>commands.lisp
SEND-CHANGE-SPEED
>saf>network>commands.lisp

SEND-HOLD
>saf>network>commands.lisp
SEND-RESUME
>saf>network>commands.lisp
SEND-HALT
>saf>network>commands.lisp
SEND-DELETE-CM
>saf>network>commands.lisp
SEND-EXECUTE-OVERLAY
>saf>network>commands.lisp
SEND-DELETE-OVERLAY
>saf>network>commands.lisp
SEND-ROUTE
>saf>network>commands.lisp
SEND-LINE
>saf>network>commands.lisp
SEND-ZONE
>saf>network>commands.lisp
SEND-AREA
>saf>network>commands.lisp
SEND-POINT
>saf>network>commands.lisp
SEND-ASSIGN-ROUTE
>saf>network>commands.lisp
SEND-CONTINUE-MISSION
>saf>network>commands.lisp
SEND-IVIS-FINE-CONTROL
>saf>network>commands.lisp
SEND-IVIS-CONTROL
>saf>network>commands.lisp
SEND-QUERY-SUB-STATE
>saf>network>commands.lisp
SEND-DISCONNECT
>saf>network>commands.lisp
SEND-TELEPORT
>saf>network>commands.lisp
SEND-RESUPPLY
>saf>network>commands.lisp
SEND-DETACH
>saf>network>commands.lisp
SEND-ATTACH
>saf>network>commands.lisp
SEND-READ-CONFIG
>saf>network>commands.lisp
SEND-ARTY
>saf>network>commands.lisp
SEND-RESET
>saf>network>commands.lisp
SEND-MINEFIELD
>saf>network>commands.lisp

SEND-POLL
>saf>network>commands.lisp
SEND-TARGETING
>saf>network>commands.lisp
SEND-CREATE
>saf>network>commands.lisp
DEFSEND
>saf>network>commands.lisp
Description: None

2.7.1.23 RUDP_TYPE_ACK

Definition 23

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.24 TEAM-NATO

Definition 24

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: *BLUEFOR-SYNONYMS*
>saf>sys>interim-model.lisp
Description: None

2.7.1.25 TEAM-WARSAW-PACT

Definition 25

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: *OPFOR-SYNONYMS*
>saf>sys>interim-model.lisp
TEAM
>saf>sys>vars.lisp
Description: None

2.7.1.26 INVISIBLE

Definition 26

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.27 PARTLY_VISIBLE

Definition 27

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.28 VISIBLE

Definition 28

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.29 VEH-IMMOBILE

Definition 29

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD DRAW-HULL-IMAGE HULL-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.7.1.30 VEH-CANTFIRE

Definition 30

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD DRAW-TURRET-IMAGE RD-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE SQ-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.7.1.31 VEH-DESTROYED

Definition 31

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: INFERIORS-FOR-TASK-ORG
>saf>ui>task-org.lisp
(METHOD DRAW-COMPARTMENT-IMAGE B-COMPARTMENT-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-COMPARTMENT-IMAGE A-COMPARTMENT-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE RD-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE SQ-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-HULL-IMAGE HULL-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE FIGHTER-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.7.1.32 VEH-OUT-OF-GAS

Definition 32

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None

Called by: (METHOD DRAW-IMAGE FIGHTER-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.7.1.33 VEH-OUT-OF-AMMO

Definition 33

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD DRAW-IMAGE FIGHTER-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.7.1.34 VEH-LANDED

Definition 34

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.35 VEH-RESUPPLYING

Definition 35

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.1.36 VEH-STUCK

Definition 36

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None

Called by: None
Description: None

2.7.1.37 MAX-VEHICLES

Definition 37

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
MAP-PREDICATE-OVER-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.7.1.38 *MAX-VEHICLE-ID*

Definition 38

>saf>sys>constants.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: POLL-COMPLETED
>saf>sys>update-process.lisp
Description: None

2.7.1.39 VEHICLE-ID-IRRELEVANT

Definition 39

>saf>sys>constants.lisp
Type: Constant
Arguments: ()
Outputs:
Calls: None
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
(METHOD UPDATE-ECHOLON SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD SET-SUPERIOR SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
SEND-AN-IVIS-FINE-CONTROL-PACKET
>saf>network>commands.lisp

```
BOMB-BUTTON
>saf>network>commands.lisp
EXIT-CONN
>saf>network>connection.lisp
```

Description: None

2.7.2 CSU sys>vars.lisp

Global variables used in multiple system modules. This file is the first one loaded during the load sequence for the full SAF system. There are many other global variables that are only used in one part of SAF; this unit is intended to contain only the truly global variables. They cover such areas as force alignment, commander's views, window and display data, inter-process communication queues, variables for IVIS (the InterVehicular Information System), and scenario data.

2.7.2.1 *SAF-INTERFACE-OPTIONS*

Definition 1

```
>saf>sys>vars.lisp
Type: DEFINE-USER-OPTION-ALIST
Arguments: ()
Outputs:
Calls: None
Called by: DEFINE-INTERFACE-OPTION
>saf>sys>vars.lisp
Description: None
```

2.7.2.2 *SAF-DEBUG-OPTIONS*

Definition 2

```
>saf>sys>vars.lisp
Type: DEFINE-USER-OPTION-ALIST
Arguments: ()
Outputs:
Calls: None
Called by: DEFINE-DEBUG-OPTION
>saf>sys>vars.lisp
Description: None
```

2.7.2.3 *SAF-CONNECTION-OPTIONS*

Definition 3

```
>saf>sys>vars.lisp
Type: DEFINE-USER-OPTION-ALIST
Arguments: ()
Outputs:
Calls: None
Called by: DEFINE-CONNECTION-OPTION
>saf>sys>vars.lisp
Description: None
```

2.7.2.4 *SAF-APPEARANCE-OPTIONS*

Definition 4

>saf>sys>vars.lisp
Type: DEFINE-USER-OPTION-ALIST
Arguments: ()
Outputs:
Calls: None
Called by: DEFINE-APPEARANCE-OPTION
>saf>sys>vars.lisp
Description: None

2.7.2.5 *DEFAULT-OUTPUT-COORDINATE-SYSTEM*

Definition 5

>saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: (PRESENTATION-FUNCTION WORLD-COORDS PRINTER)
No Source File Record
(METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
>saf>objects>intervention.lisp
FORMAT-COORDINATES
>saf>sys>utilities.lisp
Description: None

2.7.2.6 *SAF-INITIALIZATION-LIST*

Definition 6

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: The initializations to be run at load time

2.7.2.7 *POLL-WHERE-ARE-THEY-FLAG*

Definition 7

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: REDRAW-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
FV
>saf>sys>utilities.lisp
Description: None

2.7.2.8 *ALL-VEHICLES*

Definition 8

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
HANDLE-NAN-ERROR
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLE-HOLDERS
>saf>simnet-objects>vehicle-tracking.lisp
MAP-PREDICATE-OVER-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
MAP-OVER-ALL-VEHICLES
>saf>simnet-objects>vehicle-tracking.lisp
PAINTED-P
>saf>simnet-objects>vehicle-tracking.lisp
GET-VEHICLE
>saf>simnet-objects>vehicle-tracking.lisp
GET-VEHICLE-HOLDER
>saf>simnet-objects>vehicle-tracking.lisp
PROCESS-RESET-PKT
>saf>rudp>handle-incoming.lisp
COMPLETE-C2-RESET
>saf>network>top-level.lisp
Description: None

2.7.2.9 *VIEW-VEHICLE-ID*

Definition 9

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None

Called by: COM-SET-VIEWPORT

```
>saf>ui>commands.lisp
(METHOD ACCEPT-BMI-OPTIONS BMI)
>saf>bmi>bmi-frame.lisp
UPDATE-TOP-LEVEL-AUX
>saf>sys>update-process.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
HIGHLIGHT-VIEWPORTS
>saf>objects>simnet-agent.lisp
UNHIGHLIGHT-VIEWPORTS
>saf>objects>simnet-agent.lisp
COM-COMMANDERS-EYE-VIEW
>saf>objects>simnet-agent.lisp
COM-OMNISCIENT-VIEW
>saf>objects>simnet-agent.lisp
COMPLETE-C2-RESET
>saf>network>top-level.lisp
```

Description: decides from whose our view of the world is

2.7.2.10 ALIGNED-FOE

Definition 10

```
>saf>sys>vars.lisp
```

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD COUNTRY SIMNET-AGENT)

```
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
```

Description: None

2.7.2.11 ALIGNED-OFFENSE

Definition 11

```
>saf>sys>vars.lisp
```

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: ALIGNMENT-FROM-FORCE-1D

```
>saf>bmi>bmi-frame.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
```

```

(METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
RETURN-FORCE-AND-COUNTRY-D-AND-O
>saf>bmi>bmi-frame.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
*FOE-ALLIANCE*
>saf>sys>vars.lisp

```

Description: None

2.7.2.12 ALIGNED-DEFENSE

Definition 12

```

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: ALIGNMENT-FROM-FORCE-ID
>saf>bmi>bmi-frame.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
RETURN-FORCE-AND-COUNTRY-D-AND-O
>saf>bmi>bmi-frame.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
*FRIEND-ALLIANCE*
>saf>sys>vars.lisp

```

Description: None

2.7.2.13 ALIGNED-FRIEND

Definition 13

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
Description: None

2.7.2.14 ALIGNED-SCENARIO

Definition 14

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.2.15 ALIGNED-USSR

Definition 15

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: ALIGNMENT-FROM-FORCE-ID
>saf>bmi>bmi-frame.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
RETURN-FORCE-AND-COUNTRY-D-AND-O

```

>saf>bmi>bmi-frame.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

```

Description: None

2.7.2.16 ALIGNED-US

Definition 16

```

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: ALIGNMENT-FROM-FORCE-ID
>saf>bmi>bmi-frame.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
RETURN-FORCE-AND-COUNTRY-D-AND-O
>saf>bmi>bmi-frame.lisp
SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

```

Description: None

2.7.2.17 ALIGNED-MIXED

Definition 17

```

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

```

2.7.2.18 COUNTRY-US

Definition 18

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: ALIGNMENT-FROM-FORCE-ID

>saf>bmi>bmi-frame.lisp

RETURN-FORCE-AND-COUNTRY-D-AND-O

>saf>bmi>bmi-frame.lisp

Description: None

2.7.2.19 COUNTRY-USSR

Definition 19

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: RETURN-FORCE-AND-COUNTRY-D-AND-O

>saf>bmi>bmi-frame.lisp

Description: None

2.7.2.20 DISTINGUISHED-FORCE

Definition 20

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: ALIGNMENT-FROM-FORCE-ID

>saf>bmi>bmi-frame.lisp

RETURN-FORCE-AND-COUNTRY-D-AND-O

>saf>bmi>bmi-frame.lisp

Description: None

2.7.2.21 OTHER-FORCE

Definition 21

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: RETURN-FORCE-AND-COUNTRY-D-AND-O

>saf>bmi>bmi-frame.lisp

Description: None

2.7.2.22 OBSERVER-FORCE

Definition 22

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.23 TARGET-FORCE

Definition 23

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.24 GODS-EYE-VIEW

Definition 24

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: UPDATE-TOP-LEVEL-AUX

>saf>sys>update-process.lisp

Description: None

2.7.2.25 NON-GODS-EYE-VIEW

Definition 25

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: UPDATE-TOP-LEVEL-AUX

>saf>sys>update-process.lisp

Description: None

2.7.2.26 COMMANDERS-EYE-VIEW**Definition 26**

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: UPDATE-TOP-LEVEL-AUX
>saf>sys>update-process.lisp
Description: None.

Definition 27

>saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: ALIGNED-DEFENSE
>saf>sys>vars.lisp
Called by: SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.7.2.28 *FOE-ALLIANCE***Definition 28**

>saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: ALIGNED-OFFENSE
>saf>sys>vars.lisp
Called by: SANDBOX-OBJECT-COUNTRY
>saf>sandbox>sandbox-object.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD COUNTRY SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.7.2.29 *TEAM*

Definition 29

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: TEAM-WARSAW-PACT

>saf>sys>constants.lisp

Called by: MAKE-SANDBOX-OBJECT

>saf>sandbox>sandbox-object.lisp

Description: workstation team

2.7.2.30 *PVD-FRAME*

Definition 30

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD TOP-LEVEL SAF)

>saf>ui>frame.lisp

(METHOD MAKE-INSTANCE SAF AFTER)

>saf>ui>frame.lisp

EXPOSE-PVD

>saf>ui>frame.lisp

Description: None

2.7.2.31 *PVD-DISPLAY*

Definition 31

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: LOAD-SCENARIO

>saf>sys>new-storage.lisp

LOAD-OVERLAY

>saf>sys>new-storage.lisp

GET-SCREEN-PARAMETERS

>saf>sys>new-storage.lisp

(METHOD ADJUST-VIEWPORT SCENARIO)

>saf>sys>new-storage.lisp

(INITIALIZATION *TERRAIN-INITIALIZATION-LIST* Init Window)

No Source File Record

(METHOD COM-SELECT-UNITS-INTERNAL SAF)

No Source File Record

(PRESENTATION-MOUSE-HANDLER PVD-COMMAND-MENU TESTER)

No Source File Record

(PRESENTATION-MOUSE-HANDLER PVD-COMMAND-MENU)

No Source File Record
PARSE-COORDS
>saf>ui>commands.lisp
(METHOD COM-RESCALE-INTERNAL PVD)
No Source File Record
(METHOD COM-ZOOM-OUT-INTERNAL PVD)
No Source File Record
(METHOD COM-PAN-INTERNAL PVD)
No Source File Record
(METHOD COM-ZOOM-IN-INTERNAL PVD)
No Source File Record
(METHOD TOP-LEVEL SAF)
>saf>ui>frame.lisp
SET-UP-PVD-SCALE
>saf>ui>frame.lisp
(METHOD BMI-REMOVE-SANDBOX-OBJECT BMI)
>saf>bmi>bmi-frame.lisp
DRAW-ANOTHER-TERRAIN-QUAD
>saf>sys>update-process.lisp
DRAW-MAP
>saf>sys>update-process.lisp
PROCESS-USER-COMMAND
>saf>sys>update-process.lisp
ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
REDRAW-OVERLAYS
>saf>cm>overlay.lisp
MAKE-OVERLAY
>saf>cm>overlay.lisp
(METHOD OVERLAY-OPS OVERLAY)
>saf>cm>overlay.lisp
(METHOD DELETE-CONTROL-MEASURE OVERLAY)
>saf>cm>overlay.lisp
(METHOD ADD-CONTROL-MEASURE OVERLAY)
>saf>cm>overlay.lisp
(METHOD ADD-NEW-CONTROL-MEASURE OVERLAY)
>saf>cm>overlay.lisp
(METHOD KILL OVERLAY)
>saf>cm>overlay.lisp
(METHOD MOVE-CONTROL-MEASURE ZONE)
>saf>cm>zone.lisp
(METHOD MOVE-CONTROL-MEASURE AREA)
>saf>cm>area.lisp
(METHOD INSERT-POINT-AFTER GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD DELETE-POINT GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD MOVE-POINT GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD MOVE-CONTROL-MEASURE LINE)
>saf>cm>line.lisp
(METHOD INSERT-POINT-BEFORE LINE)

```
>saf>cm>line.lisp
(METHOD INSERT-POINT-AFTER LINE)
>saf>cm>line.lisp
(METHOD DELETE-POINT LINE)
>saf>cm>line.lisp
(METHOD MOVE-POINT LINE)
>saf>cm>line.lisp
(PRESENTATION-MOUSE-HANDLER CM-POINT-GESTURE TESTER)
No Source File Record
(METHOD DELETE-POINT CM-POINT)
>saf>cm>point.lisp
(METHOD MOVE-POINT CM-POINT)
>saf>cm>point.lisp
(METHOD INSERT-POINT-BEFORE ROUTE)
>saf>cm>route.lisp
(METHOD INSERT-POINT-AFTER ROUTE)
>saf>cm>route.lisp
(METHOD DELETE-POINT ROUTE)
>saf>cm>route.lisp
(METHOD MOVE-POINT ROUTE)
>saf>cm>route.lisp
WITHIN-CURSOR
>saf>cm>road-routes.lisp
FIND-NEAREST-ROAD-SEGMENT
>saf>cm>road-routes.lisp
GET-ROAD-ROUTE
>saf>cm>road-routes.lisp
(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-GESTURE
TESTER)
No Source File Record
(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-GESTURE)
No Source File Record
(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-LABEL-
GESTURE TESTER)
No Source File Record
(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-LABEL-
GESTURE)
No Source File Record
(PRESENTATION-FUNCTION WORLD-COORDS PRINTER)
No Source File Record
DRAW-ARTY
>saf>simnet-objects>draw-effects.lisp
AMMO-TYPE-RADIUS
>saf>simnet-objects>draw-effects.lisp
DRAW-IMPACT
>saf>simnet-objects>draw-effects.lisp
(METHOD INTERVENE SIMNET-AGENT ATTACK)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT LAND)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT RESUPPLY)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
>saf>objects>intervention.lisp
```



```
(METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
(METHOD ERASE VEHICLE)
>saf>objects>vehicle.lisp
(METHOD DRAW VEHICLE)
>saf>objects>vehicle.lisp
(METHOD UPDATE-APPEARANCE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD UPDATE-POSITION SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
(METHOD DRAW SIMNET-AGENT AFTER)
>saf>objects>simnet-agent.lisp
(NCWHOPPER DRAW SIMNET-AGENT)
No Source File Record
(METHOD ERASE SIMNET-AGENT BEFORE)
>saf>objects>simnet-agent.lisp
(NCWHOPPER ERASE SIMNET-AGENT)
No Source File Record
(METHOD HIGHLIGHT SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
(METHOD SPECIFY-RULES-OF-ENGAGEMENT GUNNER)
>saf>objects>gunner.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
BOMB-BUTTON
>saf>network>commands.lisp
DRAW-STEALTH
>saf>sys>utilities.lisp
FORMAT-COORDINATES
>saf>sys>utilities.lisp
(INITIALIZATION *TERRAIN-INITIALIZATION-LIST* Init Window)
No Source File Record
```

Description: None

2.7.2.32 *PVD-LEGEND*

Definition 32

```
>saf>sys>vars.lisp
```

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD COM-RESCALE-INTERNAL PVD)

No Source File Record
(METHOD TOP-LEVEL SAF)
>saf>ui>frame.lisp
DRAW-MAP
>saf>sys>update-process.lisp
PROCESS-USER-COMMAND
>saf>sys>update-process.lisp

Description: None

2.7.2.33 *OFFENSE-ALU*

Definition 33

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SETUP-COLOR-ALUS

>saf>color-window>color-alus.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

Description: None

2.7.2.34 *DEFENSE-ALU*

Definition 34

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SETUP-COLOR-ALUS

>saf>color-window>color-alus.lisp
SANDBOX-OBJECT-ALU
>saf>sandbox>sandbox-object.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp

Description: None

2.7.2.35 *ERASE-EFFECTS-ALU*

Definition 35

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Output:

Calls: None

Called by: **SETUP-COLOR-ALUS**
 >saf>color-window>color-alus.lisp
 HANDLE-ARTY
 >saf>simnet-objects>draw-effects.lisp
 ERASE-IMPACT
 >saf>simnet-objects>draw-effects.lisp
 PROCESS-STEALTH-POS-PKT
 >saf>rudp>handle-incoming.lisp
Description: None

2.7.2.36 ***ERASE-VEHICLES-ALU***

Definition 36

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: **SETUP-COLOR-ALUS**
 >saf>color-window>color-alus.lisp
 DRAW-SANDBOX-UNIT
 >saf>sandbox>sandbox-object.lisp
 ERASE-SANDBOX-OBJECT
 >saf>sandbox>sandbox-object.lisp
 (METHOD DRAW-MISSILE-IMAGE MISSILE-IMAGE)
 >saf>simnet-objects>draw-vehicles.lisp
 (METHOD DRAW-TURRET-IMAGE RD-TURRET-IMAGE)
 >saf>simnet-objects>draw-vehicles.lisp
 (METHOD DRAW-TURRET-IMAGE SQ-TURRET-IMAGE)
 >saf>simnet-objects>draw-vehicles.lisp
 (METHOD DRAW-IMAGE FIGHTER-IMAGE)
 >saf>simnet-objects>draw-vehicles.lisp
 (METHOD DRAW-IMAGE HELO-IMAGE)
 >saf>simnet-objects>draw-vehicles.lisp
 DRAW-FILLED-BOX
 >saf>simnet-objects>draw-vehicles.lisp
 DRAW-BOX
 >saf>simnet-objects>draw-vehicles.lisp
 ERASE-VEHICLE-ALU
 >saf>simnet-objects>draw-vehicles.lisp
 (METHOD ERASE VEHICLE)
 >saf>objects>vehicle.lisp
 (METHOD HIGHLIGHT SIMNET-AGENT)
 >saf>objects>simnet-agent.lisp
Description: None

2.7.2.37 ***BOMB-EFFECTS-ALU***

Definition 37

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()

Outputs:

Calls: None

Called by: SETUP-COLOR-ALUS

>saf>color-window>color-alus.lisp

HANDLE-ARTY

>saf>simnet-objects>draw-effects.lisp

Description: None

2.7.2.38 *TRIM-ALU*

Definition 38

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SETUP-COLOR-ALUS

>saf>color-window>color-alus.lisp

DRAW-SANDBOX-OBJECT

>saf>sandbox>sandbox-object.lisp

(METHOD DRAW VEHICLE)

>saf>objects>vehicle.lisp

(METHOD ALU SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD HIGHLIGHT SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

Description: None

2.7.2.39 *WHITE-EFFECTS-ALU*

Definition 39

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SETUP-COLOR-ALUS

>saf>color-window>color-alus.lisp

PROCESS-GROUND-IMPACT-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.7.2.40 *YELLOW-EFFECTS-ALU*

Definition 40

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: **SETUP-COLOR-ALUS**
 >saf>color-window>color-alus.lisp
 HANDLE-ARTY
 >saf>simnet-objects>draw-effects.lisp
 PROCESS-STEALTH-POS-PKT
 >saf>rudp>handle-incoming.lisp
 PROCESS-VEHICLE-IMPACT-PKT
 >saf>rudp>handle-incoming.lisp
Description: None

2.7.2.41 *OPFOR-FRAME*

Definition 41

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD DISPLAY-OPORD-CHOICES SAF)
 >saf>ui>opord.lisp
 (METHOD HIGHLIGHT OPORD-BUTTON)
 >saf>ui>opord.lisp
 (METHOD COM-ADD-AIRCRAFT-INTERNAL SAF)
 No Source File Record
 (METHOD COM-CREATE-UNITS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-LOAD-SELECTIONS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-SAVE-SELECTIONS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-RESTORE-EXERCISE-INTERNAL SAF)
 No Source File Record
 (METHOD COM-CLEAR-SELECTIONS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-SELECT-UNITS-INTERNAL SAF)
 No Source File Record
 BATTLEMASTER-SCREEN-P
 >saf>bmi>commands.lisp
 COM-CLEAR-MESSAGE-LOG
 >saf>ui>commands.lisp
 (METHOD TOP-LEVEL SAF)
 >saf>ui>frame.lisp
 (METHOD MAKE-INSTANCE SAF AFTER)
 >saf>ui>frame.lisp
 DISPLAY-TASK-ORG
 >saf>ui>task-org.lisp
 HIGHLIGHT-ON-TASK-ORG
 >saf>ui>task-org.lisp
 OPFOR-SUB-PROCESS-REPORTS
 >saf>ui>processes.lisp
 CHECK-FOR-RETRANSMIT-OR-ACK
 >saf>rudp>outgoing.lisp
 SIGNAL-RUDP-ERROR

```

>saf>rudp>utils.lisp
COMPLETE-C2-RESET
>saf>network>top-level.lisp
EXIT-CONN
>saf>network>connection.lisp
INIT-CONN-1
>saf>network>connection.lisp
MAKE-OPFOR-SUB-PROCESS-FUNCTION-1
>saf>ui>processes.lisp

```

Description: The current OPFOR frame

2.7.2.42 '*OPFOR-IO*

Definition 42

```

>saf>sys>vars.lisp
Type: EXPORT
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

```

2.7.2.43 *OPFOR-IO*

Definition 43

```

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: LOAD-SCENARIO
>saf>sys>new-storage.lisp
NAME-AND-STORE-SCENARIO
>saf>sys>new-storage.lisp
NAME-AND-STORE-OVERLAY
>saf>sys>new-storage.lisp
PAN-TO-POINT
>saf>ui>commands.lisp
GET-ELEVATION
>saf>ui>commands.lisp
(METHOD TOP-LEVEL SAF)
>saf>ui>frame.lisp
CLEAR-SAF-HISTORY
>saf>ui>frame.lisp
(METHOD REPORT OPFOR-SUB-PROCESS)
>saf>ui>processes.lisp
DYING-PROCESS
>saf>ui>processes.lisp
FIND-FORMATION-INFO
>saf>sandbox>sandbox.lisp
(METHOD CHECK-ROUTE-SEGMENT ROUTE)
>saf>cm>route.lisp

```

FIND-ROUTE-AROUND-WATER
>saf>cm>water-avoidance.lisp
MOUSE-ON-BRIDGE-APPROACH-POINT
>saf>cm>road-routes.lisp
GET-BRIDGE-ROUTE
>saf>cm>road-routes.lisp
EXPAND-ROAD-ROUTE
>saf>cm>road-routes.lisp
EXPAND-ROUTE-INTO-POINTS
>saf>cm>route-finder.lisp
CHOOSE-UNITS-FOR-CM
>saf>cm>control-measure.lisp
(METHOD UPDATE-ECHELON SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
COM-OMNISCIENT-VIEW
>saf>objects>simnet-agent.lisp
PRINT-VEHICLE-LOAD-PKT
>saf>rudp>handle-incoming.lisp
PRINT-STEALTH-POS-PKT
>saf>rudp>handle-incoming.lisp
PRINT-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-ECHELON-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-POSITION-POLL-COMPLETED-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-POSITION-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-POSITION-PKT
>saf>rudp>handle-incoming.lisp
PRINT-MINEFIELD-CREATION-PKT
>saf>rudp>handle-incoming.lisp
PRINT-RESET-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-INDIRECT-FIRE-PKT
>saf>rudp>handle-incoming.lisp
PRINT-INDIRECT-FIRE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PRINT-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PRINT-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
RESET-SIM
>saf>network>top-level.lisp

SAY-LET-AUX
>saf>sys>macros.lisp
SAY-FORM
>saf>sys>macros.lisp
MAYBE-SAY
>saf>sys>macros.lisp
SAY
>saf>sys>macros.lisp

Description: Where IO is done in OPFOR

2.7.2.44 *RADIO-OUTPUT*

Definition 44

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PRINT-FRAGO-COUNT
>saf>ui>subordinate-tasking.lisp
(METHOD TOP-LEVEL SAF)
>saf>ui>frame.lisp
PROCESS-RUDP-PACKETS
>saf>ui>processes.lisp
(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SHELL-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-CONTACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
COMPLETE-C2-RESET
>saf>network>top-level.lisp
TALK
>saf>sys>macros.lisp

Description: Where IO is done for the radio-nets

2.7.2.45 *BMI-PROGRAM*

Definition 45

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None

Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 STORE-SCENARIO
 >saf>sys>new-storage.lisp
 (METHOD COM-ADD-AIRCRAFT-INTERNAL SAF)
 No Source File Record
 (METHOD COM-SHOW-SANDBOX-INTERNAL SAF)
 No Source File Record
 (METHOD COM-CREATE-UNITS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-SAVE-SELECTIONS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-CLEAR-SELECTIONS-INTERNAL SAF)
 No Source File Record
 (METHOD COM-SELECT-UNITS-INTERNAL SAF)
 No Source File Record
 (METHOD TOP-LEVEL SAF)
 >saf>ui>frame.lisp
 (METHOD DISPLAY-CONNECTION-STATE BMI)
 >saf>bmi>bmi-frame.lisp
 WORKSTATION-BATTLE-SCHEME
 >saf>bmi>bmi-frame.lisp
 WORKSTATION-BATTLE-VIEW
 >saf>bmi>bmi-frame.lisp
 WORKSTATION-ALIGNMENT
 >saf>bmi>bmi-frame.lisp
 WORKSTATION-MMSHIP-CHANGE
 >saf>bmi>bmi-frame.lisp
 DRAW-MAP
 >saf>sys>update-process.lisp
 (PRESENTATION-MOUSE-HANDLER SANDBOX-OBJECT-GESTURE)
 No Source File Record
 (PRESENTATION-MOUSE-HANDLER ADD-AIRCRAFT TESTER)
 No Source File Record
 (PRESENTATION-MOUSE-HANDLER END-CONNECTION)
 No Source File Record
 (PRESENTATION-MOUSE-HANDLER MAKE-CONNECTION)
 No Source File Record
 BMI-MAKE-SANDBOX-OBJECT
 >saf>bmi>utilities.lisp
 RETRIEVE-A-SANDBOX
 >saf>bmi>utilities.lisp

Description: None

2.7.2.46 *TERRAIN-OPTIONS*

Definition 46

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None

Called by: HANDLE-TERRAIN-MENU

>saf>ui>menus.lisp

DRAW-MAP

>saf>sys>update-process.lisp

PROCESS-NEW-MAP-OPTIONS

>saf>sys>update-process.lisp

Description: list of terrain types user wants drawn

2.7.2.47 *BATTLEFIELD-OBJECTS*

Definition 47

>saf>sys>vars.lisp

Type: EXPORT

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.48 *BATTLEFIELD-OBJECTS*

Definition 48

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.49 *SANDBOX*

Definition 49

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD MAKE-INSTANCE SAF AFTER)

>saf>ui>frame.lisp

Description: the current sandbox

2.7.2.50 *ACTIVE-SANDBOXES*

Definition 50

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: RETRIEVE-A-SANDBOX
 >saf>bmi>utilities.lisp
 ACTIVE-SANDBOXES-AS-MENU-ITEMS
 >saf>sandbox>utilities.lisp
 STORE-SANDBOX
 >saf>sandbox>sandbox.lisp
Description: None

2.7.2.51 *WHERE-ARE-THEY-POLL-WAIT*

Definition 51

 >saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: POLL-COMPLETED
 >saf>sys>update-process.lisp
 UPDATE-TOP-LEVEL-AUX
 >saf>sys>update-process.lisp
 UPDATE-TOP-LEVEL
 >saf>sys>update-process.lisp
 COMPLETE-C2-RESET
 >saf>network>top-level.lisp
Description: None

2.7.2.52 *WHERE-ARE-THEY-POLL-FREQUENCY*

Definition 52

 >saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: UPDATE-TOP-LEVEL-AUX
 >saf>sys>update-process.lisp
Description: None

2.7.2.53 *WHERE-ARE-THEY-PAINT-FLAG*

Definition 53

 >saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.2.54 *PAINT-VEHICLES-AS-ICONS*

Definition 54

>saf>sys>vars.lisp
Type: DEFINE-APPEARANCE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
(METHOD ERASE VEHICLE)
>saf>objects>vehicle.lisp
(METHOD DRAW VEHICLE)
>saf>objects>vehicle.lisp
(METHOD ALU SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.7.2.55 *STOP-UPDATE-PROCESS*

Definition 55

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: UPDATE-TOP-LEVEL
>saf>sys>update-process.lisp
Description: None

2.7.2.56 *INTERFACE-TO-UPDATE-PROCESS-QUEUE*

Definition 56

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD ADJUST-VIEWPORT SCENARIO)
>saf>sys>new-storage.lisp
PAN-TO-POINT
>saf>ui>commands.lisp
(METHOD COM-REFRESH-INTERNAL PVD)
No Source File Record
(METHOD COM-RESCALE-INTERNAL PVD)
No Source File Record
(METHOD COM-ZOOM-OUT-INTERNAL PVD)
No Source File Record
(METHOD COM-PAN-INTERNAL PVD)
No Source File Record

(METHOD COM-ZOOM-IN-INTERNAL PVD)

No Source File Record

(METHOD TOP-LEVEL SAF)

>saf>ui>frame.lisp

HANDLE-TERRAIN-MENU

>saf>ui>menus.lisp

UPDATE-TOP-LEVEL-AUX

>saf>sys>update-process.lisp

UPDATE-PROCESS-WAKE-UP

>saf>sys>update-process.lisp

(NCWHOPPER DRAW SIMNET-AGENT)

No Source File Record

FV

>saf>sys>utilities.lisp

ADD-TO-UPDATE-QUEUE

>saf>sys>macros.lisp

Description: None

2.7.2.57 *NETWORK-TO-UPDATE-PROCESS-QUEUE*

Definition 57

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: UPDATE-TOP-LEVEL-AUX

>saf>sys>update-process.lisp

PROCESS-RESET-PKT

>saf>rudp>handle-incoming.lisp

QUEUE-FOR-UPDATE-PROCESS

>saf>sys>macros.lisp

Description: None

2.7.2.58 *BFLY-TIME-OFFSET*

Definition 58

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-MACHINE-STATUS-PKT

>saf>rudp>handle-incoming.lisp

MILITARY-TIME-STRING-FROM-BFLY-NUMBER

>saf>sys>time.lisp

SYMBOLICS-TIME-TO-BFLY-TIME

>saf>sys>time.lisp

Description: add this to a symbolics universal time to translate it
into the butterfly's real time clock

2.7.2.59 *ETIME*

Definition 59

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: WALL-TIME-TO-REL-ETIME
>saf>sys>time.lisp
REL-ETIME-TO-SYMBOLICS-TIME
>saf>sys>time.lisp
Description: the time the exercise starts

Definition 60

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: DELAYED-DISPLAY-UNIT-GRAPH
>saf>simnet-objects>vehicle-tracking.lisp
Description: name of the process
that draws the grapher unit graph when you don't need it right away

2.7.2.61 *DEFAULT-UNIT-GRAPH-DELAY*

Definition 61

>saf>sys>vars.lisp
Type: DEFINE-INTERFACE-OPTION
Arguments: ()
Outputs:
Calls: None
Called by: DELAYED-DISPLAY-UNIT-GRAPH
>saf>simnet-objects>vehicle-tracking.lisp
Description: None

2.7.2.62 *COS-ARRAY*

Definition 62

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: APPROX-SIN
>saf>sys>macros.lisp
APPROX-COS
>saf>sys>macros.lisp
Description: None

2.7.2.63 *COS-APRAY-MAX-INDEX*

Definition 63

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: APPROX-SIN
>saf>sys>macros.lisp
APPROX-COS
>saf>sys>macros.lisp
Description: None

2.7.2.64 *DRIBBLE-FLG*

Definition 64

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.2.65 *EXTRA-INFO*

Definition 65

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.2.66 *NEW-INTERFACE-FLG*

Definition 66

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: COLOR-SCREEN-MENU
>saf>ui>mouse-interface.lisp
MAYBE-MAKE-TERRAIN-MENU
>saf>ui>menus.lisp
MOUSE-DEFAULT-HANDLER
>saf>sys>zl-tv-patches.lisp
Description: None

2.7.2.67 *EFFECTS-QUEUE*

Definition 67

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: ERASE-ELASPED-EFFECTS
>saf>simnet-objects>draw-effects.lisp
HANDLE-ARTY
>saf>simnet-objects>draw-effects.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
QUEUE-ERASE-EFFECT
>saf>sys>macros.lisp
Description: None

2.7.2.68 *TARGET-TYPES*

Definition 68

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-CONTACT-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.7.2.69 *DISPOSITIONS*

Definition 69

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.7.2.70 *IVIS-TO-SIMNET*

Definition 70

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SEND-IVIS-MESSAGES

>saf>network>commands.lisp

Description: None

2.7.2.71 *IVIS-TO-SBX*

Definition 71

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: SEND-IVIS-MESSAGES

>saf>network>commands.lisp

Description: None

2.7.2.72 SCENARIO-COUNTER

Definition 72

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.73 *SBX-UNIQUE-UNIT-ID*

Definition 73

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: RESET-SBX-UNIQUE-UNIT-ID

>saf>sys>vars.lisp

NEW-SBX-UNIQUE-UNIT-ID

>saf>sys>vars.lisp

Description: None

2.7.2.74 UNIQUE_ID_IRRELEVANT

Definition 74

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

Definition 75

>saf>sys>vars.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: NEW-SBX-UNIQUE-UNIT-ID
>saf>sys>vars.lisp
Description: None

2.7.2.76 NEW-SBX-UNIQUE-UNIT-ID

Definition 76

>saf>sys>vars.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *SBX-UNIQUE-UNIT-ID*
>saf>sys>vars.lisp
MAX_UNIQUE_ID
>saf>sys>vars.lisp
Called by: CREATE-STORED-INSTANCE
>saf>sys>new-storage.lisp
REALLY-MAKE-SANDBOX-OBJECT
>saf>bmi>bmi-frame.lisp
Description: None

2.7.2.77 RESET-SBX-UNIQUE-UNIT-ID

Definition 77

>saf>sys>vars.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *SBX-UNIQUE-UNIT-ID*
>saf>sys>vars.lisp
Called by: COMPLETE-C2-RESET
>saf>network>top-level.lisp
Description: None

2.7.2.78 *SANDBOX-OBJECTS-ALIST*

Definition 78

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: RETURN-AND-REMOVE-SANDBOX-FROM-ALIST
>saf>sys>vars.lisp
CLEAR-SANDBOX-ALIST
>saf>sys>vars.lisp
ADD-SANDBOX-TO-ALIST
>saf>sys>vars.lisp
Description: None

2.7.2.79 ADD-SANDBOX-TO-ALIST

Definition 79

>saf>sys>vars.lisp
Type: Function
Arguments: (UNIQUE-ID OBJECT)
Outputs:
Calls: *SANDBOX-OBJECTS-ALIST*
>saf>sys>vars.lisp
Called by: REALLY-MAKE-SANDBOX-OBJECT
>saf>bmi>bmi-frame.lisp
Description: None

2.7.2.80 CLEAR-SANDBOX-ALIST

Definition 80

>saf>sys>vars.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *SANDBOX-OBJECTS-ALIST*
>saf>sys>vars.lisp
Called by: COMPLETE-C2-RESET
>saf>network>top-level.lisp
Description: None

2.7.2.81 RETURN-AND-REMOVE-SANDBOX-FROM-ALIST

Definition 81

>saf>sys>vars.lisp
Type: Function
Arguments: (UNIQUE-ID)
Outputs:

Calls: ***SANDBOX-OBJECTS-ALIST***

>saf>sys>vars.lisp

Called by: **MAKE-AGENT**

>saf>simnet-objects>vehicle-tracking.lisp

Description: None

2.7.2.82 *PRETTY-ALIGNMENT-TABLE*

Definition 82

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: **(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)**

>saf>objects>simnet-agent.lisp

Description: None

2.7.2.83 (AREF *PRETTY-ALIGNMENT-TABLE* ALIGNED-FOE)

Definition 83

>saf>sys>vars.lisp

Type: SETF

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.7.2.84 *MY-CONCEIVED-UNITS*

Definition 84

>saf>sys>vars.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: **PROCESS-RESET-PKT**

>saf>rudp>handle-incoming.lisp

COMPLETE-C2-RESET

>saf>network>top-level.lisp

Description: None

2.7.2.85 *ALL-OVERLAYS*

Definition 85

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: LOAD-SCENARIO

>saf>sys>new-storage.lisp

LOAD-OVERLAY

>saf>sys>new-storage.lisp

RETURN-SCENARIO-OBJECT-LIST

>saf>sys>new-storage.lisp

NAME-AND-STORE-OVERLAY

>saf>sys>new-storage.lisp

RESET-ALL-OVERLAYS-AND-TASKS

>saf>ui>subordinate-tasking.lisp

SUBORDINATE-TASK

>saf>ui>subordinate-tasking.lisp

MERGE-UNIT-TASKING

>saf>ui>subordinate-tasking.lisp

CLEAR-OVERLAYS

>saf>ui>mouse-interface.lisp

CHOOSE-AN-OVERLAY

>saf>cm>overlay.lisp

REDRAW-OVERLAYS

>saf>cm>overlay.lisp

MAKE-OVERLAY

>saf>cm>overlay.lisp

(METHOD KILL OVERLAY)

>saf>cm>overlay.lisp

(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-LABEL-
GESTURE)

No Source File Record

REMOVE-UNIT-POINTERS-IN-BEHAVIORS

>saf>cm>control-measure.lisp

Description: A list of all the overlays

2.7.2.86 *DB-INSTANCES*

Definition 86

>saf>sys>vars.lisp

Type: Variable

Arguments: ()

Outputs:

Calls: None

Called by: LOAD-SCENARIO

>saf>sys>new-storage.lisp

LOAD-OVERLAY

>saf>sys>new-storage.lisp

STORE-SCENARIO

>saf>sys>new-storage.lisp

REMOVE-LEFTOVER-DB-INSTANCES

>saf>sys>new-storage.lisp

READ-AND-MAKE-INSTANCES

```
>saf>sys>new-storage.lisp
CLEAR-UNITS
>saf>ui>mouse-interface.lisp
MAKE-AGENT
>saf>simnet-objects>vehicle-tracking.lisp
```

Description: None

2.7.2.87 *STEALTH-SITE-NUMBER*

Definition 87

```
>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD ACCEPT-BMI-OPTIONS BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
```

Description: None

2.7.2.88 *STEALTH-HOST-NUMBER*

Definition 88

```
>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD ACCEPT-BMI-OPTIONS BMI)
>saf>bmi>bmi-frame.lisp
(METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
>saf>objects>simnet-agent.lisp
```

Description: None

2.7.2.89 *LAST-UNITS-LENGTH*

Definition 89

```
>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)
>saf>objects>intervention.lisp
(METHOD INTERVENE SIMNET-AGENT ALTITUDE)
>saf>objects>intervention.lisp
```

Description: None

2.7.2.90 *LAST-UNITS-SPEED*

Definition 90

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT SPEED)
>saf>objects>intervention.lisp
SPEED-TO-M/SEC
>saf>sys>utilities.lisp
M/SEC-TO-SPEED
>saf>sys>utilities.lisp
(METHOD REVIEW-DATA LINE)
>saf>cm>line.lisp
(METHOD REVIEW-DATA CM-POINT)
>saf>cm>point.lisp
Description: None

2.7.2.91 *LAST-UNITS-ALTITUDE*

Definition 91

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT ALTITUDE)
>saf>objects>intervention.lisp
Description: None

2.7.2.92 *BATTLEMASTER-PASSWORD*

Definition 92

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: COM-BATTLEMASTER
>saf>bmi>commands.lisp
Description: None

2.7.2.93 HOLD-HOVER

Definition 93

>saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:

Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT HOLD)
 >saf>objects>intervention.lisp
Description: None

2.7.2.94 HOLD-ORBIT

Definition 94

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)
 >saf>objects>intervention.lisp
 (METHOD INTERVENE SIMNET-AGENT HOLD)
 >saf>objects>intervention.lisp
Description: None

2.7.2.95 HOLD-RACETRACK

Definition 95

 >saf>sys>vars.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.3 CSU sys>macros.lisp

Macros used in multiple system modules. When the SAF system is loaded, this file has to be loaded early; macros must be compiled before any caller references them. This unit includes angle conversion utilities, some approximate trig functions, (used when speed is more important than accuracy) some i/o routing macros, debug macros, and *with-open-file-on-butterfly*, a macro that encapsulates the required login for the Simhost platform, which was once a Butterfly machine. The queue macros are used by SAF processes, such as RUDP and Update, for interprocess communication via message queues.

2.7.3.1 MATH-TO-COMPASS

Definition 1

 >saf>sys>macros.lisp
Type: Subst
Arguments: (RADIANS)
Outputs:

Calls: RAD-TO-MIL

>saf>sys>constants.lisp

Called by: (METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

Description: None

2.7.3.2 RADIANS-COMPASS-TO-RADIANS-MATH

Definition 2

>saf>sys>macros.lisp

Type: Subst

Arguments: (COMPASS-RADIANS)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

90DEG

>saf>sys>constants.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

GET-LOCATION-AND-BEARING

>saf>sandbox>utilities.lisp

FACE-DIRECTION

>saf>objects>simnet-agent.lisp

CVV-MILS-READER-

>saf>sys>macros.lisp

MILS-TO-RADIANS-MATH

>saf>sys>macros.lisp

MATH-ANGLE

>saf>sys>macros.lisp

Description: None

2.7.3.3 RADIANS-MATH-TO-RADIANS-COMPASS

Definition 3

>saf>sys>macros.lisp

Type: Subst

Arguments: (MATH-RADIANS)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

90DEG

>saf>sys>constants.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

GET-LOCATION-AND-BEARING

>saf>sandbox>utilities.lisp

CVV-MILS-PRINTER
>saf>sys>macros.lisp
RADIANS-MATH-TO-MILS
>saf>sys>macros.lisp

Description: None

2.7.3.4 COMPASS-ANGLE

Definition 4

>saf>sys>macros.lisp
Type: Subst
Arguments: (DX DY)
Outputs:
Calls: None
Called by: GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp
FACE-DIRECTION
>saf>objects>simnet-agent.lisp
MATH-ANGLE
>saf>sys>macros.lisp

Description: None

2.7.3.5 MATH-ANGLE

Definition 5

>saf>sys>macros.lisp
Type: Subst
Arguments: (DX DY)
Outputs:
Calls: π
>saf>sys>constants.lisp
 2π
>saf>sys>constants.lisp
90DEG
>saf>sys>constants.lisp
RADIANS-COMPASS-TO-RADIANS-MATH
>saf>sys>macros.lisp
COMPASS-ANGLE
>saf>sys>macros.lisp

Called by: GET-LOCATION-AND-BEARING
>saf>sandbox>utilities.lisp

Description: None

2.7.3.6 RADIANS-COMPASS-TO-MILS

Definition 6

>saf>sys>macros.lisp
Type: Subst
Arguments: (COMPASS-RADIANS)
Outputs:

Calls: RAD-TO-MIL

>saf>sys>constants.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

GET-LOCATION-AND-BEARING

>saf>sandbox>utilities.lisp

CVV-MILS-PRINTER

>saf>sys>macros.lisp

RADIANS-MATH-TO-MILS

>saf>sys>macros.lisp

Description: None

2.7.3.7 RADIANS-MATH-TO-MILS

Definition 7

>saf>sys>macros.lisp

Type: Subst

Arguments: (MATH-RADIANS)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

90DEG

>saf>sys>constants.lisp

RAD-TO-MIL

>saf>sys>constants.lisp

RADIANS-MATH-TO-RADIANS-COMPASS

>saf>sys>macros.lisp

RADIANS-COMPASS-TO-MILS

>saf>sys>macros.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

GET-LOCATION-AND-BEARING

>saf>sandbox>utilities.lisp

CVV-MILS-PRINTER

>saf>sys>macros.lisp

Description: None

2.7.3.8 MILS-TO-RADIANS-COMPASS

Definition 8

>saf>sys>macros.lisp

Type: Subst

Arguments: (MILS)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

MIL-TO-RAD

>saf>sys>constants.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

>saf>sys>macros.lisp

MILS-TO-RADIANS-MATH

>saf>sys>macros.lisp

Description: None

2.7.3.9 MILS-TO-RADIANS-MATH

Definition 9

>saf>sys>macros.lisp

Type: Subst

Arguments: (MILS)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

90DEG

>saf>sys>constants.lisp

MIL-TO-RAD

>saf>sys>constants.lisp

RADIANS-COMPASS-TO-RADIANS-MATH

>saf>sys>macros.lisp

MILS-TO-RADIANS-COMPASS

>saf>sys>macros.lisp

Called by: (METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

CVV-MILS-READER

>saf>sys>macros.lisp

Description: None

2.7.3.10 CVV-MILS-PRINTER

Definition 10

>saf>sys>macros.lisp

Type: Function

Arguments: (RADIANS-MATH STREAM)

Outputs:

Calls: π

>saf>sys>constants.lisp

2π

>saf>sys>constants.lisp

90DEG

>saf>sys>constants.lisp

RAD-TO-MIL

>saf>sys>constants.lisp

RADIANS-MATH-TO-RADIANS-COMPASS

```
>saf>sys>macros.lisp  
RADIANS-COMPASS-TO-MILS  
>saf>sys>macros.lisp  
RADIANS-MATH-TO-MILS  
>saf>sys>macros.lisp
```

Called by: None

Description: None

2.7.3.11 CVV-MILS-READER

Definition 11

```
>saf>sys>macros.lisp  
Type: Function  
Arguments: (STREAM)  
Outputs:  
Calls:  $\pi$   
>saf>sys>constants.lisp  
2 $\pi$   
>saf>sys>constants.lisp  
90DEG  
>saf>sys>constants.lisp  
MIL-TO-RAD  
>saf>sys>constants.lisp  
RADIANS-COMPASS-TO-RADIANS-MATH  
>saf>sys>macros.lisp  
MILS-TO-RADIANS-COMPASS  
>saf>sys>macros.lisp  
MILS-TO-RADIANS-MATH  
>saf>sys>macros.lisp
```

Called by: None

Description: None

2.7.3.12 (GET 'MILS 'CHOOSE-VARIABLE-VALUES-KEYWORD)

Definition 12

```
>saf>sys>macros.lisp  
Type: SETF  
Arguments: ()  
Outputs:  
Calls: None  
Called by: None  
Description: None
```

2.7.3.13 SQ

Definition 13

```
>saf>sys>macros.lisp  
Type: Subst  
Arguments: (X)  
Outputs:  
Calls: None
```

Called by: None
Description: None

2.7.3.14 *!

Definition 14

>saf>sys>macros.lisp
Type: Subst
Arguments: (X Y)
Outputs:
Calls: None
Called by: (METHOD DRAW-MISSILE-IMAGE MISSILE-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE RD-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-TURRET-IMAGE SQ-TURRET-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE FIGHTER-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
(METHOD DRAW-IMAGE HELO-IMAGE)
>saf>simnet-objects>draw-vehicles.lisp
DRAW-FILLED-BOX
>saf>simnet-objects>draw-vehicles.lisp
DRAW-BOX
>saf>simnet-objects>draw-vehicles.lisp
Description: None

2.7.3.15 APPROX-COS

Definition 15

>saf>sys>macros.lisp
Type: Subst
Arguments: (ANGLE)
Outputs:
Calls: RAD-TO-DEG
>saf>sys>constants.lisp
COS-ARRAY
>saf>sys>vars.lisp
COS-ARRAY-MAX-INDEX
>saf>sys>vars.lisp
Called by: APPROX-SIN
>saf>sys>macros.lisp
Description: None

2.7.3.16 APPROX-SIN

Definition 16

>saf>sys>macros.lisp
Type: Subst
Arguments: (ANGLE)
Outputs:

Calls: RAD-TO-DEG
 >saf>sys>constants.lisp
 HALFPI
 >saf>sys>constants.lisp
 COS-ARRAY
 >saf>sys>vars.lisp
 COS-ARRAY-MAX-INDEX
 >saf>sys>vars.lisp
 APPROX-COS
 >saf>sys>macros.lisp
 Called by: None
 Description: None

2.7.3.17 ADD-TO-UPDATE-QUEUE

Definition 17

 >saf>sys>macros.lisp
 Type: Macro
 Arguments: (ITEM)
 Outputs:
 Calls: *INTERFACE-TO-UPDATE-PROCESS-QUEUE*
 >saf>sys>vars.lisp
 ADD-TO-UPDATE-QUEUE
 >saf>sys>macros.lisp
 Called by: (METHOD ADJUST-VIEWPORT SCENARIO)
 >saf>sys>new-storage.lisp
 PAN-TO-POINT
 >saf>ui>commands.lisp
 (METHOD COM-REFRESH-INTERNAL PVD)
 No Source File Record
 (METHOD COM-RESCALE-INTERNAL PVD)
 No Source File Record
 (METHOD COM-ZOOM-OUT-INTERNAL PVD)
 No Source File Record
 (METHOD COM-PAN-INTERNAL PVD)
 No Source File Record
 (METHOD COM-ZOOM-IN-INTERNAL PVD)
 No Source File Record
 HANDLE-TERRAIN-MENU
 >saf>ui>menus.lisp
 (NCWHOPPER DRAW SIMNET-AGENT)
 No Source File Record
 FV
 >saf>sys>utilities.lisp
 ADD-TO-UPDATE-QUEUE
 >saf>sys>macros.lisp
 Description: None

2.7.3.18 QUEUE-PUSH-LAST

Definition 18

>saf>sys>macros.lisp
Type: Macro
Arguments: (NEW-ITEM QUEUE)
Outputs:
Calls: QUEUE-PUSH-LAST
>saf>sys>macros.lisp
Called by: HANDLE-ARTY
>saf>simnet-objects>draw-effects.lisp
QUEUE-ERASE-EFFECT
>saf>sys>macros.lisp
QUEUE-PUSH-LAST
>saf>sys>macros.lisp
Description: None

2.7.3.19 QUEUE-ERASE-EFFECT

Definition 19

>saf>sys>macros.lisp
Type: Macro
Arguments: (NEW-ITEM)
Outputs:
Calls: *EFFECTS-QUEUE*
>saf>sys>vars.lisp
QUEUE-PUSH-LAST
>saf>sys>macros.lisp
QUEUE-ERASE-EFFECT
>saf>sys>macros.lisp
Called by: HANDLE-ARTY
>saf>simnet-objects>draw-effects.lisp
QUEUE-ERASE-EFFECT
>saf>sys>macros.lisp
Description: None

2.7.3.20 SAY

Definition 20

>saf>sys>macros.lisp
Type: Macro
Arguments: (CONTROL-STRING &REST ARGS)
Outputs:
Calls: *OPFOR-IO*
>saf>sys>vars.lisp
SAY
>saf>sys>macros.lisp

Called by: LOAD-SCENARIO
 >saf>sys>new-storage.lisp
 NAME-AND-STORE-SCENARIO
 >saf>sys>new-storage.lisp
 NAME-AND-STORE-OVERLAY
 >saf>sys>new-storage.lisp
 PAN-TO-POINT
 >saf>ui>commands.lisp
 GET-ELEVATION
 >saf>ui>commands.lisp
 (METHOD REPORT OPFOR-SUB-PROCESS)
 >saf>ui>processes.lisp
 DYING-PROCESS
 >saf>ui>processes.lisp
 FIND-FORMATION-INFO
 >saf>sandbox>sandbox.lisp
 (METHOD CHECK-ROUTE-SEGMENT ROUTE)
 >saf>cm>route.lisp
 FIND-ROUTE-AROUND-WATER
 >saf>cm>water-avoidance.lisp
 MOUSE-ON-BRIDGE-APPROACH-POINT
 >saf>cm>road-routes.lisp
 GET-BRIDGE-ROUTE
 >saf>cm>road-routes.lisp
 EXPAND-ROAD-ROUTE
 >saf>cm>road-routes.lisp
 EXPAND-ROUTE-INTO-POINTS
 >saf>cm>route-finder.lisp
 CHOOSE-UNITS-FOR-CM
 >saf>cm>control-measure.lisp
 (METHOD UPDATE-ECHELON SIMNET-AGENT)
 >saf>objects>simnet-agent.lisp
 FACE-DIRECTION
 >saf>objects>simnet-agent.lisp
 COM-OMNISCIENT-VIEW
 >saf>objects>simnet-agent.lisp
 SAY-VARIABLES
 >saf>sys>macros.lisp
 SAY
 >saf>sys>macros.lisp

Description: None

2.7.3.21 MAYBE-SAY

Definition 21

 >saf>sys>macros.lisp
 Type: Macro
 Arguments: (CONTROL-VARIABLE CONTROL-STRING &REST ARGS)
 Outputs:

Calls: *OPFOR-IO*
 >saf>sys>vars.lisp
 MAYBE-SAY
 >saf>sys>macros.lisp
Called by: MAYBE-SAY
 >saf>sys>macros.lisp
Description: None

2.7.3.22 TALK

Definition 22

 >saf>sys>macros.lisp
Type: Macro
Arguments: (CONTROL-STRING &REST ARGS)
Outputs:
Calls: *RADIO-OUTPUT*
 >saf>sys>vars.lisp
 TALK
 >saf>sys>macros.lisp
Called by: TALK
 >saf>sys>macros.lisp
Description: None

2.7.3.23 SAY-VARIABLES

Definition 23

 >saf>sys>macros.lisp
Type: Macro
Arguments: (&REST ARGS)
Outputs:
Calls: SAY
 >saf>sys>macros.lisp
Called by: SAY-VARS
 >saf>sys>macros.lisp
Description: None

2.7.3.24 SAY-VARS

Definition 24

 >saf>sys>macros.lisp
Type: Macro
Arguments: (&REST ARGS)
Outputs:
Calls: SAY-VARIABLES
 >saf>sys>macros.lisp
Called by: None
Description: None

2.7.3.25 SAY-FORM

Definition 25

>saf>sys>macros.lisp
Type: Macro
Arguments: (FORM)
Outputs:
Calls: *OPFOR-IO*
>saf>sys>vars.lisp
SAY-FORM
>saf>sys>macros.lisp
Called by: SAY-FORM
>saf>sys>macros.lisp
Description: None

2.7.3.26 SAY-LET

Definition 26

>saf>sys>macros.lisp
Type: Macro
Arguments: (VARS-AND-VALUES &REST BODY)
Outputs:
Calls: SAY-LET
>saf>sys>macros.lisp
SAY-LET-AUX
>saf>sys>macros.lisp
Called by: SAY-LET
>saf>sys>macros.lisp
Description: None

2.7.3.27 SAY-LET*

Definition 27

>saf>sys>macros.lisp
Type: Macro
Arguments: (VARS-AND-VALUES &REST BODY)
Outputs:
Calls: SAY-LET*
>saf>sys>macros.lisp
SAY-LET-AUX
>saf>sys>macros.lisp
Called by: SAY-LET*
>saf>sys>macros.lisp
Description: None

2.7.3.28 SAY-LET-AUX

Definition 28

>saf>sys>macros.lisp
Type: Function
Arguments: (VARS-AND-VALUES)

Outputs:

Calls: *OPFOR-IO*

>saf>sys>vars.lisp

SAY-LET-AUX

>saf>sys>macros.lisp

Called by: SAY-LET-AUX

>saf>sys>macros.lisp

SAY-LET*

>saf>sys>macros.lisp

SAY-LET

>saf>sys>macros.lisp

Description: None

2.7.3.29 WHEN-EIGHT-BIT-COLOR

Definition 29

>saf>sys>macros.lisp

Type: Macro

Arguments: (&BODY BODY)

Outputs:

Calls: None

Called by: None

Description: None

2.7.3.30 UNLESS-EIGHT-BIT-COLOR

Definition 30

>saf>sys>macros.lisp

Type: Macro

Arguments: (&BODY BODY)

Outputs:

Calls: None

Called by: None

Description: None

2.7.3.31 *BUTTERFLY-LOGIN-NAME*

Definition 31

>saf>sys>macros.lisp

Type: Parameter

Arguments: ()

Outputs:

Calls: None

Called by: HANDLE-LOGIN

>saf>sys>macros.lisp

Description: None

2.7.3.32 *BUTTERFLY-PASSWORD*

Definition 32

>saf>sys>macros.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: HANDLE-LOGIN
>saf>sys>macros.lisp
Description: None

2.7.3.33 WITH-AUTOMATIC-LOGIN

Definition 33

>saf>sys>macros.lisp
Type: Macro
Arguments: (&BODY BODY)
Outputs:
Calls: HANDLE-LOGIN
>saf>sys>macros.lisp
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
WRITE-CONFIGURATION-FILE
>saf>interface>formations.lisp
READ-CONFIGURATION-FILE
>saf>interface>formations.lisp
WRITE-OBJECT-FILE
>saf>interface>object-menu.lisp
READ-OBJECT-FILE
>saf>interface>object-menu.lisp
WRITE-DIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-INDIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-DETECTION-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-HIT-DATA-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-AIR-DATA-FROM-FILE
>saf>interface>model-menu.lisp

```

READ-GROUND-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-HIT-DATA-FILE
>saf>interface>model-menu.lisp
MAKE-HITMODELS-DICTIONARY
>saf>interface>model-menu.lisp
WITH-OPEN-FILE-ON-BUTTERFLY
>saf>sys>macros.lisp

```

Description: None

2.7.3.34 WITH-OPEN-FILE-ON-BUTTERFLY

Definition 34

```

>saf>sys>macros.lisp
Type: Macro
Arguments: (STREAM-FILENAME-OPTIONS &BODY BODY)
Outputs:
Calls: WITH-AUTOMATIC-LOGIN
>saf>sys>macros.lisp
WITH-OPEN-FILE-ON-BUTTERFLY
>saf>sys>macros.lisp
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
WRITE-CONFIGURATION-FILE
>saf>interface>formations.lisp
READ-CONFIGURATION-FILE
>saf>interface>formations.lisp
WRITE-OBJECT-FILE
>saf>interface>object-menu.lisp
READ-OBJECT-FILE
>saf>interface>object-menu.lisp
WRITE-DIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-INDIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-DETECTION-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-HIT-DATA-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-AIR-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-GROUND-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-HIT-DATA-FILE
>saf>interface>model-menu.lisp

```

MAKE-HITMODELS-DICTIONARY
>saf>interface>model-menu.lisp
READ-DATA-FILE
>saf>sys>interim-model.lisp
WITH-OPEN-FILE-ON-BUTTERFLY
>saf>sys>macros.lisp

Description: None

2.7.3.35 HANDLE-LOGIN

Definition 35

>saf>sys>macros.lisp
Type: Function
Arguments: (CONDITION)
Outputs:
Calls: *BUTTERFLY-LOGIN-NAME*
>saf>sys>macros.lisp
BUTTERFLY-PASSWORD
>saf>sys>macros.lisp
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
WRITE-CONFIGURATION-FILE
>saf>interface>formations.lisp
READ-CONFIGURATION-FILE
>saf>interface>formations.lisp
WRITE-OBJECT-FILE
>saf>interface>object-menu.lisp
READ-OBJECT-FILE
>saf>interface>object-menu.lisp
WRITE-DIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-INDIRECT-FIRE-DAMAGE-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-DETECTION-DATA-FILE
>saf>interface>model-menu.lisp
WRITE-HIT-DATA-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-AIR-DATA-FROM-FILE
>saf>interface>model-menu.lisp
READ-GROUND-DATA-FROM-FILE
>saf>interface>model-menu.lisp

```
READ-HIT-DATA-FILE
>saf>interface>model-menu.lisp
MAKE-HITMODELS-DICTIONARY
>saf>interface>model-menu.lisp
WITH-AUTOMATIC-LOGIN
>saf>sys>macros.lisp
```

Description: None

2.7.3.36 ENQUEUE

Definition 36

```
>saf>sys>macros.lisp
Type: Macro
Arguments: (ITEM QUEUE)
Outputs:
Calls: ENQUEUE
>saf>sys>macros.lisp
Called by: PUT-MSG-IN-RETRANSMIT-QUEUE
>saf>rudp>outgoing.lisp
NET-MSG
>saf>rudp>outgoing.lisp
PROCESS-INCOMING-RUDP-PACKET
>saf>rudp>incoming.lisp
INIT-CONN-1
>saf>network>connection.lisp
QUEUE-FOR-UPDATE-PROCESS
>saf>sys>macros.lisp
ENQUEUE
>saf>sys>macros.lisp
```

Description: None

2.7.3.37 DEQUEUE

Definition 37

```
>saf>sys>macros.lisp
Type: Macro
Arguments: (QUEUE)
Outputs:
Calls: DEQUEUE
>saf>sys>macros.lisp
Called by: UPDATE-TOP-LEVEL-AUX
>saf>sys>update-process.lisp
DEQUEUE-OUTGOING
>saf>rudp>outgoing.lisp
PROCESS-OUTGOING-RUDP
>saf>rudp>outgoing.lisp
FLUSH-RUDP-RETRANSMIT-BUFFERS
>saf>rudp>outgoing.lisp
PROCESS-RECEIVED-PACKETS
```



```
>saf>rdp>incoming.lisp
FLUSH-RUDP-RECEIVE-BUFFERS
>saf>rdp>incoming.lisp
DO-ALL-QUEUED-REQUESTS
>saf>rdp>outgoing.lisp
DEQUEUE
>saf>sys>macros.lisp
```

Description: None

2.7.3.38 LAST-ITEM-ON

Definition 38

```
>saf>sys>macros.lisp
Type: Subst
Arguments: (QUEUE)
Outputs:
Calls: None
Called by: DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
Description: None
```

2.7.3.39 NEXT-ITEM-OFF

Definition 39

```
>saf>sys>macros.lisp
Type: Subst
Arguments: (QUEUE)
Outputs:
Calls: None
Called by: DEQUEUE-OUTGOING
>saf>rdp>outgoing.lisp
Description: None
```

2.7.3.40 MAPQUEUE

Definition 40

```
>saf>sys>macros.lisp
Type: Macro
Arguments: #'QUEUE
Outputs:
Calls: MAPQUEUE
>saf>sys>macros.lisp
Called by: RETRANSMIT-ALL-QUEUED-PACKETS
>saf>rdp>outgoing.lisp
MAPQUEUE
>saf>sys>macros.lisp
Description: None
```

2.7.3.41 QUEUE-LENGTH

Definition 41

>saf>sys>macros.lisp
Type: Subst
Arguments: (QUEUE)
Outputs:
Calls: None
Called by: None
Description: None

2.7.3.42 QUEUE-FOR-UPDATE-PROCESS

Definition 42

>saf>sys>macros.lisp
Type: Subst
Arguments: (EVENT)
Outputs:
Calls: *NETWORK-TO-UPDATE-PROCESS-QUEUE*
>saf>sys>vars.lisp
ENQUEUE
>saf>sys>macros.lisp
Called by: None
Description: None

2.7.3.43 *NAN*

Definition 43

>saf>sys>macros.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-POSITION-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-INDIRECT-FIRE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-GROUND-IMPACT-PKT
>saf>rudp>handle-incoming.lisp
NANP
>saf>sys>macros.lisp
Description: None

2.7.3.44 *BREAK-ON-NANS*

Definition 44

>saf>sys>macros.lisp
Type: Parameter
Arguments: ()

Outputs:

Calls: None

Called by: PROCESS-VEHICLE-PAE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-VEHICLE-POSITION-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-INDIRECT-FIRE-PKT

>saf>rudp>handle-incoming.lisp

PROCESS-GROUND-IMPACT-PKT

>saf>rudp>handle-incoming.lisp

Description: None

2.7.3.45 NANP

Definition 45

>saf>sys>macros.lisp

Type: Subst

Arguments: (NUMBER)

Outputs:

Calls: *NAN*

>saf>sys>macros.lisp

Called by: None

Description: None

2.7.4 CSU sys>reader-macros.lisp

Reader macros written in Common Lisp, used to store and load sandbox data types to and from disk files. The sandbox reader macro uses "?" as its dispatching macro character. The dispatching macro character syntax, described in Steele's *Common Lisp*, permits new dispatching macro combinations to be defined by the function set-dispatch-macro-character. This function is called here to associate the combination "#?" with the function sandbox-reader-macro. When this combination is encountered by the Lisp reader, it calls sandbox-reader-macro on the next form, to unpack the form into the appropriate structures. The function sandbox-printer, used when writing to a disk file, takes a structure and creates its print representation, complete with the initial "#?".

The reason that a more elaborate storage method, such as the one used in sys>new-storage.lisp, is not needed here is that the pointer linkages in the sandbox structures have no cycles, so a standard nested list print representation exists, and can be easily read back in by the Lisp reader.

2.7.4.1 GET-DEFSTRUCT-CONSTRUCTOR-MACRO-INFO

Definition 1

>saf>sys>reader-macros.lisp

Type: Function

Arguments: (STRUCTURE-NAME)

Outputs:

Calls: None

Called by: **SANDBOX-READER-MACRO**
 >saf>sys>reader-macros.lisp
Description: None

2.7.4.2 SANDBOX-READER-MACRO

Definition 2

 >saf>sys>reader-macros.lisp
Type: Function
Arguments: (STREAM CHAR ARG)
Outputs:
Calls: GET-DEFSTRUCT-CONSTRUCTOR-MACRO-INFO
 >saf>sys>reader-macros.lisp
 SAF
 >saf>ui>frame.lisp
Called by: None
Description: None

2.7.4.3 #

Definition 3

 >saf>sys>reader-macros.lisp
Type: SET-DISPATCH-MACRO-CHARACTER
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.7.4.4 DEFSTRUCT-ALL-SLOTS

Definition 4

 >saf>sys>reader-macros.lisp
Type: Function
Arguments: (TYPE)
Outputs:
Calls: None
Called by: DEFSTRUCT-SLOT-VAL-PAIRS
 >saf>sys>reader-macros.lisp
Description: None

2.7.4.5 DEFSTRUCT-ACCESSOR-PREFIX

Definition 5

 >saf>sys>reader-macros.lisp
Type: Function
Arguments: (TYPE)
Outputs:
Calls: None

Called by: DEFSTRUCT-SLOT-VAL-PAIRS
 >saf>sys>reader-macros.lisp
 Description: None

2.7.4.6 DEFSTRUCT-SLOT-VAL-PAIRS

Definition 6

 >saf>sys>reader-macros.lisp
 Type: Function
 Arguments: (STRUCT)
 Outputs:
 Calls: DEFSTRUCT-ALL-SLOTS
 >saf>sys>reader-macros.lisp
 DEFSTRUCT-ACCESSOR-PREFIX
 >saf>sys>reader-macros.lisp
 SAF
 >saf>ui>frame.lisp
 Called by: SANDBOX-PRINTER
 >saf>sys>reader-macros.lisp
 Description: None

2.7.4.7 SANDBOX-PRINTER

Definition 7

 >saf>sys>reader-macros.lisp
 Type: Function
 Arguments: (STRUCT STREAM CURRENT-DEPTH)
 Outputs:
 Calls: DEFSTRUCT-SLOT-VAL-PAIRS
 >saf>sys>reader-macros.lisp
 Called by: (PROPERTY SANDBOX-OBJECT NAMED-STRUCTURE-INVOKE)
 No Source File Record
 (PROPERTY SANDBOX NAMED-STRUCTURE-INVOKE)
 No Source File Record
 Description: None

2.7.5 CSU sys>cl-tv-patches .lisp

Various Common Lisp ("cl") fixes to the symbolics operating system to tailor it for the SAF application. The function opfor-CHOOSE-VARIABLE-VALUES, a minor rewrite of the Symbolics function CHOOSE-VARIABLE-VALUES, differs from the original only in that it doesn't put an exit box in its menus. This change is accomplished by removing the form (PUSH "Exit" MARGIN-CHOICES) with the #+ignore reader syntax, often used by SAF developers to delete forms.

The method opfor-TRIANGULATE-CONVEX-POLYGON, also a modification of a Symbolics method, draws a line or point, (with the last line of the "or") if the previous SEND SELF MESSAGE, an attempt to draw a triangle, failed and returned nil.

2.7.5.1 OPFOR-TEMPORARY-CHOOSE-VARIABLE-VALUES-WINDOW

Definition 1

>saf>sys>cl-tv-patches.lisp
Type: DEFWINDOW-RESOURCE
Arguments: ()
Outputs:
Calls: None
Called by: OPFOR-CHOOSE-VARIABLE-VALUES
>saf>sys>cl-tv-patches.lisp
Description: None

2.7.5.2 OPFOR-CHOOSE-VARIABLE-VALUES

Definition 2

>saf>sys>cl-tv-patches.lisp
Type: Function
Arguments: (VARIABLES &KEY (LABEL Choose Variable Values) FUNCTION
(NEAR-MODE '(MOUSE)) WIDTH
(EXTRA-WIDTH 10) (MAX-LINES CHOOSE-VARIABLE-VALUES-MAX-LINES)
MARGIN-CHOICES SUPERIOR)
Outputs:
Calls: OPFOR-TEMPORARY-CHOOSE-VARIABLE-VALUES-WINDOW
>saf>sys>cl-tv-patches.lisp
WARP-MOUSE-TO-DONE-BOX
>saf>sys>cl-tv-patches.lisp
OPFOR-CHOOSE-VARIABLE-VALUES-PROCESS-MESSAGE
>saf>sys>cl-tv-patches.lisp
Called by: WRITE-SANDBOX
>saf>sandbox>sandbox.lisp
SET-BOMB-PARAMETERS
>saf>network>commands.lisp
Description: None

2.7.5.3 WARP-MOUSE-TO-DONE-BOX

Definition 3

>saf>sys>cl-tv-patches.lisp
Type: Function
Arguments: (WINDOW)
Outputs:
Calls: None
Called by: OPFOR-CHOOSE-VARIABLE-VALUES
>saf>sys>cl-tv-patches.lisp
Description: None

2.7.5.4 (METHOD OPFOR-TRIANGULATE-CONVEX-POLYGON GRAPHICS-MIXIN)

Definition 4

>saf>sys>cl-tv-patches.lisp

Type: Method

Arguments: (MESSAGE ALU &REST POINTS)

Outputs:

Calls: None

Called by: None

Description: None

2.7.5.5 OPFOR-MENU-CHOOSE

Definition 5

>saf>sys>cl-tv-patches.lisp

Type: Function

Arguments: (ITEM-LIST &OPTIONAL (LABEL NIL) (NEAR-MODE '(MOUSE))
DEFAULT-ITEM (SUPERIOR MOUSE-SHEET))

Outputs:

Calls: None

Called by: None

Description: None

2.7.6 CSU sys>z1-tv-patches.lisp

Various Zeta Lisp ("zl") fixes to the symbolics operating system to tailor it for the SAF application. Of special interest is the modification to the MOUSE-DEFAULT-HANDLER. This change (the only part of the function coded in lower-case) arranges that, during each pass of its main loop, the handler checks the x coordinate of the mouse, and calls saf::consider-flipping if the mouse is near the left or right edge of the screen. This enables the mouse-warp feature; see CSU ui>mouse-interface.lisp, section 2.1.3, for more details.

2.7.6.1 MOUSE-DEFAULT-HANDLER

Definition 1

>saf>sys>z1-tv-patches.lisp

Type: Function

Arguments: (WINDOW &OPTIONAL SCROLL-BAR (MOUSE (IF (INSTANCEP
WINDOW) (SHEET-MOUSE WINDOW) MAIN-MOUSE)))

Outputs:

Calls: *NEW-INTERFACE-FLG*

>saf>ui>mouse-interface.lisp

NEW-INTERFACE-FLG

>saf>ui>mouse-interface.lisp

CONSIDER-FLIPPING

>saf>ui>mouse-interface.lisp

Called by: None

Description: None

2.7.6.2 WHO-LINE-NO-WINDOW-DOCUMENTATION

Definition 2

```

>saf>sys>zl-tv-patches.lisp
Type: Function
Arguments: (MOUSE)
Outputs:
Calls: None
Called by: None
Description: None

```

2.7.6.3 OPFOR-CHOOSE-VARIABLE-VALUES-PROCESS-MESSAGE

Definition 3

```

>saf>sys>zl-tv-patches.lisp
Type: Function
Arguments: (WINDOW MSG)
Outputs:
Calls: None
Called by: OPFOR-CHOOSE-VARIABLE-VALUES
>saf>sys>cl-tv-patches.lisp
Description: None

```

2.7.7 CSU fonts>character-style-defs.lisp

The definition of the SAF character style for logos, units, and menus. Notice that the mode-line for this file places it in the system-internals package (si:). The Symbolics character-style formalism allows a logical specification for a font to be used in place of a font-name. This specification is a form, such as (:dutch :bold :large), that provides keywords for the font's family, face, and size. The Symbolics function define-character-style-families allows new family, face, and size keywords to be created, and associated with named fonts, or with other logical font specifications. This function is called here to associate the following combinations with the fonts shown:

```

(:saf :icon :normal)      -> fonts:military-icons
(:saf :bluefor :normal)   -> fonts:bluefor-icons
(:saf :opfor :normal)     -> fonts:opfor-icons
(:saf :logo :normal)      -> fonts:janus-logos
(:saf :menu *)            -> (:style :dutch :bold :large)

```

For example, the function *draw-unit*, in CSU simnet-objects>draw-units.lisp, uses the form '(:saf :icon :normal) to get the military-icons font.

The * in the :menu face specification is a wild-card that matches any size. For more information on character-styles, see the Symbolics Manuals.

2.7.7.1 *B&W-SCREEN*

Definition 1

```

>saf>fonts>character-style-defs.lisp
Type: DEFINE-CHARACTER-STYLE-FAMILIES
Arguments: ()

```


Outputs:
Calls: None
Called by: None
Description: None

2.7.8 CSU fonts>janus-logos.bfd

Font containing the BBN logo. This font contains two images, corresponding to the characters B and I. The B image is the BBN logo; the I image is an acronym from a previous project. Neither image is currently used in any SAF display.

2.7.9 CSU fonts>military-icons.bfd

Font containing general military unit icons. For more information about fonts and military symbols, see section 2.4.3.2, CSU fonts>bluefor-icons.bfd.

2.7.10 CSU ui>parameter-menus.lisp

This unit contains code that handles the Set Opfor Parameters menus which allow certain special parameters to be set during an exercise. This is accomplished using the Symbolics function choose-user-options. Some SAF subsystems have a global options variable that effectively lists their special parameters. This variable is passed as an argument to choose-user-options. These calls to choose-user-options are combined in a menu definition form that is used as an argument of the Symbolics utility tv:menu-choose, in the function robo-cop-control. This function is attached to the CP command com-robo-cop-control by a call to cp:define-command, in the file ui>commands.lisp, enabling the user to activate the Set Opfor Parameters feature by typing robo-cop-control on the Lisp command line.

2.7.10.1 *ROBO-COP-CONTROL*

Definition 1

>saf>ui>parameter-menus.lisp
Type: Parameter
Arguments: ()
Outputs:
Calls: None
Called by: ROBO-COP-CONTROL
>saf>ui>parameter-menus.lisp
Description: None

2.7.10.2 *ROBO-COP-CONTROL*

Definition 2

>saf>ui>parameter-menus.lisp
Type: SETQ
Arguments: ()
Outputs:
Calls: None

Called by: ROBO-COP-CONTROL
>saf>ui>parameter-menus.lisp
Description: None

2.7.10.3 ROBO-COP-CONTROL

Definition 3

>saf>ui>parameter-menus.lisp
Type: Function
Arguments: ()
Outputs:
Calls: *ROBO-COP-CONTROL*
>saf>ui>parameter-menus.lisp
ROBO-COP-CONTROL
>saf>ui>parameter-menus.lisp
Called by: COM-SET-OPFOR-PARAMETERS
>saf>ui>commands.lisp
COM-ROBO-COP-CONTROL
>saf>ui>commands.lisp
Description: None

2.7.11 CSU sys>interim-model.lisp

This unit contains the functionality to read certain formation and CIS data files from the Simhost, and the accessors to that data. This data has to be accessible both to the Simhost and to the Workstation. Because of the way the Symbolics handles file transfers, it is easier for the Symbolics to read unix-resident data from the Simhost than for the Simhost to read Genera-resident data from the Symbolics; this explains why shared SAF data is usually kept on the Simhost.

The data constitute a "model" of formation and control-measure information; the model chosen was once viewed as temporary, hence the name "interim-model".

2.7.11.1 *OPFOR-FORMATIONS-PATH*

Definition 1

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.2 *BLUEFOR-FORMATIONS-PATH*

Definition 2

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.3 *OPFOR-ECHELONS-PATH*

Definition 3

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.4 *BLUEFOR-ECHELONS-PATH*

Definition 4

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.5 *OPFOR-CIS-PATH*

Definition 5

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.6 *BLUEFOR-CIS-PATH*

Definition 6

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.7 *MAPPINGS-PATH*

Definition 7

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
Description: None

2.7.11.8 *OPFOR-FORMATIONS*

Definition 8

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.9 *BLUEFOR-FORMATIONS*

Definition 9

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.10 *OPFOR-ECHELONS*

Definition 10

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.11 *BLUEFOR-ECHELONS*

Definition 11

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.12 *MAPPINGS-ALIST*

Definition 12

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
MAP-ECHELON-TYPE-TO-ICON
>saf>sys>interim-model.lisp
MAP-ECHELON-TYPE-TO-NUMBER
>saf>sys>interim-model.lisp
MAP-ECHELON-TO-NUMBER
>saf>sys>interim-model.lisp
MAP-NUMBER-TO-ECHELON
>saf>sys>interim-model.lisp
MAP-NUMBER-TO-ICON
>saf>sys>interim-model.lisp
Description: None

2.7.11.13 *OPFOR-CIS-DATA*

Definition 13

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-CISS
>saf>sys>interim-model.lisp
Description: None

2.7.11.14 *BLUEFOR-CIS-DATA*

Definition 14

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
GET-RIGHT-CISS
>saf>sys>interim-model.lisp
Description: None

2.7.11.15 *HOST-FOR-CONFIG-DATA*

Definition 15

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
READ-CONFIGURATION-FILE
>saf>interface>formations.lisp
REVERT-TO-FACTORY-FILE
>saf>interface>object-menu.lisp
WRITE-OBJECT-FILE
>saf>interface>object-menu.lisp
READ-OBJECT-FILE
>saf>interface>object-menu.lisp
WRITE-DIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
WRITE-INDIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
WRITE-DETECTION-DATA
>saf>interface>model-menu.lisp

```
WRITE-HIT-DATA
>saf>interface>model-menu.lisp
READ-DIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-INDIRECT-FIRE-DAMAGE-DATA
>saf>interface>model-menu.lisp
READ-AIR-DETECTION-DATA
>saf>interface>model-menu.lisp
READ-GROUND-DETECTION-DATA
>saf>interface>model-menu.lisp
READ-HIT-DATA
>saf>interface>model-menu.lisp
MAKE-HITMODELS-DICTIONARY
>saf>interface>model-menu.lisp
SELECT-TABLE
>saf>interface>model-menu.lisp
SELECT-HOST
>saf>interface>model-menu.lisp
REVERT-TO-FACTORY-VERSION
>saf>interface>model-menu.lisp
READ-DATA-FILE
>saf>sys>interim-model.lisp
```

Description: None

2.7.11.16 READ-DATA-FILE

Definition 16

```
>saf>sys>interim-model.lisp
Type: Macro
Arguments: (FILENAME)
Outputs:
Calls: WITH-OPEN-FILE-ON-BUTTERFLY
>saf>sys>macros.lisp
*HOST-FOR-CONFIG-DATA*
>saf>sys>interim-model.lisp
READ-DATA-FILE
>saf>sys>interim-model.lisp
Called by: GET-FORMATION-DATA
>saf>sys>interim-model.lisp
READ-DATA-FILE
>saf>sys>interim-model.lisp
```

Description: None

2.7.11.17 GET-FORMATION-DATA

Definition 17

```
>saf>sys>interim-model.lisp
Type: Function
Arguments: (&OPTIONAL (FORCE NIL) &KEY (HOST NIL))
Outputs:
```

Calls: WITH-AUTOMATIC-LOGIN

```
>saf>sys>macros.lisp
WITH-OPEN-FILE-ON-BUTTERFLY
>saf>sys>macros.lisp
HANDLE-LOGIN
>saf>sys>macros.lisp
*OPFOR-FORMATIONS-PATH*
>saf>sys>interim-model.lisp
*BLUEFOR-FORMATIONS-PATH*
>saf>sys>interim-model.lisp
*OPFOR-ECHELONS-PATH*
>saf>sys>interim-model.lisp
*BLUEFOR-ECHELONS-PATH*
>saf>sys>interim-model.lisp
*OPFOR-CIS-PATH*
>saf>sys>interim-model.lisp
*BLUEFOR-CIS-PATH*
>saf>sys>interim-model.lisp
*MAPPINGS-PATH*
>saf>sys>interim-model.lisp
*OPFOR-FORMATIONS*
>saf>sys>interim-model.lisp
*BLUEFOR-FORMATIONS*
>saf>sys>interim-model.lisp
*OPFOR-ECHELONS*
>saf>sys>interim-model.lisp
*BLUEFOR-ECHELONS*
>saf>sys>interim-model.lisp
*MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
*OPFOR-CIS-DATA*
>saf>sys>interim-model.lisp
*BLUEFOR-CIS-DATA*
>saf>sys>interim-model.lisp
*HOST-FOR-CONFIG-DATA*
>saf>sys>interim-model.lisp
READ-DATA-FILE
>saf>sys>interim-model.lisp
SAF
>saf>ui>frame.lisp
```

Called by: MAYBE-LOAD-FORMATION-DATA

```
>saf>bmi>utilities.lisp
(METHOD GET-TEMPLATE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
INITIALIZE-CONNECTION
>saf>network>connection.lisp
```

Description: gets the formation data and sets variables to it

2.7.11.18 *OPFOR-SYNONYMS*

Definition 18

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: TEAM-WARSAW-PACT
>saf>sys>constants.lisp
TACTICS-WARSAW
>saf>network>vars.lisp
OPFOR
>saf>network>vars.lisp
Called by: GET-RIGHT-CISS
>saf>sys>interim-model.lisp
GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
GET-RIGHT-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.19 *BLUEFOR-SYNONYMS*

Definition 19

>saf>sys>interim-model.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: TEAM-NATO
>saf>sys>constants.lisp
TACTICS-NATO
>saf>network>vars.lisp
BLUEFOR
>saf>network>vars.lisp
Called by: GET-RIGHT-CISS
>saf>sys>interim-model.lisp
GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
GET-RIGHT-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.20 GET-RIGHT-FORMATIONS

Definition 20

>saf>sys>interim-model.lisp
Type: Function
Arguments: (TACTICS)
Outputs:

Calls: *OPFOR-FORMATIONS*
>saf>sys>interim-model.lisp
BLUEFOR-FORMATIONS
>saf>sys>interim-model.lisp
OPFOR-SYNONYMS
>saf>sys>interim-model.lisp
BLUEFOR-SYNONYMS
>saf>sys>interim-model.lisp
Called by: FIND-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.21 GET-RIGHT-ECHELONS

Definition 21

>saf>sys>interim-model.lisp
Type: Function
Arguments: (TACTICS)
Outputs:
Calls: *OPFOR-ECHELONS*
>saf>sys>interim-model.lisp
BLUEFOR-ECHELONS
>saf>sys>interim-model.lisp
OPFOR-SYNONYMS
>saf>sys>interim-model.lisp
BLUEFOR-SYNONYMS
>saf>sys>interim-model.lisp
Called by: (METHOD GET-TEMPLATE SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
GET-VEHICLE-ECHELONS-AND-TYPES
>saf>sys>interim-model.lisp
Description: None

2.7.11.22 GET-RIGHT-CISS

Definition 22

>saf>sys>interim-model.lisp
Type: Function
Arguments: (TACTICS)
Outputs:
Calls: *OPFOR-CIS-DATA*
>saf>sys>interim-model.lisp
BLUEFOR-CIS-DATA
>saf>sys>interim-model.lisp
OPFOR-SYNONYMS
>saf>sys>interim-model.lisp
BLUEFOR-SYNONYMS
>saf>sys>interim-model.lisp

Called by: CISS-FOR-CONTROL-MEASURE

>saf>sys>interim-model.lisp

CISS-FOR-ECHELON

>saf>sys>interim-model.lisp

Description: None

2.7.11.23 FIND-FORMATIONS

Definition 23

>saf>sys>interim-model.lisp

Type: Function

Arguments: (ECHELON TYPE &OPTIONAL (ALIGNMENT 'OPFOR))

Outputs:

Calls: GET-RIGHT-FORMATIONS

>saf>sys>interim-model.lisp

MAP-ECHELON-TYPE-TO-ICON

>saf>sys>interim-model.lisp

OPFOR

>saf>network>vars.lisp

Called by: (METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)

>saf>bmi>bmi-frame.lisp

BMI-FIND-FORMATIONS

>saf>bmi>bmi-frame.lisp

(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

Description: returns a list of unit's formations for the passed alignment

2.7.11.24 GET-TYPES-FOR-ECHELON

Definition 24

>saf>sys>interim-model.lisp

Type: Function

Arguments: (DATA-SUB-LIST)

Outputs:

Calls: None

Called by: GET-ECHELON-AND-TYPES

>saf>sys>interim-model.lisp

Description: None

2.7.11.25 GET-ECHELON-AND-TYPES

Definition 25

>saf>sys>interim-model.lisp

Type: Function

Arguments: (DATA-SUB-LIST)

Outputs:

Calls: GET-TYPES-FOR-ECHELON

>saf>sys>interim-model.lisp

Called by: GET-VEHICLE-ECHELONS-AND-TYPES
>saf>sys>interim-model.lisp
Description: None

2.7.11.26 GET-VEHICLE-ECHELONS-AND-TYPES

Definition 26

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ALIGNMENT)
Outputs:
Calls: GET-RIGHT-ECHELONS
>saf>sys>interim-model.lisp
GET-ECHELON-AND-TYPES
>saf>sys>interim-model.lisp
Called by: FIND-ALL-FWA-ECHELONS
>saf>bmi>bmi-frame.lisp
GET-ECHELON-TYPES
>saf>bmi>bmi-frame.lisp
ALL-ECHELONS
>saf>bmi>bmi-frame.lisp
Description: None

2.7.11.27 CAR-EQL

Definition 27

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ITEM TARGET)
Outputs:
Calls: None
Called by: REV-ASSOC
>saf>sys>interim-model.lisp
Description: None

2.7.11.28 REV-ASSOC

Definition 28

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ITEM ALIST)
Outputs:
Calls: CAR-EQL
>saf>sys>interim-model.lisp
Called by: MAP-NUMBER-TO-ECHELON
>saf>sys>interim-model.lisp
MAP-NUMBER-TO-ICON
>saf>sys>interim-model.lisp
Description: None

2.7.11.29 MAP-NUMBER-TO-ICON

Definition 29

>saf>sys>interim-model.lisp
Type: Function
Arguments: (NUMBER)
Outputs:
Calls: *MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
REV-ASSOC
>saf>sys>interim-model.lisp
Called by: PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-APPEARANCE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.7.11.30 MAP-NUMBER-TO-ECHELON

Definition 30

>saf>sys>interim-model.lisp
Type: Function
Arguments: (NUMBER)
Outputs:
Calls: *MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
REV-ASSOC
>saf>sys>interim-model.lisp
Called by: PROCESS-VEHICLE-PAE-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-VEHICLE-ECHELON-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.7.11.31 MAP-ECHELON-TO-NUMBER

Definition 31

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ECHELON)
Outputs:
Calls: *MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
Called by: CREATE-STORED-INSTANCE
>saf>sys>new-storage.lisp
REALLY-MAKE-SANDBOX-OBJECT
>saf>bmi>bmi-frame.lisp
Description: None

2.7.11.32 MAP-ECHELON-TYPE-TO-NUMBER

Definition 32

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ECHELON-TYPE)
Outputs:
Calls: *MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
Called by: CREATE-STORED-INSTANCE
>saf>sys>new-storage.lisp
REALLY-MAKE-SANDBOX-OBJECT
>saf>bmi>bmi-frame.lisp
Description: None

2.7.11.33 MAP-ECHELON-TYPE-TO-ICON

Definition 33

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ECHELON-TYPE)
Outputs:
Calls: *MAPPINGS-ALIST*
>saf>sys>interim-model.lisp
Called by: DRAW-SANDBOX-UNIT
>saf>sandbox>sandbox-object.lisp
ERASE-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
DRAW-SANDBOX-OBJECT
>saf>sandbox>sandbox-object.lisp
FIND-FORMATIONS
>saf>sys>interim-model.lisp
Description: None

2.7.11.34 GET-CIS-KEY

Definition 34

>saf>sys>interim-model.lisp
Type: Function
Arguments: (AGENT)
Outputs:
Calls: None
Called by: CISS-FOR-CONTROL-MEASURE
>saf>sys>interim-model.lisp
Description: None

2.7.11.35 CISS-FOR-ECHELON

Definition 35

>saf>sys>interim-model.lisp
Type: Function
Arguments: (ECHELON TACTICS)
Outputs:
Calls: GET-RIGHT-CISS
>saf>sys>interim-model.lisp
Called by: (METHOD POSSIBLE-CISS SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
Description: None

2.7.11.36 CISS-FOR-CONTROL-MEASURE

Definition 36

>saf>sys>interim-model.lisp
Type: Function
Arguments: (CM CURRENT-UNITS)
Outputs:
Calls: MENU-CHOOSE
>saf>sys>utilities.lisp
GET-RIGHT-CISS
>saf>sys>interim-model.lisp
GET-CIS-KEY
>saf>sys>interim-model.lisp
POINT
>saf>interface>model-menu.lisp
WORKSTATION-ALIGNMENT
>saf>bmi>bmi-frame.lisp
CM-POINT
>saf>cm>point.lisp
CM-POINT
>saf>cm>point.lisp
CM-POINT
>saf>cm>point.lisp
POINT
>saf>interface>model-menu.lisp
Called by: (PRESENTATION-FUNCTION CIS-FOR-CM PARSER)
No Source File Record
Description: Returns a list suitable for framing (in a menu)

2.8 UTILITIES CSC

The following CSUs in the Utilities CSC provide utilities used by the other CSCs.

```
sys>utilities.lisp csu
sys>time.lisp csu
sys>dw-presentation-types.lisp csu
```

2.8.1 CSU sys>utilities.lisp

This unit contains a few miscellaneous functions, some of which are useful for developing and debugging. The function `delete-displayed-presentation` deletes the history data, automatically created by the Symbolics software for any dynamic window, so that the ephemeral garbage collector (EGC) can reclaim the memory. This is necessary because the history data, which SAF doesn't need, eventually clogs memory, slows down performance, and, if the Symbolics runs out of memory, can even crash the machine.

The function `format-coordinates` translates between the various coordinate systems and formats used by SAF. These are mouse coordinates, which correspond to pixel positions on the screen, world coordinates, measured in meters from the lower left corner of the terrain, and UTM coordinates, the military coordinate system that uses strings like "ES500600". UTM (Universal Transverse Mercator) coordinates, are documented in the Defense Mapping Agency document DMA TM 8358.1, entitled "Datums, Ellipsoids, Grids, and Grid Reference Systems".

This unit also contains the function `draw-stealth`, which draws the stealth vehicle, and a few speed conversion utilities.

2.8.1.1 FV

Definition 1

```
>saf>sys>utilities.lisp
Type: Function
Arguments: (ID)
Outputs:
Calls: *POLL-WHERE-ARE-THEY-FLAG*
       >saf>sys>vars.lisp
       *INTERFACE-TO-UPDATE-PROCESS-QUEUE*
       >saf>sys>vars.lisp
       ADD-TO-UPDATE-QUEUE
       >saf>sys>macros.lisp
       GET-VEHICLE
       >saf>simnet-objects>vehicle-tracking.lisp
Called by: (METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)
           >saf>objects>simnet-agent.lisp
Description: None
```


2.8.1.2 DELETE-DISPLAYED-PRESENTATION

Definition 2

>saf>sys>utilities.lisp
Type: Function
Arguments: (PRESENTATION STREAM)
Outputs:
Calls: DELETE-DISPLAYED-PRESENTATION
 >saf>sys>utilities.lisp
Called by: (METHOD ERASE CM-POINT)
 >saf>cm>point.lisp
 (METHOD ERASE CONTROL-MEASURE-POINT)
 >saf>cm>control-measure-point.lisp
 (METHOD ERASE-NAME CONTROL-MEASURE)
 >saf>cm>control-measure.lisp
 (NCWHOPPER ERASE SIMNET-AGENT)
 No Source File Record
 DELETE-DISPLAYED-PRESENTATION
 >saf>sys>utilities.lisp
Description: None

2.8.1.3 MENU-CHOOSE

Definition 3

>saf>sys>utilities.lisp
Type: Function
Arguments: (CHOICES LABEL &OPTIONAL (STYLE '(SAF MENU NORMAL)))
Outputs:
Calls: None
Called by: READ-OBJECT-FILE
 >saf>interface>object-menu.lisp
 SELECT-HOST
 >saf>interface>model-menu.lisp
 (PRESENTATION-FUNCTION COMBAT-INSTRUCTION-SET PARSER)
 No Source File Record
 RUN-BATTALION-OPS
 >saf>ui>task-org.lisp
 CHOOSE-AN-OVERLAY
 >saf>cm>overlay.lisp
 (METHOD OVERLAY-OPS OVERLAY)
 >saf>cm>overlay.lisp
 (METHOD ADD-NEW-CONTROL-MEASURE OVERLAY)
 >saf>cm>overlay.lisp
 MAKE-ROUTE
 >saf>cm>route.lisp
 (METHOD CHECK-ROUTE-SEGMENT ROUTE)
 >saf>cm>route.lisp
 (METHOD INSERT-POINT-BEFORE ROUTE)
 >saf>cm>route.lisp
 (METHOD INSERT-POINT-AFTER ROUTE)
 >saf>cm>route.lisp
 (PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-GESTURE)
 No Source File Record

(PRESENTATION-MOUSE-HANDLER CONTROL-MEASURE-LABEL-GESTURE)

No Source File Record

(PRESENTATION-FUNCTION CIS-FOR-CM PARSE)

No Source File Record

(PRESENTATION-FUNCTION UNIT PARSE)

No Source File Record

(METHOD INTERVENE SIMNET-AGENT ENROUTE-MOVEMENT)

>saf>objects>intervention.lisp

(METHOD INTERVENE SIMNET-AGENT HOLD)

>saf>objects>intervention.lisp

(METHOD IMMEDIATE-INTERVENTION SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

(METHOD MOUSE-GESTURE-MENU SIMNET-AGENT)

>saf>objects>simnet-agent.lisp

CISS-FOR-CONTROL-MEASURE

>saf>sys>interim-model.lisp

Description: None

2.8.1.4 '(FORMAT-COORDINATES SC WC)

Definition 4

>saf>sys>utilities.lisp

Type: EXPORT

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.8.1.5 FORMAT-COORDINATES

Definition 5

>saf>sys>utilities.lisp

Type: Function

Arguments: (X Y &OPTIONAL &KEY (FROM 'SC) (TO *DEFAULT-OUTPUT-COORDINATE-SYSTEM*))

Outputs:

Calls: *DEFAULT-OUTPUT-COORDINATE-SYSTEM*

>saf>sys>vars.lisp

PVD-DISPLAY

>saf>sys>vars.lisp

Called by: GET-ELEVATION

>saf>ui>commands.lisp

(NCWHOPPER WHO-LINE-DOCUMENTATION-STRING MAP-WINDOW)

No Source File Record

(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION MAP-WINDOW)

No Source File Record

(NCWHOPPER SET-HIGHLIGHTED-PRESENTATION TASK-ORG-PANE)

No Source File Record

(METHOD INTERVENE SIMNET-AGENT ATTACK)

>saf>objects>intervention.lisp

```
(METHOD INTERVENE SIMNET-AGENT LAND)
>saf>objects>intervention.lisp
(METHOD SHOW-VEHICLE-INFO SIMNET-AGENT)
>saf>objects>simnet-agent.lisp
PROCESS-IVIS-SHELL-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-CONTACT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-SUB-STATE-PKT
>saf>rudp>handle-incoming.lisp
```

Description: return a string that can be display to the user which contains the desired coordinates

2.8.1.6 DRAW-STEALTH

Definition 6

```
>saf>sys>utilities.lisp
Type: Function
Arguments: (X Y BEARING ALU)
Outputs:
Calls: WITH-INTEGER-CONVERSION-MODE
       >map>utilities.lisp
       WITH-MAP-GRAPHICS
       >map>utilities.lisp
       WITH-FAST-MAP-GRAPHICS
       >map>utilities.lisp
        $\pi$ 
       >saf>sys>constants.lisp
       *PVD-DISPLAY*
       >saf>sys>vars.lisp
Called by: PROCESS-STEALTH-POS-PKT
          >saf>rudp>handle-incoming.lisp
Description: None
```

2.8.1.7 M/SEC-TO-SPEED

Definition 7

```
>saf>sys>utilities.lisp
Type: Function
Arguments: (M/SEC &OPTIONAL (UNITS *LAST-UNITS-SPEED*))
Outputs:
Calls: *LAST-UNITS-SPEED*
       >saf>sys>vars.lisp
Called by: (METHOD REVIEW-DATA LINE)
          >saf>cm>line.lisp
          (METHOD REVIEW-DATA CM-POINT)
          >saf>cm>point.lisp
Description: None
```

2.8.1.8 SPEED-TO-M/SEC

Definition 8

>saf>sys>utilities.lisp
Type: Function
Arguments: (SPEED &OPTIONAL (UNITS *LAST-UNITS-SPEED*))
Outputs:
Calls: *LAST-UNITS-SPEED*
>saf>sys>vars.lisp
Called by: (METHOD REVIEW-DATA LINE)
>saf>cm>line.lisp
(METHOD REVIEW-DATA CM-POINT)
>saf>cm>point.lisp
(METHOD INTERVENE SIMNET-AGENT SPEED)
>saf>objects>intervention.lisp
Description: None

2.8.2 CSU sys>time.lisp

This unit contains some routines to deal with time and conversion from 60ths of a second or seconds since 1900 into meaningful times for the user. These routines are used to synchronize the Symbolics machine with the Simhost, and to convert the Symbolics time measurement into military time.

2.8.2.1 REL-ETIME-TO-SYMBOLICS-TIME

Definition 1

>saf>sys>time.lisp
Type: Function
Arguments: (ETIME)
Outputs:
Calls: *ETIME*
>saf>sys>vars.lisp
Called by: REL-ETIME-TO-BFLY-TIME
>saf>sys>time.lisp
Description: None

2.8.2.2 SYMBOLICS-TIME-TO-BFLY-TIME

Definition 2

>saf>sys>time.lisp
Type: Function
Arguments: (SYM-TIME)
Outputs:
Calls: *BFLY-TIME-OFFSET*
>saf>sys>vars.lisp
Called by: REL-ETIME-TO-BFLY-TIME
>saf>sys>time.lisp
Description: None

2.8.2.3 REL-ETIME-TO-BFLY-TIME

Definition 3

>saf>sys>time.lisp
Type: Function
Arguments: (ETIME)
Outputs:
Calls: REL-ETIME-TO-SYMBOLICS-TIME
 >saf>sys>time.lisp
 SYMBOLICS-TIME-TO-BFLY-TIME
 >saf>sys>time.lisp
Called by: None
Description: None

2.8.2.4 WALL-TIME-TO-REL-ETIME

Definition 4

>saf>sys>time.lisp
Type: Function
Arguments: (WALL-TIME)
Outputs:
Calls: *ETIME*
 >saf>sys>vars.lisp
Called by: None
Description: None

2.8.2.5 TIME-COMPARE

Definition 5

>saf>sys>time.lisp
Type: Function
Arguments: (TIME-1 TIME-2)
Outputs:
Calls: None
Called by: None
Description: None

2.8.2.6 MONTHS-ARRAY

Definition 6

>saf>sys>time.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: MILITARY-TIME-STRING-FROM-UNIVERSAL-TIME
 >saf>sys>time.lisp
 MILITARY-TIME-STRING-FROM-BFLY-NUMBER
 >saf>sys>time.lisp
Description: None

2.8.2.7 MILITARY-TIME-STRING-FROM-BFLY-NUMBER

Definition 7

>saf>sys>time.lisp
Type: Function
Arguments: (BFLY-NUMBER)
Outputs:
Calls: *BFLY-TIME-OFFSET*
>saf>sys>vars.lisp
MONTHS-ARRAY
>saf>sys>time.lisp
Called by: PROCESS-IVIS-SHELL-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-SPOT-PKT
>saf>rudp>handle-incoming.lisp
PROCESS-IVIS-CONTACT-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.8.2.8 MILITARY-TIME-STRING-FROM-UNIVERSAL-TIME

Definition 8

>saf>sys>time.lisp
Type: Function
Arguments: (UNIVERSAL-TIME)
Outputs:
Calls: MONTHS-ARRAY
>saf>sys>time.lisp
Called by: DATE-TIME-GROUP
>saf>sys>time.lisp
Description: None

2.8.2.9 DATE-TIME-GROUP

Definition 9

>saf>sys>time.lisp
Type: DEFF
Arguments: ()
Outputs:
Calls: MILITARY-TIME-STRING-FROM-UNIVERSAL-TIME
>saf>sys>time.lisp
Called by: PROCESS-GENERIC-MESSAGE-PKT
>saf>rudp>handle-incoming.lisp
Description: None

2.8.3 CSU sys>dw-presentation-types.lisp

This unit contains a few definitions of sensitive presentation types which are built upon by other modules. Notice that the mode line, the first line of the file (bracketed by the string "-*.-") declares this file to be a part of the package DYNAMIC-WINDOWS. The presentation type type-or-token is a rewrite of the Symbolics presentation-type token-or-type. Type-or-

token simply presents the type and the token in the other order, type first. The difference is in the order of the two arguments of the "or" in the form:

```
(or ,otherwise-type
    ((alist-member :alist ,(special-token-set special-tokens))
     :description "token"))
```

2.8.3.1 '(TYPE-OR-TOKEN TYPE-OR-NULL TYPE-OR-NO-CHANGE) Definition 1

```
>saf>sys>dw-presentation-types.lisp
Type: EXPORT
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.8.3.2 TYPE-OR-TOKEN Definition 2

```
>saf>sys>dw-presentation-types.lisp
Type: DEFINE-PRESENTATION-TYPE
Arguments: ()
Outputs:
Calls: None
Called by: (PRESENTATION-FUNCTION TYPE-OR-NO-CHANGE DATA-TYPE-
EQUIVALENT-STACK)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-NO-CHANGE DATA-TYPE-
EQUIVALENT)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-NULL DATA-TYPE-EQUIVALENT-
STACK)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-NULL DATA-TYPE-EQUIVALENT)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-TOKEN DATA-TYPE-
EQUIVALENT-STACK)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-TOKEN DATA-TYPE-
EQUIVALENT)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-TOKEN DO-COMPILER-
WARNINGS)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-TOKEN ACCEPT-VALUES-
DISPLAYER)
          No Source File Record
          (PRESENTATION-FUNCTION TYPE-OR-TOKEN PRESENTATION-TYPE-
PRINTER)
          No Source File Record
```

(PRESENTATION-FUNCTION TYPE-OR-TOKEN PRINTER)

No Source File Record

(PROPERTY TYPE-OR-TOKEN DEFTYPE)

No Source File Record

Description: None

2.8.3.3 TYPE-OR-NULL

Definition 3

>saf>sys>dw-presentation-types.lisp

Type: DEFINE-PRESENTATION-TYPE

Arguments: ()

Outputs:

Calls: None

Called by: (PRESENTATION-FUNCTION LOCAL-UNIT DATA-TYPE-EQUIVALENT-STACK)

No Source File Record

(PRESENTATION-FUNCTION LOCAL-UNIT DATA-TYPE-EQUIVALENT)

No Source File Record

(PRESENTATION-FUNCTION TYPE-OR-NULL DATA-TYPE-EQUIVALENT-STACK)

No Source File Record

(PRESENTATION-FUNCTION TYPE-OR-NULL DATA-TYPE-EQUIVALENT)

No Source File Record

(PROPERTY TYPE-OR-NULL DEFTYPE)

No Source File Record

Description: None

2.8.3.4 TYPE-OR-NO-CHANGE

Definition 4

>saf>sys>dw-presentation-types.lisp

Type: DEFINE-PRESENTATION-TYPE

Arguments: ()

Outputs:

Calls: None

Called by: (METHOD CHOOSE-SUB-TASK-PARAMETERS SUB-TASK)

>saf>ui>subordinate-tasking.lisp

(PRESENTATION-FUNCTION CM-SPEED DATA-TYPE-EQUIVALENT)

No Source File Record

(PRESENTATION-FUNCTION CM-CIS DATA-TYPE-EQUIVALENT-STACK)

No Source File Record

(PRESENTATION-FUNCTION CM-CIS DATA-TYPE-EQUIVALENT)

No Source File Record

(PRESENTATION-FUNCTION TYPE-OR-NO-CHANGE DATA-TYPE-EQUIVALENT-STACK)

No Source File Record

(PRESENTATION-FUNCTION TYPE-OR-NO-CHANGE DATA-TYPE-EQUIVALENT)

No Source File Record
(PROPERTY TYPE-OR-NO-CHANGE DEFTYPE)

No Source File Record

Description: None

2.9 COMPILATION AND INSTALLATION CSC

This CSC contains the files which define the Symbolics systems making up the SAF Workstation CSCI. These systems are used by Genera tools to compile new versions of the system, load old versions, distribute software, etc. The code in the SAF Workstation CSCI is organized into two systems, the Map system and the saf system. Each system has a system file, a translations file, and a system declaration file, sometimes called sysdcl.lisp. These files are used by Genera to compile and load the systems, and to build Lisp worlds. See the Symbolics manuals for details. The translations file contains site-specific definitions of logical pathnames. To maintain maximum portability, all path names used in the SAF code are logical; their actual meanings are encapsulated in the translations file. The system declaration file contains the defsystem form that actually determines which Lisp files get loaded to create the system.

This CSC contains the following CSUs:

```
sys>site>saf.system csu
sys>site>saf.translations csu
sys>site>map.system csu
sys>site>map.translations csu
saf>sysdcl.lisp csu
map>defsystem.lisp csu
saf>lispm-init.lisp csu
```

2.9.1 CSU sys>site>saf.system

The system file for the SAF system.

2.9.2 CSU sys>site>saf.translations

The translations file for the SAF system. Translation files always contain a call to the function fs:set-logical-pathname-host; this defines the logical pathnames needed by the specific system.

2.9.3 CSU sys>site>map.system

The system file for the Map system. Notice the sct:set-system-source-file call, that specifies map>defsystem.lisp as the system declarations file for the map system.

2.9.4 CSU sys>site>map.translations

The translations file for the Map system.

2.9.5 CSU saf>sysdcl.lisp

The system declarations file for the SAF system.

2.9.5.1 NAME

Definition 1

```
>saf>sysdcl.lisp
Type: MAKE-AREA
Arguments: ()
Outputs:
Calls: None
Called by: IP-FIND-NETWORK-GATEWAYS
>rel-7-2>ip-tcp>patch>ip-tcp-67>ip-tcp-67-4.lisp
MAKE-INTERNET-FILES
>rel-7-2>ip-tcp>distribution.lisp
IP-PEEK-SUBNET-NAME
>rel-7-2>ip-tcp>ip-routing.lisp
ARROW-CONTROL-MEASURE
>map>control.lisp
UNIT-BOUNDARY
>map>control.lisp
LINE-CONTROL-MEASURE
>map>control.lisp
BATTLE-POSITION
>map>control.lisp
AREA-CONTROL-MEASURE
>map>control.lisp
MAKE-IND-FIR-TABLE
>saf>interface>model-menu.lisp
MAKE-HIT-TABLE
>saf>interface>model-menu.lisp
USER-SELECT-MODEL
>saf>interface>model-menu.lisp
CHOOSE-OVERLAYS-TO-DELETE
>saf>sys>new-storage.lisp
CHOOSE-SCENARIOS-TO-DELETE
>saf>sys>new-storage.lisp
LOAD-SCENARIO
>saf>sys>new-storage.lisp
LOAD-OVERLAY
>saf>sys>new-storage.lisp
STORE-SCENARIO
>saf>sys>new-storage.lisp
MAKE-OPS-BUTTON
>saf>ui>opord.lisp
MAKE-SUBPARAGRAPH
>saf>ui>opord.lisp
MAKE-PARAGRAPH
>saf>ui>opord.lisp
EXECUTE-IN-NEW-INTERFACE
>saf>ui>mouse-interface.lisp
DYING-PROCESS
```

```
>saf>ui>processes.lisp
NAMES-OF-DISK-SANDBOXES
>saf>sandbox>utilities.lisp
MAKE-SANDBOX
>saf>sandbox>sandbox.lisp
MAKE-OVERLAY
>saf>cm>overlay.lisp
(METHOD COPY ZONE)
>saf>cm>zone.lisp
(METHOD COPY AREA)
>saf>cm>area.lisp
(METHOD INSERT-POINT-AFTER GENERIC-AREA)
>saf>cm>generic-area.lisp
(METHOD COPY LINE)
>saf>cm>line.lisp
(METHOD INSERT-POINT-BEFORE LINE)
>saf>cm>line.lisp
(METHOD INSERT-POINT-AFTER LINE)
>saf>cm>line.lisp
(METHOD COPY CM-POINT)
>saf>cm>point.lisp
(METHOD COPY ROUTE)
>saf>cm>route.lisp
MAKE-ROUTE-POINT
>saf>cm>route-point.lisp
MAKE-CONTROL-MEASURE-POINT
>saf>cm>control-measure-point.lisp
GET-HOSTS-WITH-SIMNET-SERVICE
>saf>network>vars.lisp
RECORD-FILE-DEFINITIONS
>tom>doc-file.lisp
```

Description: None

2.9.5.2 (FIND-PACKAGE 'DIRT)

Definition 2

```
>saf>sysdcl.lisp
Type: UNLESS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.9.5.3 (FIND-PACKAGE 'MAP)

Definition 3

```
>saf>sysdcl.lisp
Type: UNLESS
Arguments: ()
Outputs:
Calls: None
```

Called by: None
Description: None

2.9.5.4 (FIND-PACKAGE 'SAF)

Definition 4

>saf>sysdcl.lisp
Type: UNLESS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.5 *TERRAIN-INITIALIZATION-LIST*

Definition 5

>saf>sysdcl.lisp
Type: Variable
Arguments: ()
Outputs:
Calls: None
Called by: (INITIALIZATION *KNOX-INIT-LIST* Init Knox)
No Source File Record
Description: None

2.9.5.6 'MAKE-AREA

Definition 6

>saf>sysdcl.lisp
Type: SHADOW
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.7 *BACKGROUND-LISP-INTERACTOR-SCREEN-FRACTION*

Definition 7

>saf>sysdcl.lisp
Type: SETQ
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.8 (OR (MEMBER EIGHT-BIT-COLOR *FEATURES*))

Definition 8

(MEMBER CAD-BUFFER-COLOR *FEATURES*)
(NOT (FDEFINEDP 'COLOR-SYSTEM-DESCRIPTION)))

>saf>sysdcl.lisp

Type: UNLESS

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.9.5.9 SAF

Definition 9

>saf>sysdcl.lisp

Type: DEFSYSTEM

Arguments: ()

Outputs:

Calls: None

Called by: COM-DOCUMENT-SAF

>tom>doc-file.lisp

NAME-OF-FORM

>tom>doc-file.lisp

Description: None

2.9.5.10 NETWORK-COMMS

Definition 10

>saf>sysdcl.lisp

Type: DEFSUBSYSTEM

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.9.5.11 OBJECTS

Definition 11

>saf>sysdcl.lisp

Type: DEFSUBSYSTEM

Arguments: ()

Outputs:

Calls: None

Called by: None

Description: None

2.9.5.12 CONTROL

Definition 12

>saf>sysdcl.lisp
Type: DEFSUBSYSTEM
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.13 UI

Definition 13

>saf>sysdcl.lisp
Type: DEFSUBSYSTEM
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.14 SANDBOX

Definition 14

>saf>sysdcl.lisp
Type: DEFSUBSYSTEM
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.15 MODEL

Definition 15

>saf>sysdcl.lisp
Type: DEFSUBSYSTEM
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None

2.9.5.16 BMI

Definition 16

```
>saf>sysdcl.lisp
Type: DEFSUBSYSTEM
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.9.6 CSU map>defsystem.lisp

The system declarations file for the Map system. A system declarations file does not have to be called sysdcl.lisp; that is just a convention. The system declarations file must, however, be specified in the system file for the given system, (map.system in this case) by a call to sct:set-system-source-file.

2.9.6.1 (FIND-PACKAGE 'DIRT)

Definition 1

```
>map>defsystem.lisp
Type: UNLESS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.9.6.2 (FIND-PACKAGE 'MAP)

Definition 2

```
>map>defsystem.lisp
Type: UNLESS
Arguments: ()
Outputs:
Calls: None
Called by: None
Description: None
```

2.9.6.3 MAP

Definition 3

```
>map>defsystem.lisp
Type: DEFSYSTEM
Arguments: ()
Outputs:
Calls: None
```

Called by: MAPHASH-SNAPSHOT
 >rel-7-2>ip-tcp>ip-routing.lisp
 GET-PARENTLESS-OBJECTS
 >saf>objects>object-grapher.lisp
 (METHOD GRAPHER-NODE-INFERIOR-NODES GRAPHER-NODE)
 >saf>objects>grapher-node.lisp
 COM-DOCUMENT-SAF
 >tom>doc-file.lisp
Description: None

2.9.7 CSU saf>lispm-init.lisp

The login initialization file ("init file") for the SAF user. This file gets loaded whenever SAF logs in. The Symbolics manuals provide further details on init files.

APPENDIX A1: WATER AVOIDANCE ALGORITHM

This appendix is a conceptual overview of the water-avoidance algorithm used in the CSU `cm>water-avoidance.lisp`.

When a planned ground-route crosses water that is too deep to ford, vehicles taking this route will stop at the water's edge. To allow the vehicles to reach their destination, the route must be modified so that it

- [1] goes around the water by a detour, or
- [2] finds a bridge and goes over the water, or
- [3] finds a shallow, fordable area and crosses there.

Fordable water is represented on the PVD in light blue.

The water avoidance routines allow SAF vehicles to mimic the behavior of a human commander with knowledge of the terrain.

A1.1 Skirting

The algorithm for constructing water-avoiding routes uses several techniques. One of the simplest is skirting a lake, implemented by the function `skirt-lake`. It simply tries to go around the lake to the left and the right, and takes the shorter route. (See Figure A1.1-1)

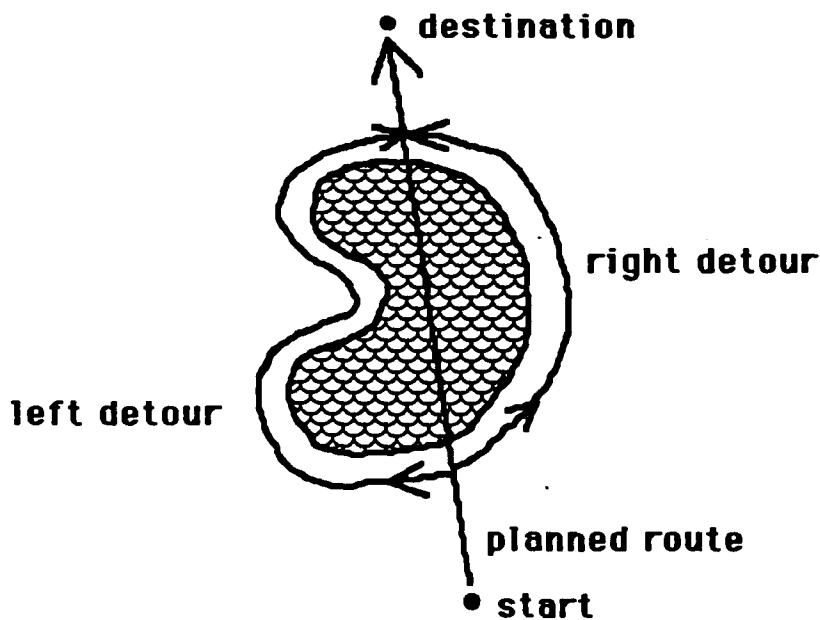


Figure A1.1-1

A related technique skirts river bends in the same way, implemented in the function skirt-river-bend. (Figure A1.1-2)

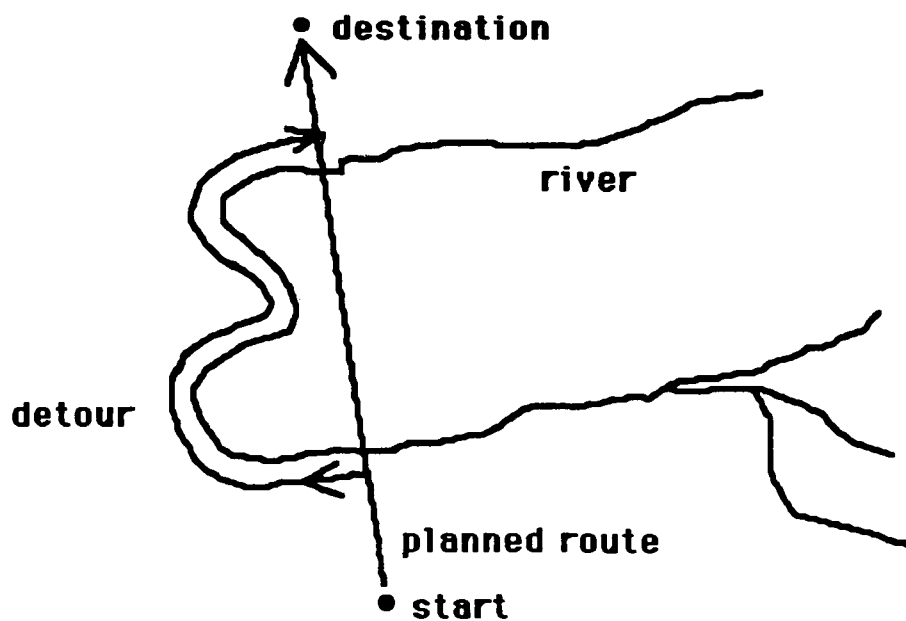


Figure A1.1-2

In general, however, avoiding or crossing complicated river patterns requires a more involved recursive search process. This process begins at the first point *p* where the planned straight-line route hits water, such as a river. (Figure A1.1-3)

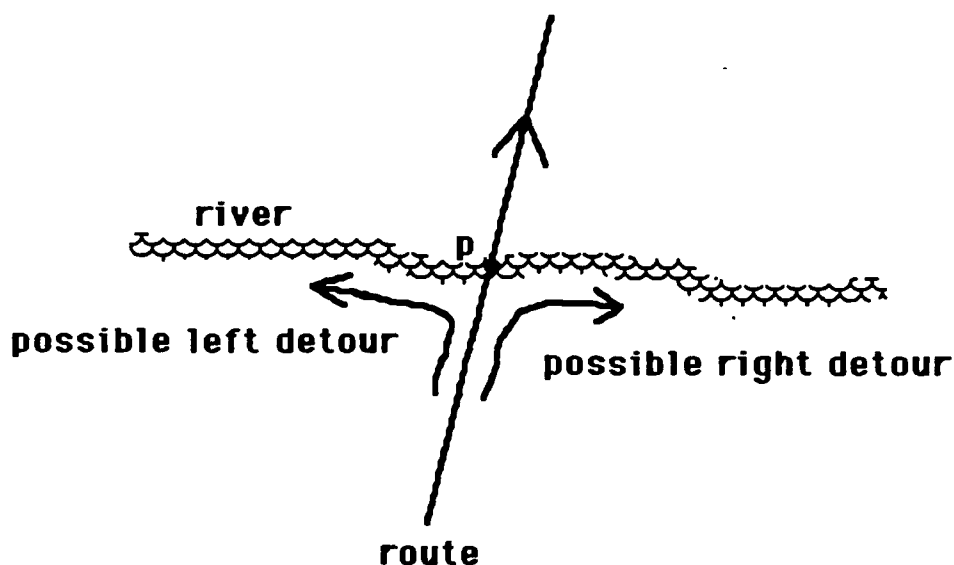


Figure A1.1-3

A1.2 Looking for Ends

Attempts are made to avoid the river by going to the left and to the right. This step occurs in the function `find-route-core`. Each attempt returns a list representing a potential detour. These left and right attempt lists are obtained by two calls to the function `follow-water-segments`, and assigned to the variables `crossings-2` and `crossings-1`, respectively, defined in the `let*` form of `find-route-core`.

`Follow-water-segments` moves along a "water-segment", that is, a non-branched contiguous stretch of river, until it finds the "end" of the segment. The end can occur in several ways, as shown in the following figures.

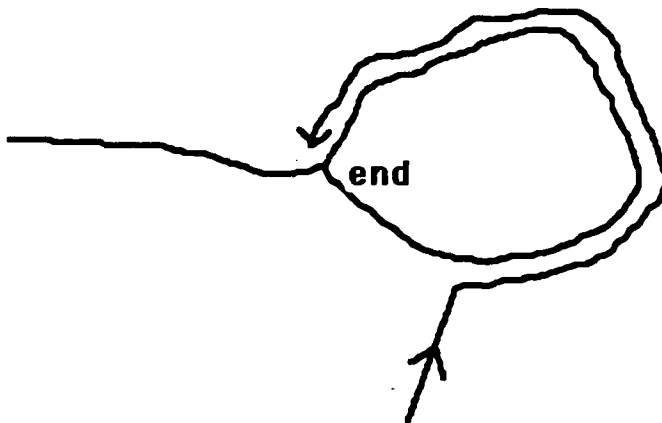


Figure A1.2-1

A loop is found. (intersection with the same segment) This is skitable.

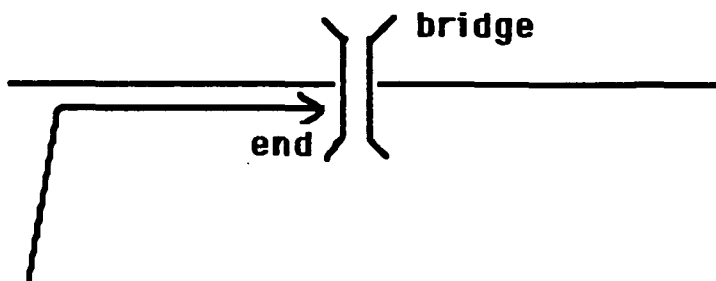


Figure A1.2-2

A bridge is found, and can be crossed.

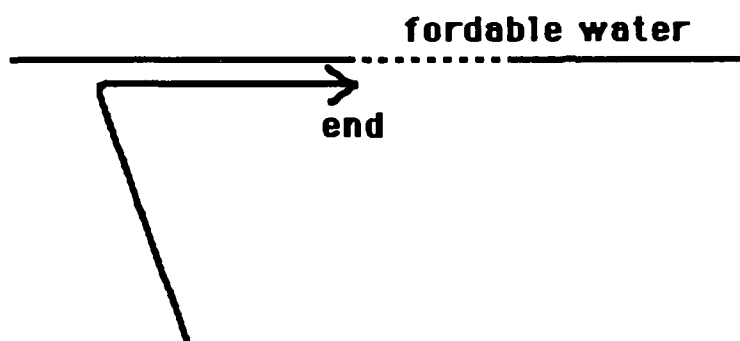


Figure A1.2-3

A fordable portion is found and can be crossed.



Figure A1.2-4

A river end is found and can be skirted.

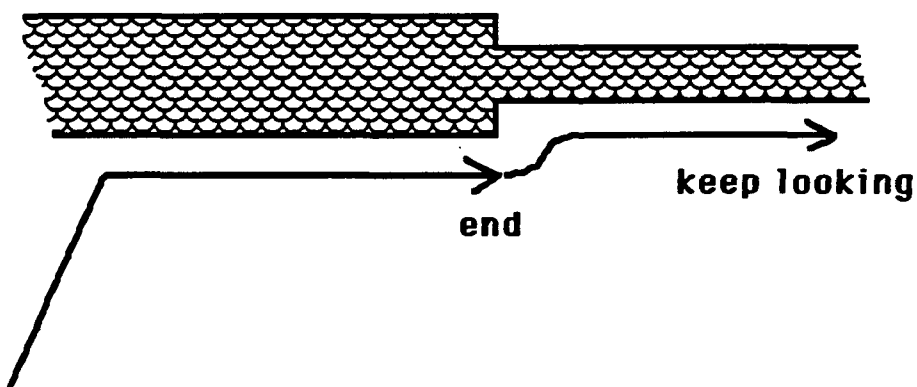


Figure A1.2-5

A change of width in the river is found; keep looking for more useful ends.

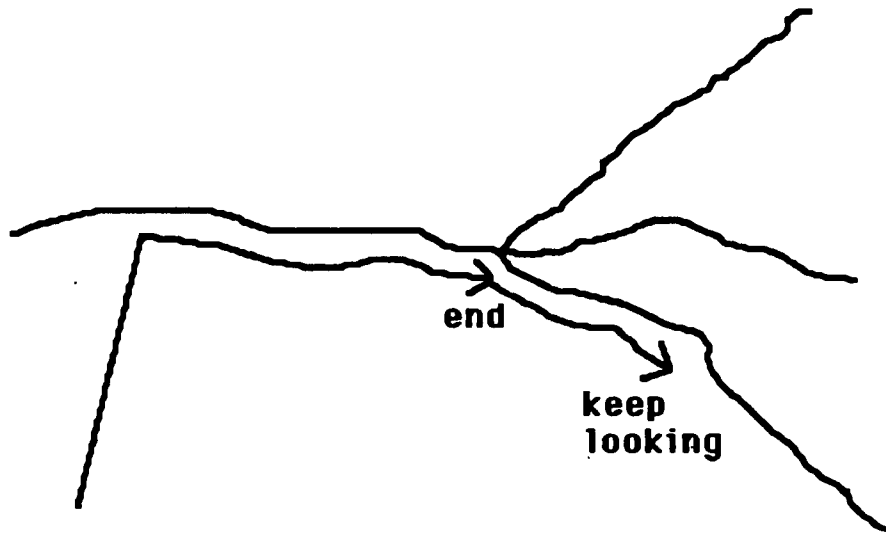


Figure A1.2-6

An "intersection" (branch-point of rivers) is found; keep looking along the next branch.

In this case, follow-water-segments will call itself recursively to follow the next segment (counter-clockwise in the right search, clockwise in the left search.) When recursive calls are made, the variable level is incremented; follow-water-segments will quit if level > 3.

In general, the termination conditions of the water-avoidance routines are adjusted so that they terminate rapidly whether they succeed or not; if they fail, the user can modify the route by hand.

Once crossing or skirting opportunities to the left and right are found,(or the search for them is abandoned) by the calls, in find-route-core, to follow-water-segments, the alternative is chosen that involves the least number of crossings. The actual crossing route is then constructed,from a list describing the series of crossing opportunities, by the function find-suitable-crossing-route. This function checks for the cases shown in the above figures, and constructs an appropriate skirting, fording, or crossing path. In the "extended crossing" case, shown in Figure A1.2-6, it calls itself recursively.

A1.3 Recursion

Recursive calls are also necessary even in simpler cases, because the detour itself may cause other new water obstacles to be in the way. For example, in Figure A1.3-1, the first right detour will create route 2, which crosses a lake that the original route 1 did not. Now a second detour is necessary to go around the lake, ultimately producing route 3.

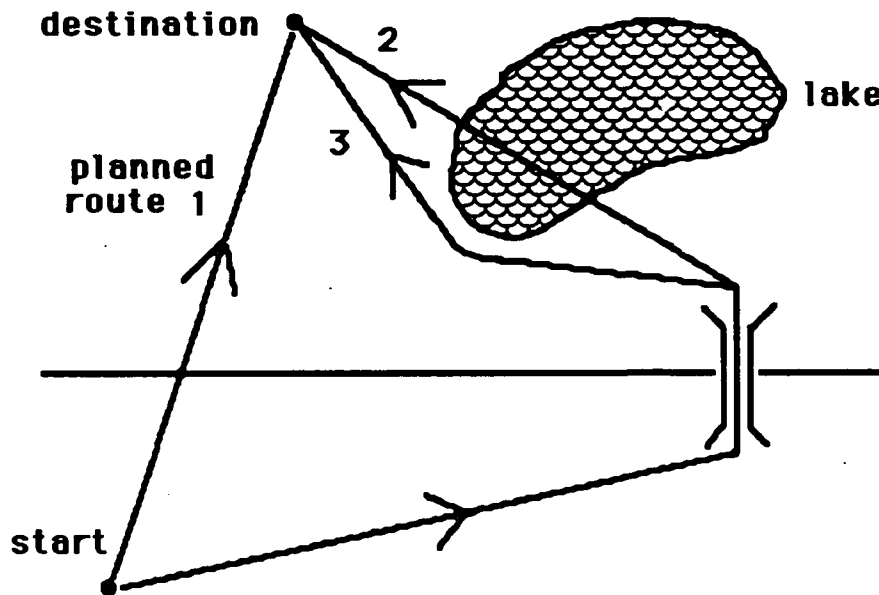


Figure A1.3-1

A1.4 Relaxation

Another important component of the water avoidance algorithm is a *relaxation* process, used to eliminate unnecessary line segments in a route.

Relaxation is necessary because water avoiding routes are initially found by following along the edges of bodies of water, creating winding paths composed of many line-segments.

The relaxation process scans the endpoints of these segments, starting from the start-point, and notices if the *direct* linear route to some later point avoids water. If so, the latest such point is chosen, and the intervening line segments are replaced by a single line segment, as shown in (1) of Figure A1.4-1.

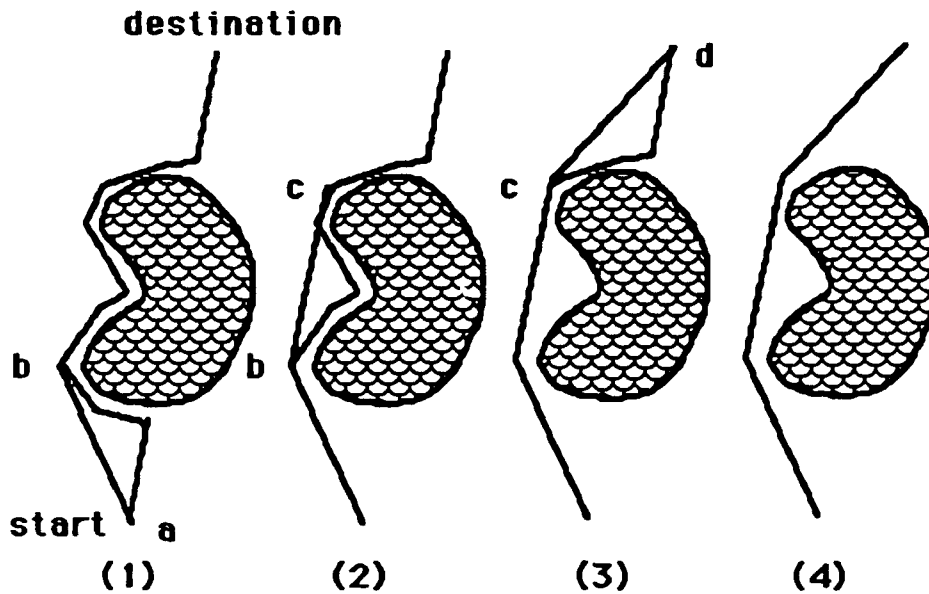


Figure A1.4-1

Then, the effective start point is advanced to the end **b** of the constructed segment, and the process is continued until all the available shortcuts have been taken, leading finally to the route shown in (4).

Relaxation can also save time in some extended crossing situations.

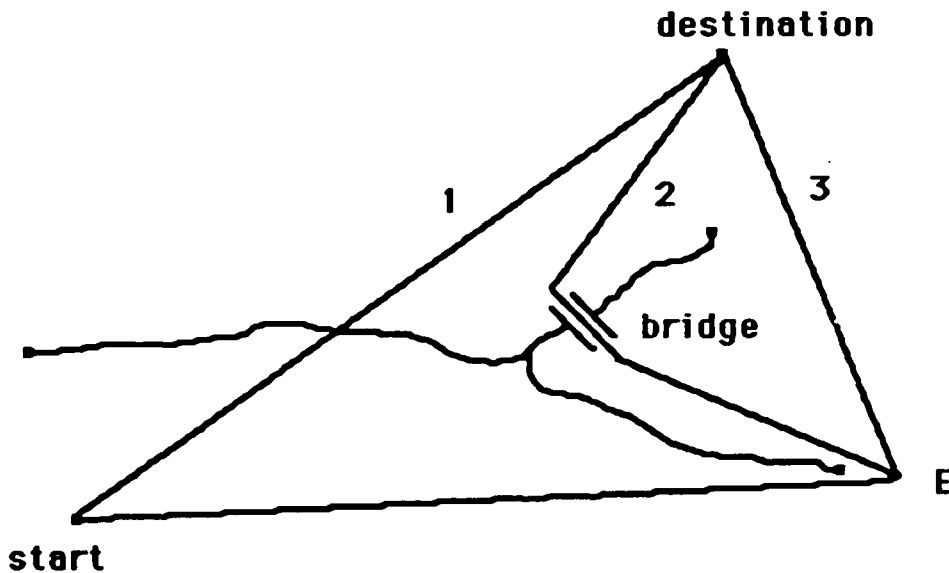


Figure A1.4-2

In Figure A1.4-2, if the initial route chosen is route 1, the preliminary search will construct route 2, because the tributary with the bridge will be explored after skirting end E. The

relaxation, however, will discover that there is a direct path from E to the destination, and avoid the tributary all together.

A1.5 Clearances

Because vehicle groups are not points, but have a positive size, clearance is required when the center of a vehicle group moves along a water-avoiding path, or the vehicles on the outer edges of the formation will not clear the water. (See Figure A1.5-1.)

The water-avoidance routines allow a clearance of 100 meters, when constructing a skirting or fording path.

Bridges are an exception to this rule; there is a mechanism that includes, in the route information, a directive that orders the tanks to go into column formation (single-file) to cross the bridge.

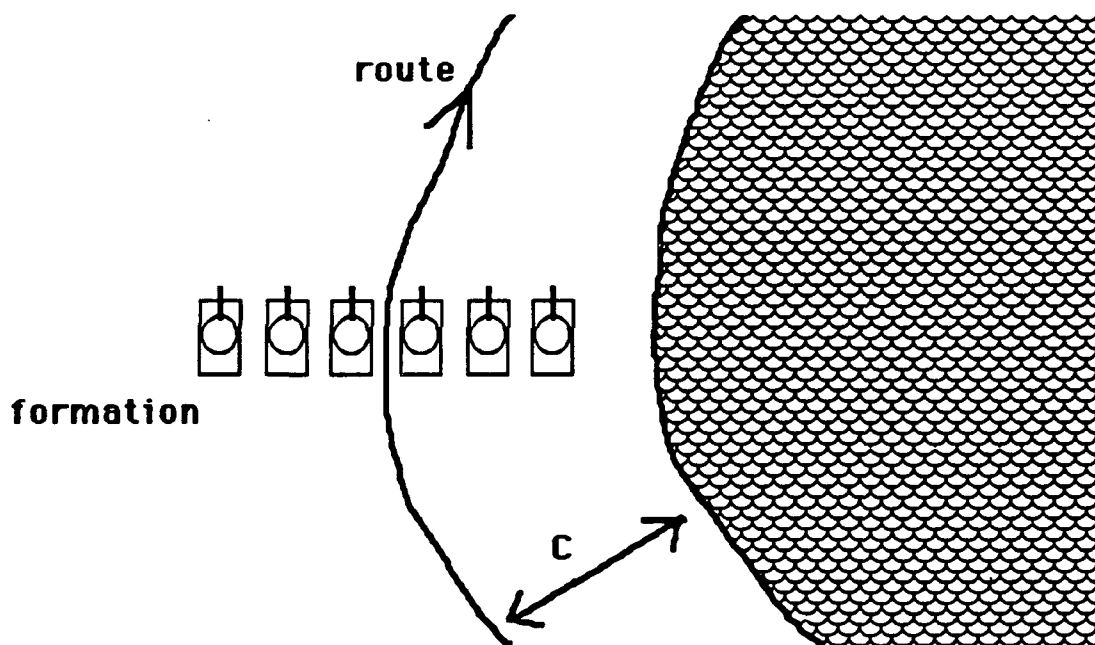


Figure A1.5-1

APPENDIX A2: RUDP -- A RELIABLE UDP NETWORK PROTOCOL FOR SIMHOST/SYMBOLICS COMMUNICATIONS

A2.1 The Need for Reliable Communications

In order for information to go back and forth between the Symbolics and the Simhost to run Semi-Automated Forces (SAF), a communications protocol must be used. We use the User Datagram Protocol (UDP), which does not guarantee reception of individual data packets, to build a reliable communications protocol (RUDP), which does guarantee *ordered* reception. UDP can be quite unreliable in terms of what percentage of data is actually received, and thus RUDP is absolutely necessary.

An existing reliable communications protocol such as TCP/IP could be used for SAF if it were not for the fact that the TCP/IP interfaces in UNIX and on the Symbolics are byte-based verses packet-based. This makes them more difficult to use to structure messages. Also, having explicit control over the retransmission of data as we have in RUDP allows us to have more control over what type of data is sent during what circumstances.

A2.2 The RUDP Protocol in Overview

The RUDP protocol guarantees ordered two-way transmission of data through the use of sequence numbers, acknowledgements and retransmissions. Reliable, ordered communications result from the processing of ordered sequenced packets. The communication is reliable because a missed packet will cause the sender of the packet to retransmit it, due to the lack of an acknowledgement. The communication is ordered because out of sequence packets are ignored.

Every message that is sent from one machine to another contains a sequence number for the packet sent by the machine and an acknowledgement number for the last packet received by the machine. When a message is sent, a copy of the message is retained and is stored in a retransmission queue. When an acknowledgement number greater than or equal to that packet's sequence number has been received, the packet is considered to have been acknowledged, and is removed from the retransmission queue. If an acknowledgement for a packet in the retransmission queue has not been received within some threshold interval, (the "retransmit period"), it is assumed that the packet was lost by the receiver and all the packets in the queue are retransmitted. As stated previously, acknowledgements are sent with new data; If no new data needs to be sent but a received packet should be acknowledged, a bare acknowledgement (bare-ack) containing no data is sent. When new data packets are not present, bare acks are sent out after a certain period of time, the "bare-ack period", has expired. In addition, this serves as a heartbeat to allow each machine to determine if the other has stopped running.

The bare-ack and retransmit periods have been "tuned", both under stress conditions and under normal operating conditions, to provide good communication performance.

A2.3 The Protocol Algorithm

To ensure that the packets are reliably communicated, the RUDP protocol requires an acknowledgement for each packet. To guarantee the packets are received in the correct order, each packet is given a sequence number, and the receiver will simply reject any packet that is not the next one expected.

More exactly, suppose packet number 273 has been received. The receiver is now waiting for packet number 274. If a packet arrives with any other number on it, say 275, or a retransmitted 273, the receiver will ignore it.

Notice that, if an out-of-order packet is received, it means that some previous packet has been lost. Since packets can get lost, or ignored if previous packets were lost, the sender has to have a policy of retransmitting packets, if they are not acknowledged after a certain period of time.

To accomplish this, the sender keeps a copy of each message he has sent, on a retransmit-queue. When he receives an ack for that message, he deletes the copy. Any ack for another message with a number greater than the given message is also considered an ack for the given message, because of the out-of-sequence rejection policy. While waiting for the ack, the sender periodically retransmits the copy, in case the original didn't get through. This insures that, as the number of periods since the original transmission increases, the probability that the message has not been received decreases exponentially.

However, for the sender to know that the message has been received, we have to be sure he gets an ack, otherwise, he would continue retransmitting forever.

This is insured as follows: First, whenever the receiver has a message to send to the other station, he includes an ack with the sequence number of the latest message he has received. In addition, if a certain period of time goes by without one of these messages going out, a "bare-ack" message is sent, also with the sequence number of the latest message received. This period is called the bare-ack period. The policy guarantees that the delay before the next transmission of an ack will never be more than the bare-ack period.

Thus, although one or more acks may get lost, the probability that no ack gets through decreases exponentially, and eventually an ack will be received. Because of the ordered reception requirement, when the original sender gets the ack, he can infer from its sequence number that the message with that number, and all previous messages as well, were received.

Thus, the rejection strategy for ordered reception makes the ack process simpler to handle; the reception of one ack also confirms the acknowledgement of all packets with a lower sequence number.

It is worth noting that the receiver does not retransmit an ack every time he gets a retransmitted copy of a packet he has already seen; the copy is then out of sequence, and is therefore ignored.

In addition to his retransmit period, the sender also has a "bare-ack" period, just like the receiver. Thus, each time the period is seen to have elapsed without any messages going out, the sender sends an ack with the number of the last packet received.

Besides making sure that acks eventually (with ever-increasing probability) get through, the periodic bare-acks also serve as a heartbeat to let the receiver know that the sender is still alive. This allows the receiver to conclude, if no messages arrive after a period of time, that the sender has shut down.

A2.4 RUDP on the Symbolics

The Symbolics workstation acts as the master side of the RUDP communications, and is responsible for establishing the connection, and initializing each side's sequence numbers.

The bare-ack period for the Symbolics is *bare-ack-period* with a value of 150 60ths, or 2.5 seconds.

The retransmission period for the Symbolics is the variable *retransmit-period*, with a value of 300 60ths, or 5 seconds.

The following pseudocode outlines the top-level RUDP algorithm on the Symbolics workstation:

Loop forever {

 Process Incoming Packets:

```
    while (new packets have arrived) {
      copy packet array,
      enqueue it on received packets queue.
    }
```

 Process Outgoing Packets:

```
    while (there are packets on the immediate queue) {
      get a new output buffer,
      fill it,
      transmit it,
      copy it onto retransmit queue.
    }
```

```
    while (there are packets on the request queue) {
      get a new output buffer,
      fill it,
      transmit it,
      copy it onto retransmit queue.
    }
```

 Retransmit or Ack:

```
    if (there are packets to retransmit
        and the retransmit timer has elapsed) {
      Retransmit:
      for each item on the retransmit queue, {
        get a new output buffer,
        copy the queued item into it,
        transmit it.
      }
    }
```

```
    else,  
    if (the bare ack timer has elapsed)  
    Ack:  
        ack the last sequence number received.  
  
} [end of main loop]
```

The top-level RUDP process is a simple loop, with no termination condition, that performs the following three operations, in order:

- [1] process incoming packets, if there are any
- [2] process outgoing packets, if there are any
- [3] handle retransmission or acknowledgement, if required.

The first block checks repeatedly to see if new packets have arrived. If not, the code goes on to step [2]. If new packets have arrived, all of them are copied and enqueued on the received packets queue. After this, the code again checks to see if there are any newly arrived packets, and does the copy/enqueue if so. This happens repeatedly until there are no more newly arrived packets. The eventual termination of this loop depends on the fact that the Symbolics can process arrived packets considerably faster than they tend to arrive under actual operating conditions. The function `dequeue-outgoing`, in `CSU rudp>outgoing.lisp` actually processes the acks and dequeues the messages from the retransmit queue.

In step [2] the code processes outgoing packets. These are in a two-level priority system; all the packets in the top-priority *immediate* queue are processed before going on to service the second-priority *request* queue.

As each packet is transmitted, it is copied onto the *retransmit queue* in case it has to be retransmitted. Here, too, termination of the loops is insured by the comparatively low rate at which outgoing packets are put on the queue; it is mostly mouse-clicks and other user events which generate new packets. Since the latest ack is always sent out together with any data packet, the bare-ack timer is reset to zero whenever a data packet is transmitted.

Finally, in step [3], retransmission or acknowledgement is handled. This block has no loops in it, only conditionals. First the code looks at the retransmit queue, to see if it has any packets. If so, and if the retransmit period is up, the messages in the queue are retransmitted. Otherwise, the timer is checked to see if the bare-ack period has expired; if so, a bare-ack is transmitted.

A2.5 RUDP on the Simhost

The Simhost acts as the slave side of the RUDP communications. Once the Symbolics has established the connection and has initialized each side's sequence numbers, the Simhost begins to run its RUDP process. Multiple Symbolics can connect to one Simhost, so the Simhost has multiple instances of the *sbx-connection* object which runs the RUDP processes for each connection.

RUDP was originally written in C-Flavors but has been recently been rewritten in straight C for speed. The code still maintains the same layering that it had under C-Flavors. There are three layers: the *sbx-connection* layer, the *buffered-connection* layer, and the *reliable-connection* layer. Each layer is characterized by how the layer reads and writes

messages, and what happens to the layer when it is processed ("ticked"). There are three important data structures associated with each sbx-connection. They are:

- The *input-queue* is a queue of application level messages that are waiting to be sent the next time a sbx-connection is ticked.
- The *input-buffer* is a data area that is used to buffer multiple application level messages into one RUDP packet.
- The *retransmission-queue* holds copies of each RUDP packet that has been sent out. Each packet stays here until it has been acknowledged, and if acknowledgements for a packet have not been received, the packet may be resent.

Sbx-connections form the topmost layer of RUDP. The processing of an sbx-connection consists of reading and processing all the available messages from the buffered-connection layer and then ticking the buffered-connection layer. Messages are written to this layer by enqueueing buffers onto the input-queue which is maintained by the buffered-connection layer. This has the advantage that the processes which send messages to the sbx-connection layer do not actually perform I/O in their thread of execution. These processes, such as the ticking of tank objects, just enqueue buffers; The layers below the sbx-connection take care of performing the potentially time-consuming I/O.

The buffered-connection layer has two functions. First, it attempts to improve communications bandwidth by buffering output to the Symbolics so that full UDP packets are sent instead of mostly empty ones. During the tick of the buffered-connection layer, messages are copied from the input-queue into a UDP-packet-sized input-buffer. When this buffer fills, or when a threshold timeout has occurred, the buffer is sent to be written out by the reliable-connection layer. At the end of the buffered-connection layer's tick, the reliable-connection layer is ticked. The second function of the buffered-connection layer is associated with reading messages from the reliable-connection layer. When a message is attempted to be read from the buffered-connection layer, the buffered-connection layer repeatedly reads from the reliable-connection layer until it has either gotten a correctly ordered message, or there is nothing available to read.

The reliable-connection layer is the heart of the RUDP process. This layer takes care of acknowledging messages that are received and retransmitting messages that are sent, if necessary. During the tick of the reliable-connection layer packets on the retransmission queue are resent to the Symbolics if a retransmission interval has elapsed. When messages are written to the reliable-connection layer, a RUDP header is put on the message with the current sequence number and an acknowledgement for the last packet received. The message is written to the Symbolics using UDP, and the message is enqueued on the retransmission queue. Each read to the reliable-connection layer copies read data into a read buffer and returns a number indicating the status of the read. If there is nothing available to read, zero is returned. If a message was available to be read but was out of sequence as indicated by its sequence number, then a -1 is returned indicating that something was available but was out of sequence. If the message was in sequence, the size of the message in bytes is returned. In this last case all output messages currently sitting on the retransmission queue whose sequence numbers are less than or equal to the acknowledgement number in the message just read are flushed. As long as valid acknowledgements are received, the retransmission queue should never grow very large.

The bare-ack period for the Simhost is 6 seconds. The retransmit period is normally 6 seconds, but is lowered to 0.5 seconds whenever an out-of-sequence packet is received. The period is raised to 6 seconds when there are no outstanding out-of-sequence packets. This is based on the assumption that, if something seems to be wrong with the communication, it should be resynched and resolved quickly.

APPENDIX A3: CROSS-REFERENCE GENERATOR

This Appendix contains the source code for the LISP program used to generate the cross reference and the definition index.

```
;;; -*- Mode: LISP; Syntax: Common-lisp; Package: USER; Base: 10 -*-
```

```
*****
;;;
;;; Global Variables
*****
```

```
(defvar *all-files* () "Top Level list of all files being documented")
(defvar *definition-table* nil "Hash Table of all definitions keyed by name")
(defvar *caller-record* nil "List of (<Def-Name> <Caller1> <Caller2> ... <CallerN>)")
```

```
(defparameter *pretty-type-string-alist*
  '((def flavor "Flavor")
    (def method "Method")
    (def var "Variable")
    (def parameter "Parameter")
    (def constant "Constant")
    (def fun "Function")
    (def macro "Macro")
    (def subst "Subst")
    (lmfs: defstorage "lmfs: defstorage")
    (saf:: defsend "DefSend")
    (cp: define-command "CP Command"))
  "Pretty Type Alist defines valid types and their English names")
```

```
*****
;;;
;;; Type Definitions
*****
```

```
(def flavor file
  ((pathname nil)
   (definitions ()))
  0
  :writable-instance-variables
  :initable-instance-variables
  (:documentation "Flavor File keeps the pathname of the file being documented and
the definitions in that file."))
```

```
(def method (sys: print-self file) (stream print-depth slashify-p)
  "Prints Files with filename and number of definitions."
  (declare (ignore print-depth slashify-p))
  (sys: printing-random-object (self stream :typep)
    (format stream "~a (~d defs)" pathname (length definitions))))
```

```
(def method (print-doc file) (stream)
  (format stream "~2%File: ~a~%Definitions: ~d~2%" pathname (length definitions))
  (dolist (def definitions)
    (print-doc def stream)))
```

```
(def flavor definition
  ((name nil)
   (args ()))
  (callers ()))
  (documentation ""))
```

```

(callees ())
(file nil)
(type nil)
(form-number 0)                ;The order of appearance in the file.
)
0
:writable-instance-variables
:initable-instance-variables)

(defmethod (sys:print-self definition) (stream print-depth slashify-p)
  (declare (ignore print-depth slashify-p))
  (sys:printing-random-object (self stream :typep)
    (format stream "~a [~a]" name (file-pathname file))))

;;(defmethod (make-instance definition :after) (&rest init-args)
;;  "Puts the new instance into the *definition-table* hash table, keyed by name."
;;  (declare (ignore init-args))
;;  ;;
;;  ;; all definitions but defflavors are entered in the *definition-table* for
;;  ;; computation of callees field later
;;  ;;
;;  (cond ((or (not name) (eq type 'defflavor))
;;    nil)
;;    ((member type '(setf unless setf lmfs:dfstorage saf::def-packet-handler
;;      compile-flavor-methods define-presentation-type eval-when)
;;      :test #'eq)
;;      (or (gethash name *definition-table* nil)
;;        (setf (gethash name *definition-table*) self)))
;;    (t (when (gethash name *definition-table* nil)
;;      ;;otherwise, warn the user that there is a duplicate.
;;      (error "overwrite the entry" "There is already a table entry for ~a" name))
;;      (setf (gethash name *definition-table*) self))))

(defmethod (make-instance definition :after) (&rest init-args)
  "Puts the new instance into the *definition-table* hash table, keyed by name."
  (declare (ignore init-args))
  (let ((hash-list (gethash name *definition-table* nil)))
    (setf (gethash name *definition-table*) (cons self hash-list))))

(defmethod (sort-name definition) ()
  (cond ((symbolp name)
    (symbol-name name)
    ((eq type 'defmethod)
      ;; if its a method, second is the name, fourth is the qualifier (:before...
      (format nil "~a ~a" (second name) (fourth name)))
    ((and (listp name)
      (eq type 'defun)
      (eq (car name) :property))
      (format nil "~a ~a ~a" (first name) (second name) (third name)))
    ((and (listp name)
      (symbolp (car name)))
      (format nil "~a" (car name)))
    ((stringp name)
      name)
    ((characterp name)
      (string name))
    (t (error "keep documenting" "Can't determine a sort name for ~a" name))))

```



```

(defmethod (pretty-file-name definition) ()
  "returns a printable file name for use in index"
  (string-right-trim ".newest" (send (file-pathname file) :string-for-host)))

(defmethod (print-doc definition) (stream)
  (format stream "~2%")
  (format stream "Definition ~a:~c~a~%" form-number #\Tab name)
  (format stream "~c~a~%" #\Tab (pretty-file-name self))
  (format stream "Type:~c~a~%" #\Tab (pretty-type-string type))
  (format stream "Arguments:~c~a~%" #\Tab args)
  (format stream "Outputs:~c~a~%" #\Tab outputs)
  (format stream "Calls:~c~a~%" #\Tab calls)
  (if callees
    (progn
      (format stream "~a~%" (car callees))
      (format stream "~c~a~%" #\Tab (source-file-name (car callees)))
      (dolist (callee (cdr callees))
        (format stream "~c~a~%" #\Tab callee)
        (format stream "~c~a~%" #\Tab (source-file-name callee))))
    (format stream "None~c~a~%" #\Tab))
  (format stream "Called by:~c~a~%" #\Tab)
  (if callers
    (progn
      (format stream "~a~%" (caar callers))
      (format stream "~c~a~%" #\Tab (source-file-name (caar callers)))
      (dolist (caller (cdr callers))
        (format stream "~c~a~%" #\Tab (car caller))
        (format stream "~c~a~%" #\Tab (source-file-name (car caller)))))
    (format stream "None~c~a~%" #\Tab))
  (format stream "Description:~c~a~%" #\Tab documentation))

(defmethod (index-print definition) (stream)
  (format stream "~a~%" name)
  (format stream "~c~a~a~%" #\Tab (pretty-file-name self) form-number))

...*****
...
... Utilities
...*****
...
(defsubst pretty-type-string (type)
  (or (second (assoc type *pretty-type-string-alist*))
      (string-upcase type)))

(defun source-file-name (function &aux (def nil))
  (cond ((setq def (car (gethash function *definition-table*)))
        (string-right-trim ".newest"
          (send (file-pathname (definition-file def)) :string-for-host)))
        ((symbolp function)
         (let ((source-file (get function :source-file-name)))
           (when (listp source-file)
             ;; its an alist, get the first file name
             (setq source-file (second (first source-file))))
           (if source-file
               (format nil "~a.lisp"
                 (send (send source-file :translated-pathname) :string-for-host))
               "No Source File Record"))))
        (t "No Source File Record"))))

```

```

(defun name-of-form (type form)
  (case type
    (defmethod (cons 'flavor:method (second form)))
    (cp:define-command (first (second form)))
    (saf::defsend (intern (string-append "SEND-" (symbol-name (second form))) 'saf))
    ((defstruct lmfs:defstorage) (if (symbolp (second form))
                                     (second form)
                                     (car (second form))))
    (otherwise (second form))))

(defunsubst arglist1 (name)
  "Insurance to be sure function is defined."
  (if (fdefinedp name)
      (arglist name)
      nil))

(defun arglist-of-def (type name)
  (case type
    (defmethod (cdddr (arglist1 name)))
    (defun (arglist1 name))
    (defsubst (arglist1 name))
    (defmacro (arglist1 name))
    (otherwise nil)))

(defun doc-of-def (type name)
  "Returns a definition's documentation or the string \"None\"."
  (let ((doc nil))
    (when (and name (symbolp name))
      (setq doc (documentation name type)))
    (or doc "None")))

(defun callers-of-def (type name)
  (let ((answer ()))
    (case type
      ((defflavor lmfs:defstorage saf::defsend cp:define-command) nil)
      (otherwise (flet ((log-caller (caller how)
                          (loop (if (and (listp caller)
                                          (eq (car caller) 'internal))
                              (setq caller (second caller))
                              (return)))
                                (pushnew (list caller how) answer :test #'equal)))
                    (si:map-over-callers name #'log-caller))))
    answer))

#+ignore
(defun test-callers (name)
  (flet ((log-caller (caller how)
            (format t "~%~A ~A" caller how)))
    (si:map-over-callers name #'log-caller)))

(defun record-file-definitions (file-spec)
  (let ((file (make-instance 'file :pathname file-spec))
        (eof-symbol '...doc-file-eof...))
    (form nil)
    (type nil)
    (name nil)
    (callers nil)
    (count 0))

```

```

(condition-case ()
  (with-open-file (infile file-spec
                    :direction :input
                    :if-does-not-exist :error)
    ;;
    ;; First we must set the package attribute correctly
    ;;
    (let* ((att-list (fs:read-attribute-list file-spec infile))
           (pack (or (find-package (second (member :package att-list)))
                     *package*)))
      (let-globally ((*package* pack))
        (loop
          (setq form (read infile nil eof-symbol))
          (when (eq form eof-symbol) (return)) ;end of file
          (incf count)
          (setq type (car form)
                name (name-of-form type form)
                callers (callers-of-def type name))
          (push (make-instance 'definition
                              :file file
                              :type type
                              :name name
                              :args (arglist-of-def type name)
                              :callers callers
                              :documentation (doc-of-def type name)
                              :form-number count)
                (file-definitions file))
          ;;record the callers
          (push (cons name callers) *caller-record*))))
    ;;ignore problems with font files being wrong byte size.
    (lmfs:lmfs-wrong-byte-size))
  (setf (file-definitions file) (nreverse (file-definitions file))
        file))

(defun map-callers ()
  (let ((def-name nil)
        (definition nil))
    (dolist (record *caller-record*)
      (setq def-name (pop record))
      (dolist (def record)
        (when (setq definition (gethash def *definition-table*))
          (push def-name (definition-callees definition))))))

(defun map-callers ()
  (let ((callee nil))
    (dolist (record *caller-record*)
      (setq callee (pop record))
      (dolist (caller-how-pair record)
        (let* ((caller-name (first caller-how-pair))
               (how (second caller-how-pair))
               (def-list (gethash caller-name *definition-table*)))
          (when def-list
            ;;when there is a definition by this name in the table
            (if (= (length def-list) 1)
                ;;simple case, just add the caller to the only definition
                (push callee (definition-callees (car def-list)))
                ;;otherwise we need to figure out which definition is being called.
                (let* ((def-types (case how

```

```

((variable :variable) '(defvar defparameter))
((function :function) '(defun defsubst))
((constant :constant) '(defconstant))
((macro :macro) '(defmacro))
(:flavor-component '(defflavor))
((:defines-instance-variable
  :defined-constant) ())
(otherwise
  (format t "~&Caller ~a has how of ~s~%"
    caller-name how)
  nil)))
(caller (dolist (def-type def-types)
  (let ((tmp (find def-type def-list :key #'definition-type)))
    (when tmp (return tmp))))))
(if caller
  (push callee (definition-callees caller))
  #+ignore
  (format t "~&Can't find callee ~a for caller ~a of type ~a~%"
    callee caller-name how))))))
#+ignore
(defun foo (how)
  (case how
    (function 'fun)
    (constant 'const)
    (otherwise 'lose)))

(defun generate-definition-index ()
  "uses the *definition-table* to list all definitions alphabetically"
  (let ((all-defs ())
        (def nil))
    (maphash #'(lambda (key elem)
      (declare (ignore key))
      (dolist (def elem)
        (push def all-defs)))
      *definition-table*))
    (setq all-defs (sort all-defs #'string< :key #'sort-name))
    (format t "~|~% Definition Index~2%")
    (loop
      (if (setq def (pop all-defs))
        (index-print def t)
        (return))))))

(defun document-files (infile-list)
  (setq *all-files* nil
        *caller-record* nil
        *definition-table* (make-hash-table :test #'equal))
  (loop
    (push (record-file-definitions (pop infile-list)) *all-files*)
    (unless infile-list
      (return)))
  (setq *all-files* (reverse *all-files*))
  (map-callers)
  (loop
    (print-doc (pop *all-files*) t)
    (if *all-files*
      (format t "~|")
      (return)))
  (generate-definition-index))

```

;page break

```
...*****
;;;
;;;Interface
...*****
(cp:define-command (com-document-file :command-table "Global")
  ((from-file 'fs:pathname
    :confirm t
    :documentation "File to be documented"))
  (document-files (list from-file)))

(cp:define-command (com-document-system :command-table "Global")
  ((system 'sct:system
    :prompt "system"
    :documentation "system to document"))
  (document-files (sct:get-all-system-input-files system)))

(cp:define-command (com-document-saf :command-table "Global")
  0
  (if (sct:find-system-named 'saf nil t)
    (document-files (append (sct:get-all-system-input-files 'map)
      (sct:get-all-system-input-files 'saf)))
    (format t "~% The saf system is not loaded~%"))))
```

APPENDIX B: INDEX OF DEFINITIONS

Each definition is followed by a filename and the number of the definition within that file. Definitions are numbered consecutively within each file.

π	>saf>sys>constants.lisp 1
$\pi/2$	>saf>interface>formations.lisp 15
$\pi/8$	>saf>simnet-objects>new-draw-vehicles.lisp 1
#	>saf>sys>reader-macros.lisp 3
*!	>saf>sys>macros.lisp 14
2NDCOLUMN	>saf>interface>formations.lisp 30
ABSOLUTE-ORIGIN	>saf>interface>model-menu.lisp 47
ABSOLUTE-X-ORIGIN	>saf>interface>model-menu.lisp 48
ABSOLUTE-Y-ORIGIN	>saf>interface>model-menu.lisp 49
ACK-NEEDED	>saf>rudp>vars.lisp 14
ACTIVE-SANDBOXES	>saf>sys>vars.lisp 50
ALL-OBJECTS	>saf>objects>defobject.lisp 1
ALL-OPFOR-SUB-PROCESSES	>saf>ui>processes.lisp 10
ALL-OVERLAYS	>saf>sys>vars.lisp 85
ALL-VEHICLES	>saf>sys>vars.lisp 8
ALPHABET-ARRAY	>map>utm-grid-mixin.lisp 1
ALT-COMMAND-PANE	>saf>interface>formations.lisp 22
ALT-ORGANIZATION-ON-EDIT	>saf>interface>formations.lisp 14
ALTITUDE-DISPLAY-PANE	>saf>interface>formations.lisp 21
ALTITUDE-START-X	>saf>interface>formations.lisp 25
ALTITUDE-START-Y	>saf>interface>formations.lisp 24
AMMO-TYPE	>saf>network>commands.lisp 15
APPLIES-TO-UNIT-MENU	>saf>cm>control-measure.lisp 26
AREA-TYPES	>map>control.lisp 2
ARTY-SPREAD	>saf>network>commands.lisp 18
ARTY-TYPE	>saf>network>commands.lisp 17
ASK-USER	>saf>cm>route.lisp 1
ASPECT	>saf>interface>model-menu.lisp 15
B&W-SCREEN	>saf>fonts>character-style-defs.lisp 1
BACKGROUND-LISP-INTERACTOR-SCREEN-FRACTION	>saf>sys>sysdcl.lisp 7
BARE-ACK-PERIOD	>saf>rudp>vars.lisp 29
BATTLEFIELD-OBJECTS	>saf>sys>vars.lisp 48
BATTLEMASTER-PASSWORD	>saf>sys>vars.lisp 92
BFLY-TIME-OFFSET	>saf>sys>vars.lisp 58
BLUE-FORM-FILE-PATHNAME	>saf>interface>formations.lisp 6
BLUE-FORMS	>saf>interface>formations.lisp 4
BLUEFOR-CIS-DATA	>saf>sys>interim-model.lisp 14
BLUEFOR-CIS-PATH	>saf>sys>interim-model.lisp 6
BLUEFOR-ECHELONS	>saf>sys>interim-model.lisp 11
BLUEFOR-ECHELONS-PATH	>saf>sys>interim-model.lisp 4
BLUEFOR-FORMATIONS	>saf>sys>interim-model.lisp 9
BLUEFOR-FORMATIONS-PATH	>saf>sys>interim-model.lisp 2
BLUEFOR-SYNONYMS	>saf>sys>interim-model.lisp 19
BMI-PROGRAM	>saf>sys>vars.lisp 45
BOMB-EFFECTS-ALU	>saf>sys>vars.lisp 37
BOMBS-PER-PACKET	>saf>network>commands.lisp 14
BREAK-ON-NANS	>saf>sys>macros.lisp 44
BRIDGE-ARRAY	>map>terrain-vars.lisp 11
BUTTERFLY-LOGIN-NAME	>saf>sys>macros.lisp 31
BUTTERFLY-PASSWORD	>saf>sys>macros.lisp 32
CANOPY-ARRAY	>map>terrain-vars.lisp 7
CANOPY-TRIANGLES	>map>terrain-vars.lisp 8
CATASTROPHIC-GRAPH	>saf>interface>model-menu.lisp 5

CATASTROPHIC-POINTS
 CLUSTER-DISTANCE
 CM-DELETE-MENU
 CM-DELETE-MENU-COLOR
 COLOR-MAP
 COLOR-SCREEN-MENU
 COLUMN-WIDTH
 COMPETENT
 CONFIGURATION-DISPLAY-PANE
 CONFIGURATION-FILE
 CONFIGURATION-FORMS
 CONFIGURATION-FRAME
 CONFIGURATION-IO
 CONFIGURATION-MS-PANE
 CONFIGURATION-ORIENTATION
 CONFIGURATION-PROGRAM
 CONTOUR-ARRAY
 CONTROL-MEASURE-ID
 CONTROL-MEASURE-MENU-ITEMS
 CONTROL-MEASURES
 COS-ARRAY
 COS-ARRAY-MAX-INDEX
 CURRENT-ZOOM-LEVEL
 CURRENT-ZOOM-LEVEL
 CVV-PANE
 DB-INSTANCES
 DBASE-FILE
 DEBUG-FCE
 DEBUG-RUDP
 DEFAULT-BATTALION-NUMBER
 DEFAULT-FILE-NAME
 DEFAULT-MAX-DOC-DIST
 DEFAULT-OUTPUT-COORDINATE-SYSTEM
 DEFAULT-UNIT-GRAPH-DELAY
 DEFENSE-ALU
 DELAYED-DISPLAY-PROCESS-NAME
 DELETE-TEXT-FILES-MENU
 DELTA-X
 DELTA-Y
 DETECTION-FILE-NAME
 DEVELOPERS-FLG
 DF-VEHICLE
 DIR-FIR-TABLES
 DIRECT-FIRE-DAMAGE-DATA
 DIRECT-FIRE-DAMAGE-FILE-NAME
 DISABLED-FONT
 DISPLAY
 DISPLAY-LOGO-PANE
 DISPLAY-UNIT-GRAPH-DELAY
 DISPOSITION
 DISPOSITIONS
 DRIBBLE-FLG
 ECHELON-CHOICE
 ECHELONS
 EFFECTS-ERASE-TIME
 EFFECTS-QUEUE
 ENABLED-FONT
 ERASE-EFFECTS-ALU

>saf>interface>model-menu.lisp 11
 >saf>rdp>vars.lisp 40
 >saf>cm>overlay.lisp 14
 >saf>cm>overlay.lisp 15
 >map>terrain-vars.lisp 19
 >saf>ui>mouse-interface.lisp 8
 >saf>interface>object-menu.lisp 3
 >saf>objects>gunner.lisp 2
 >saf>interface>formations.lisp 19
 >saf>interface>formations.lisp 7
 >saf>interface>formations.lisp 1
 >saf>interface>formations.lisp 16
 >saf>interface>formations.lisp 18
 >saf>interface>formations.lisp 20
 >saf>interface>formations.lisp 23
 >saf>interface>formations.lisp 17
 >map>terrain-vars.lisp 5
 >saf>cm>control-measure.lisp 1
 >map>control.lisp 4
 >map>control.lisp 5
 >saf>sys>vars.lisp 62
 >saf>sys>vars.lisp 63
 >map>zoom-levels.lisp 5
 >map>zoom-levels.lisp 40
 >saf>interface>formations.lisp 31
 >saf>sys>vars.lisp 86
 >saf>sys>new-storage.lisp 1
 >saf>sandbox>sandbox.lisp 9
 >saf>rdp>vars.lisp 34
 >saf>bmi>bmi-frame.lisp 14
 >saf>interface>model-menu.lisp 201
 >saf>interface>formations.lisp 28
 >saf>sys>vars.lisp 5
 >saf>sys>vars.lisp 61
 >saf>sys>vars.lisp 34
 >saf>sys>vars.lisp 60
 >saf>sys>new-storage.lisp 47
 >saf>interface>model-menu.lisp 45
 >saf>interface>model-menu.lisp 46
 >saf>interface>model-menu.lisp 25
 >saf>interface>model-menu.lisp 180
 >saf>interface>model-menu.lisp 28
 >saf>interface>model-menu.lisp 31
 >saf>interface>model-menu.lisp 33
 >saf>interface>model-menu.lisp 27
 >saf>ui>opord.lisp 3
 >map>clip.lisp 6
 >saf>interface>model-menu.lisp 22
 >saf>simnet-objects>vehicle-tracking.lisp 28
 >saf>interface>formations.lisp 8
 >saf>sys>vars.lisp 69
 >saf>sys>vars.lisp 64
 >saf>interface>formations.lisp 10
 >saf>interface>formations.lisp 9
 >saf>sys>update-process.lisp 3
 >saf>sys>vars.lisp 67
 >saf>ui>opord.lisp 2
 >saf>sys>vars.lisp 35

ERASE-OVERLAY-ALU	>map>color-map.lisp 4
ERASE-VEHICLES-ALU	>saf>sys>vars.lisp 36
ETIME	>saf>sys>vars.lisp 59
EXTRA-INFO	>saf>sys>vars.lisp 65
F-LIST	>saf>interface>formations.lisp 45
FEATURE-LIST	>map>terrain-vars.lisp 29
FILL-FACTOR	>saf>interface>formations.lisp 27
FIREPOWER-GRAPH	>saf>interface>model-menu.lisp 7
FIREPOWER-POINTS	>saf>interface>model-menu.lisp 13
FIXED-WING-AIRCRAFT	>saf>interface>formations.lisp 32
FOE-ALLIANCE	>saf>sys>vars.lisp 28
FORMATION-CACHE	>saf>sandbox>sandbox.lisp 8
FORMATION-CHOICE	>saf>interface>formations.lisp 12
FRAG-ORDER-COUNT	>saf>ui>subordinate-tasking.lisp 5
FRIEND-ALLIANCE	>saf>sys>vars.lisp 27
FUZE-TYPE	>saf>network>commands.lisp 16
GRAPH-BEFORE-LAST-STEP	>saf>interface>model-menu.lisp 88
HELICOPTERS	>saf>interface>formations.lisp 33
HIGH-CONTOUR-ALU	>map>color-map.lisp 13
HIT-FILE-NAME	>saf>interface>model-menu.lisp 24
HIT-TABLES	>saf>interface>model-menu.lisp 32
HITMODELS-DICTIONARY	>saf>interface>model-menu.lisp 98
HOST-FOR-CONFIG-DATA	>saf>sys>interim-model.lisp 15
HULL-GRAPH	>saf>interface>model-menu.lisp 2
HULL-POINTS	>saf>interface>model-menu.lisp 8
ICON-HASH-TABLE	>saf>simnet-objects>new-draw-vehicles.lisp 11
ICON-TABLE	>saf>simnet-objects>new-draw-vehicles.lisp 10
IF-VEHICLE	>saf>interface>model-menu.lisp 29
IMAGE-ARRAY	>saf>simnet-objects>draw-vehicles.lisp 86
IND-FIR-TABLES	>saf>interface>model-menu.lisp 30
INDIRECT-FIRE-DAMAGE-DATA	>saf>interface>model-menu.lisp 34
INDIRECT-FIRE-DAMAGE-FILE-NAME	>saf>interface>model-menu.lisp 26
INSIDE-LEVEL	>saf>cm>water-check.lisp 4
INTERFACE-TO-UPDATE-PROCESS-QUEUE	>saf>sys>vars.lisp 56
INTERSECTIONS-SEARCHED	>saf>cm>water-avoidance.lisp 1
IVIS-OPTIONS	>saf>rudp>vars.lisp 35
IVIS-OPTIONS	>saf>rudp>vars.lisp 36
IVIS-TO-SBX	>saf>sys>vars.lisp 71
IVIS-TO-SIMNET	>saf>sys>vars.lisp 70
LAST-PACKET-IN-SHUTDOWN-STATE	>saf>rudp>vars.lisp 28
LAST-PACKET-IN-TIME	>saf>rudp>vars.lisp 22
LAST-PACKET-IN-WARNING-STATE	>saf>rudp>vars.lisp 23
LAST-SEQUENCE-IN	>saf>rudp>vars.lisp 12
LAST-UNITS-ALTITUDE	>saf>sys>vars.lisp 91
LAST-UNITS-LENGTH	>saf>sys>vars.lisp 89
LAST-UNITS-SPEED	>saf>sys>vars.lisp 90
LEGEND-TEXT-ALU	>map>color-map.lisp 14
LINE-TYPES	>map>control.lisp 3
LOCAL-IMAGE-TABLE	>saf>simnet-objects>draw-vehicles.lisp 87
LOW-CONTOUR-ALU	>map>color-map.lisp 12
MAP-OPTIONS	>map>draw-terrain.lisp 1
MAPPINGS-ALIST	>saf>sys>interim-model.lisp 12
MAPPINGS-PATH	>saf>sys>interim-model.lisp 7
MARKSMAN	>saf>objects>gunner.lisp 1
MAX-RECEIVE-QUEUE-LENGTH	>saf>rudp>vars.lisp 33
MAX-VEHICLE-ID	>saf>sys>constants.lisp 38
MIN-IMAGE-SCALE	>saf>simnet-objects>draw-vehicles.lisp 3
MOBILITY-GRAPH	>saf>interface>model-menu.lisp 6

MOBILITY-POINTS	>saf>interface>model-menu.lisp 12
MODE	>saf>interface>model-menu.lisp 17
MODEL-FRAME	>saf>interface>model-menu.lisp 21
MODEL-IO	>saf>interface>model-menu.lisp 97
MOVING-GRAPH	>saf>interface>model-menu.lisp 4
MOVING-POINTS	>saf>interface>model-menu.lisp 10
MY-CONCEIVED-UNITS	>saf>sys>vars.lisp 84
NAN	>saf>sys>macros.lisp 43
NETWORK-TO-UPDATE-PROCESS-QUEUE	>saf>sys>vars.lisp 57
NEW-INTERFACE-FLG	>saf>sys>vars.lisp 66
NEW-INTERFACE-FLG	>saf>ui>mouse-interface.lisp 2
NEW-INTERFACE-PROCESS	>saf>ui>mouse-interface.lisp 13
NEXT-SEQUENCE-OUT	>saf>rudp>vars.lisp 13
NIP-FORMS	>saf>ui>mouse-interface.lisp 14
NOVICE	>saf>objects>gunner.lisp 3
NUMBER-OF-PACKET-TYPES	>saf>rudp>handle-incoming.lisp 1
OBJECT-ALU	>map>color-map.lisp 6
OBJECT-ARRAY	>map>terrain-vars.lisp 6
OBJECT-DESCRIPTIONS	>saf>interface>object-menu.lisp 8
OBJECT-DICTIONARY	>saf>interface>object-menu.lisp 9
OBJECT-FILE-PATHNAME	>saf>interface>object-menu.lisp 4
OBJECT-FORMS	>saf>interface>object-menu.lisp 5
OBJECT-FRAME	>saf>interface>object-menu.lisp 1
OBJECT-IO	>saf>interface>object-menu.lisp 10
OBJECT-NAMES	>saf>interface>object-menu.lisp 7
OBJECT-TO-WINDOW-ASSOC	>saf>interface>object-menu.lisp 2
OFFENSE-ALU	>saf>sys>vars.lisp 33
OLD-SELECTION	>saf>interface>model-menu.lisp 1
OLD-STEALTH-PARAMETERS	>saf>rudp>handle-incoming.lisp 32
OPERATIONS-BUTTONS	>saf>ui>opord.lisp 23
OPFOR-CIS-DATA	>saf>sys>interim-model.lisp 13
OPFOR-CIS-PATH	>saf>sys>interim-model.lisp 5
OPFOR-ECHELONS	>saf>sys>interim-model.lisp 10
OPFOR-ECHELONS-PATH	>saf>sys>interim-model.lisp 3
OPFOR-FORMATIONS	>saf>sys>interim-model.lisp 8
OPFOR-FORMATIONS-PATH	>saf>sys>interim-model.lisp 1
OPFOR-FRAME	>saf>sys>vars.lisp 41
OPFOR-IO	>saf>sys>vars.lisp 43
OPFOR-SYNONYMS	>saf>sys>interim-model.lisp 18
OPORD-MODE	>saf>ui>opord.lisp 1
ORGANIZATION-ON-EDIT	>saf>interface>formations.lisp 13
ORIGIN	>saf>interface>formations.lisp 26
OVERLAY-ALU	>map>color-map.lisp 3
OVERLAY-DIRECTORY	>saf>sys>new-storage.lisp 40
OVERLAY-TO-SAVE	>saf>sys>new-storage.lisp 31
PACKET-HANDLER-FUNCTION-TABLE	>saf>rudp>handle-incoming.lisp 2
PACKET-IMMEDIATE-QUEUE	>saf>rudp>vars.lisp 20
PACKET-OPTIONS	>saf>rudp>handle-incoming.lisp 4
PACKET-PRINT-FUNCTION-TABLE	>saf>rudp>handle-incoming.lisp 3
PACKET-REQUEST-QUEUE	>saf>rudp>vars.lisp 19
PAINT-VEHICLES-AS-ICONS	>saf>sys>vars.lisp 54
PARAGRAPH-DATA	>saf>ui>opord.lisp 17
PARAMETER-DISPLAY-PANE	>saf>interface>model-menu.lisp 19
PART	>saf>interface>model-menu.lisp 14
PIX PER-METER	>saf>interface>formations.lisp 29
PKT	>saf>rudp>vars.lisp 7
PKT-END	>saf>rudp>vars.lisp 9
PKT-PTR	>saf>rudp>vars.lisp 10

```

*PKT-START*
*POLL-WHERE-ARE-THEY-FLAG*
*PRETTY-ALIGNMENT-TABLE*
*PRETTY-TYPE-TABLE*
*PRETTY-WEAPON-TABLE*
*PREV-UNITS*
*PREVIOUS-BUTTON-BOX*
*PRINT-CHANGE-STATUS-MESSAGES*
*PRINT-MESSAGES*
*PVD-DISPLAY*
*PVD-FRAME*
*PVD-LEGEND*
*QUAD-TREE*
*QUADS-INDEX-LIST*
*QUERY-WINDOW*
*RADIO-OUTPUT*
*RAIL-SEGMENT-ARRAY*
*RANGE-THRESHOLD*
*REAPPEAR-LATENCY*
*RED-FORM-FILE-PATHNAME*
*RED-FORMS*
*RELATIVE-DISPLAY*
*REMOTE-IMAGE-TABLE*
*RESET-WAIT-LIMIT*
*RETRANSMIT-PERIOD*
*RETRANSMIT-QUEUE*
*RETRANSMIT-TIMER*
*ROAD-INTERSECTION-ARRAY*
*ROAD-SEGMENT-ARRAY*
*ROBO-COP-CONTROL*
*ROBO-COP-CONTROL*
*RUDP-AREA*
*RUDP-OPTIONS*
*RUDP-OUTPUT-STREAM*
*RUDP-OUTPUT-STREAM*
*RUDP-PACKETS-PROCESSED*
*RUDP-PROCESS-LAST-CYCLE*
*RUDP-RECEIVE-QUEUE*
*RUDP-TYPE-ACK*
*RUDP-TYPE-DATA*
*RUDP-TYPE-SYNCH*
*SAF-APPEARANCE-OPTIONS*
*SAF-CONNECTION-OPTIONS*
*SAF-DEBUG-OPTIONS*
*SAF-INITIALIZATION-LIST*
*SAF-INTERFACE-OPTIONS*
*SANDBOX*
*SANDBOX-OBJECTS-ALIST*
*SAVE-INSTANCE-FILTER*
*SAVE-READTABLE*
*SBX-UNIQUE-UNIT-ID*
*SCENARIO*
*SCENARIO-DIRECTORY*
*SERVICE-ACCESS-PATH*
*SIM-CONN*
*SOIL-ALU*
*SOIL-MUCK-ALU*
*SOIL-RAIL-ALU*

>saf>rudp>vars.lisp 8
>saf>sys>vars.lisp 7
>saf>sys>vars.lisp 82
>saf>network>vars.lisp 146
>saf>network>vars.lisp 112
>saf>cm>control-measure.lisp 25
>saf>ui>opord.lisp 4
>saf>objects>simnet-agent.lisp 49
>saf>rudp>handle-incoming.lisp 5
>saf>sys>vars.lisp 31
>saf>sys>vars.lisp 30
>saf>sys>vars.lisp 32
>map>terrain-vars.lisp 21
>saf>cm>water-avoidance.lisp 2
>saf>interface>model-menu.lisp 202
>saf>sys>vars.lisp 44
>map>terrain-vars.lisp 12
>saf>rudp>vars.lisp 38
>saf>rudp>vars.lisp 37
>saf>interface>formations.lisp 5
>saf>interface>formations.lisp 3
>saf>network>vars.lisp 171
>saf>simnet-objects>draw-vehicles.lisp 88
>saf>network>top-level.lisp 3
>saf>rudp>vars.lisp 30
>saf>rudp>vars.lisp 16
>saf>rudp>vars.lisp 15
>map>terrain-vars.lisp 3
>map>terrain-vars.lisp 2
>saf>ui>parameter-menus.lisp 1
>saf>ui>parameter-menus.lisp 2
>saf>rudp>vars.lisp 1
>saf>rudp>vars.lisp 27
>saf>rudp>vars.lisp 17
>saf>rudp>vars.lisp 18
>saf>rudp>vars.lisp 11
>saf>ui>processes.lisp 17
>saf>rudp>vars.lisp 21
>saf>rudp>vars.lisp 6
>saf>rudp>vars.lisp 5
>saf>rudp>vars.lisp 4
>saf>sys>vars.lisp 4
>saf>sys>vars.lisp 3
>saf>sys>vars.lisp 2
>saf>sys>vars.lisp 6
>saf>sys>vars.lisp 1
>saf>sys>vars.lisp 49
>saf>sys>vars.lisp 78
>saf>sys>new-storage.lisp 22
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>saf>sys>vars.lisp 73
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>saf>sys>new-storage.lisp 39
>saf>rudp>vars.lisp 3
>saf>rudp>vars.lisp 2
>map>color-map.lisp 5
>map>color-map.lisp 11
>map>color-map.lisp 9

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SOIL-WATER-ALU	>map>color-map.lisp 10
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UPDATE-PROCESS-MAX-WAIT-TIME	>saf>sys>update-process.lisp 6
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-180DEG	>saf>sys>constants.lisp 5
-3200MIL	>saf>sys>constants.lisp 6
-90DEG	>saf>sys>constants.lisp 9
11 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 6
13 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 7
15 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 8
1600MIL	>saf>sys>constants.lisp 8
180DEG	>saf>sys>constants.lisp 3
2 π	>saf>sys>constants.lisp 2
3 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 2
3200MIL	>saf>sys>constants.lisp 4
360DEG	>saf>sys>constants.lisp 11
5 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 3
5-DEG	>saf>sys>constants.lisp 18
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7 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 4
9 π /8	>saf>simnet-objects>new-draw-vehicles.lisp 5
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(METHOD ENABLE-MMSHIP-CHANGE BMI)	>saf>bmi>bmi-frame.lisp 2
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ENQUEUE	>saf>sys>macros.lisp 36
ENROUTE-MOVEMENT	>saf>network>vars.lisp 80
ENROUTE-MOVEMENT-REQUEST	>saf>network>packet-layouts.lisp 76
(METHOD ENTER-NEW-CONTROL-MEASURE LINE-CONTROL-MEASURE)	>map>control.lisp 26
(METHOD ENTER-NEW-CONTROL-MEASURE UNIT-BOUNDARY)	>map>control.lisp 28
(METHOD ENTER-NEW-CONTROL-MEASURE AREA-CONTROL-MEASURE)	>map>control.lisp 22
(METHOD ENTER-NEW-CONTROL-MEASURE ARROW-CONTROL-MEASURE)	>map>control.lisp 30
(METHOD ENTER-NEW-CONTROL-MEASURE BATTLE-POSITION)	>map>control.lisp 24
(ERASE CONTROL-MEASURE)	>saf>cm>control-measure.lisp 10

(ERASE SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 30
(METHOD ERASE SIMNET-AGENT BEFORE)	>saf>objects>simnet-agent.lisp 31
(METHOD ERASE LINE)	>saf>cm>line.lisp 13
(METHOD ERASE GENERIC-AREA)	>saf>cm>generic-area.lisp 8
(METHOD ERASE CONTROL-MEASURE-POINT)	>saf>cm>control-measure-point.lisp 6
(METHOD ERASE OVERLAY)	>saf>cm>overlay.lisp 9
(METHOD ERASE VEHICLE)	>saf>objects>vehicle.lisp 3
(METHOD ERASE POINT)	>saf>interface>model-menu.lisp 64
(METHOD ERASE CM-POINT)	>saf>cm>point.lisp 8
(METHOD ERASE ROUTE)	>saf>cm>route.lisp 13
(METHOD ERASE LEGEND-WINDOW)	>map>legend.lisp 4
ERASE-ALL-VEHICLES	>saf>simnet-objects>vehicle-tracking.lisp 27
ERASE-ELAPSED-EFFECTS	>saf>simnet-objects>draw-effects.lisp 7
ERASE-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 8
(METHOD ERASE-IMAGE IMAGE)	>saf>simnet-objects>draw-vehicles.lisp 12
ERASE-IMPACT	>saf>simnet-objects>draw-effects.lisp 2
(METHOD ERASE-NAME CONTROL-MEASURE)	>saf>cm>control-measure.lisp 12
(METHOD ERASE-POINT-AND-LINES POINT)	>saf>interface>model-menu.lisp 81
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ERASE-SANDBOX-OBJECT	>saf>sandbox>sandbox-object.lisp 6
ERASE-VEHICLE-ALU	>saf>simnet-objects>draw-vehicles.lisp 1
EXECUTE-CLOSE-COMMAND	>saf>interface>object-menu.lisp 53
EXECUTE-CONFIGURATION-EDIT-COMMAND	>saf>interface>formations.lisp 92
EXECUTE-CONFIGURATION-GRID-COMMAND	>saf>interface>formations.lisp 77
EXECUTE-CONFIGURATION-UNDO-COMMAND	>saf>interface>formations.lisp 90
EXECUTE-CONFIGURATION-WRITE-COMMAND	>saf>interface>formations.lisp 88
EXECUTE-CONFIGURATION-ZOOM-IN-COMMAND	>saf>interface>formations.lisp 80
EXECUTE-CONFIGURATION-ZOOM-NORMAL-COMMAND	>saf>interface>formations.lisp 81
EXECUTE-CONFIGURATION-ZOOM-OUT-COMMAND	>saf>interface>formations.lisp 82
EXECUTE-IN-NEW-INTERFACE	>saf>ui>mouse-interface.lisp 16
EXECUTE-OVERLAY	>saf>network>vars.lisp 67
EXECUTE-OVERLAY-REQUEST	>saf>network>packet-layouts.lisp 62
EXECUTE-RESET-COMMAND	>saf>interface>object-menu.lisp 62
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EXECUTE-SOUTH NORTH-COMMAND	>saf>interface>formations.lisp 71
(METHOD EXECUTE-SUB-TASK SUB-TASK)	>saf>ui>subordinate-tasking.lisp 23
EXECUTE-UNDO-ALL-COMMAND	>saf>interface>object-menu.lisp 50
EXECUTE-UNDO-COMMAND	>saf>interface>object-menu.lisp 46
EXECUTE-WEST EAST-COMMAND	>saf>interface>formations.lisp 73
EXECUTE-WRITE-COMMAND	>saf>interface>object-menu.lisp 57
EXIT-CONN	>saf>network>connection.lisp 10
EXPAND-FIRST-ROUTE	>saf>cm>route-finder.lisp 3
EXPAND-ROAD-ROUTE	>saf>cm>road-routes.lisp 12
EXPAND-ROUTE	>saf>cm>road-routes.lisp 11
EXPAND-ROUTE-INTO-POINTS	>saf>cm>route-finder.lisp 9
(METHOD EXPOSE CONFIGURATION-ALTITUDE-COMMAND-PANE AFTER)	>saf>interface>formations.lisp 56
(METHOD EXPOSE OBJECT-GLOBAL-COMMAND-PANE AFTER)	>saf>interface>object-menu.lisp 25
(METHOD EXPOSE CONFIGURATION-ORIENTATION-PANE AFTER)	>saf>interface>formations.lisp 54
(METHOD EXPOSE TABLE-COMMAND-PANE AFTER)	>saf>interface>object-menu.lisp 23
(METHOD EXPOSE CONFIGURATION-COMMAND-PANE AFTER)	>saf>interface>formations.lisp 52
EXPOSE-PVD	>saf>ui>frame.lisp 7
(METHOD EXPUNGE POINT)	>saf>interface>model-menu.lisp 65
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EXTEND-CROSSING	>saf>cm>water-avoidance.lisp 11
EXTEND-INTERSECTION	>saf>cm>water-avoidance.lisp 12
EXTEND-SEGMENT	>saf>cm>water-avoidance.lisp 15
EXTRACT-DICE-NUMBERS	>saf>interface>model-menu.lisp 193
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FIGHTER-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 27
FILL-ALPHABET-ARRAY	>map>utm-grid-mixin.lisp 2
FILTERED-SAVE-INSTANCE	>saf>sys>new-storage.lisp 24
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FIND-ICON-ROTATION	>saf>simnet-objects>new-draw-vehicles.lisp 9
FIND-INTER-POINT	>map>vectors.lisp 14
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FIND-NEAREST-BRIDGE	>saf>cm>road-routes.lisp 23
FIND-NEAREST-INTERSECTION	>saf>cm>road-routes.lisp 4
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FIND-NEXT-POINT	>saf>cm>water-avoidance.lisp 20
(FIND-PACKAGE 'SAF)	>saf>sysdcl.lisp 4
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FIND-ROUTE	>saf>cm>route-finder.lisp 2
FIND-ROUTE-AROUND-WATER	>saf>cm>water-avoidance.lisp 3
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FIND-SEGMENT-CROSS-POINTS	>saf>cm>water-avoidance.lisp 21
FIND-SHORTEST	>saf>cm>route-finder.lisp 6
FIND-SHORTEST-ROUTE	>saf>cm>road-routes.lisp 14
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GET-NEW-WEAPON-NAME	>saf>interface>model-menu.lisp 205
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GET-ROAD-POINT	>saf>cm>road-routes.lisp 2
GET-ROAD-ROUTE	>saf>cm>road-routes.lisp 1
GET-ROAD-SEGMENT-POINT	>saf>cm>road-routes.lisp 3
GET-RUDP-BUFFER	>saf>rudp>outgoing.lisp 3
GET-RUDP-PACKET	>saf>rudp>utils.lisp 2
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(METHOD GET-SUBORDINATES SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 9
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(METHOD GET-SUBORDINATES-INSTANCES SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 11
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(METHOD GET-SUPERIOR SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 17
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(METHOD GET-SUPERIOR-INSTANCE SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 19
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(METHOD GET-X FORMATION-OBJECT)	>saf>interface>formations.lisp 38
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(METHOD GRAPHER-NODE-DRAW GRAPHER-NODE)	>saf>objects>grapher-node.lisp 4
(METHOD GRAPHER-NODE-INFERIOR-NODES GRAPHER-NODE)	>saf>objects>grapher-node.lisp 3
GRAPHER-NODE-TO-FLAVOR-NAME	>saf>objects>object-grapher.lisp 10
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(METHOD IMMEDIATE-INTERVENTION-CHOICES VEHICLE)	>saf>objects>vehicle.lisp 5
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(METHOD INITIALIZE-POINTS LINE)	>saf>cm>line.lisp 7
(METHOD INITIALIZE-POINTS GENERIC-AREA)	>saf>cm>generic-area.lisp 4
(METHOD INITIALIZE-POINTS ROUTE)	>saf>cm>route.lisp 8
INSERT-LOCAL-TOP-LEVEL-UNIT	>saf>simnet-objects>vehicle-tracking.lisp 20
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INSERT-POINT-1	>saf>interface>model-menu.lisp 135
(INSERT-POINT-AFTER CONTROL-MEASURE)	>saf>cm>control-measure.lisp 16
(METHOD INSERT-POINT-AFTER ROUTE)	>saf>cm>route.lisp 17
(METHOD INSERT-POINT-AFTER LINE)	>saf>cm>line.lisp 17
(METHOD INSERT-POINT-AFTER GENERIC-AREA)	>saf>cm>generic-area.lisp 11
(INSERT-POINT-BEFORE CONTROL-MEASURE)	>saf>cm>control-measure.lisp 17
(METHOD INSERT-POINT-BEFORE ROUTE)	>saf>cm>route.lisp 18
(METHOD INSERT-POINT-BEFORE LINE)	>saf>cm>line.lisp 18
(METHOD INSERT-POINT-BEFORE GENERIC-AREA)	>saf>cm>generic-area.lisp 12
INSIDE	>map>clip.lisp 16
INTERSECTION-DIRECTION	>saf>cm>water-avoidance.lisp 16
INTERVENE	>saf>objects>intervention.lisp 1
(METHOD INTERVENE SIMNET-AGENT ALTITUDE)	>saf>objects>intervention.lisp 9
(METHOD INTERVENE SIMNET-AGENT ATTACK)	>saf>objects>intervention.lisp 15
(METHOD INTERVENE SIMNET-AGENT COMMAND-FROM-SIMULATOR)	>saf>objects>intervention.lisp 11
(METHOD INTERVENE SIMNET-AGENT ENROUTE-MOVEMENT)	>saf>objects>intervention.lisp 7
(METHOD INTERVENE SIMNET-AGENT FACE-DIRECTION)	>saf>objects>intervention.lisp 4
(METHOD INTERVENE SIMNET-AGENT FOLLOW-VEHICLE)	>saf>objects>intervention.lisp 10
(METHOD INTERVENE SIMNET-AGENT FORMATION)	>saf>objects>intervention.lisp 19
(METHOD INTERVENE SIMNET-AGENT GO-TO-LOCATION)	>saf>objects>intervention.lisp 12
(METHOD INTERVENE SIMNET-AGENT HALT)	>saf>objects>intervention.lisp 5
(METHOD INTERVENE SIMNET-AGENT HOLD)	>saf>objects>intervention.lisp 6
(METHOD INTERVENE SIMNET-AGENT LAND)	>saf>objects>intervention.lisp 14
(METHOD INTERVENE SIMNET-AGENT OTHERWISE)	>saf>objects>intervention.lisp 2
(METHOD INTERVENE SIMNET-AGENT REJOIN-UNIT)	>saf>objects>intervention.lisp 18
(METHOD INTERVENE SIMNET-AGENT RESUME)	>saf>objects>intervention.lisp 16

(METHOD INTERVENE SIMNET-AGENT RESUME-ALL-SUBORDINATES)	>saf>objects>intervention.lisp 17
(METHOD INTERVENE SIMNET-AGENT RESUPPLY)	>saf>objects>intervention.lisp 13
(METHOD INTERVENE SIMNET-AGENT RULES-OF-ENGAGEMENT)	>saf>objects>intervention.lisp 3
(METHOD INTERVENE SIMNET-AGENT SPEED)	>saf>objects>intervention.lisp 8
INTERVISIBILITY	>saf>network>vars.lisp 17
INTERVISIBILITY	>saf>network>packet-layouts.lisp 16
INVISIBLE	>saf>sys>constants.lisp 26
IS-STATUS	>saf>simnet-objects>macros.lisp 10
ITERATED-SYMBOL	>saf>sys>new-storage.lisp 5
IVIS-CONTACT	>saf>network>vars.lisp 29
IVIS-CONTACT	>saf>network>packet-layouts.lisp 36
IVIS-CONTACT	>saf>rudp>handle-incoming.lisp 19
IVIS-CONTROL	>saf>network>vars.lisp 57
(METHOD IVIS-CONTROL SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 59
IVIS-CONTROL-REQUEST	>saf>network>packet-layouts.lisp 39
IVIS-FINE-CONTROL	>saf>network>vars.lisp 58
IVIS-FINE-CONTROL-REQUEST	>saf>network>packet-layouts.lisp 40
IVIS-SHELL	>saf>network>vars.lisp 31
IVIS-SHELL	>saf>network>packet-layouts.lisp 38
IVIS-SHELL	>saf>rudp>handle-incoming.lisp 21
IVIS-SPOT	>saf>network>vars.lisp 30
IVIS-SPOT	>saf>network>packet-layouts.lisp 37
IVIS-SPOT	>saf>rudp>handle-incoming.lisp 20
Init Icons	>saf>simnet-objects>draw-units.lisp 3
Init Images	>saf>simnet-objects>draw-vehicles.lisp 90
Init Window	>saf>color-window>color-alus.lisp 3
JUMP-TO-B&W-SCREEN	>saf>ui>mouse-interface.lisp 6
JUMP-TO-COLOR-SCREEN	>saf>ui>mouse-interface.lisp 7
(METHOD KILL OVERLAY)	>saf>cm>overlay.lisp 4
LAKES-THRU	>saf>cm>water-check.lisp 11
LAND	>saf>network>vars.lisp 83
LAND-REQUEST	>saf>network>packet-layouts.lisp 73
LAST-CAR	>saf>interface>model-menu.lisp 67
LAST-ITEM-ON	>saf>sys>macros.lisp 38
LEFT-BOTTOM-REGION	>map>clip.lisp 10
LEFT-COLUMN	>map>clip.lisp 8
LEFT-EDGE	>map>clip.lisp 11
(METHOD LEFT-X-GRID UTM-GRID-MIXIN)	>map>grids.lisp 2
LEGEND-LENGTH	>map>zoom-levels.lisp 33
LEGEND-SIZE	>map>zoom-levels.lisp 31
LEGEND-WINDOW	>map>legend.lisp 2
LINE	>saf>network>vars.lisp 64
LINE	>saf>cm>line.lisp 1
LINE	>saf>cm>line.lisp 23
LINE-BEHAVIOR	>saf>cm>line.lisp 2
LINE-CONTROL-MEASURE	>map>control.lisp 14
LINE-CONTROL-MEASURE	>map>control.lisp 33
LINE-REQUEST	>saf>network>packet-layouts.lisp 58
LIST-ELEMENT	>saf>interface>object-menu.lisp 37
LIST-INSTANCE-VARIABLE-VALUES	>saf>interface>model-menu.lisp 85
LIST-INSTANCE-VARIABLES	>saf>interface>model-menu.lisp 84
LOAD-DATA-LIST-IF-NECESSARY	>saf>interface>formations.lisp 47
LOAD-OVERLAY	>saf>sys>new-storage.lisp 42
LOAD-SCENARIO	>saf>sys>new-storage.lisp 43
LOCAL	>saf>network>vars.lisp 163
LOCAL-FIGHTER-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 25

LOCAL-HELO-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 19
LOCAL-TOP-LEVEL-UNIT-POSITION	>saf>simnet-objects>vehicle-tracking.lisp 19
LOCAL-UNIT	>saf>cm>control-measure.lisp 24
LOOKUP-DICTIONARY	>saf>interface>model-menu.lisp 162
LOOKUP-HANDLER-FUNCTION	>saf>rudp>handle-incoming.lisp 7
LOOKUP-ID	>saf>simnet-objects>macros.lisp 6
LOOKUP-PRINT-FUNCTION	>saf>rudp>handle-incoming.lisp 9
M/SEC-TO-SPEED	>saf>sys>utilities.lisp 7
MACHINE-STATUS	>saf>network>vars.lisp 26
MACHINE-STATUS	>saf>network>packet-layouts.lisp 31
MACHINE-STATUS	>saf>rudp>handle-incoming.lisp 16
MAJOR-CONTOUR-LINE-INTERVAL	>map>zoom-levels.lisp 9
MAKE-AGENT	>saf>simnet-objects>vehicle-tracking.lisp 31
MAKE-AIRPORT	>saf>bmi>airport.lisp 7
MAKE-AIRPORTS	>saf>bmi>airport.lisp 8
MAKE-ALU-AND-SET-COLOR-MAP	>map>color-map.lisp 18
MAKE-AN-ALU	>map>color-map.lisp 16
MAKE-APPLIES-TO-UNIT-MENU	>saf>cm>control-measure.lisp 27
MAKE-AREA	>saf>cm>area.lisp 10
MAKE-BATTALION-NAME	>saf>objects>simnet-name-mixin.lisp 7
(METHOD MAKE-BEHAVIOR LINE)	>saf>cm>line.lisp 5
(METHOD MAKE-BEHAVIOR AREA)	>saf>cm>area.lisp 3
(METHOD MAKE-BEHAVIOR CM-POINT)	>saf>cm>point.lisp 5
(METHOD MAKE-BEHAVIOR ROUTE)	>saf>cm>route.lisp 6
(METHOD MAKE-BEHAVIOR ZONE)	>saf>cm>zone.lisp 4
MAKE-COLOR-ALUS	>map>color-map.lisp 21
MAKE-COLOR-ARRAY	>map>color-map.lisp 20
MAKE-CONNECTION	>saf>bmi>presentation-types.lisp 2
MAKE-COPY-OF-INSTANCE-POINT	>saf>interface>model-menu.lisp 87
MAKE-DICTIONARY-PAIRS	>saf>interface>model-menu.lisp 159
MAKE-DOCUMENTATION	>saf>interface>model-menu.lisp 100
MAKE-DOTTED-SUBLISTS	>saf>interface>model-menu.lisp 198
MAKE-FT-KNOX-ZOOM-LEVELS	>map>zoom-levels.lisp 38
(METHOD MAKE-FWA-SANDBOX-OBJECT AIRPORT)	>saf>bmi>airport.lisp 6
(METHOD MAKE-FWA-SANDBOX-OBJECT-INTERNAL BMI)	>saf>bmi>bmi-frame.lisp 39
MAKE-GAP-BETWEEN-POINTS	>saf>interface>model-menu.lisp 68
MAKE-GRAPH-GIVEN-POINTS	>saf>interface>model-menu.lisp 120
MAKE-HITMODELS-DICTIONARY	>saf>interface>model-menu.lisp 157
MAKE-HUNTERLGT-ZOOM-LEVELS	>map>zoom-levels.lisp 41
(METHOD MAKE-INSTANCE SUB-TASK AFTER)	>saf>ui>subordinate-tasking.lisp 21
(METHOD MAKE-INSTANCE LINE AFTER)	>saf>cm>line.lisp 6
(METHOD MAKE-INSTANCE MODEL-MENU AFTER)	>saf>interface>model-menu.lisp 96
(METHOD MAKE-INSTANCE OVERLAY AFTER)	>saf>cm>overlay.lisp 3
(METHOD MAKE-INSTANCE ROUTE AFTER)	>saf>cm>route.lisp 7
(METHOD MAKE-INSTANCE AIRPORT AFTER)	>saf>bmi>airport.lisp 4
(METHOD MAKE-INSTANCE CONTROL-MEASURE AFTER)	>saf>cm>control-measure.lisp 5
(METHOD MAKE-INSTANCE CONTROL-MEASURE-POINT AFTER)	>saf>cm>control-measure-point.lisp 2
(METHOD MAKE-INSTANCE SAF AFTER)	>saf>ui>frame.lisp 14
(METHOD MAKE-INSTANCE SIMNET-AGENT AFTER)	>saf>objects>simnet-agent.lisp 2
(METHOD MAKE-INSTANCE GENERIC-AREA AFTER)	>saf>cm>generic-area.lisp 3
(METHOD MAKE-INSTANCE UNIT-TASK AFTER)	>saf>ui>subordinate-tasking.lisp 19
(METHOD MAKE-INSTANCE OPFOR-SUB-PROCESS AFTER)	>saf>ui>processes.lisp 11
MAKE-LINE	>saf>cm>line.lisp 24
MAKE-OBJECT-FILE-DICTIONARY	>saf>interface>object-menu.lisp 91
MAKE-OBJECT-GRAPHER-NODE	>saf>objects>object-grapner.lisp 4
MAKE-OBJECT-LIST-RECURSIVE	>saf>sys>new-storage.lisp 12
MAKE-OPFOR-SUB-PROCESS-FUNCTION	>saf>ui>processes.lisp 3

MAKE-OPFOR-SUB-PROCESS-FUNCTION-1	>saf>ui>processes.lisp 2
MAKE-OPS-BUTTON	>saf>ui>opord.lisp 19
MAKE-ORTHOGONAL-LIST	>saf>network>commands.lisp 13
MAKE-OVERLAY	>saf>cm>overlay.lisp 24
MAKE-PARAGRAPH	>saf>ui>opord.lisp 10
MAKE-POINT	>saf>cm>point.lisp 17
MAKE-PVD-FRAME	>saf>ui>frame.lisp 5
MAKE-RECEIVE-QUEUE-ITEM	>saf>rudp>utils.lisp 7
MAKE-RETRANSMIT-QUEUE-ITEM	>saf>rudp>utils.lisp 5
MAKE-ROUTE	>saf>cm>route.lisp 24
MAKE-RUDP-PROCESS	>saf>ui>processes.lisp 20
(METHOD MAKE-SANDBOX-OBJECT-INTERNAL BMI)	>saf>bmi>bmi-frame.lisp 37
MAKE-SIMHOST-READTABLE	>saf>interface>model-menu.lisp 155
MAKE-SUBPARAGRAPH	>saf>ui>opord.lisp 13
MAKE-UNDOTTED-SUBLISTS	>saf>interface>model-menu.lisp 199
MAKE-UNIT-LIST	>saf>ui>subordinate-tasking.lisp 25
(METHOD MAKE-UNIT-NAME SIMNET-NAME-MIXIN)	>saf>objects>simnet-name-mixin.lisp 8
MAKE-UPDATE-PROCESS	>saf>ui>processes.lisp 21
MAKE-ZONE	>saf>cm>zone.lisp 10
MAP	>map>defsystem.lisp 3
(METHOD MAP-DRAW-TAPERED-WIDE-CURVE GRAPHICS-MIXIN)	>map>draw-wide-curve.lisp 2
(METHOD MAP-DRAW-WIDE-CURVE GRAPHICS-MIXIN)	>map>draw-wide-curve.lisp 1
MAP-ECHELON-TO-NUMBER	>saf>sys>interim-model.lisp 31
MAP-ECHELON-TYPE-TO-ICON	>saf>sys>interim-model.lisp 33
MAP-ECHELON-TYPE-TO-NUMBER	>saf>sys>interim-model.lisp 32
MAP-LEGEND	>saf>ui>frame-utils.lisp 3
MAP-LEGEND	>saf>ui>frame-utils.lisp 4
MAP-NUMBER-TO-ECHELON	>saf>sys>interim-model.lisp 30
MAP-NUMBER-TO-ICON	>saf>sys>interim-model.lisp 29
MAP-OVER-ALL-VEHICLE-HOLDERS	>saf>simnet-objects>vehicle-tracking.lisp 2
MAP-OVER-ALL-VEHICLE-HOLDERS	>saf>simnet-objects>vehicle-tracking.lisp 9
MAP-OVER-ALL-VEHICLES	>saf>simnet-objects>vehicle-tracking.lisp 1
MAP-OVER-ALL-VEHICLES	>saf>simnet-objects>vehicle-tracking.lisp 6
MAP-PREDICATE-OVER-VEHICLES	>saf>simnet-objects>vehicle-tracking.lisp 7
MAP-WINDOW	>saf>ui>frame-utils.lisp 1
MAP-WINDOW	>saf>ui>frame-utils.lisp 2
MAPQUEUE	>saf>sys>macros.lisp 40
MATH-ANGLE	>saf>sys>macros.lisp 5
MATH-TO-COMPASS	>saf>sys>macros.lisp 1
MAVERICK-MISSILE	>saf>network>vars.lisp 155
MAX-VEH-TYPES	>saf>network>vars.lisp 121
MAX-VEHICLES	>saf>sys>constants.lisp 37
MAX-WEAPONS	>saf>network>vars.lisp 111
MAX_UNIQUE_ID	>saf>sys>vars.lisp 75
MAYBE-LOAD-FORMATION-DATA	>saf>bmi>utilities.lisp 8
MAYBE-MAKE-TERRAIN-MENU	>saf>ui>menus.lisp 4
(METHOD MAYBE-REPARSE-SUBORDINATES SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 8
MAYBE-SAY	>saf>sys>macros.lisp 21
MECH-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 66
MECH-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 67
MENU-CHOOSE	>saf>sys>utilities.lisp 3
MERGE-UNIT-TASKING	>saf>ui>subordinate-tasking.lisp 27
MIL-TO-RAD	>saf>sys>constants.lisp 16
MILITARY-TIME-STRING-FROM-BFLY-NUMBER	>saf>sys>time.lisp 7
MILITARY-TIME-STRING-FROM-UNIVERSAL-TIME	>saf>sys>time.lisp 8
MILS	>saf>bmi>presentation-types.lisp 11

MILS-TO-RADIANS-COMPASS	>saf>sys>macros.lisp 8
MILS-TO-RADIANS-MATH	>saf>sys>macros.lisp 9
MINE-AMMO-TYPE	>saf>simnet-objects>draw-effects.lisp 4
MINEFIELD	>saf>network>vars.lisp 54
MINEFIELD-CREATION	>saf>network>vars.lisp 27
MINEFIELD-CREATION	>saf>network>packet-layouts.lisp 9
MINEFIELD-CREATION	>saf>rdp>handle-incoming.lisp 17
MINEFIELD-REQUEST	>saf>network>packet-layouts.lisp 27
MINOR-CONTOUR-LINE-INTERVAL	>map>zoom-levels.lisp 11
MISSILE-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 60
MISSILE-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 63
MISSION-CONTROL-ABORT	>saf>network>vars.lisp 11
MISSION-CONTROL-AWAIT	>saf>network>vars.lisp 8
MISSION-CONTROL-IMMEDIATE	>saf>network>vars.lisp 10
MISSION-CONTROL-NODISTRIBUTE	>saf>network>vars.lisp 12
MISSION-CONTROL-NOTIFY	>saf>network>vars.lisp 9
MKATOM	>saf>sys>new-storage.lisp 3
MODEL	>saf>sysdcl.lisp 15
MODEL-MENU	>saf>interface>model-menu.lisp 95
MONTHS-ARRAY	>saf>sys>time.lisp 6
MORTAR-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 74
MORTAR-IMAGE	>saf>simnet-objects>draw-vehicles.lisp 75
MOUSE-DEFAULT-HANDLER	>saf>sys>zl-tv-patches.lisp 1
MOUSE-FLIP-SCREEN	>saf>ui>mouse-interface.lisp 3
(METHOD MOUSE-GESTURE SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 46
MOUSE-GESTURE-ITEM-LIST	>saf>objects>simnet-agent.lisp 42
(METHOD MOUSE-GESTURE-ITEM-LIST VEHICLE APPEND)	>saf>objects>vehicle.lisp 4
(METHOD MOUSE-GESTURE-ITEM-LIST SIMNET-AGENT APPEND)	>saf>objects>simnet-agent.lisp 44
(METHOD MOUSE-GESTURE-ITEM-LIST COMPOSITE-OBJECT APPEND)	>saf>objects>composite-object.lisp 4
(METHOD MOUSE-GESTURE-MENU SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 45
MOUSE-ON-BRIDGE-APPROACH-POINT	>saf>cm>road-routes.lisp 22
(METHOD MOUSE-TO-WORLD SCALABLE-WINDOW)	>map>scalable-window.lisp 41
MOUSE-UNIT-OPERATIONS	>saf>objects>simnet-agent.lisp 62
MOUSE-WORKSTATION-BATTALION	>saf>ui>task-org.lisp 2
MOVE-CONFIGURATION-VEHICLE	>saf>interface>formations.lisp 67
(METHOD MOVE-CONTROL-MEASURE LINE)	>saf>cm>line.lisp 20
(METHOD MOVE-CONTROL-MEASURE AREA)	>saf>cm>area.lisp 7
(METHOD MOVE-CONTROL-MEASURE ZONE)	>saf>cm>zone.lisp 7
MOVE-DOWN-CONTOUR-LIST	>map>draw-terrain.lisp 17
(MOVE-POINT CONTROL-MEASURE)	>saf>cm>control-measure.lisp 14
MOVE-POINT	>saf>interface>model-menu.lisp 132
(METHOD MOVE-POINT LINE)	>saf>cm>line.lisp 15
(METHOD MOVE-POINT GENERIC-AREA)	>saf>cm>generic-area.lisp 9
(METHOD MOVE-POINT CM-POINT)	>saf>cm>point.lisp 9
(METHOD MOVE-POINT ROUTE)	>saf>cm>route.lisp 15
MOVE-TOP-LEVEL-UNIT-DOWN	>saf>simnet-objects>vehicle-tracking.lisp 22
MOVE-TOP-LEVEL-UNIT-TO-BACK	>saf>simnet-objects>vehicle-tracking.lisp 18
MOVE-TOP-LEVEL-UNIT-TO-FRONT	>saf>simnet-objects>vehicle-tracking.lisp 17
MOVE-TOP-LEVEL-UNIT-UP	>saf>simnet-objects>vehicle-tracking.lisp 21
MOVE-UP-DOWN-POINT	>saf>interface>model-menu.lisp 137
MS-DYNAMIC-WINDOW-PANE	>saf>interface>model-menu.lisp 129
MS-PANE	>saf>interface>model-menu.lisp 140
(METHOD MULTIPLE-CHOICE-ALL-HIDE MULTIPLE-CHOICE-MIXIN)	>saf>ui>menus.lisp 2
(METHOD MULTIPLE-CHOICE-ALL-SHOW MULTIPLE-CHOICE-MIXIN)	>saf>ui>menus.lisp 1
MULTIPLE-MENU-CHOOSE	>saf>sys>new-storage.lisp 48
MULTIPLE-MENU-CHOOSE-UNITS	>saf>cm>control-measure.lisp 28

MULTIPLE-MENU-DELETE-CMS	>saf>cm>overlay.lisp 17
(METHOD MURDER OPFOR-SUB-PROCESS)	>saf>ui>processes.lisp 14
NAME	>saf>sysdcl.lisp 1
NAME-AND-STORE-OVERLAY	>saf>sys>new-storage.lisp 32
NAME-AND-STORE-SCENARIO	>saf>sys>new-storage.lisp 34
NAMES-OF-DISK-SANDBOXES	>saf>sandbox>utilities.lisp 2
NANP	>saf>sys>macros.lisp 45
NEAR	>map>utilities.lisp 18
NET-DOUBLE	>saf>network>packet-layouts.lisp 2
NET-FLOAT	>saf>network>packet-layouts.lisp 1
NET-INT	>saf>network>packet-layouts.lisp 3
NET-MSG	>saf>rdp>outgoing.lisp 9
NET-SHORT	>saf>network>packet-layouts.lisp 4
NETWORK-COMMS	>saf>sysdcl.lisp 10
NETWORK-INTERSECTION	>map>terrain-vars.lisp 36
NETWORK-PROCESS-WAKE-UP	>saf>ui>processes.lisp 18
NETWORK-SEGMENT	>map>terrain-vars.lisp 35
NEW-INTERFACE-PROCESS-FUNCTION	>saf>ui>mouse-interface.lisp 17
NEW-SBX-UNIQUE-UNIT-ID	>saf>sys>vars.lisp 76
(METHOD NEW-SCALE SCALABLE-WINDOW AFTER)	>map>scalable-window.lisp 9
(METHOD NEW-SCALE SCALABLE-WINDOW BEFORE)	>map>scalable-window.lisp 8
(METHOD NEW-SCALE SCALABLE-WINDOW)	>map>scalable-window.lisp 7
(METHOD NEW-SCALE-INTERNAL SCALABLE-WINDOW)	>map>scalable-window.lisp 6
NEXT-ITEM-OFF	>saf>sys>macros.lisp 39
NEXT-ZOOM-IN	>map>zoom-levels.lisp 37
NEXT-ZOOM-OUT	>map>zoom-levels.lisp 35
NIL	>map>utm-grid-mixin.lisp 3
NO-CONNECTION	>saf>bmi>presentation-types.lisp 1
NON-GODS-EYE-VIEW	>saf>sys>vars.lisp 25
NORMALIZE-AND-ROTATE	>saf>cm>water-avoidance.lisp 17
NORMALIZE-ANGLE	>saf>interface>formations.lisp 121
NORMALIZE-LEFT	>saf>interface>formations.lisp 123
NORMALIZE-RIGHT	>saf>interface>formations.lisp 122
NOTIFY	>saf>network>vars.lisp 18
NOTIFY	>saf>network>packet-layouts.lisp 17
NOTZEROP	>saf>interface>formations.lisp 132
NS-BLOCKED-P	>saf>interface>formations.lisp 101
NUMBER-ELEMENT	>saf>interface>object-menu.lisp 34
OBJECT-COMPONENTS	>saf>objects>object-grapher.lisp 1
OBJECT-DEPENDENTS	>saf>objects>object-grapher.lisp 3
OBJECT-GLOBAL-COMMAND-PANE	>saf>interface>object-menu.lisp 24
OBJECT-GRAPHER	>saf>objects>object-grapher.lisp 7
OBJECT-GRAPHER-NODE	>saf>objects>object-grapher.lisp 9
OBJECT-GRAPHER-NODE	>saf>objects>object-grapher.lisp 11
OBJECTS	>saf>sysdcl.lisp 11
OBSERVER-FORCE	>saf>sys>vars.lisp 22
OFFSET-POINT	>saf>cm>water-avoidance.lisp 27
OFFSET-POINTS	>saf>cm>water-avoidance.lisp 26
(METHOD ON-POINT? POINT)	>saf>interface>model-menu.lisp 63
(METHOD ON-SCREEN-P SCALABLE-WINDOW)	>map>scalable-window.lisp 39
(METHOD ON-TERRAIN-P SCALABLE-WINDOW)	>map>scalable-window.lisp 37
OPFOR	>saf>network>vars.lisp 92
OPFOR-CHOOSE-VARIABLE-VALUES	>saf>sys>cl-tv-patches.lisp 2
OPFOR-CHOOSE-VARIABLE-VALUES-PROCESS-MESSAGE	>saf>sys>zl-tv-patches.lisp 3
OPFOR-HEADER	>saf>network>packet-layouts.lisp 5
OPFOR-MENU-CHOOSE	>saf>sys>cl-tv-patches.lisp 5
OPFOR-SUB-PROCESS	>saf>ui>processes.lisp 8
OPFOR-SUB-PROCESS-REPORTS	>saf>ui>processes.lisp 6

OPFOR-SYMBOL	>saf>bmi>utilities.lisp 6
OPFOR-TEMPORARY-CHOOSE-VARIABLE-VALUES-WINDOW	>saf>sys>cl-tv-patches.lisp 1
(METHOD OPFOR-TRIANGULATE-CONVEX-POLYGON GRAPHICS-MIXIN)	>saf>sys>cl-tv-patches.lisp 4
OPORD	>saf>ui>opord.lisp 31
OPORD-BUTTON	>saf>ui>opord.lisp 5
OPORD-BUTTON	>saf>ui>opord.lisp 8
OPS-BUTTON	>saf>ui>opord.lisp 18
OPS-BUTTON	>saf>ui>opord.lisp 21
OPS-BUTTON	>saf>ui>opord.lisp 22
(OR (MEMBER EIGHT-BIT-COLOR *FEATURES*)	
(MEMBER CAD-BUFFER-COLOR *FEATURES*)	
(NOT (FDEFINEDP 'COLOR-SYSTEM-DESCRIPTION)))	>saf>sysdcl.lisp 8
(METHOD ORTHOGONALIZE LINE)	>saf>cm>line.lisp 14
(METHOD ORTHOGONALIZE GENERIC-AREA)	>saf>cm>generic-area.lisp 13
(METHOD ORTHOGONALIZE ROUTE)	>saf>cm>route.lisp 14
OTHER-FORCE	>saf>sys>vars.lisp 21
OVERLAY	>saf>cm>overlay.lisp 1
OVERLAY	>saf>cm>overlay.lisp 23
OVERLAY-IS-MODIFIED	>saf>ui>subordinate-tasking.lisp 2
(METHOD OVERLAY-OPS OVERLAY)	>saf>cm>overlay.lisp 22
OVERLAY?	>saf>cm>overlay.lisp 2
P2-BOTTOM	>map>clip.lisp 12
P2-LEFT	>map>clip.lisp 15
P2-LEFT-TOP	>map>clip.lisp 14
(METHOD PACKET-BUFFER-PANIC UDP-PROTOCOL)	>saf>network>ip-tcp-patch.lisp 3
(METHOD PAINT ROUTE)	>saf>cm>route.lisp 11
(METHOD PAINT LINE)	>saf>cm>line.lisp 11
(METHOD PAINT GENERIC-AREA)	>saf>cm>generic-area.lisp 6
(METHOD PAINT CONTROL-MEASURE-POINT)	>saf>cm>control-measure-point.lisp 3
(METHOD PAINT-NAME ROUTE)	>saf>cm>route.lisp 10
(METHOD PAINT-NAME LINE)	>saf>cm>line.lisp 9
(METHOD PAINT-NAME GENERIC-AREA)	>saf>cm>generic-area.lisp 5
PAINTED-P	>saf>simnet-objects>vehicle-tracking.lisp 5
(METHOD PAN-TO-NEW-POINT SCALABLE-WINDOW)	>map>scalable-window.lisp 21
PAN-TO-POINT	>saf>ui>commands.lisp 10
PARAGRAPH	>saf>ui>opord.lisp 9
PARAGRAPH	>saf>ui>opord.lisp 15
PARALLEL-DISTANCE	>saf>cm>road-routes.lisp 8
PARAMETER-DISPLAY-PANE	>saf>interface>model-menu.lisp 130
PARSE-COORDS	>saf>ui>commands.lisp 11
PARTIAL-SORT	>saf>cm>route-finder.lisp 5
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PIE	>map>utilities.lisp 1
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POLL-REQUEST	>saf>network>packet-layouts.lisp 26
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(POP-CHANGE-LIST OBJECT-MS-PANE)	>saf>interface>object-menu.lisp 18
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(METHOD POSSIBLE-CISS SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 24
(METHOD POSSIBLE-FORMATIONS SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 23
POSSIBLE-INTERSECTION	>map>intersection.lisp 10
PREPARE-OBJECT-DATA-FOR-MENU-USE	>saf>interface>object-menu.lisp 14
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PRESENT-TABLE	>saf>interface>model-menu.lisp 210
PRESENT-WEAPON-NAMES	>saf>interface>object-menu.lisp 28
PRINT-FRAGO-COUNT	>saf>ui>subordinate-tasking.lisp 9
PRINT-MESSAGE	>saf>rdp>handle-incoming.lisp 30
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(METHOD PRINT-SELF CONTROL-MEASURE)	>saf>cm>control-measure.lisp 6
(METHOD PRINT-SELF SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 3
(METHOD PRINT-SELF OVERLAY)	>saf>cm>overlay.lisp 5
(METHOD PRINT-SELF CONTROL-MEASURE-BEHAVIOR)	>saf>cm>control-measure.lisp 20
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(PROPERTY NET-DOUBLE DEFSTORAGE-PROCESSOR)	>saf>network>defstorage.lisp 9
(PROPERTY NET-FLOAT DEFSTORAGE-PROCESSOR)	>saf>network>defstorage.lisp 1
(PROPERTY NET-INT DEFSTORAGE-DESCRIBE)	>saf>network>defstorage.lisp 4
(PROPERTY NET-INT DEFSTORAGE-PROCESSOR)	>saf>network>defstorage.lisp 3
(PROPERTY NET-SHORT DEFSTORAGE-PROCESSOR)	>saf>network>defstorage.lisp 2
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'GET-QUAD-NODES	>map>utilities.lisp 15
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'UTM-GRID-MIXIN	
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NET-DISTANCE	
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INTERSECTION-POS-X	
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'CONTOUR-POINT-INTERVAL	>map>zoom-levels.lisp 12
'VEC-ANGLE	>map>vectors.lisp 11
'QUADS-TO-DRAW	>map>quadtree-search.lisp 1
'CURRENT-ANCHOR-X	>map>zoom-levels.lisp 26
'MAKE-ALU-AND-SET-COLOR-MAP	>map>color-map.lisp 17
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'DRAW-LEGEND	>map>legend.lisp 6
'CURRENT-ANCHOR-Y	>map>zoom-levels.lisp 28
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'(*NEW-INTERFACE-FLG* CONSIDER-FLIPPING)	>saf>ui>mouse-interface.lisp 1
ZOOM-LEVELS	>map>zoom-levels.lisp 2
QUAD-TREE	>map>terrain-vars.lisp 20
'(TYPE-OR-TOKEN TYPE-OR-NULL TYPE-OR-NO-CHANGE)	>saf>sys>dw-presentation-types.lisp 1
CONTROL-MEASURE	>map>control.lisp 7
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QUAD-TREE-COMMENTS	
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QUAD-TREE-SIZE	
QUAD-TREE-RESOLUTION	
QUAD-TREE-X	
QUAD-TREE-Y	
QUAD-TREE-MAX-X	
QUAD-TREE-MAX-Y	
QUAD-TREE-UTM-SW-CORNER	

QUAD-TREE-UTM-NE-CORNER	
QUAD-TREE-MIN-Z	
QUAD-TREE-MAX-Z	
QUAD-TREE-ZOOM-LEVELS	
QUAD-TREE-COLOR-MAP)	>map>terrain-vars.lisp 22
'WITH-FAST-MAP-GRAPHICS	>map>utilities.lisp 6
'ARROW-CONTROL-MEASURE	>map>control.lisp 17
'WINDOW-SCALE	>map>scalable-window.lisp 11
'CONTROL-MEASURES-MENU	>map>control.lisp 52
'SCREEN-TO-WORLD	>map>utilities.lisp 8
'FIND-ROUTE	>saf>cm>route-finder.lisp 1
OVERLAY-ALU	>map>color-map.lisp 1
'AREA-CONTROL-MEASURE	>map>control.lisp 9
'BATTLE-POSITION	>map>control.lisp 11
'(*ERASE-VEHICLES-ALU* *DEFENSE-ALU* *OFFENSE-ALU* *TRIM-ALU* *ERASE-EFFECTS-ALU*	
WHITE-EFFECTS-ALU *YELLOW-EFFECTS-ALU* *BOMB-EFFECTS-ALU* *ERASE-OVERLAY-ALU*	
OVERLAY-ALU)	>saf>color-window>color-alus.lisp 1
'WITH-MAP-GRAPHICS	>map>utilities.lisp 4
'POINT-LINE-INTERSECTION	>map>intersection.lisp 13
'SCALABLE-WINDOW	>map>scalable-window.lisp 1
'(*ROAD-SEGMENT-ARRAY* *ROAD-INTERSECTION-ARRAY* *RAIL-SEGMENT-ARRAY* *BRIDGE-ARRAY*	
TREES-ARRAY *CONTOUR-ARRAY* *OBJECT-ARRAY* *CANOPY-ARRAY* *CANOPY-TRIANGLES*	
WATER-SEGMENT-ARRAY *WATER-INTERSECTION-ARRAY* *WATER-AREA-ARRAY*	
WATER-AREA-TRIANGLES)	>map>terrain-vars.lisp 1
'DRAW-ALL-TERRAIN	>map>draw-terrain.lisp 5
'POSSIBLE-INTERSECTION	>map>intersection.lisp 9
'POINT-SEGMENT-INTERSECTION	>map>intersection.lisp 11
'SELECT-POLYGON	>map>control.lisp 42
'SINGLE-POINT	>map>control.lisp 44
'VEC-ADD	>map>vectors.lisp 5
'HEIGHT-AT-POINT	>map>draw-terrain.lisp 34
'SEGMENT-INTERSECTS-POLYGON-P	>map>intersection.lisp 6
'(DRAW-IMAGE ERASE-IMAGE)	>saf>simnet-objects>draw-vehicles.lisp 6
'SET-ORIGIN-UTM-COORDINATES	>map>utm-grid-mixin.lisp 10
'VEC-ROTATE	>map>vectors.lisp 3
'NEXT-ZOOM-OUT	>map>zoom-levels.lisp 34
'GET-LOCATION-AND-BEARING	>saf>sandbox>utilities.lisp 5
'VEC-SUB	>map>vectors.lisp 7
'TERRAIN-OPTIONS-MENU	>map>draw-terrain.lisp 2
CURRENT-ZOOM-LEVEL	>map>zoom-levels.lisp 4
'(OPFOR-SUB-PROCESS PROCESS)	>saf>ui>processes.lisp 9
'CURRENT-SCALE	>map>zoom-levels.lisp 24
'(FORMAT-COORDINATES SC WC)	>saf>sys>utilities.lisp 4
'VEC-NORMALIZE	>map>vectors.lisp 1
'MAKE-AREA	>saf>sysdcl.lisp 6
'(GET-SUPERIOR SET-SUPERIOR GET-SUPERIOR-INSTANCE SET-SUPERIOR-INSTANCE GET-ALL-SUPERIORS)	>saf>objects>simnet-agent.lisp 16
'NEAR	>map>utilities.lisp 17
'ZOOM-IN-AROUND-CENTER	>map>scalable-window.lisp 32
'ZOOM-OUT-AROUND-CENTER	>map>scalable-window.lisp 34
'MAJOR-CONTOUR-LINE-INTERVAL	>map>zoom-levels.lisp 8
'ON-TERRAIN-P	>map>scalable-window.lisp 36
'SCALE-STRING	>map>zoom-levels.lisp 6
'DRAW-GRIDS	>map>grids.lisp 5

ZOOM-TO	>map>scalable-window.lisp 26
'(NET-MSG REQUEST IMMEDIATE)	>saf>rudp>outgoing.lisp 8
'DRAW-TREELINE-AS-SPLINE	>map>zoom-levels.lisp 16
ZOOM-IN	>map>scalable-window.lisp 28
ZOOM-OUT	>map>scalable-window.lisp 30
'MINOR-CONTOUR-LINE-INTERVAL	>map>zoom-levels.lisp 10
'ON-SCREEN-P	>map>scalable-window.lisp 38
'(DRAW-PLATOON DRAW-SCOUT-PLATOON DRAW-IVIS-PLATOON DRAW-COMPANY DRAW-BATTALION DRAW-PAIR	
DRAW-FLIGHT DRAW-SQUADRON DRAW-COMPANY-TEAM-- DRAW-DIV-RECON-CO)	>saf>simnet-objects>draw-units.lisp 6
'DRAW-WATER-WITH-WIDTH	>map>zoom-levels.lisp 20
'RESCALE-FROM-MENU	>map>scalable-window.lisp 24
'DRAW-ROADS-WITH-WIDTH	>map>zoom-levels.lisp 18
'DRAW-TREELINES	>map>zoom-levels.lisp 14
'DRAW-UNIT-SYMBOL	>map>control.lisp 46
'MAKE-AN-ALU	>map>color-map.lisp 15
'RESCALE	>map>scalable-window.lisp 22
'DRAW-TERRAIN	>map>draw-terrain.lisp 7
'DRAW-RAILS-WITH-WIDTH	>map>zoom-levels.lisp 22
'LEGEND-WINDOW	>map>legend.lisp 1
'DRAW-ALL-CONTROL-MEASURES	>map>control.lisp 56
'(QUAD-FEATURES QUAD-NW-NODE QUAD-NE-NODE QUAD-SE-NODE QUAD-SW-NODE)	>map>terrain-vars.lisp 25
'(BRIDGE-POINTS BRIDGE-NODE BRIDGE-WIDTH)	>map>terrain-vars.lisp 37
'PAN-TO-NEW-POINT	>map>scalable-window.lisp 20
'WORLD-TO-UTM	>map>utm-grid-mixin.lisp 12
'EDIT-CONTROL-MEASURES	>map>control.lisp 54
'LEGEND-SIZE	>map>zoom-levels.lisp 30
'CONTROL-MEASURE	>saf>cm>control-measure.lisp 3
'WORLD-TO-SCREEN	>map>utilities.lisp 10
'IMAGE-FOR-VEHICLE	>saf>simnet-objects>draw-vehicles.lisp 91
'(AREA-ROAD-SEGMENTS AREA-ROAD-INTERSECTIONS	
AREA-WATER-SEGMENTS	
AREA-WATER-INTERSECTIONS	
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AREA-RAIL-SEGMENTS	
AREA-OBJECTS	
AREA-TREES	
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AREA-WATER-TRIANGLES)	>map>terrain-vars.lisp 27
'LINE-CONTROL-MEASURE	>map>control.lisp 13
RAD-TO-DEG	>saf>sys>constants.lisp 13
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RADIANS-COMPASS-TO-RADIANS-MATH	>saf>sys>macros.lisp 2
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(METHOD REDISPLAY-OPTIONS-PANE BMI)	>saf>bmi>bmi-frame.lisp 43
(METHOD REDISPLAY-PANE OBJECT-MS-PANE)	>saf>interface>object-menu.lisp 21
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REDRAW-OVERLAYS	>saf>cm>overlay.lisp 25
REDRAW-VEHICLES	>saf>simnet-objects>vehicle-tracking.lisp 26
(METHOD REEXECUTE-SUB-TASK SUB-TASK)	>saf>ui>subordinate-tasking.lisp 24
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(METHOD REFRESH CONTROL-MEASURE)	>saf>cm>control-measure.lisp 7
(METHOD REFRESH OVERLAY)	>saf>cm>overlay.lisp 7
REGISTER	>saf>network>vars.lisp 21
(METHOD REINIT SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 7
(METHOD REINIT VEHICLE)	>saf>objects>vehicle.lisp 6
REJOIN-UNIT	>saf>network>vars.lisp 82
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REL-ETIME-TO-BFLY-TIME	>saf>sys>time.lisp 3
REL-ETIME-TO-SYMBOLICS-TIME	>saf>sys>time.lisp 1
RELAX-POINTS	>saf>cm>water-avoidance.lisp 30
RELAX-POINTS-AUX	>saf>cm>water-avoidance.lisp 31
(METHOD REMEMBER OPFOR-SUB-PROCESS)	>saf>ui>processes.lisp 15
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(METHOD REPLACE-NUMBER OBJECT-MS-PANE)	>saf>interface>object-menu.lisp 36
REPLACE-NUMBER-ELEMENT	>saf>interface>object-menu.lisp 35
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(METHOD REPORT OPFOR-SUB-PROCESS)	>saf>ui>processes.lisp 16
(METHOD REPUT-OBJECT-IN-TABLE1 PROGRAM-FRAME)	>saf>interface>object-menu.lisp 85
(METHOD REPUT-STUFF-BACK-INTO-EDITOR-IN-A-DIFFERENT-PLACE-IF-NECESSARY PROGRAM-FRAME)	>saf>interface>object-menu.lisp 94
(METHOD RESCALE SCALABLE-WINDOW)	>map>scalable-window.lisp 23
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RESET-COMMAND	>saf>interface>object-menu.lisp 61
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RESET-OBJECT-MENU	>saf>interface>object-menu.lisp 63
RESET-REQUEST	>saf>network>packet-layouts.lisp 21
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(METHOD RESUME-ALL-SUBORDINATES SIMNET-AGENT)	>saf>objects>simnet-agent.lisp 57
RESUME-MISSION	>saf>network>vars.lisp 74
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