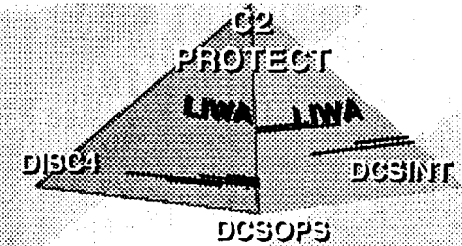




DEFENSIVE INFORMATION WARFARE



Command and Control Warfare Protect Overview

The Army's C2 Protect Program an In Process Review

MR PHILLIP LORANGER

HQDA, DISC4

SAIS-C4C, 703-697-1505

E-Mail Phillip.J.Loranger@Pentagon-1DMS2.Army.mil

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"

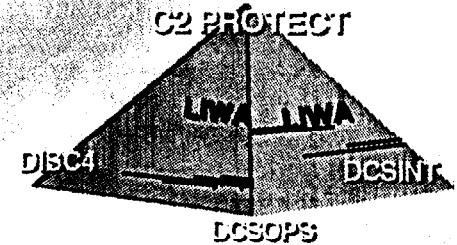
Form SF298 Citation Data

Report Date <i>("DD MON YYYY")</i> 01101995	Report Type N/A	Dates Covered (from... to) <i>("DD MON YYYY")</i>
Title and Subtitle Command and Control Warfare Protect Overview: The Army's C2 Protect Program an In Process Review		Contract or Grant Number
Authors		Program Element Number
Performing Organization Name(s) and Address(es) HQDA, DISC4		Project Number
Sponsoring/Monitoring Agency Name(s) and Address(es)		Task Number
Distribution/Availability Statement Approved for public release, distribution unlimited		Work Unit Number
Supplementary Notes		Performing Organization Number(s)
Abstract		Monitoring Agency Acronym
Subject Terms		Monitoring Agency Report Number(s)
Document Classification unclassified	Classification of SF298 unclassified	
Classification of Abstract unclassified	Limitation of Abstract unlimited	
Number of Pages 25		

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 074-0188</i>
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.			
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE 10/1/95	3. REPORT TYPE AND DATES COVERED Briefing	
4. TITLE AND SUBTITLE Command and Control Warfare Protect Overview: The Army's C2 Protect Program, an in-Process Review		5. FUNDING NUMBERS	
6. AUTHOR(S) Phillip Loranger			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) IATAC Information Assurance Technology Analysis Center 3190 Fairview Park Drive Falls Church VA 22042		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Defense Technical Information Center DTIC-IA 8725 John J. Kingman Rd, Suite 944 Ft. Belvoir, VA 22060		10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION / AVAILABILITY STATEMENT		12b. DISTRIBUTION CODE A	
13. ABSTRACT (Maximum 200 Words) This DISC4 briefing is a Command and Control Warfare (C2W) Protect Overview of the Army's C2 Protect Program. The purpose of the briefing is to discuss the background of C2 protect effort, the C2 protect library status, Discuss INFOSEC funding, C2 protect training, C2 protect Red Teaming, and the Army's C2 Protect Strategy.			
14. SUBJECT TERMS IA		15. NUMBER OF PAGES	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT None



Purpose

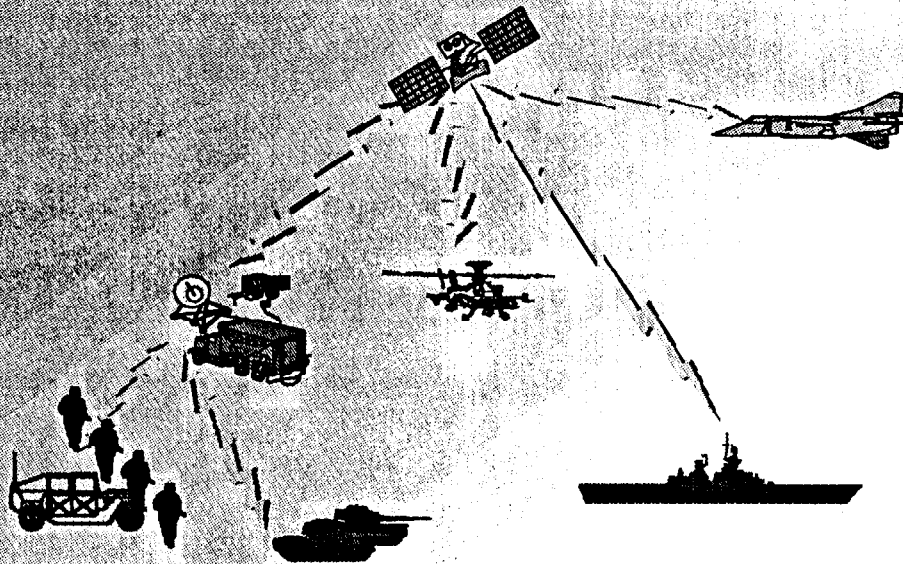
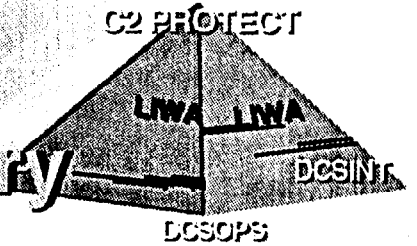


- Provide C2 Protect IPR
- Background of C2 Protect Effort
- C2 Protect Library Status
- Discuss INFOSEC Funding
- C2 Protect Training
- C2 Protect Red Teaming
- Army C2 Protect Strategy

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Force XXI The Army of the 21st Century



Redesign the Force

. . . Front to Rear

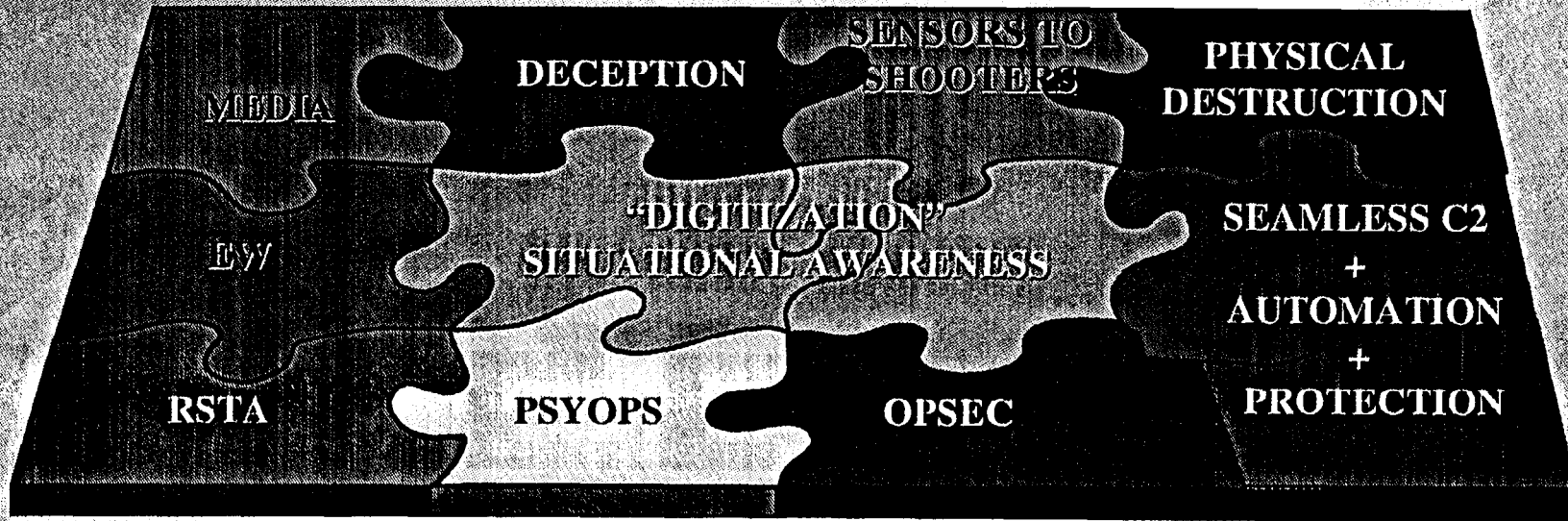
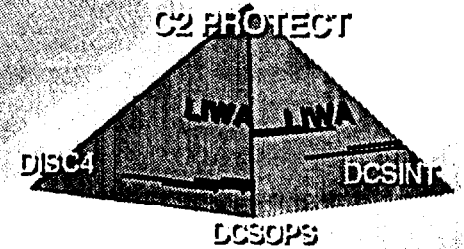
We will Create Learning Organizations

- Organized around information — not hardware
- Inherently versatile at every level
- Simultaneously execute, plan, recover—continuous operations
- Leverage skip echelon and split based operations
- Shared situational awareness, not the same map sheet, the same map

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Information Warfare An Army Perspective



FM 100-6 (Draft)

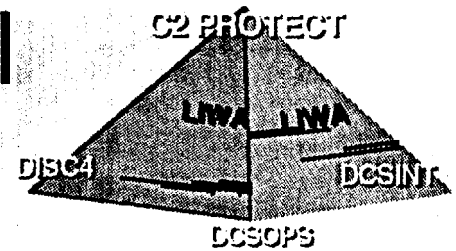
“INFORMATION OPERATIONS”

Continuous **COMBINED ARMS OPERATIONS** that enable and protect the commander's decision cycle while influencing an opponent's. Accomplished through command and control and intelligence operations, Information Operations are conducted across the full range of military operations.

C2 Protect - “Keeping The Highway Open and Secure For Force XXI”



Command and Control Protect



Is This New ?

Old Security Disciplines Refocused

An Integrated Strategy

A Changing Paradigm

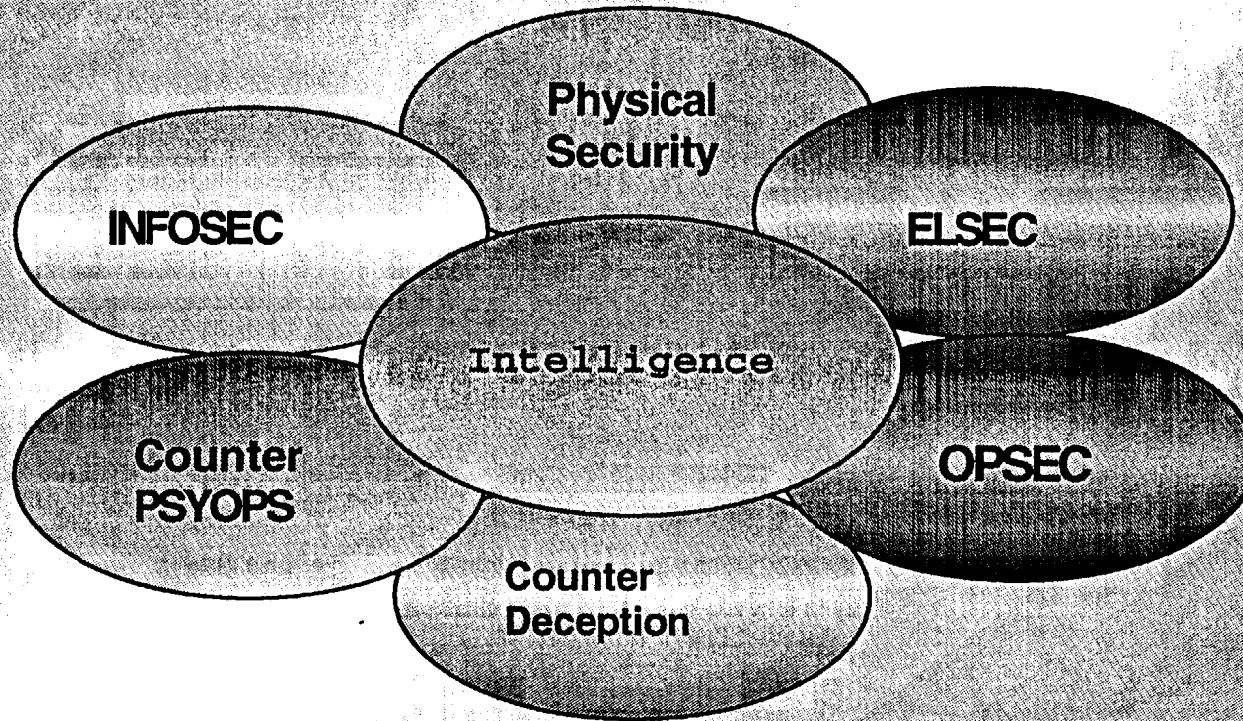
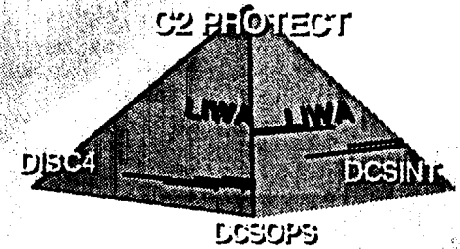
An Operational Tool for the Commander

A Combat Multiplier

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



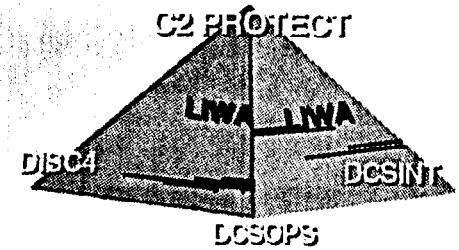
Components of C2 Protect



C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



C2 Protect Effort Background

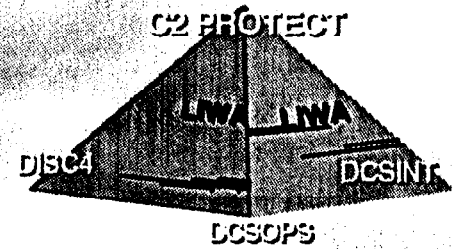


- DISC4 tasked to develop DIW Plan - NOV 94
- Army C2 Protect Working Group established JAN 95
- Army C2 Protect Library Concept established
- LIWA activated
- Army C2 Protect critical roles and missions requirements validated by Army Senior Leadership

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Purpose of Army C2 Protect Program

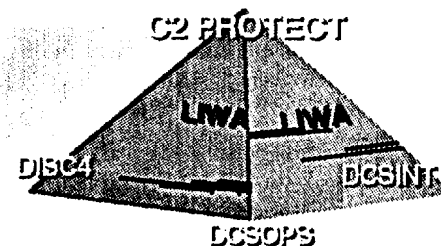


- Protect the Army's Portion of the Defensive Information Infrastructure (DII)
- Synchronize Army Activities in C2 Protect
- Identify Vulnerabilities and Constraints
- Define Army Staff and MACOM Roles for C2 Protect
- Floor Plan for C2 Protect Developments
- Plan for C2 Protect Resources

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Army C2 Protect Strategy

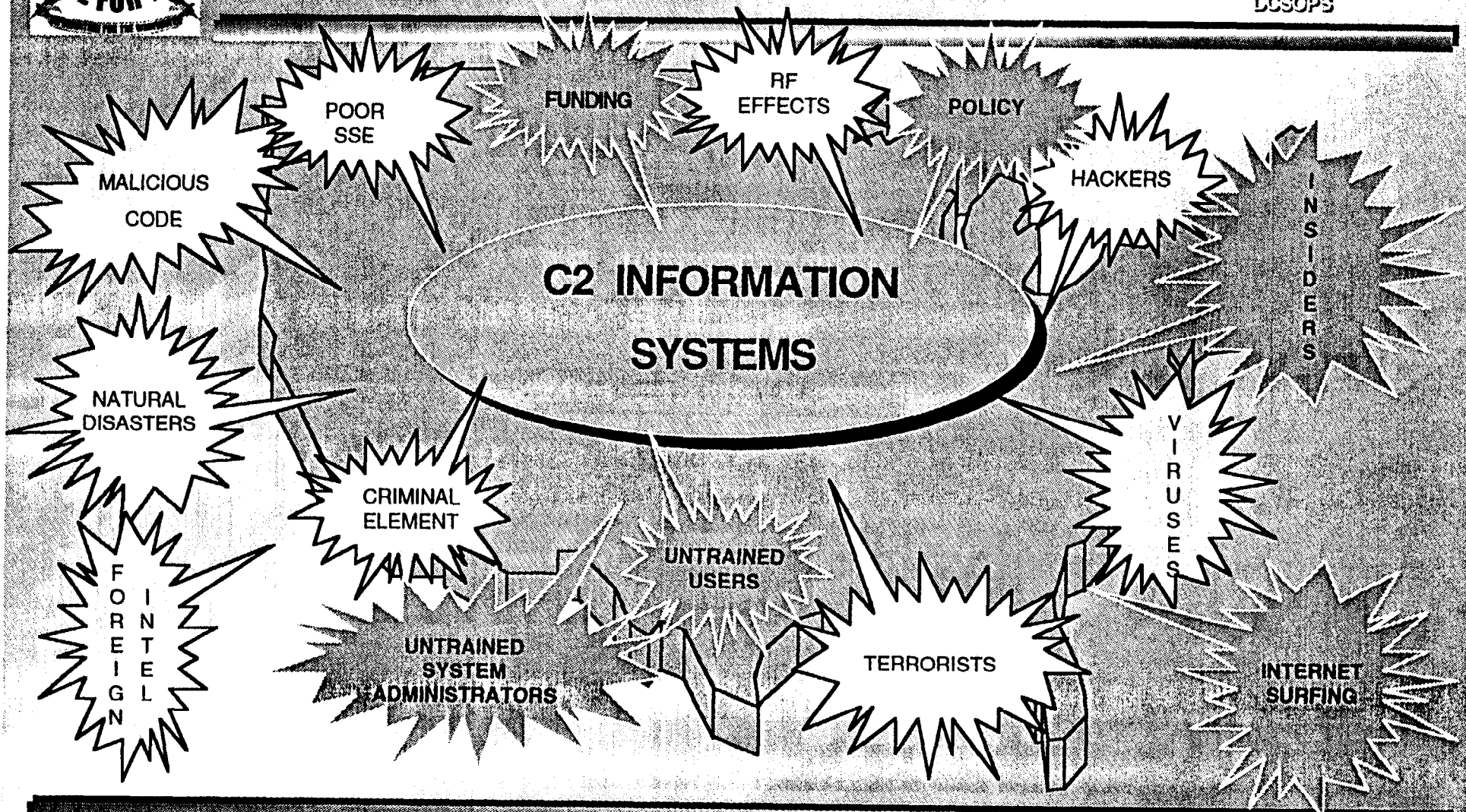
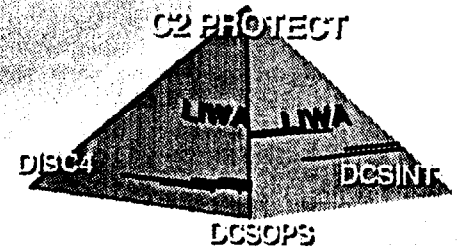


- Single Unified vision for the Army C4I community
- In consonance with the National and DOD strategy (JCS Pub 13)
- Reflects vision stated in the Army Enterprise Strategy
- Capitalize and leverage existing capabilities
- Integration of security and operational functions
- Integrated Offense/Defense
- Coordinated effort between Agencies at the National and Service levels

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



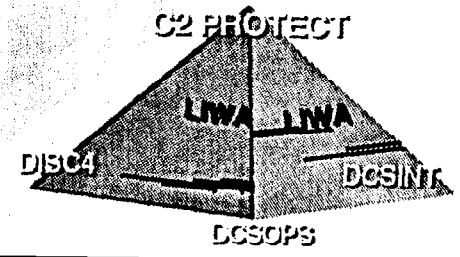
Threats and Vulnerabilities to C2 Information Systems



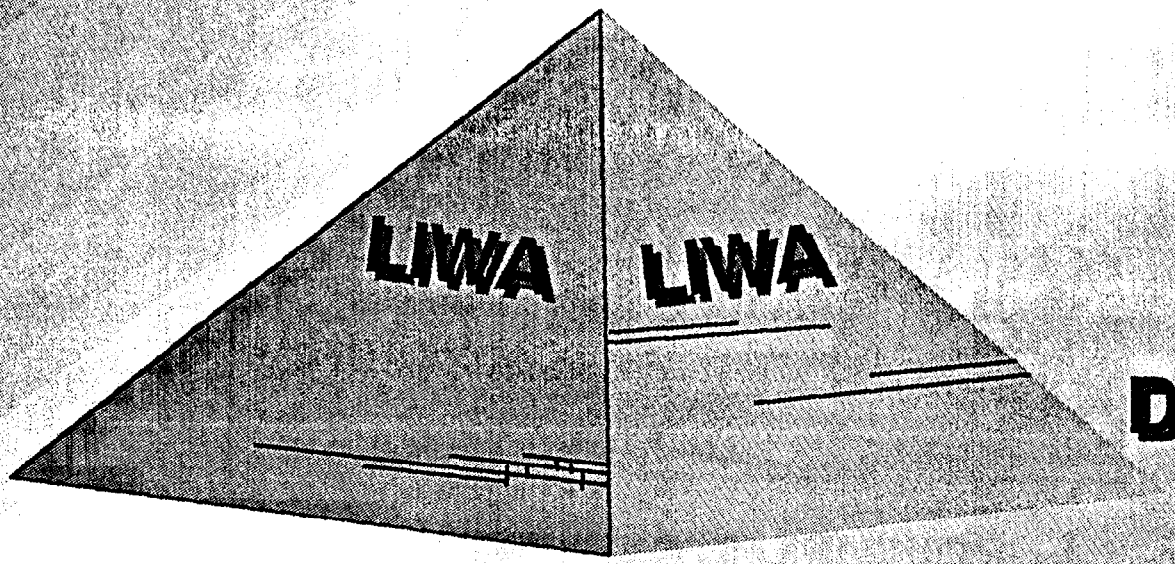
C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



C2 Protect Triad



C2 PROTECT



DISC4

DCSINT

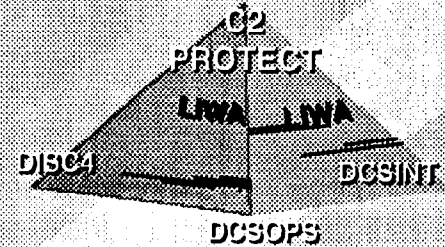
DCSOPS

Lead Developers and Signatures on all C2 Protect
Volumes

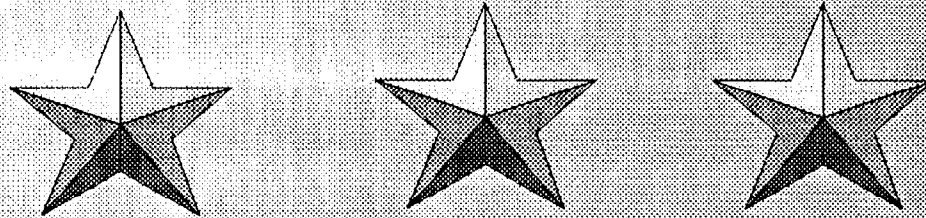
C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



DCSOPS C2 Protect Mission



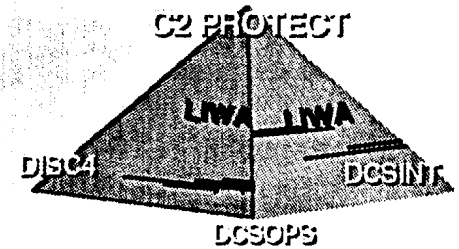
The DCSOPS is the organization which has proponency for Information Warfare and addresses force modernization issues related to Information Warfare. Operational issues concerning Information Warfare are handled within the Directorate for Operations, Readiness, and Mobilization. DAMO-FDN is responsible for the development and dissemination of Information Warfare Policy for the Army.



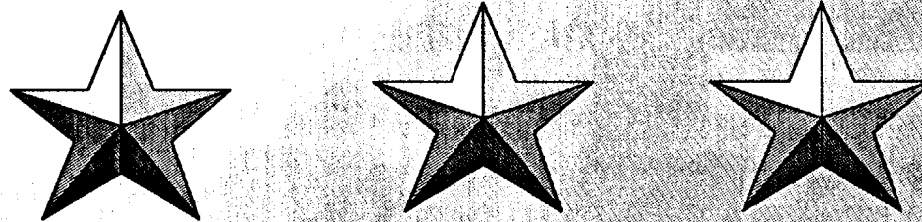
C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



DISC4 C2 Protect Mission



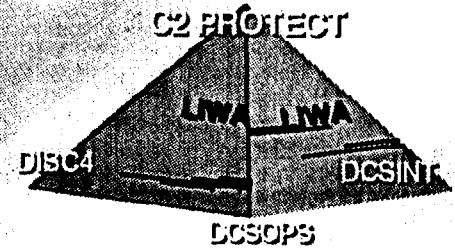
In coordination with DCSOPS and DCSINT, DISC4 is responsible for implementing procedural and material protective measures, to protect Command, Control, Communications, and Computers (C4 Protect).



C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



DCSINT C2 Protect Mission



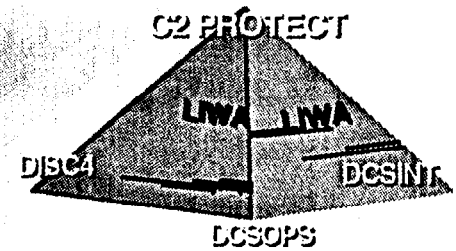
In coordination with DCSOPS and DISC4, DCSINT is the office responsible for threat definition, establishment of policy and integrating counter-intelligence support to protect command control communications and computers (C4 Protect)



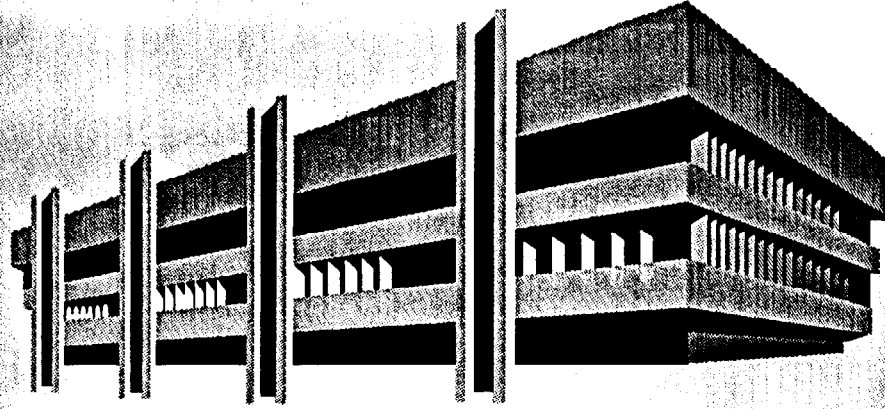
C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Land Information Warfare Activity



“LIWA



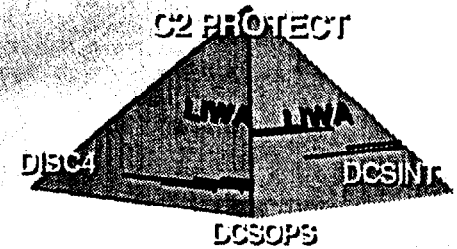
MISSION:

Provide DA level Information Warfare/Command and Control Warfare support to Land Components and separate Army commands to facilitate planning and execution of Information Operations. Coordinate with National, Joint, and Service IW/C2W centers to exchange and synchronize intelligence and information support across the operational continuum.

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Land Information Warfare Activity



**Act as Operational Focal Point for IW
Army Staff (DCSOPS/DCSINT/DISC4)
Joint, Service, and National Agencies
MACOMs and MSCs**



Arrange for and Coordinate Support to CDRs



Coordinate and Deploy Field Support Teams For
* CERT * Common Tools

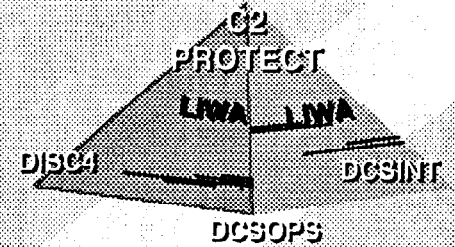


**Integrate Compartmented Programs with Other
Activities**

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



RED TEAM

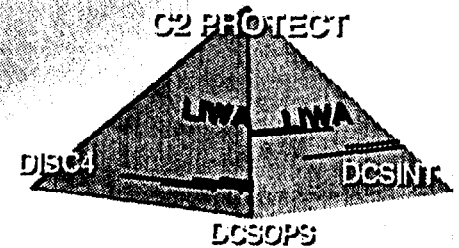


- LIWA coordinated, ADO lead
- Passive Red Teaming started during Roving Sands
- Active Red Teaming to be undertaken at TF XXI AWE
- Efforts underway to include DIW in Modeling and Simulations (SIGCEN)

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Training and Awareness is Key to C2 Protect



“Our Troops must understand the threat and we must provide the leadership to minimize it”.

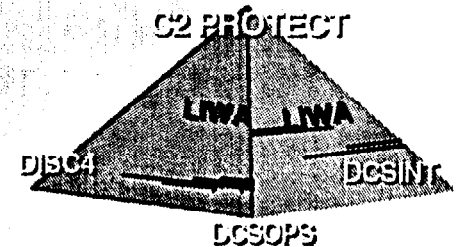
“We must integrate Information Warfare realism into training the force”.

LTG Guenther
HQDA, DISC4
29 Mar 95

C2 Protect - “Keeping The Highway Open and Secure For Force XXI”



C2 Protect Training

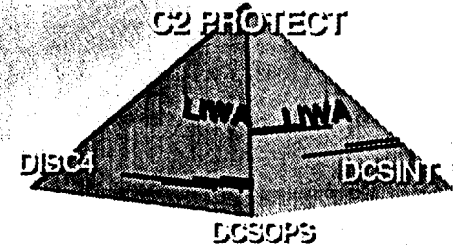


- CISS teaching non-service specific information security courses for system administrators
- INFOSEC to be taught as part of the SOBC and WOBC at Fort Gordon
- BOTTOM LINE: Training shortfalls are being addressed by HQDA (ODISC4)
- Pilot Course kicks off 30 OCT 95 @ GMU
- 1st Class scheduled @ Fort Huachuca - 4-8 DEC
- Developed by Army Management Engineering College Rock Island, IL

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Army C2 Protect Common Tool Set

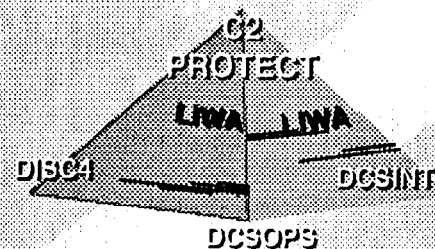


- Cooperative Effort
- Pentagon-to-Foxhole material developer (CECOM)
- LIWA is Army's functional manager
- Centralized configuration control
- Uses existing technologies (leverage of existing tools)
- Emerging technology
- Embedding tools in existing C4 Systems
- Short Term Phase - - - - - Long Term Phase

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Army C2 Protect CERT



- No current Army Capability
- Operational Concept for organic capability under development

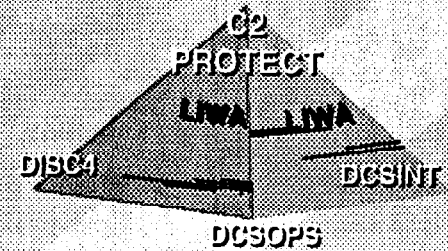
PROPOSED AND UNDER STUDY

- Four geographic locations co-located with APPOCs
- Staffed with Co-located USAISC and USAINSCOM resources
- 5th Signal Command being studied as a model for initial operations concept

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Army C2 Protect Risk Management

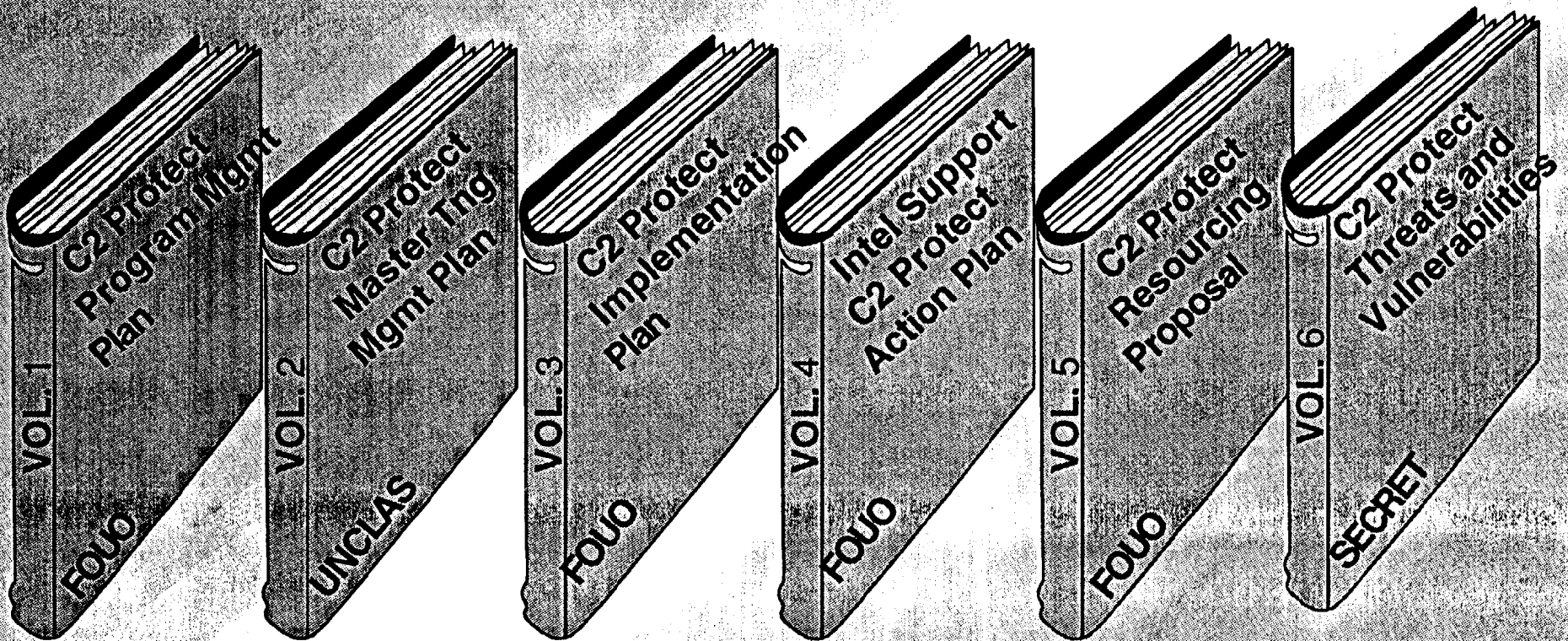
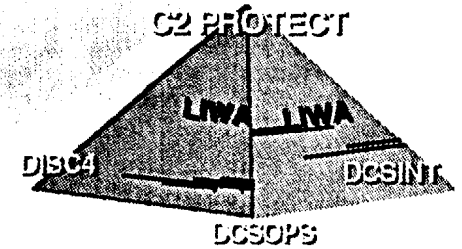


- Risk management is the foundation of the Army C2 Protect Program
- Risk management model is a combination of Service and OSD models (Hotard)
- ATTP, technology integration and investment decision will require Risk Management
- Risk Management into Life Cycle Management
- Risk Management drives COTS, GOTS and development efforts for C2 Protect/C4I Systems

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Army C2 Protect Library

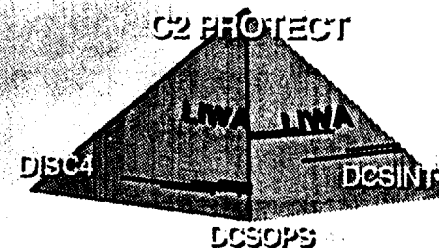


C2 Protect Planning Evolves into AR XXX-
XX

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"



Summary



- Funding, Resourcing and Intelligence Integration Remain Greatest Challenges
- Focus on Education, Training, Awareness & TTP
- C2 Protect Roles and Responsibilities are Defined
- C2 Protect Program Management Plan Staffed for Approval
- Risk Management

C2 Protect - "Keeping The Highway Open and Secure For Force XXI"