

N92-12030

AISS TECHNOLOGY ROLE

# CONTROL CENTER TECHNOLOGY

MOD CONTROL CENTER  
AUTOMATED INFORMATION  
SYSTEMS SECURITY  
EVOLUTION

520-14  
39622  
P-25  
N2185000

RICH OWEN  
MOD COMPUTER SECURITY OFFICIAL

ROLE - 1 L

# PURPOSE

- **HIGHLIGHT THE ROLE OF THE TECHNOLOGY INFUSION PROCESS IN FUTURE CONTROL CENTER AUTOMATED INFORMATION SYSTEMS (AIS)**

# OVERVIEW

- GOALS
- BACKGROUND
- THREAT
- MOD'S AISS PROGRAM
- TQM
- SDLC INTEGRATION
- PAYBACK
- FUTURE CHALLENGES
- BOTTOM LINE

# GOALS

- **IMPROVE THE CONFIDENTIALITY, INTEGRITY, & AVAILABILITY OF AIS THROUGH TECHNOLOGY**
- **EVOLVE AISS TECHNOLOGY THROUGH THE RISK MANAGEMENT PROCESS**

# BACKGROUND

## PAST

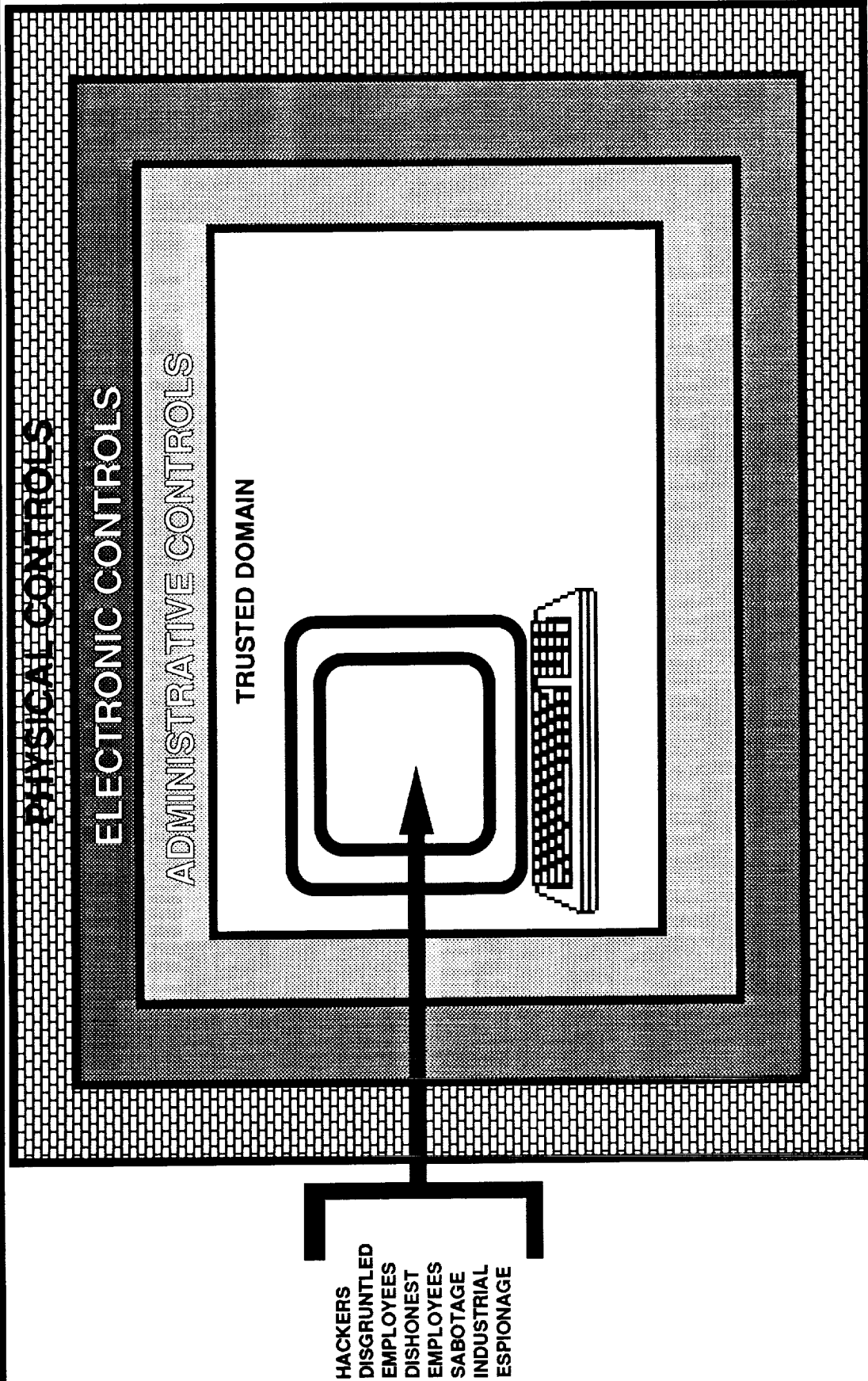
- OUR DOD HERITAGE
  - PROCEDURAL
  - EMPHASIS ON ACCESS CONTROL
  - MANDATORY COMPLIANCE

# BACKGROUND

## PRESENT

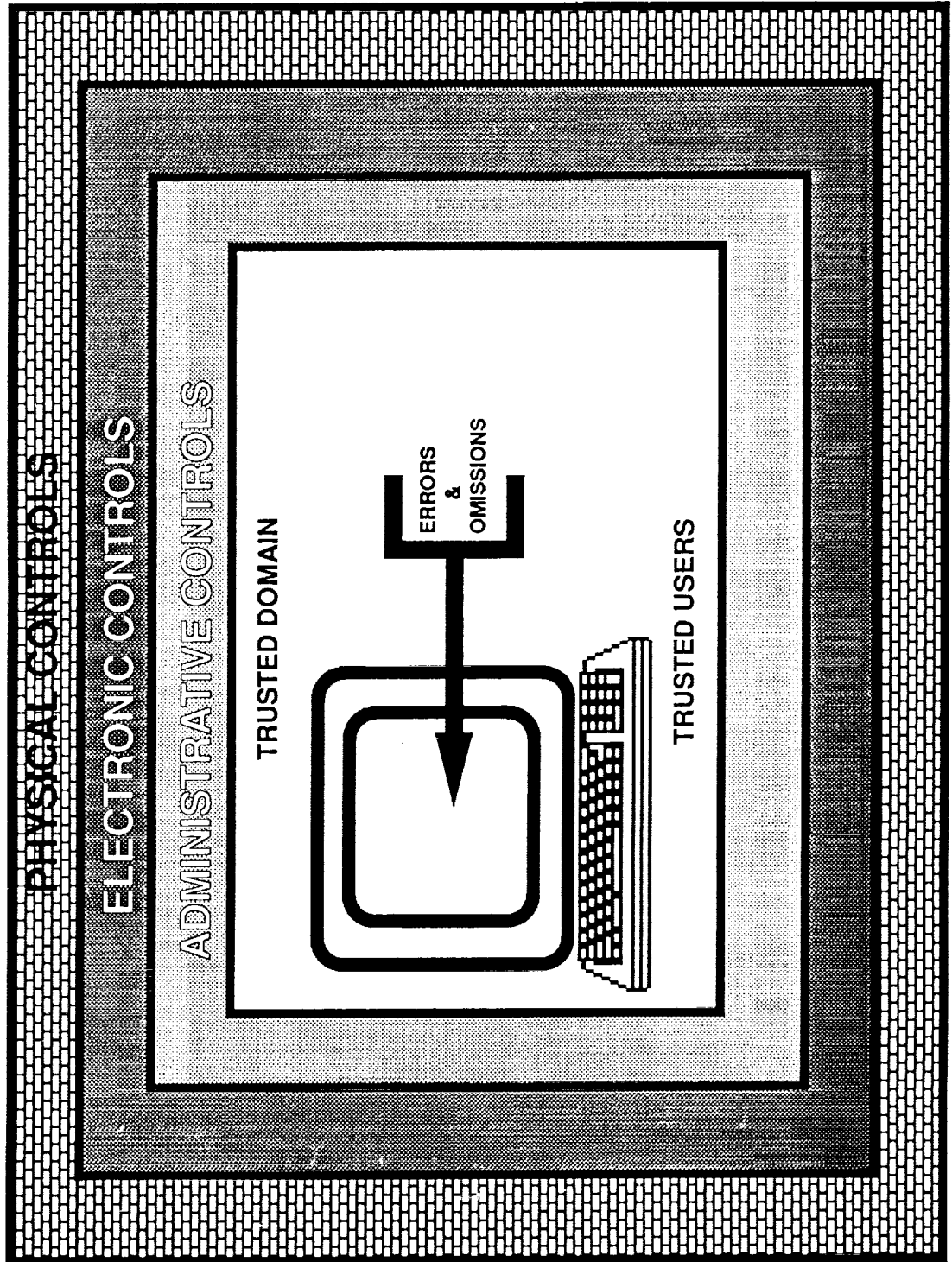
- MANDATE FOR CONFIDENTIALITY, INTEGRITY, & AVAILABILITY
- COMPUTERS AT RISK
- A NEW PHILOSOPHY
  - NO LONGER COMPLIANCE BASED
  - EMPHASIS ON RISK MANAGEMENT

# EXTERNAL THREAT



- HACKERS
- DISGRUNTLED EMPLOYEES
- DISHONEST EMPLOYEES
- SABOTAGE
- INDUSTRIAL ESPIONAGE

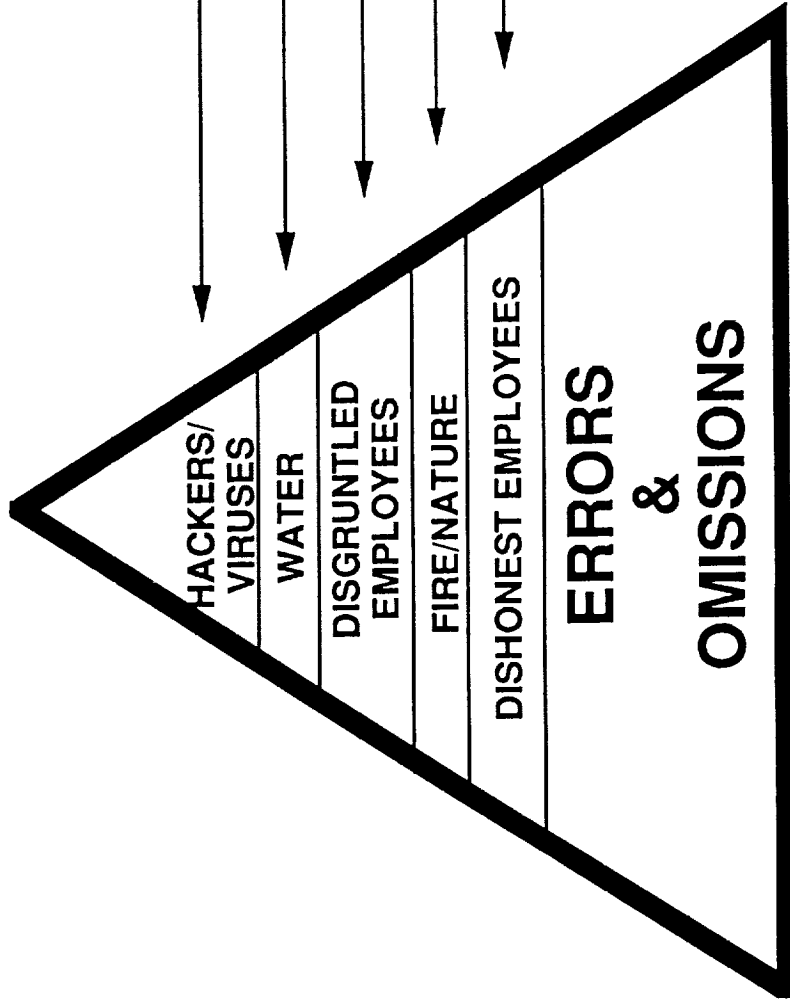
# INTERNAL THREAT





# THREAT ANALYSIS

## THE CHANGING ENVIRONMENT



### INCIDENTS

87	88	89	90	91
	2	2	12	24
1				
	.5			
	.5			
	UNKNOWN TOTAL			

# MIOD'S AISS PROGRAM

- POLICY
  - PINK BOOK
- REQUIREMENTS
  - REFERENCE STRUCTURE
- INSTITUTIONALIZATION
  - ASET
  - PROCESSES & PROCEDURES

# POLICY

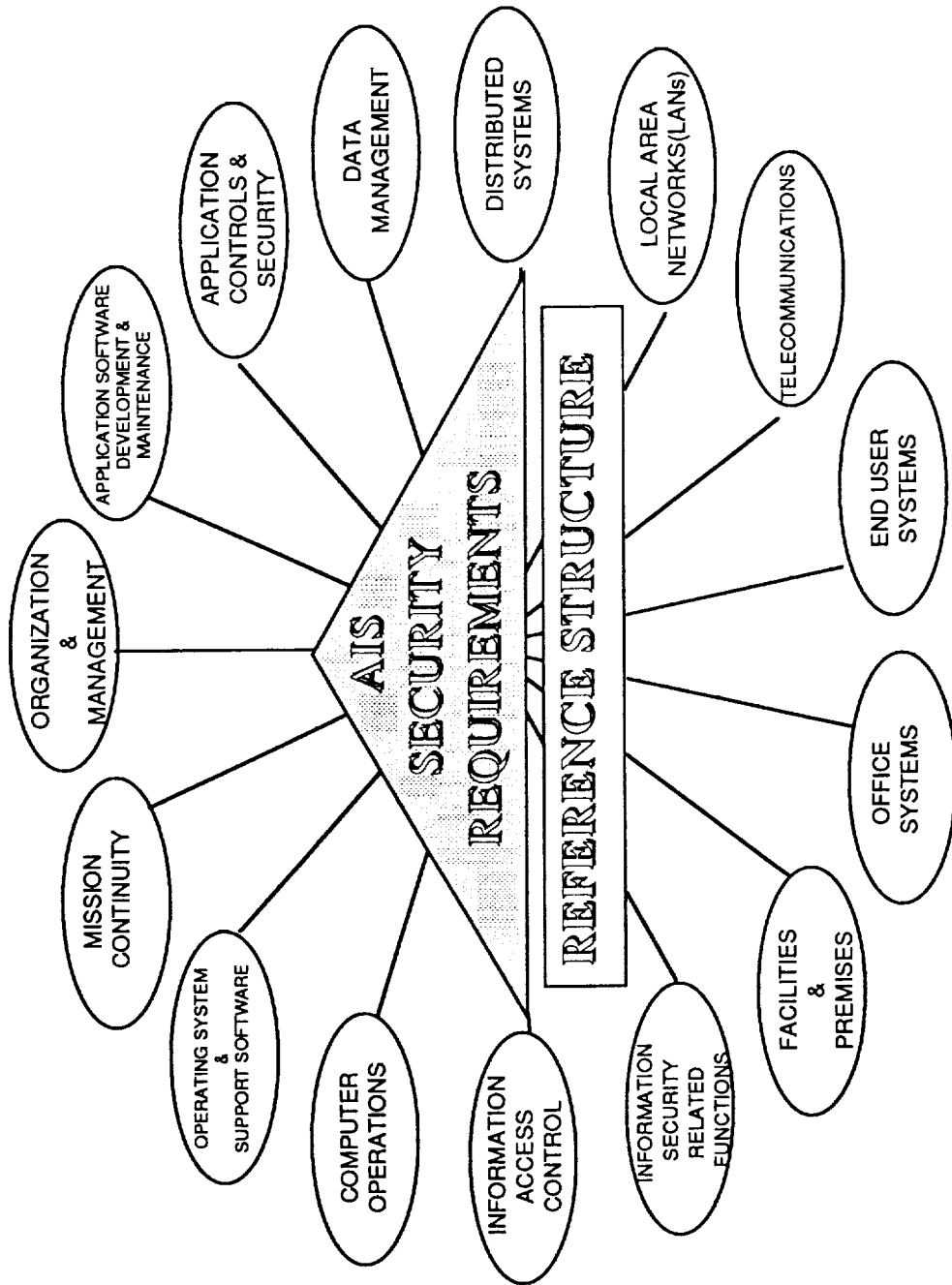
- MOD LEADERSHIP STATEMENT  
24 OCT 90:

*"We want technical, not procedural solutions for AIS security!"*

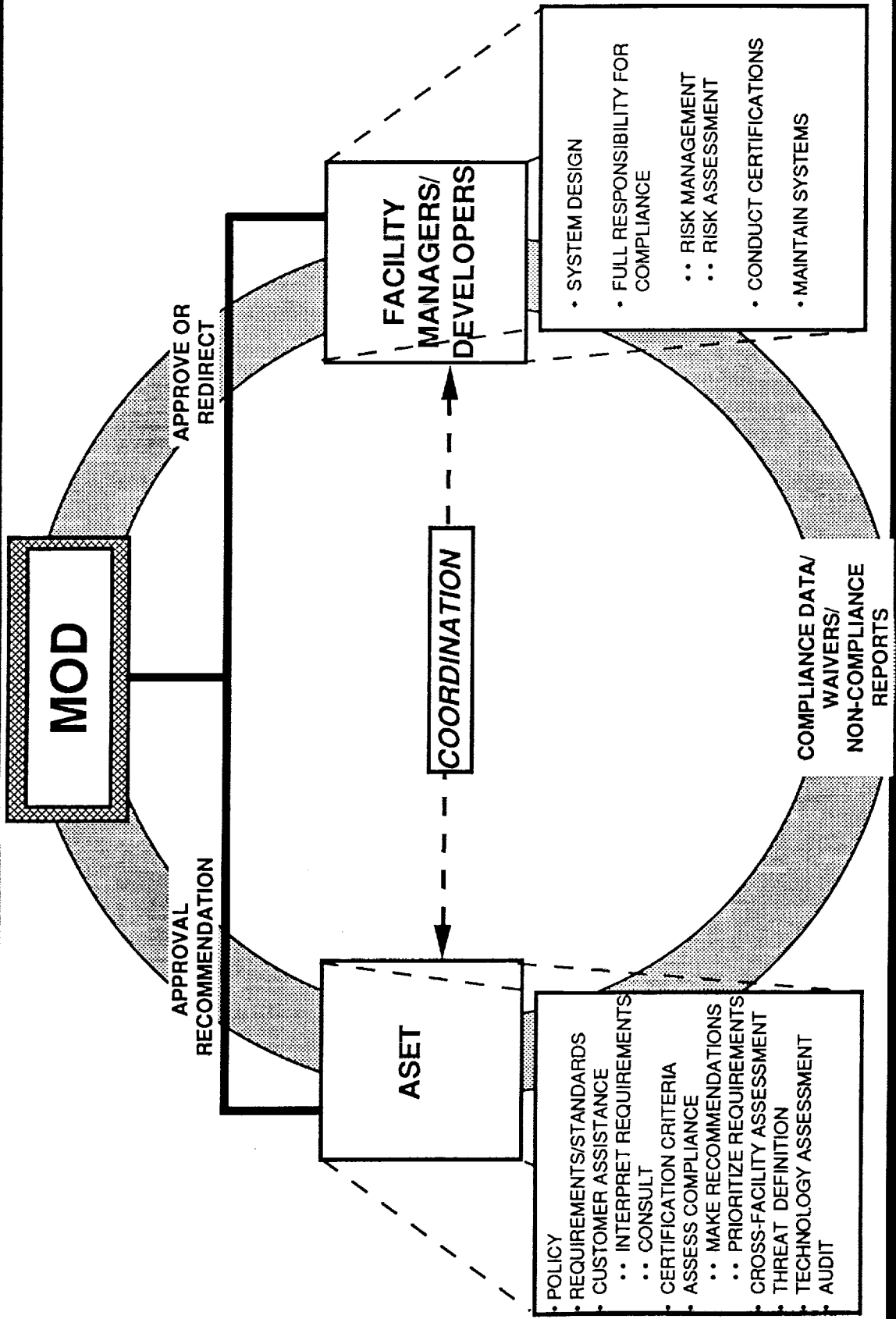
# POLICY

- PINK BOOK
  - ADMINISTRATIVE, ELECTRONIC, & PHYSICAL
  - DAY-TO-DAY OPERATIONS
- REFERENCE STRUCTURE
- SPIN-OFF CALLS FOR AISS TECHNOLOGY

# REFERENCE STRUCTURE



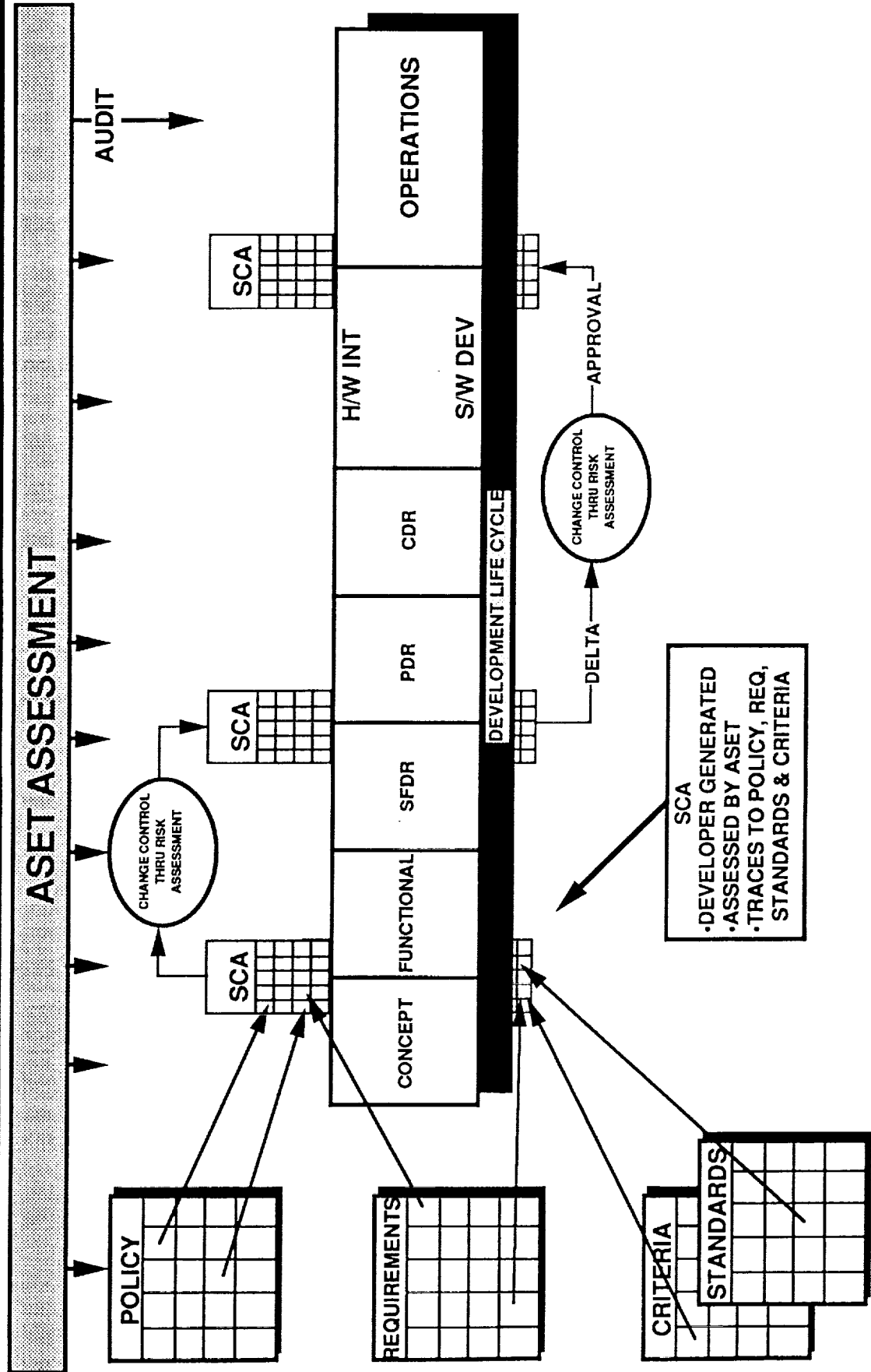
# INSTITUTIONALIZATION



# TQM

- ORIENTATION TO THE ULTIMATE CUSTOMER
- IN CONJUNCTION WITH THE FACILITY MANAGEMENT

# SDLC AISS INTEGRATION





# REAL WORLD

- **RETROFIT FOR COMPLIANCE IS COST PROHIBITIVE**
- **WORKABLE TRANSITION FROM COMPLIANCE TO RISK MANAGEMENT**

# CATCH UP

- **IN DEVELOPMENT**
  - **DESIGNED**
  - **FIXED SCHEDULED**
  - **APPORTIONED BUDGET**
- **IN OPERATION**
  - **MUST NOT IMPACT FLIGHT OPERATIONS**
  - **MUST REDUCE RISK**

# TECHNICAL SOLUTIONS

## EXTERNAL THREAT COUNTERMEASURES

- **USER/HOST AUTHENTICATION:  
SMART CARDS**
- **ELECTRONIC TRANSFER  
VERIFICATION: DIGITAL  
SIGNATURES/ENVELOPES**
- **SYSTEM REDUNDANCY**
- **NON-REPUDIATION**

# TECHNICAL SOLUTIONS

## INTERNAL THREAT COUNTERMEASURES

- HIGH-LEVEL PROGRAMMING LANGUAGES
- SEI METHODS & PROCEDURES
- DATA INTEGRITY TECHNOLOGY

# CONTINUED EVOLUTION

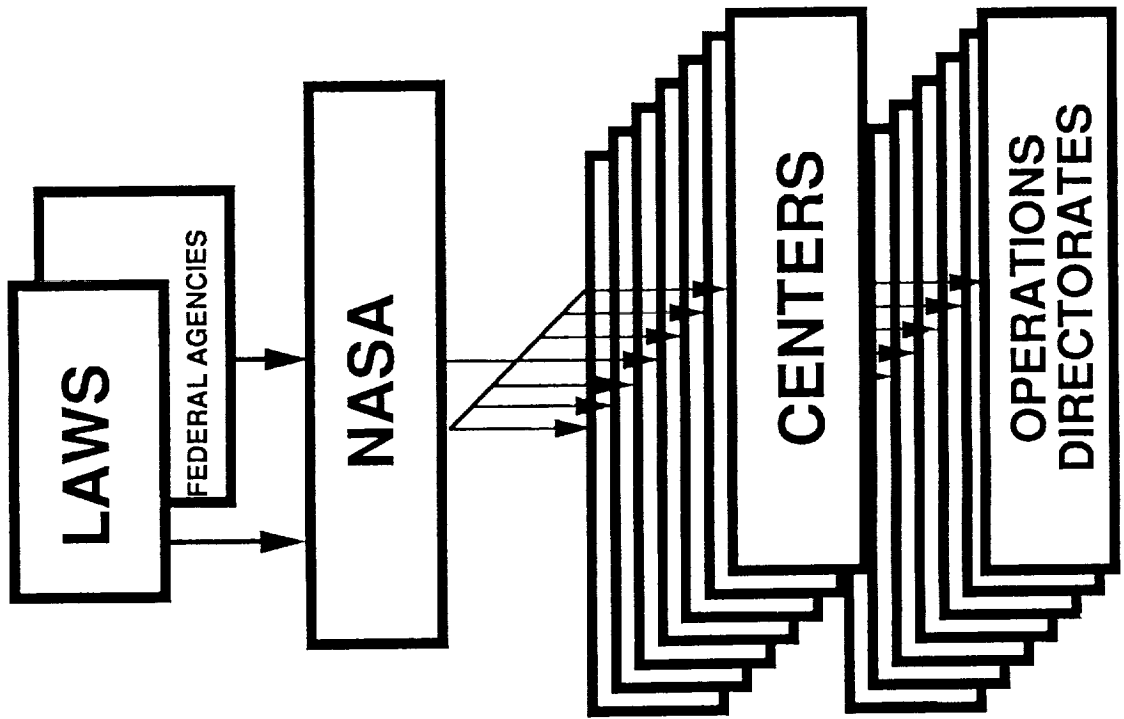
- ANNUAL TECHNOLOGY CONFERENCE
- TECHNOLOGY PROTOTYPING
- TECHNOLOGY ASSESSMENT
- TECHNOLOGY AUDIT

# PAYBACK

- RISK MANAGEMENT
- COST EFFECTIVE
- FIX BIGGEST PROBLEMS
- ALLOWS ACTIVE MANAGEMENT PARTICIPATION IN RISK REDUCTION
- PROVIDES MANAGEMENT AN UNDERSTANDING OF VULNERABILITIES

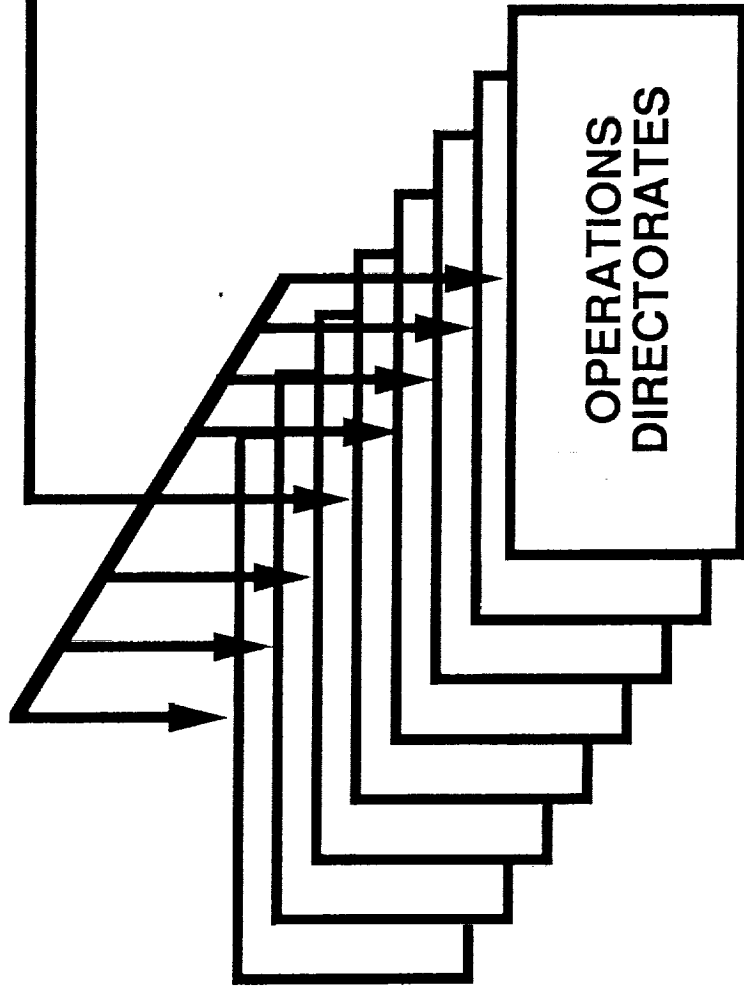
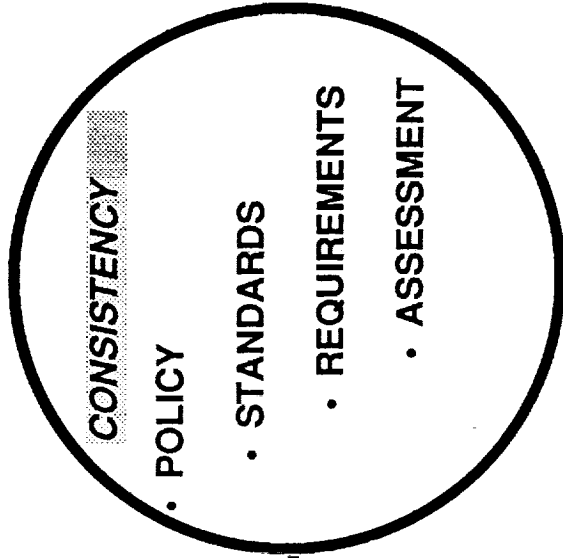
# FUTURE CHALLENGES

## EXISTING POLICIES & GUIDELINES



# FUTURE CHALLENGES

## NEEDED POLICY & GUIDELINES





# BOTTOM LINE

THE KEY TO COST EFFECTIVE AIS  
SECURITY IS THE PROPER  
APPLICATION OF RISK MANAGEMENT  
AND...

TECHNOLOGY

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