

NEW STARS (SOFTWARE TECHNOLOGY FOR ADAPTABLE RELIABLE
SYSTEMS)(U) STARS JOINT PROGRAM OFFICE WASHINGTON DC
J S GREENE 12 NOV 86

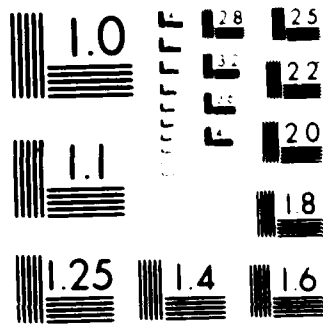
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This document contains a copy of the slides and corresponding notes
from the briefing presented by Col. Joseph S. Greene, Director, SJPO,
at the SIGAda meeting in Charleston, WV in November, 1986. It details
the new direction being taken by the STARS program.

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**SOFTWARE
TECHNOLOGY FOR
STARS
ADAPTABLE,
RELIABLE
SYSTEMS**

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COVER SLIDE: NEW STARS

GOOD MORNING:

STARS IS THE NAME OF A DEPARTMENT OF DEFENSE PROGRAM. THE STARS PROGRAM IS ONE OF THREE PROGRAMS FORMING THE DoD SOFTWARE INITIATIVE THAT WAS STARTED IN 1981 TO CONSOLIDATE AND EXTEND THE PROGRESS MADE BY THE Ada PROJECT DURING THE PREVIOUS DECADE.

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THE DOD SOFTWARE INITIATIVE

- Ada

- STARS

- SEI

SLIDE 1: DoD SOFTWARE INITIATIVE

THE DoD SOFTWARE INITIATIVE IS MANAGED BY THREE SEPARATE ORGANIZATIONS: THE STARS JOINT PROGRAM OFFICE, THE Ada JOINT PROGRAM OFFICE, AND THE SOFTWARE ENGINEERING INSTITUTE (SEI). EACH PROVIDES A UNIQUE CONTRIBUTION.

THE Ada JOINT PROGRAM OFFICE IS RESPONSIBLE FOR THE Ada LANGUAGE, AND RELATED STANDARDS AND POLICIES. THE AJPO ALSO MANAGES THE Ada COMPILER VALIDATION PROGRAM. THROUGH THESE AND OTHER RELATED ACTIVITIES, THE Ada JPO PROVIDES THE TECHNICAL BASE FOR THE ENTIRE SOFTWARE INITIATIVE. BUT A LANGUAGE BY ITSELF IS ONLY A BEGINNING.

STARS WILL BUILD UPON THE OPPORTUNITIES MADE POSSIBLE BY THE Ada LANGUAGE TO INVENT A NEW WAY OF DOING SOFTWARE ENGINEERING. THE MISSION OF STARS IS TO CHANGE THE STATE-OF-THE-ART IN SOFTWARE ENGINEERING. DURING THE PAST NINE MONTHS THE STARS PROGRAM HAS BEEN COMPLETELY RESTRUCTURED UNDER THE OVERSIGHT OF THE STARS EXECUTIVE COMMITTEE. NEW TECHNICAL AND MANAGEMENT PLANS WERE APPROVED IN AUGUST.

THE SOFTWARE ENGINEERING INSTITUTE TRANSITIONS NEW TECHNOLOGY INTO USE, THEREBY CHANGING THE STATE-OF-PRACTICE. THE STATE-OF-PRACTICE TENDS TO LAG AS MUCH AS FIFTEEN YEARS BEHIND THE STATE-OF-THE-ART. THE SEI'S MISSION IS TO REDUCE THAT TIME LAG. STARS AND SEI ARE COMMITTED TO BUILD ON FOSTER THE USE OF Ada, BUT THEIR MISSIONS ARE VERY DIFFERENT FROM EACH OTHER, AND FROM THAT OF THE AJPO.

OVERVIEW

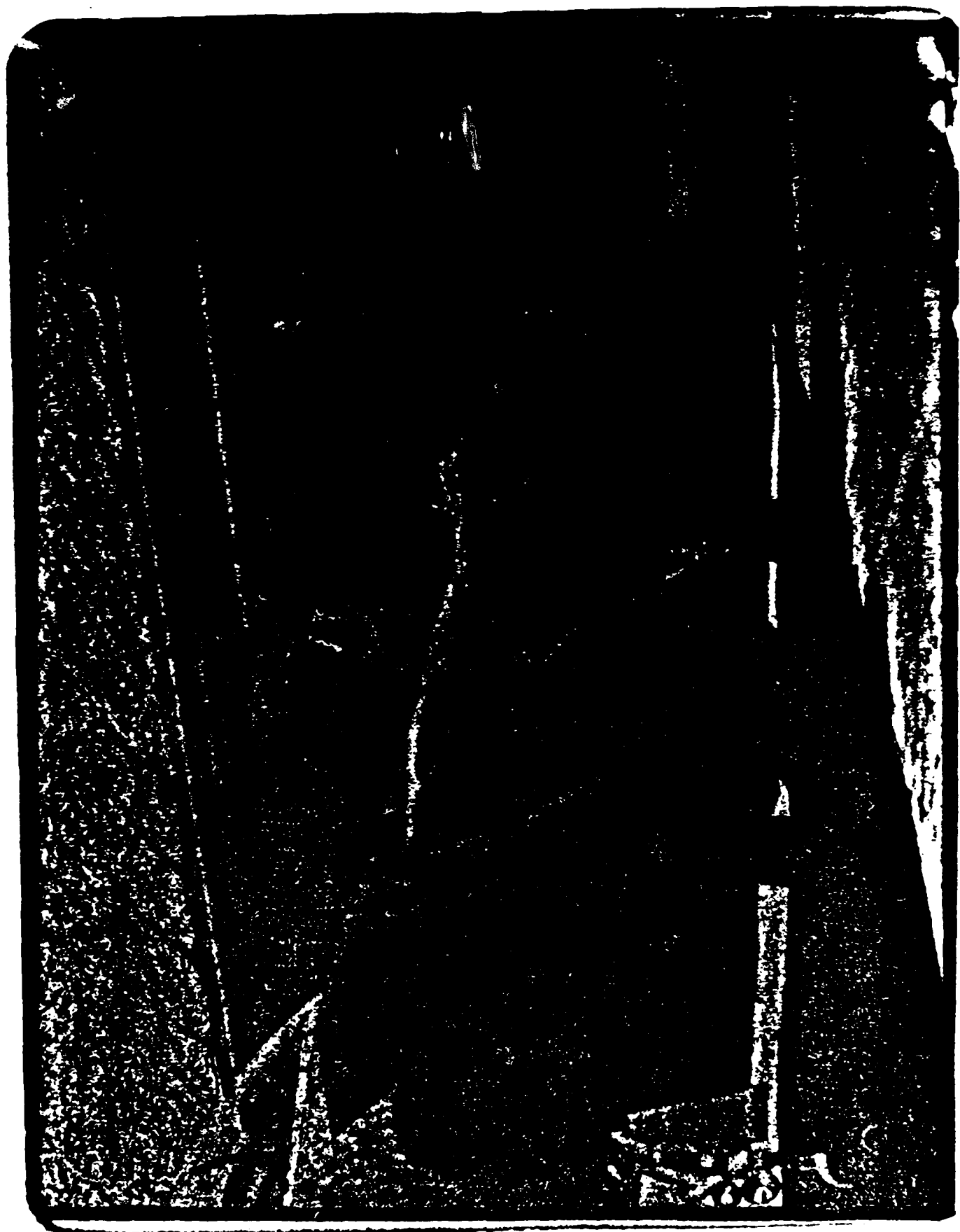
- **ADAPTABLE, RELIABLE SYSTEMS**
- **SOFTWARE TECHNOLOGY**
- **BUSINESS OPPORTUNITIES**

SLIDE 2: OVERVIEW

THE STARS PROGRAM NAME INCLUDES THE PREPOSITION "FOR". THAT LITTLE WORD DECLARES THE PURPOSE OF STARS. STARS BUILDS SOFTWARE SUPPORT FOR "ADAPTABLE, RELIABLE SYSTEMS." SUCH SYSTEMS DO NOT EXIST WIDELY TODAY. THAT IS VERY SIGNIFICANT. STARS WILL SEEK WAYS TO REDUCE THE COST OF SOFTWARE, BUT MORE IMPORTANTLY, STARS WILL LEARN HOW TO BUILD CAPABILITIES THAT ARE NOT AFFORDABLE WITH TODAY'S TECHNOLOGY -- CAPABILITIES THAT WILL BE DECISIVE IN FUTURE WAR FIGHTING SYSTEMS.

NEXT, I WANT TO COVER THREE TOPICS. I WILL PRESENT A ONE EXAMPLE TO ILLUSTRATE FUTURE "ADAPTABLE, RELIABLE SYSTEMS." I WILL EXPLAIN WHAT STARS WILL DO TO MAKE SUCH SYSTEMS POSSIBLE AND FINALLY, I WANT TO TELL YOU HOW YOU CAN HELP STARS.

FIRST, AN EXAMPLE TO SHOW WHY WE NEED ADAPTABLE, RELIABLE SYSTEMS.



SLIDE 3: ADAPTABLE, RELIABLE SYSTEMS

ABOUT 3 1/2 YEARS AGO AN F-15 AIRCRAFT WAS ENGAGED IN DISSIMILAR AIR COMBAT MANEUVERS. AS THE F-15 ENTERED A RIGHT TURN ANOTHER AIRCRAFT CAME FROM BELOW, HIT THE F-15 AND SEVERED MUCH OF ITS RIGHT WING. THE IMPACT STARTED THE F-15 INTO A SPIN. THE PILOT IMMEDIATELY WENT INTO FULL AFTERBURNER WHICH RESTORED A STABLE ATTITUDE. A LEVEL SENSOR SHUT OFF THE HYDRAULICS TO THE SEVERED WING, PRESERVING CONTROLS. THE PILOT RESET THE AUGMENTATION SYSTEM TO GIVE FULL CONTROL OVER THE TAIL SURFACES, AND LANDED AT 280 KNOTS TOUCHDOWN SPEED. THE ARRESTING WIRE RIPPED THE TAIL HOOK OFF THE AIRCRAFT, DISSIPATING ENOUGH AIRSPEED TO PERMIT A SAFE STOP. THE REPEATABILITY OF WHAT WAS DONE MANUALLY BY THE PILOT HAS STIMULATED AIR FORCE INTEREST IN RECONFIGURABLE FLIGHT CONTROL SYSTEMS TO MAINTAIN OPERABILITY.

ADAPTABILITY ALSO HAS IMPLICATIONS FOR RELIABILITY. IF RECONFIGURABLE FLIGHT CONTROL CAN BE MADE TO WORK IN REAL TIME UNDER SEVERE CATASTROPHIC CONDITIONS, IT MAY BE POSSIBLE UNDER MORE BENIGN CONDITIONS, SUCH AS THE MALFUNCTION OF A SINGLE CONTROL SURFACE, TO RELAX CURRENT RELIABILITY REQUIREMENTS AND REDUCE THE LEVELS OF REDUNDANCY NEEDED IN FLIGHT CONTROL ELECTRONICS AND HYDRAULIC ACTUATORS, THEREBY SIMPLIFYING THE HARDWARE AND INCREASING THE OVERALL MEAN TIME BETWEEN SYSTEM FAILURE. THAT IDEA SUGGESTS ONE WAY THAT SYSTEM RELIABILITY COULD BE IMPROVED BY SYSTEM ADAPTABILITY.

RECONFIGURABLE CONTROL SYSTEMS COULD ALSO IMPROVE COMMERCIAL
FLIGHT SAFETY.

FOR EXAMPLE, A FEW YEARS AGO AN ENGINE BROKE LOOSE FROM A
DC-10 DURING TAKE-OFF FROM CHICAGO. SUBSEQUENT COMPUTER
ANALYSIS AND PILOT SIMULATOR EXERCISES SUPPORT THE VIEW THAT THE
DC-10 HAD SUFFICIENT REMAINING POWER AND CONTROL TO HAVE
PREVENTED THE CRASH THAT TOOK THE LIVES OF 240 PEOPLE.

REFERENCE "IT DOESN'T MATTER WHERE YOU SIT"

FUTURE WEAPON SYSTEMS

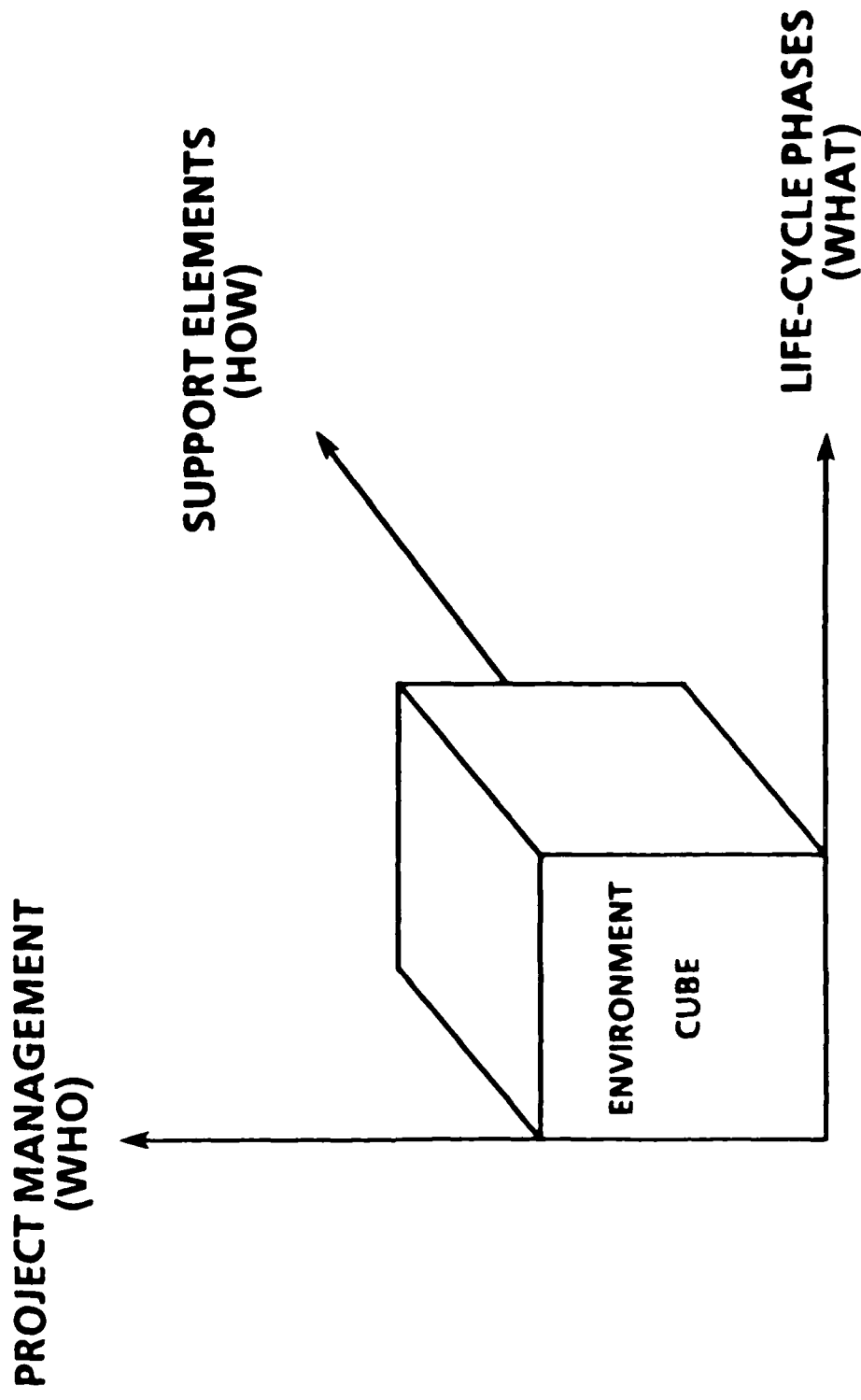
REQUIRE:

- **ADAPTABILITY AND RELIABILITY**
- **NEW AND ENHANCED CAPABILITIES**
- **VERY LARGE SOFTWARE SYSTEMS**

SLIDE 4: FUTURE WEAPONS SYSTEMS

I AM SURE THAT SOME OF YOU COULD PROVIDE EXAMPLES TO ILLUSTRATE THE NEW OPPORTUNITIES FOR ADAPTABLE, RELIABLE SYSTEMS. SUCH SYSTEMS COULD PROVIDE SIGNIFICANT NEW AND ENHANCED CAPABILITIES, BUT WILL REQUIRE MUCH GREATER QUANTITIES OF MORE COMPLEX SOFTWARE. EFFORTS TO SEIZE SUCH OPPORTUNITIES USING CLASSICAL SOFTWARE PRACTICES WILL BE VERY EXPENSIVE, IF SUCCESSFUL AT ALL. WE NEED UNUSUAL EFFORTS TO FIND WAYS TO BUILD BETTER SOFTWARE AT MUCH LOWER COST. THAT IS THE MISSION OF STARS. NEXT I WANT TO OUTLINE BRIEFLY WHAT STARS WILL DO.

REUSABLE-SOFTWARE SUPPORT ENVIRONMENTS (WHAT STARS WILL DO)



SLIDE 5 WHAT STARS WILL DO

TADAY PRODUCTIVITY FOR LARGE DoD EMBEDDED AND MISSION CRITICAL SYSTEMS IS ALMOST THE SAME AS 15 YEARS AGO - ONLY A FEW PERCENT BETTER. THE GOAL OF STARS IS TO DEVELOP A REUSABLE-SOFTWARE TECHNOLOGY AND TO DEMONSTRATE BY WORKED EXAMPLES THE FEASIBILITY OF INCREASING PRODUCTIVITY BY AT LEAST A FACTOR OF 10 IN LARGE DoD SYSTEMS.

STARS WILL BUILD SOFTWARE ENGINEERING ENVIRONMENTS TO SUPPORT THE APPLICATION OF A REUSABLE-SOFTWARE TECHNOLOGY TO VERY LARGE, SOFTWARE INTENSIVE DoD SYSTEMS -- THE KINDS OF SYSTEMS THAT HAVE HISTORICALLY REQUIRED HUNDREDS OF SOFTWARE ENGINEERS FOR SEVERAL YEARS.

SUCH SOFTWARE ENGINEERING ENVIRONMENTS INCLUDE SEVERAL DIMENSIONS: (1) PROJECT MANAGEMENT DEALS WITH THE DIMENSION OF "WHO" DOES "WHAT" -- IT IS THE ASSIGNMENT OF FUNCTIONAL RESPONSIBILITIES TO SPECIFIC GROUPS OF PEOPLE; (2) SOFTWARE LIFE-CYCLE PHASES DEAL WITH THE DIMENSION OF "WHAT" NEEDS TO BE DONE -- IT IS THE BREAKDOWN OF THE TOTAL SOFTWARE TASK INTO SPECIFIC WORK UNITS; AND (3) SUPPORT ELEMENTS DEAL WITH THE DIMENSION OF "HOW" TASKS WILL BE ACCOMPLISHED -- IT OFTEN INCLUDES POLICIES, PROCEDURES, METHODS AND TOOLS. AN ENVIRONMENT IN THE BROAD SENSE INCLUDES ALL OF THESE DIMENSIONS.

MANY OF US WHO DEVELOP SOFTWARE HAVE STRUGGLED TO DEFINE AND IMPLEMENT ELEMENTS OF THE "WHO-WHAT-HOW" ENVIRONMENT CUBE. NO GROUP HAS YET ACHIEVED CLOSURE ON A MINIMAL, SUFFICIENT AND SELF-CONSISTENT SET OF ELEMENTS. STARTING WITH THE SUCCESSES OF Ada, STARS WILL TO BUILD A SUFFICIENT AND CONSISTENT ENVIRONMENT FOR REUSABLE-SOFTWARE ENGINEERING.

STARS VISION OF THE 1990's

- **TAILORABLE ENVIRONMENTS**
- **A SERVICE MARKET**

SLIDE 6: STARS VISION OF THE 1990's

STARS HAS A VISION OF THE 1990's. THE 1980's HAVE BEEN CHARACTERIZED BY DRAMATIC CHANGES. THE SWEEPING INTRODUCTION OF THE PERSONAL COMPUTER, THE MASS PRODUCTION OF LOW-COST, POWERFUL COMMODITY SOFTWARE, AND THE EMERGENCE OF THIRD-PARTY SOFTWARE MARKETING ORGANIZATIONS REPRESENT POWERFUL MARKET FORCES TO WHICH NO ORGANIZATION IS IMMUNE. WHILE THESE FORCES WILL UNDOUBTEDLY CONTINUE, STARS ENVISIONS AN ADAPTABLE SOFTWARE TECHNOLOGY THAT WILL BE ACCOMPANIED BY THE EMERGENCE OF A NEW SOFTWARE SERVICE MARKET FORCE. STARS WILL SEEK TO RIDE THAT NEW FORCE INTO THE 1990's. LETS EXPLAIN. THE STARS VISION OF THE FUTURE ASSUMES THAT A SOFTWARE TECHNOLOGY CAPABLE OF SUPPORTING ADAPTABLE, RELIABLE SYSTEMS SHOULD ALSO BE ABLE TO PROVIDE ADAPTABLE, RELIABLE SOFTWARE ENGINEERING ENVIRONMENTS -- ENVIRONMENTS THAT COULD BE TAILORED IN DELIBERATE, CONTROLLED WAYS ON TIME SCALES THAT ARE VERY SHORT BY TODAY'S STANDARDS.

TODAY, ALMOST EVERY MAJOR DoD PROGRAM SPENDS SIGNIFICANT START-UP TIME AND MONEY TO BUILD AN ENVIRONMENT. STARS ADVOCATES THE CONCEPT THAT NO SINGLE, UNIVERSAL, MILITARY-STANDARD ENVIRONMENT COULD EVER BE DEVELOPED AND DIRECTED ON ALL DoD PROGRAMS WITHOUT HUGE PENALTIES. FURTHER, STARS ASSUMES THAT THE REUSABLE-SOFTWARE TECHNOLOGY IT SEEKS TO FOSTER FOR PRODUCTIVITY REASONS WILL ALSO PROVIDE TAILORABLE, ENVIRONMENTS. STARS SHOULD BE THE FIRST TO PRACTICE THE TECHNOLOGY IT PREACHES.

STARS WILL BUILD ENVIRONMENTS, NOT TO DELIVER A SINGLE DoD COMMODITY SOFTWARE SOLUTION, BUT RATHER TO ESTABLISH A SERVICE. STARS CAPITAL INVESTMENT WILL ESTABLISH SEVERAL SOURCES CAPABLE OF TAILORING, DELIVERING AND SUPPORTING SOFTWARE ENVIRONMENTS -- ENVIRONMENTS THAT CAN BE SPECIALIZED TO THE UNIQUE NEEDS OF A PARTICULAR PROGRAM ON VERY SHORT TIME SCALES. TOWARD THE END OF THE FIVE YEAR PROGRAM, AFTER WE AND INDUSTRY HAVE A BETTER UNDERSTANDING OF THE TAILORABLE ENVIRONMENT CAPABILITIES, WE WILL DECIDE HOW FUTURE COMMERCIAL AND DoD SALES SHOULD BE STRUCTURED TO BEST BENEFIT THE SERVICE SYSTEM DEVELOPMENT ORGANIZATIONS.

STARS STRATEGY

- **DEVELOP A REUSABLE SOFTWARE TECHNOLOGY**
 - COMMON FOUNDATIONS
 - UNIFIED INTERFACES
 - ACCESSIBLE REPOSITORIES
- **PROVIDE TAILORABLE ENVIRONMENTS**
 - OPEN-ENDED FRAMEWORK
 - COMPUTER-AIDED METHODS
 - REUSABILITY TOOLS
- **DEMONSTRATE PRODUCTIVITY INCREASES**
 - SHADOWS
- **PIONEER A RISK REDUCTION APPROACH**

SLIDE 7: STARS STRATEGY

THE Ada LANGUAGE WILL BE USED EXCLUSIVELY BY STARS. PRELIMINARY DATA SUGGESTS THAT Ada ITSELF WILL CONTRIBUTE TO PRODUCTIVITY INCREASES IN TWO IMPORTANT WAYS. FIRST, Ada FEATURES WILL RESULT IN LOWER DEVELOPMENT AND MAINTENANCE COSTS. SECOND, FOR LARGE SYSTEMS, Ada WILL PROVIDE THE SAME FUNCTIONAL CAPABILITY IN FEWER LINES OF SOURCE CODE THAN OTHER GENERALLY USED DoD LANGUAGES. THOSE TWO FACTORS PROMISE SIGNIFICANT PRODUCTIVITY INCREASES BY THEMSELVES. BUT THAT IS NOT STARS. THAT IS Ada.

A REUSABLE-SOFTWARE TECHNOLOGY IS THE NEXT GREATEST OPPORTUNITY FOR PRODUCTIVITY INCREASES. WE BELIEVE THAT REUSE CAN RESULT IN CONTRIBUTIONS TO PRODUCTIVITY THAT ARE GREATER THAN THOSE ACHIEVED BY THE Ada LANGUAGE ITSELF. Ada HAS PROGRAMMING AND DESIGN FEATURES THAT WILL FACILITATE REUSE. A REUSABLE TECHNOLOGY ALSO REQUIRES A CRITICAL MASS OF WIDELY ACCESSIBLE PARTS WITH WELL DEFINED INTERFACE STANDARDS. STARS WILL SPONSOR REPOSITORY TECHNOLOGY TO IMPROVE ACCESSIBILITY TO REUSABLE PARTS.

STARS ENVIRONMENTS WILL BE INTEGRATED FROM REUSABLE PARTS AND WILL BE BASED ON OPEN-ENDED FRAMEWORKS TO FACILITATE ADDING, DELETING AND CHANGING METHODS AND TOOLS. THE COMPUTER AIDED METHODS AND TOOLS WILL PROVIDE ANOTHER MAJOR SOURCE OF PRODUCTIVITY. STARS WILL BE VERY SELECTIVE IN CHOOSING METHODS

AND TOOLS. ONLY THOSE SUPPORTING REUSABLE-Ada SOFTWARE ENGINEERING WILL BE FUNDED BY STARS.

STARS WILL APPLY EMERGING REUSABLE-SOFTWARE TECHNOLOGY TO SELECTED EMBEDDED AND MISSION CRITICAL APPLICATIONS USING CONTROLLED "SHOULD COST" PROJECTS TO DEMONSTRATE PRODUCTIVITY BENEFITS.

FINALLY, STARS WILL EMPLOY A NEW STRATEGY FOR DEALING WITH HIGH RISK SOFTWARE AREAS. STARS WILL REQUIRE IDENTIFICATION OF HIGH RISK ISSUES FOR RESOLUTION THROUGH PRE-PROTOTYPE ACTIVITIES BEFORE DEVELOPING DETAILED SPECIFICATION.

STARS BACKBONE PLAN

- YEAR 1
 - CRITICAL MASS OF PARTS
 - ENVIRONMENT BASELINE
 - REUSABILITY METHODS STRATEGY
- YEAR 2
 - ADAPT PARTS TO STANDARD INTERFACES
 - VIRTUALIZE FRAMEWORK INTERFACES
 - PORT FRAMEWORK TO OTHER HARDWARES
 - DEVELOP TOOLS AND CM AIDS
- YEAR 3
 - APPLY PARTS TO MAJOR MCCR PROJECTS
 - DELIVER PROTOTYPE DISTRIBUTED, NETWORKED, HETEROGENEOUS-HDWR-BASED FRAMEWORKS
 - EXTEND COMPUTER AIDED PROCESSES
- YEAR 4
 - INTEGRATE AND EXTEND TOOLS AND METHODS
 - DEVELOP EDUCATION AND TRAINING
 - REFINE TAYLORING PROCESSES
 - NEGOTIATE COMMERCIAL AND DoD SALES TERMS
- YEAR 5
 - DELIVER FULLY OPERATIONAL ENVIRONMENTS
 - APPLY TO MAJOR PROGRAMS
 - PLAN COMMERCIAL AND DoD SALES

SLIDE 8: STARS PLAN

THE DETAILS OF THE STARS DEVELOPMENT PLAN WILL BE WORKED OUT WITH THE STARS LEAD CONTRACTORS WHO WILL PROVIDE THE BACKBONE AND TECHNICAL RESEARCH LEADERSHIP FOR THE PROGRAM. ENVIRONMENT DEVELOPMENT AND USE WILL PROVIDE THE TECHNICAL FOCUS FOR ALL PROGRAM ACTIVITIES. THE ENVIRONMENT WILL BE INTEGRATED FROM REUSABLE PARTS -- SOME OF WHICH MAY HAVE TO BE ADAPTED. THAT ADAPTATION PROCESS WILL GIVE THE LEAD CONTRACTORS HANDS ON EXPERIENCE WITH THE NEW TECHNOLOGY THE ENVIRONMENTS WILL SUPPORT. STARS WILL SEEK TO EVOLVE THE ENVIRONMENTS. WE EXPECT THAT FROM DAY ONE, STARS WILL HAVE EXISTING WORKABLE ENVIRONMENTS. WE ALSO EXPECT TO SEE, CONTINUING THROUGHOUT THE PROGRAM, A REGULAR ENHANCEMENT OF THE CAPABILITIES AND COMPLETENESS OF THE ENVIRONMENTS.

TO GIVE SOME NOTION OF EVOLUTION, I HAVE LISTED A PROGRESSION OF CAPABILITY ENHANCEMENTS THAT WE ENVISION IN THE ENVIRONMENTS AREA. MANY MORE DETAILS ARE PROVIDED IN THE STARS PLANS. LETS GET ON TO INFORMATION SOURCES AND BUSINESS OPPORTUNITIES.

STARS INFORMATION SOURCES

- **DEFENSE TECHNICAL INFORMATION CENTER**

- STARS PLANS (A173855 & A173856)

- WORK UNIT SUMMARIES

- **STARS TECHNICAL INFORMATION EXCHANGE**

- (301) 731-8896

- ELECTRONIC BULLETIN BOARD

- **STARS REPOSITORY**

SLIDE 9: STARS INFORMATION SOURCES

IN ADDITION TO COMMERCE BUSINESS DAILY NOTICES, THERE ARE SEVERAL WAYS THAT STARS WILL KEEP INDUSTRY INFORMED.

FIRST, THE TECHNICAL AND MANAGEMENT PLANS HAVE BEEN APPROVED FOR UNLIMITED DISTRIBUTION. THE DOCUMENTS HAVE BEEN PLACED IN THE DEFENSE TECHNICAL INFORMATION CENTER (DTIC) AND MAY BE PURCHASED AT THE PREVAILING RATES. STARS WILL ALSO USE THE DD FORM 1498, "RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY" TO DOCUMENT PROGRESS ON ALL STARS CONTRACTS, SUBCONTRACTS AND GOVERNMENT INTERNAL PROJECTS. WORK UNIT SUMMARIES WILL ALLOW GOVERNMENT AND INDUSTRY TO TRACK THE TOTAL PROGRAM PROGRESS.

SECOND, THE JOINT PROGRAM OFFICE IS ESTABLISHING A STARS TECHNICAL INFORMATION EXCHANGE SIMILAR TO THE Ada INFORMATION CLEARING HOUSE. A NUMBER OF SERVICES INCLUDING ON-LINE NETWORK ACCESSIBLE INFORMATION FILES ARE PLANNED. THE STARS TECHNICAL INFORMATION EXCHANGE WILL BEGIN OPERATION THROUGH TELEPHONE NUMBER (301) 731-8896 ON DECEMBER FIRST. WE ALSO PLAN TO HAVE AN ELECTRONIC BULLETIN BOARD. INSTRUCTIONS WILL BE PROVIDED THROUGH THE STARS-TIE.

MOST IMPORTANTLY, STARS WILL ESTABLISH AND USE AN ON-LINE, ELECTRONIC, NETWORK-ACCESSIBLE SOFTWARE REPOSITORY TO SUPPORT RAPID SHARING OF REUSABLE SOFTWARE COMPONENTS.

STARS DEVELOPMENT ROADMAP

	FY87												FY88				FY89			
	O	N	D	J	F	M	A	M	J	J	A	S	1	2	3	4	1	2	3	4
FOUNDATIONS	• CBD ANNOUNCEMENT • INDUSTRY BRIEF • 1ST CUT-OFF • 1ST AWARDS																			
LEAD CONTRACTS	• CBD ANNOUNCEMENT • CBD ANNOUNCEMENT OF SUBCONTRACTING OPPORTUNITIES • RFP • SOURCE SELECTION • AWARD LEAD CONTRACTS • SUBCONTRACT AWARDS • DOWN SELECT																			
SHADOW	• SELECTION • CONTRACT MODIFICATIONS																			
OTHER	STARS JPO AND SERVICE RESEARCH																			

SLIDE 10: DEVELOPMENT ROADMAP

NEXT I WANT TO OUTLINE THE FUTURE STARS BUSINESS OPPORTUNITIES WE SEE WITH STARS PROGRAM.

THE INFORMATION PRESENTED IS PROVIDED TO ASSIST YOU IN YOUR PLANNING. THE INFORMATION IS BASED ON THE BEST ESTIMATES AVAILABLE FROM THE PROGRAM OFFICE TODAY; IS SUBJECT TO MODIFICATION; AND, IS IN NO WAY BINDING ON THE GOVERNMENT. MORE SPECIFIC INFORMATION WILL BE FURNISHED WHEN ACQUISITIONS ARE ADVERTIZED IN THE COMMERCE BUSINESS DAILY.

IN DECEMBER WE HOPE TO ANNOUNCE A STARS BRIEFING FOR INDUSTRY TO BE HELD IN JANUARY. THE BRIEFING WILL BE A WIDE-AGENCY-ANNOUNCEMENT, PROBABLY THROUGH THE OFFICE OF NAVAL RESEARCH, ANNOUNCING THE NEED FOR DEVELOPMENT OF COMMON Ada FOUNDATION CAPABILITIES -- REUSABLE PARTS. THE WORK IS DESCRIBED IN APPENDIX A TO THE STARS TECHNICAL PLAN. THERE WILL BE STAGGERED PROPOSAL CUT-OFF DATES FOR DIFFERENT CLASSES OF PARTS. WE HOPE THAT SOME AWARDS COULD BE MADE AS EARLY AS APRIL. THIS EFFORT WILL RESULT IN A NUMBER OF SMALL BUT IMPORTANT CONTRACTS.

THE SECOND OPPORTUNITY DEALS WITH THE STARS LEAD CONTRACTS. THE ACQUISITION MODEL WILL BE FULL AND OPEN COMPETITION IN RESPONSE TO AN RFP TO BE ISSUED IN JANUARY 1987. MULTIPLE AWARDS ARE CONTEMPLATED WITH A POSSIBLE DOWN SELECT IN FY88.

INTERESTED SOURCES SHOULD PLAN ON PROPOSAL PREPARATION IN THE JANUARY-FEBRUARY TIME FRAME.

THE LEAD CONTRACTORS WILL BE REQUIRED TO SUBCONTRACT ABOUT 60 PERCENT OF THE TECHNOLOGY DEVELOPMENT WORK. THAT REQUIREMENT SHOULD RESULT IN A CONTINUING OPPORTUNITY FOR WIDE PARTICIPATION IN THE PROGRAM.

THE SCHEDULE AND MORE DETAILS WILL BE FORTHCOMING. THE LEAD CONTRACTS ARE CURRENTLY PLANNED THROUGH THE DEFENSE SUPPLY SERVICES WASHINGTON CONTRACTING OFFICE, AT THE PENTAGON.

STARS WILL FUND A FEW SHADOW PROJECTS. THESE ARE "SHOULD COST" APPLICATIONS OF EMERGING STARS TECHNOLOGY TO SELECTED MISSION CRITICAL PROGRAMS. THE SOFTWARE ENGINEERING INSTITUTE WILL MEASURE AND DOCUMENT THE RESULTS. A PAMPHLET ON SHADOW PROJECTS IS NOW BEING JOINTLY PREPARED BY STARS AND SEI AND WILL BE ANNOUNCED ON THE STARS INFORMATION EXCHANGE.

SOFTWARE TECHNOLOGY FOR STARS ADAPTABLE, RELIABLE SYSTEMS

SLIDE 11: CONCLUSION

A NEW STARS PROGRAM HAS BEEN DEVELOPED OVER THE PAST NINE MONTHS. THE PROGRAM HAS A SPECIFIC VISION OF THE FUTURE AND A WELL DEFINED PATH TO GET THERE. THE PROGRAM WILL EXPLOIT NEW OPPORTUNITIES MADE POSSIBLE BY Ada. THE NEW STARS PROGRAM IS POSTURED MAKE SIGNIFICANT CONTRIBUTIONS TO THE FUTURE WAR FIGHTING CAPABILITY OF THE UNITED STATES. WE LOOK FORWARD TO YOUR PARTICIPATION AS SUPPORTING CONTRACTORS IN THE NEAR TERM.

END

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