CORPORATE INFORMATION MANAGEMENT

FOCUS ON: PROCESSES AND PROCEDURES

Presented to

THE EXECUTIVE LEVEL GROUP

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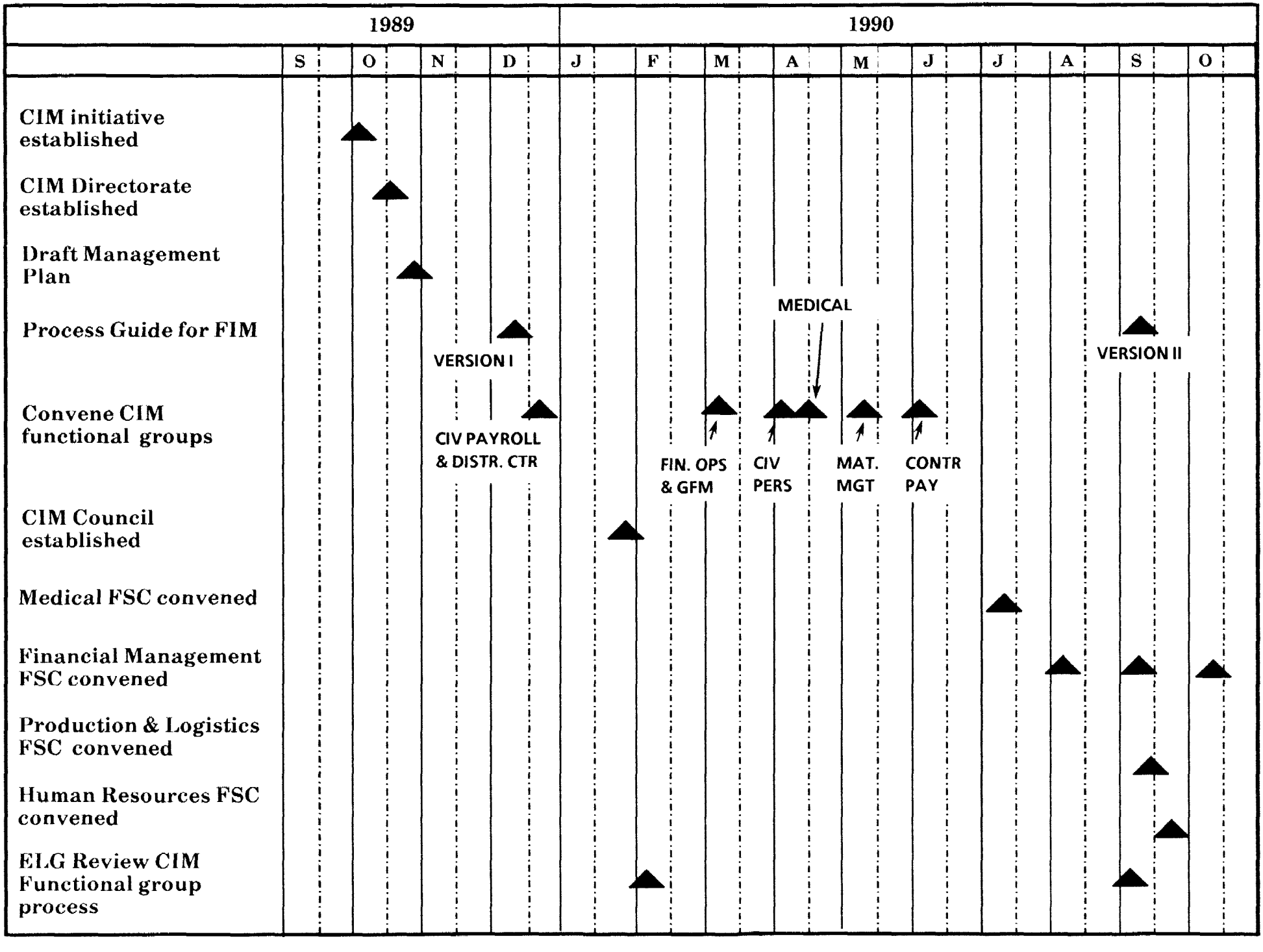
Director, Corporate Information Management

October 15, 1990

TASKING FROM
OCTOBER 4, 1989 MEMORANDUM

- IRM STAFF WILL :
  - DRAFT A MANAGEMENT PLAN
  - DEVELOP A PROCESS GUIDE
  - ESTABLISH FUNCTIONAL GROUPS

KEY FUNCTIONAL INFORMATION MANAGEMENT EVENTS



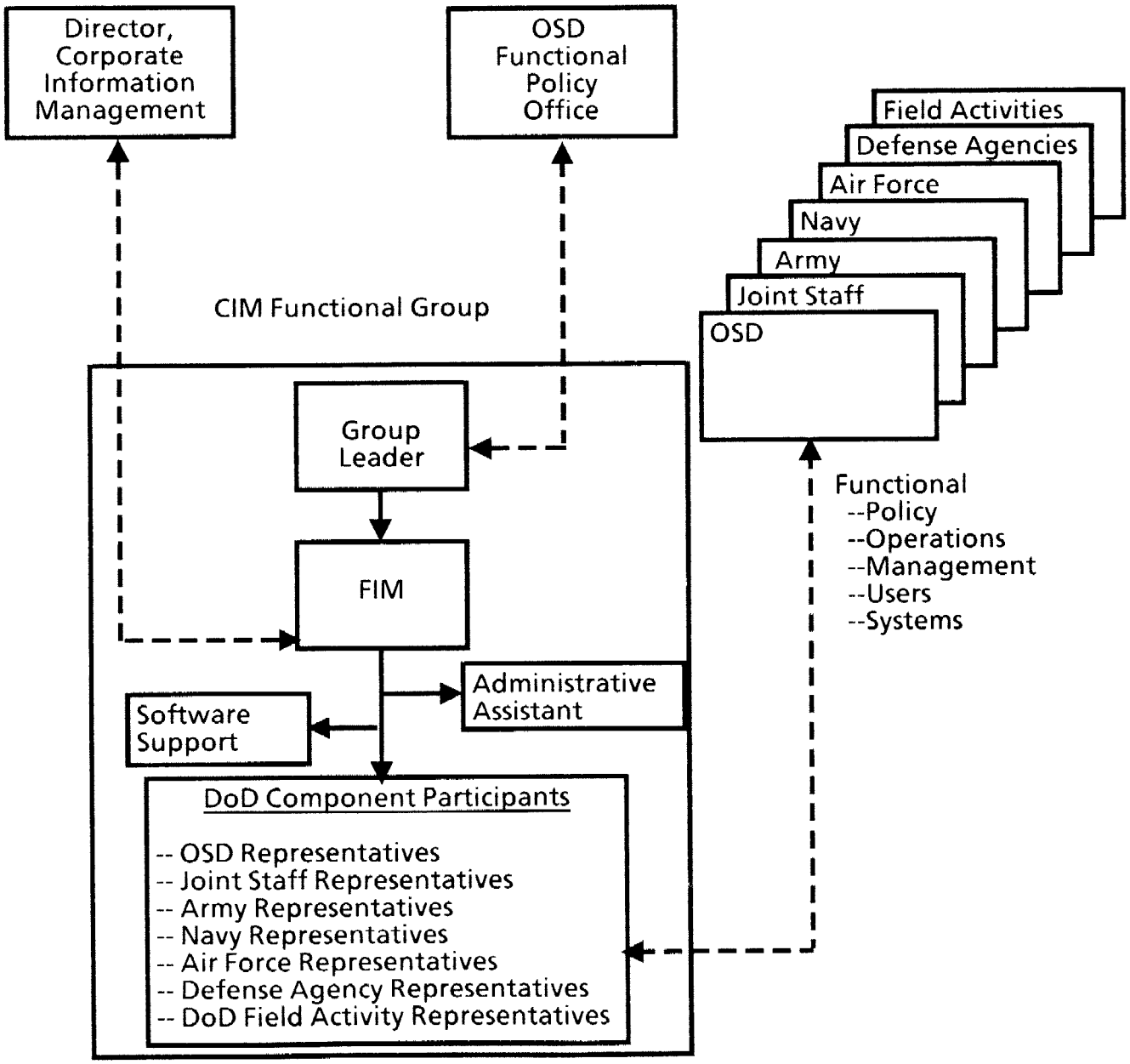
GUIDING PRINCIPLES

- BUSINESS METHOD IS THE DOMAIN OF THE USER COMMUNITY, THEREFORE, FUNCTIONAL LEADERSHIP AND PARTICIPATION IN THE FUNCTIONAL GROUPS ARE ESSENTIAL AND CRITICAL TO THE SUCCESS OF FUNCTIONAL INFORMATION MANAGEMENT
- BUSINESS METHODS AND CURRENT PRACTICES ASSESSMENT ARE THE BASIS FOR RECOMMENDING CHANGES TO ACHIEVE BETTER, MORE EFFICIENT, AND MORE EFFECTIVE WAYS OF DOING BUSINESS; INNOVATIVE FUNCTIONAL PROCESSES FRAME FUNCTIONAL DATA AND PROCESS MODELS
- ACT AS A CATALYST FOR THE FUNCTIONAL COMMUNITY TO EVALUATE AND ADOPT NEW AND BETTER WAYS OF DOING BUSINESS
- WELL-DEFINED FUNCTIONAL REQUIREMENTS, CONSISTING OF COMMON PROCESS AND DATA MODELS ARE PREREQUISITES TO IMPLEMENTING COMMON INFORMATION SYSTEMS
- INFORMATION SYSTEMS SHOULD ONLY BE DEVELOPED TO SUPPORT FUNCTIONAL NEEDS AND FUNCTIONAL POLICIES
- STANDARD DATA DEFINITION AND A DICTIONARY/REPOSITORY ARE ESSENTIAL TO DEFINING STABLE DATA AND PROCESS MODELS
- EMPHASIS ON COST/BENEFIT AND FEASIBILITY IN PRIORITIZING AND ASSESSING FUNCTIONAL REQUIREMENTS

OVERALL APPROACH FOR IMPLEMENTING FUNCTIONAL INFORMATION MANAGEMENT

- EMPHASIS ON FUNCTIONAL LEADERSHIP AND PARTICIPATION
- LONG-TERM, FULL-TIME PARTICIPATION BY GROUP LEADER AND MEMBERS IN DEVELOPING PRODUCTS FOR EACH FUNCTIONAL AREA.
- FUNCTIONAL GROUPS DOCUMENT BUSINESS METHODS WITHIN FUNCTIONAL AREAS
- FUNCTIONAL GROUPS FOCUS ON:
  - BUSINESS METHODS DEFINITION AND DOCUMENTATION
  - INNOVATIVE FUNCTIONAL VISION TO FRAME FUNCTIONAL DATA AND PROCESS MODELLING
  - DEVELOPING STABLE FUNCTIONAL PROCESS AND DATA MODELS AS A PREREQUISITE FOR DEVELOPING COMMON INFORMATION SYSTEMS
- USE OF CONSISTENT PROCESS AND METHODOLOGY TO DEVELOP FUNCTIONAL REQUIREMENTS FOR A COMMON SYSTEM TO SUPPORT THE FUNCTIONAL AREA

CIMFUNCTIONAL GROUP RELATIONSHIPS



PROCESS OVERVIEW

PROCESS APPROACH

- A STRUCTURED PROCESS FOR:
  - CONSISTENCY AND COMPARABILITY OF OUTPUTS
  - COMMON LANGUAGE ACROSS FUNCTIONAL GROUPS
  - FRAMEWORK FOR DISCUSSIONS AND NEGOTIATIONS
  - PROCESS REVIEW AND QUALITY ASSURANCE
- LINK STRATEGIC PLANNING WITH INFORMATION ENGINEERING, BUSINESS SYSTEMS MODELLING, AND INFORMATION SYSTEMS REQUIREMENTS ANALYSIS
- DIFFERENCES WITH COMMONLY USED APPROACHES
  - FUTURE ORIENTED
  - DUAL PATH (NEITHER PROCESS NOR DATA MODEL DOMINANT)
- SUPPORT THROUGH TOOLS
- DEVELOPED WITH VIEW TO OVERCOMING PAST DESIGN AND DEVELOPMENT PROBLEMS

PROCESS PRODUCTS

- FUNCTIONAL VISION THAT FRAMES THE DEVELOPMENT OF FUTURE COMMON FUNCTIONAL REQUIREMENTS
- FUNCTIONAL BUSINESS PLAN AS PREREQUISITE TO INFORMATION SYSTEMS REQUIREMENTS
  - ANALYSIS AND DOCUMENTATION OF CURRENT AND FUTURE BUSINESS METHODS AND PRACTICES
  - DOCUMENT COMMON BUSINESS METHODS, PRACTICES, AND IDENTIFY AND PROPOSE FUNCTIONAL POLICIES
  - DOCUMENT STRATEGY
- UNIFORM AND CONSISTENT FUNCTIONAL INFORMATION SYSTEM REQUIREMENTS THAT
  - SUPPORT COMMON BUSINESS METHODS AND PRACTICES
  - COMPLY WITH DOD IRM POLICY

PROCESS GUIDE OVERVIEW

PROCESS GUIDE OVERVIEW

- THREE PHASES FROM HIGH LEVEL STRATEGIC PLANNING THROUGH INFORMATION SYSTEMS REQUIREMENTS (see chart)
- EACH PHASE HAS PRODUCT OUTPUT WHICH IS MAJOR DECISION POINT PRIOR TO NEXT SEGMENT (see chart):
  - FUNCTIONAL VISION: COMBINATION OF BROAD GUIDANCE FROM FUNCTIONAL STEERING COMMITTEE AND THOROUGH ANALYSIS FACILITATED IN THE GROUPS
  - FUNCTIONAL BUSINESS PLAN: COMPOSITE OF ANALYSIS OF FUNCTIONS AND DATA REQUIREMENTS, WITH A BUSINESS CASE FOR EXECUTION, BASED ON ECONOMICS; INTERMEDIATE DECISION POINTS WITH GUIDANCE FROM THE FUNCTIONAL STEERING COMMITTEE
  - IMPLEMENTATION STRATEGY: PROGRAM CONCEPT AND REQUIRED ACTIONS WITH TRANSITION CONCEPT
- EACH PHASE IS INITIATED BY DEVELOPING COMMON UNDERSTANDING OF THE BUSINESS AREA AND THE DIRECTION FOR THE PHASE (AND GREATER LEVELS OF DETAIL)

  -MISSION/SCOPE

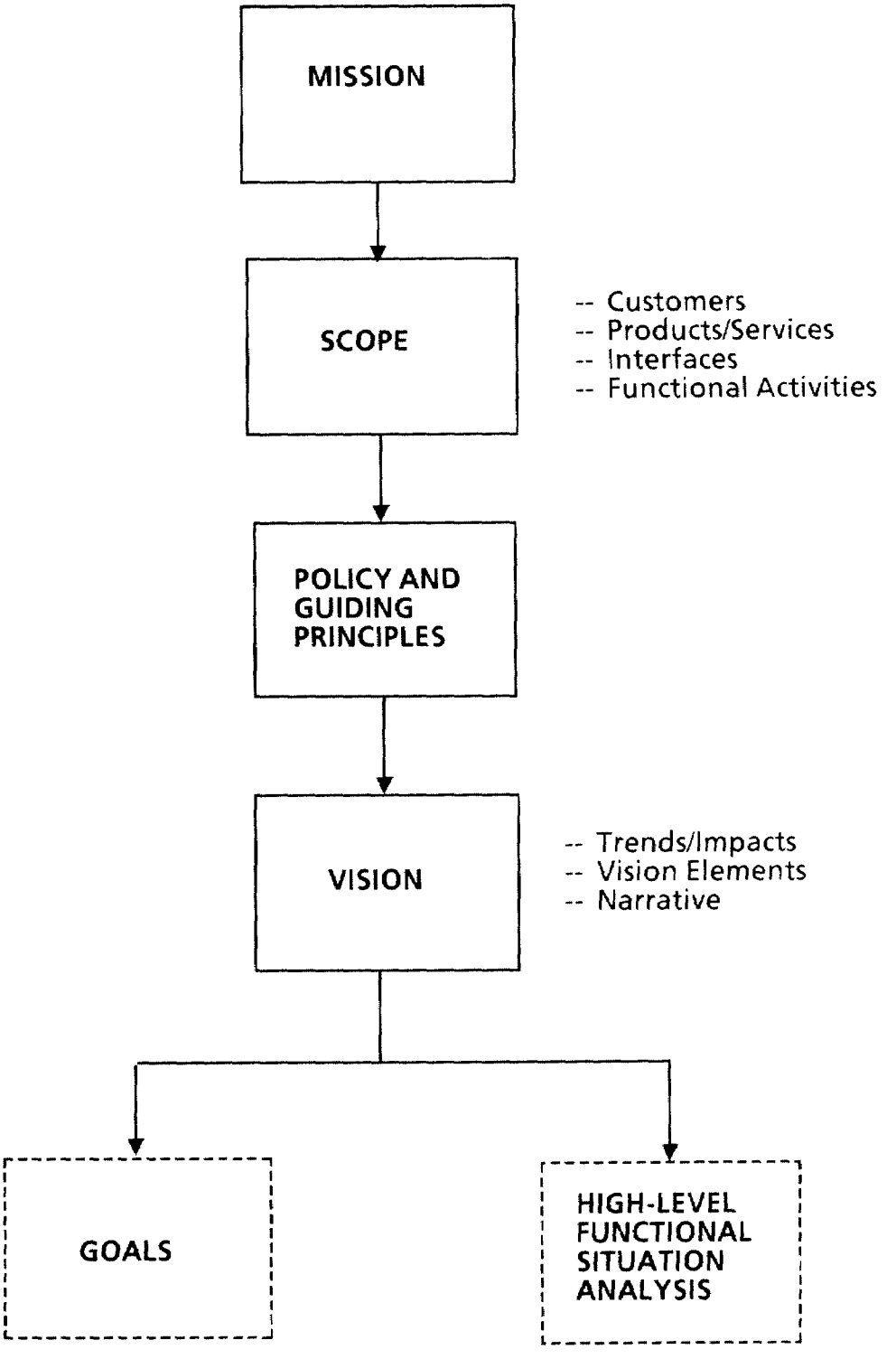
  -SITUATION ANALYSIS

  -FUNCTIONAL PLAN ASSESSMENT

PHASE 1: FUNCTIONAL VISION

- OBJECTIVES
  - TO VISUALIZE THE FUNCTION OF THE FUTURE
  - TO INITIATE "BUY-IN" TO JOINT BUSINESS PRACTICES AND PROCEDURES
- MAJOR TASKS
  - APPLY SENIOR POLICY DIRECTION TO DEFINE GUIDING PRINCIPLES AND VISION
  - DEFINE A FUTURE-ORIENTED AND UNCONSTRAINED MISSION AND VISION
- TOOLS AND TECHNIQUES
  - ANALYSIS OF FUTURES
  - TEAM BUILDING
- MAJOR OUTPUTS
  - VISION STATEMENTS
- RELATIONSHIP TO OTHER PHASES AND TASKS
  - VISION STATEMENTS PROVIDE ARCHITECTURE FOR REST OF ANALYSIS
  - INITIAL IDENTIFICATION OF INTERFACES AND INTEGRATION REQUIREMENTS

PHASE I - FUNCTIONAL VISION



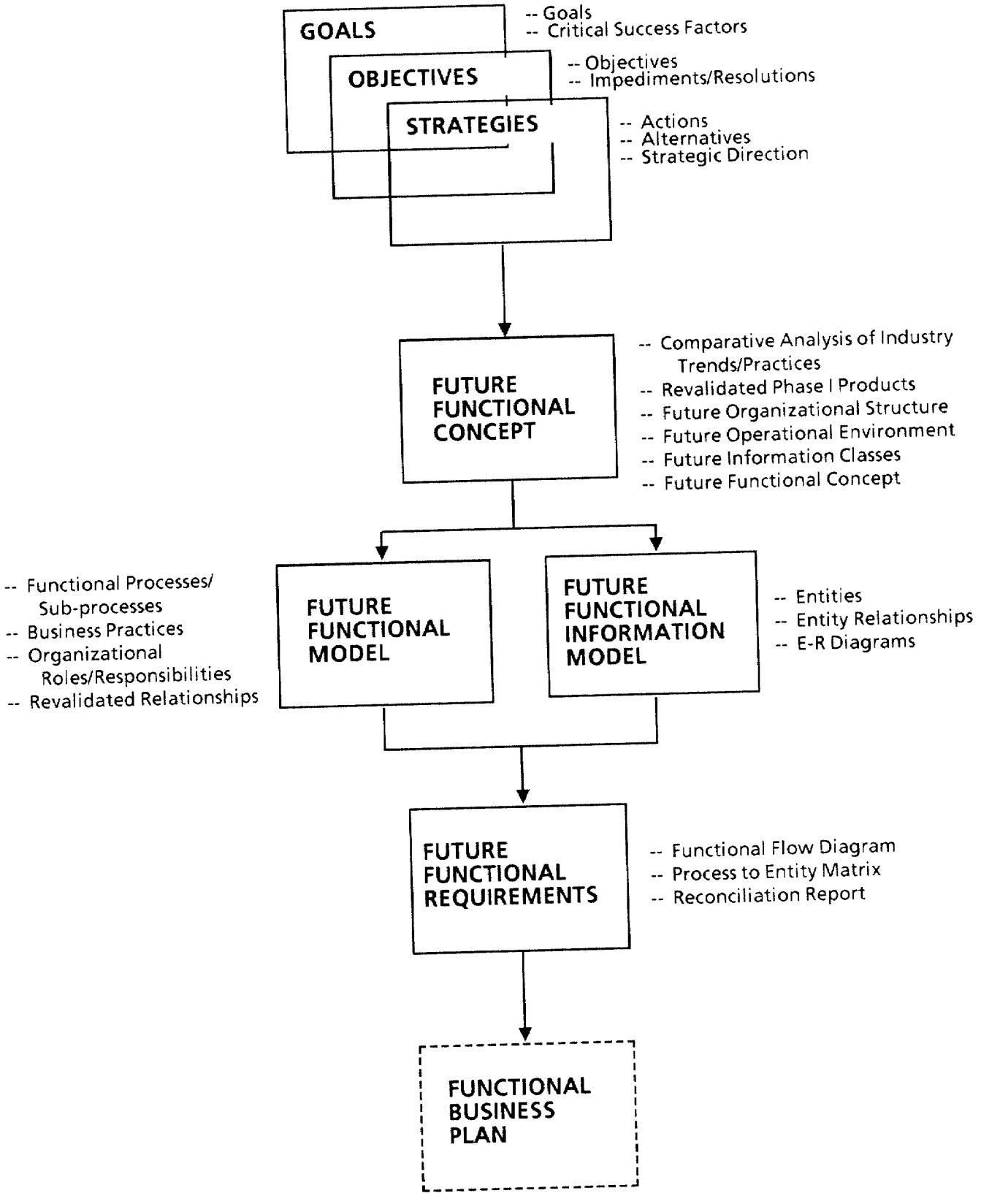
PHASE 2: FUNCTIONAL BUSINESS PLAN

- OBJECTIVES
  - TO DEVELOP A FEASIBLE STRATEGY FOR MEETING THE FUTURE VISION, GIVEN THE CURRENT SITUATION
  - TO MAKE THE BUSINESS CASE FOR PURSUING THE FUTURE CONCEPT
  - TO DOCUMENT CURRENT ENVIRONMENT USING STANDARD LANGUAGE AND CONCEPTS
- MAJOR TASKS
  - DETERMINE STRATEGIES TO MEET VISION
  - DEFINE THE FUTURE AND DOCUMENT THE CURRENT CONCEPT OF OPERATIONS
  - DEFINE FUTURE AND CURRENT FUNCTIONAL REQUIREMENTS
  - ASSESS CURRENT INFORMATION SYSTEMS
- TOOLS AND TECHNIQUES
  - FEASIBILITY AND RISK ASSESSMENTS
  - BUSINESS PLANNING (PROJECT SCHEDULING, BENEFIT ANALYSIS, CRITICAL SUCCESS FACTORS)
  - FUNCTIONAL DECOMPOSITION
  - ENTITY ANALYSIS

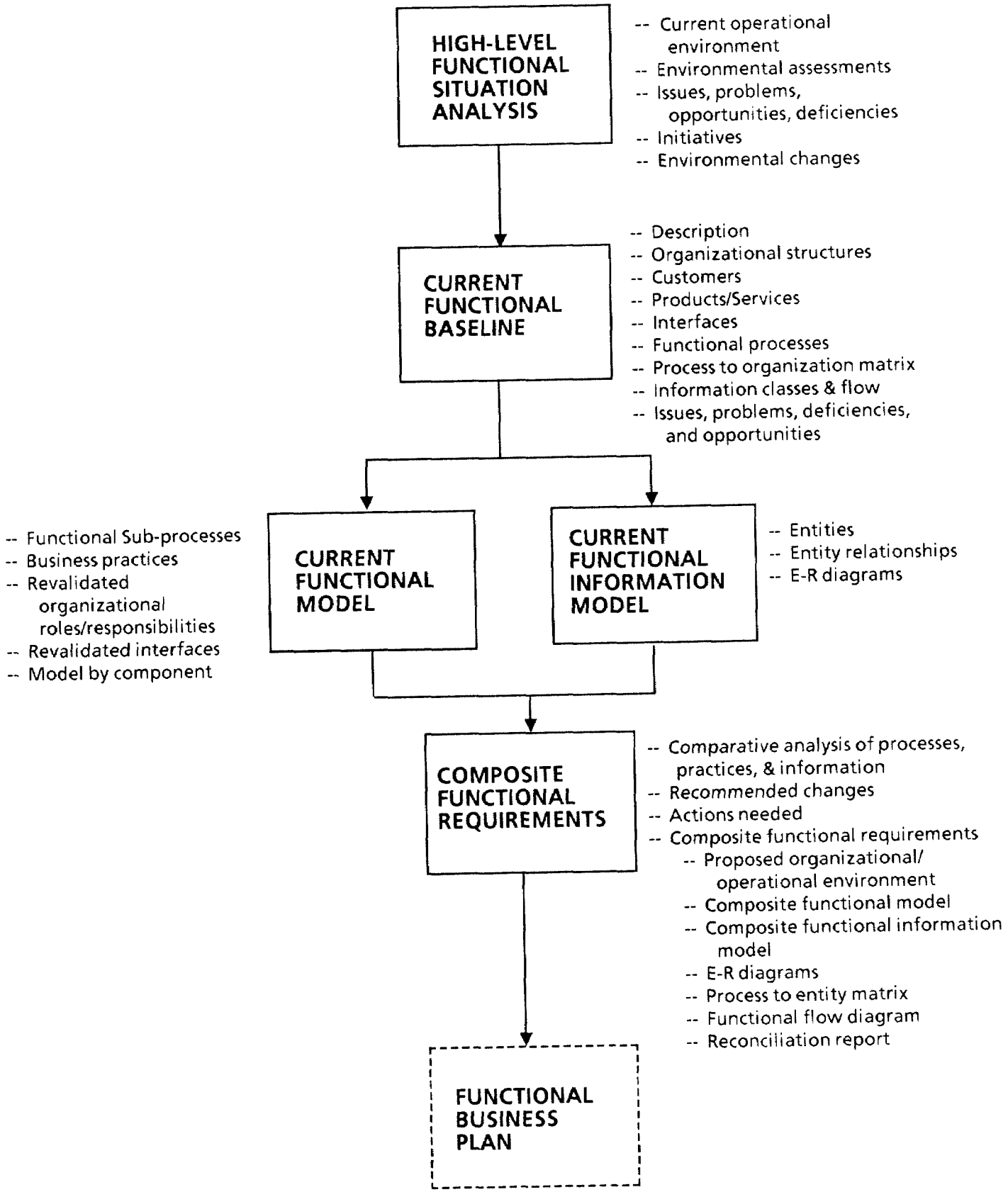
PHASE 2: FUNCTIONAL BUSINESS PLAN (CONT)

- MAJOR OUTPUTS
  - FUTURE FUNCTIONAL REQUIREMENTS
  - JOINT CURRENT FUNCTIONAL REQUIREMENTS
  - CURRENT INFORMATION SYSTEMS ASSESSMENT
  - FUNCTIONAL BUSINESS PLAN
- RELATIONSHIP TO OTHER PHASES AND TASKS
  - VISION ELEMENTS BASIS FOR FUTURE CONCEPTS AND FUNCTIONAL REQUIREMENTS
  - JOINT PRACTICES AND FUNCTIONAL REQUIREMENTS DRIVE INFORMATION SYSTEMS REQUIREMENTS

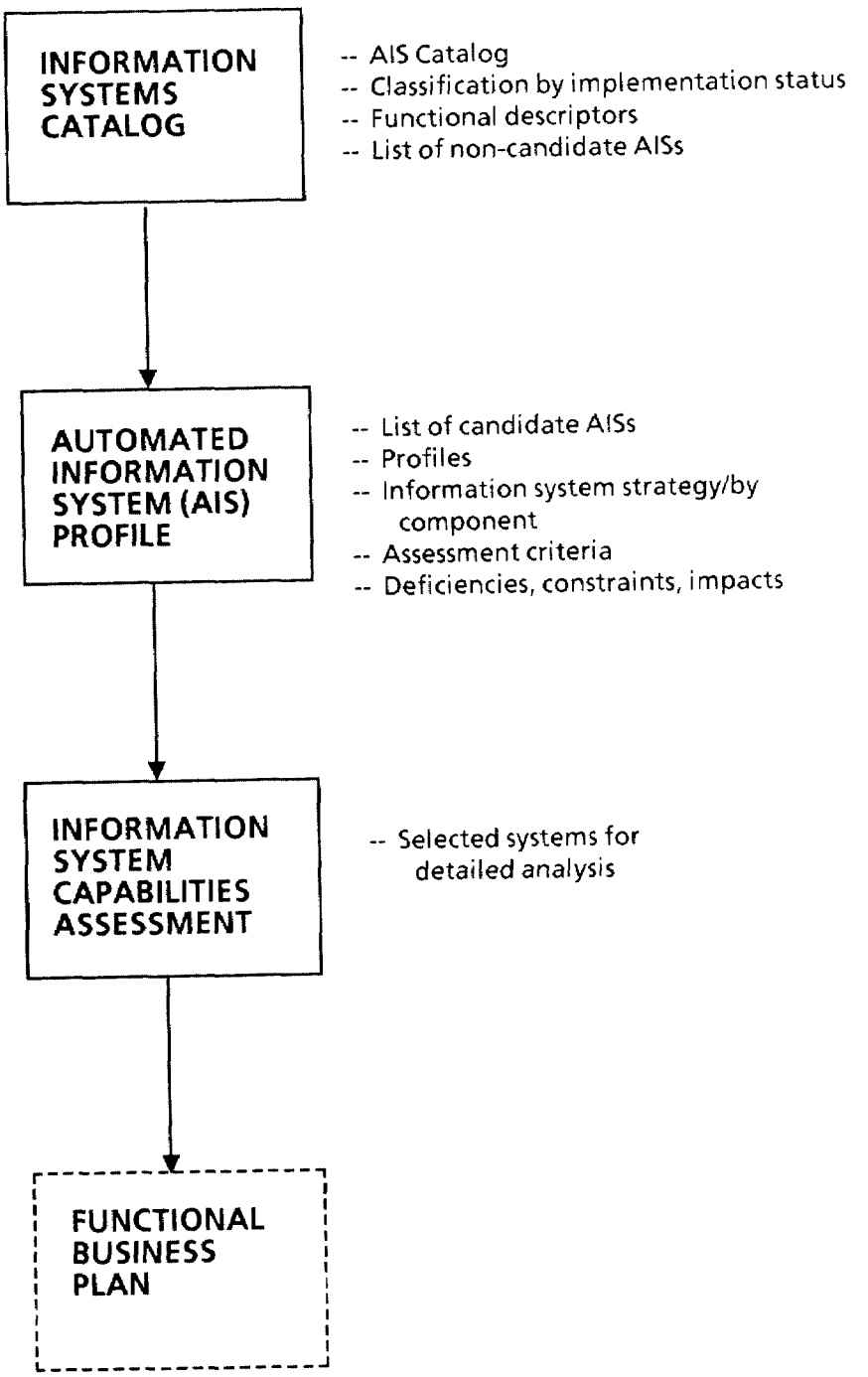
PHASE II - FUNCTIONAL BUSINESS PLAN
(Future Functional Path)



PHASE II - FUNCTIONAL BUSINESS PLAN
(Current Functional Path)



PHASE II - FUNCTIONAL BUSINESS PLAN
(Current Information Systems Path)



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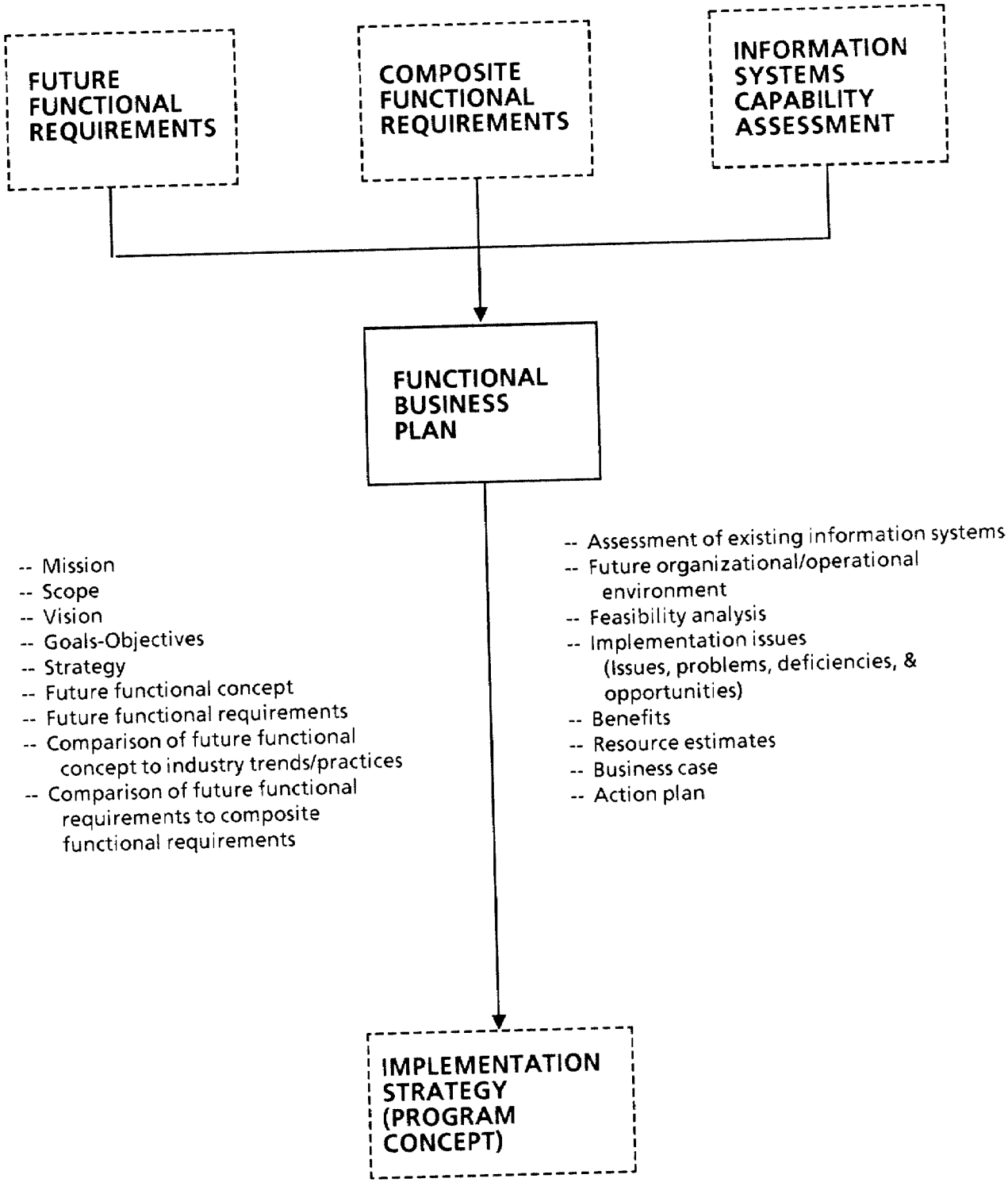


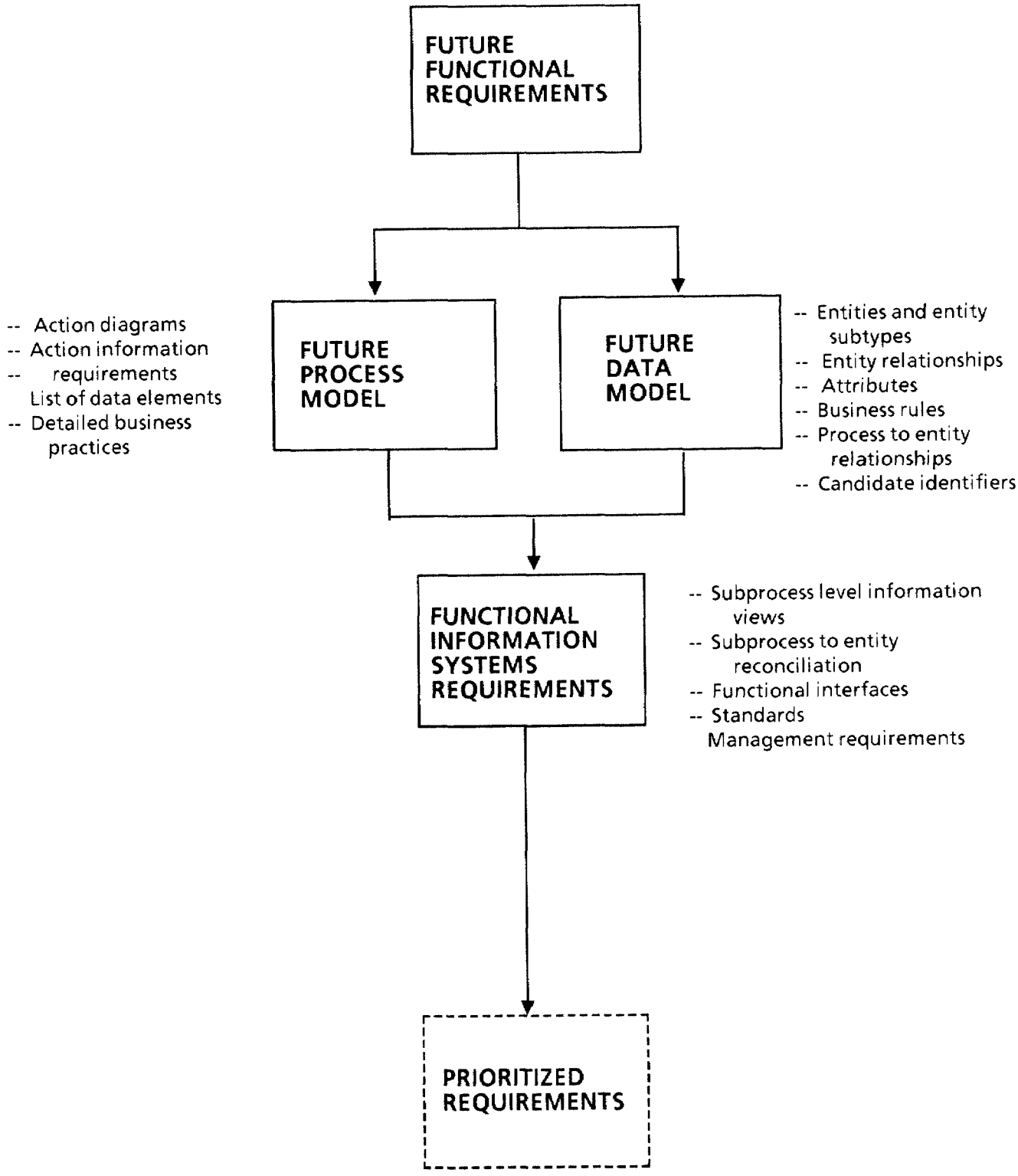
PHASE 3: INFORMATION SYSTEMS STRATEGY

- OBJECTIVES
  - TO PREPARE INFORMATION SYSTEMS FUNCTIONAL REQUIREMENTS FOR SYSTEMS DESIGN
  - TO DEVELOP A TRANSITION STRATEGY FOR MIGRATING FROM CURRENT TO FUTURE SYSTEMS
- MAJOR TASKS
  - DEFINE STABLE PROCESS AND DATA MODELS FOR NEW INFORMATION SYSTEMS ARCHITECTURE
  - DEVELOP AND PRIORITIZE REQUIREMENTS
  - DEVELOP TRANSITION STRATEGY FROM CURRENT TO FUTURE PROCESS AND DATA MANAGEMENT
  - DEVELOP REALISTIC IMPLEMENTATION STRATEGY BASED ON BEST BUSINESS PRACTICE
- TOOLS AND TECHNIQUES
  - DATA AND PROCESS MODELING
  - PRIORITIZATION BASED ON TECHNICAL, OPERATIONAL, MANAGERIAL AND POLITICAL FACTORS
  - BUSINESS PLANNING (PROJECT SCHEDULING, BENEFIT ANALYSIS, DEPENDENCE ANALYSIS)

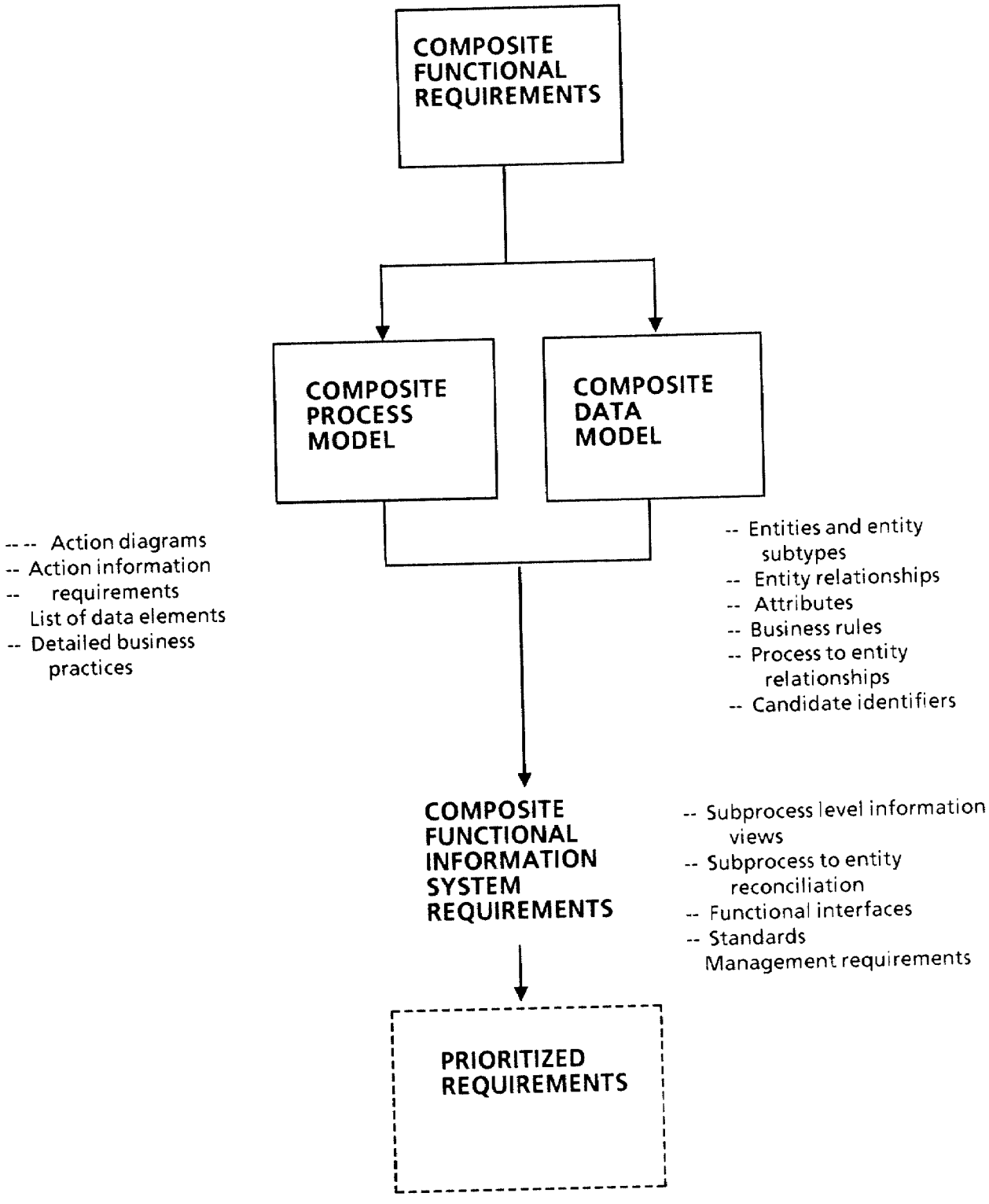
PHASE 3: INFORMATION SYSTEMS STRATEGY (CONT)

- MAJOR OUTPUTS
  - INFORMATION SYSTEMS FUNCTIONAL REQUIREMENTS
  - IMPLEMENTATION STRATEGY FOR NEXT PHASES OF SYSTEM LIFE CYCLE
  - LINK TO OTHER REQUIRED BUSINESS ANALYSES AND SUPPORT DOCUMENTS
- RELATIONSHIP TO OTHER PHASES AND TASKS
  - TRANSITION FROM STRATEGIC BUSINESS PLANNING TO INFORMATION SYSTEMS ANALYSIS
  - IMPLEMENTATION STRATEGY MARKS TRANSITION TO DESIGN PHASE OF LIFE CYCLE2

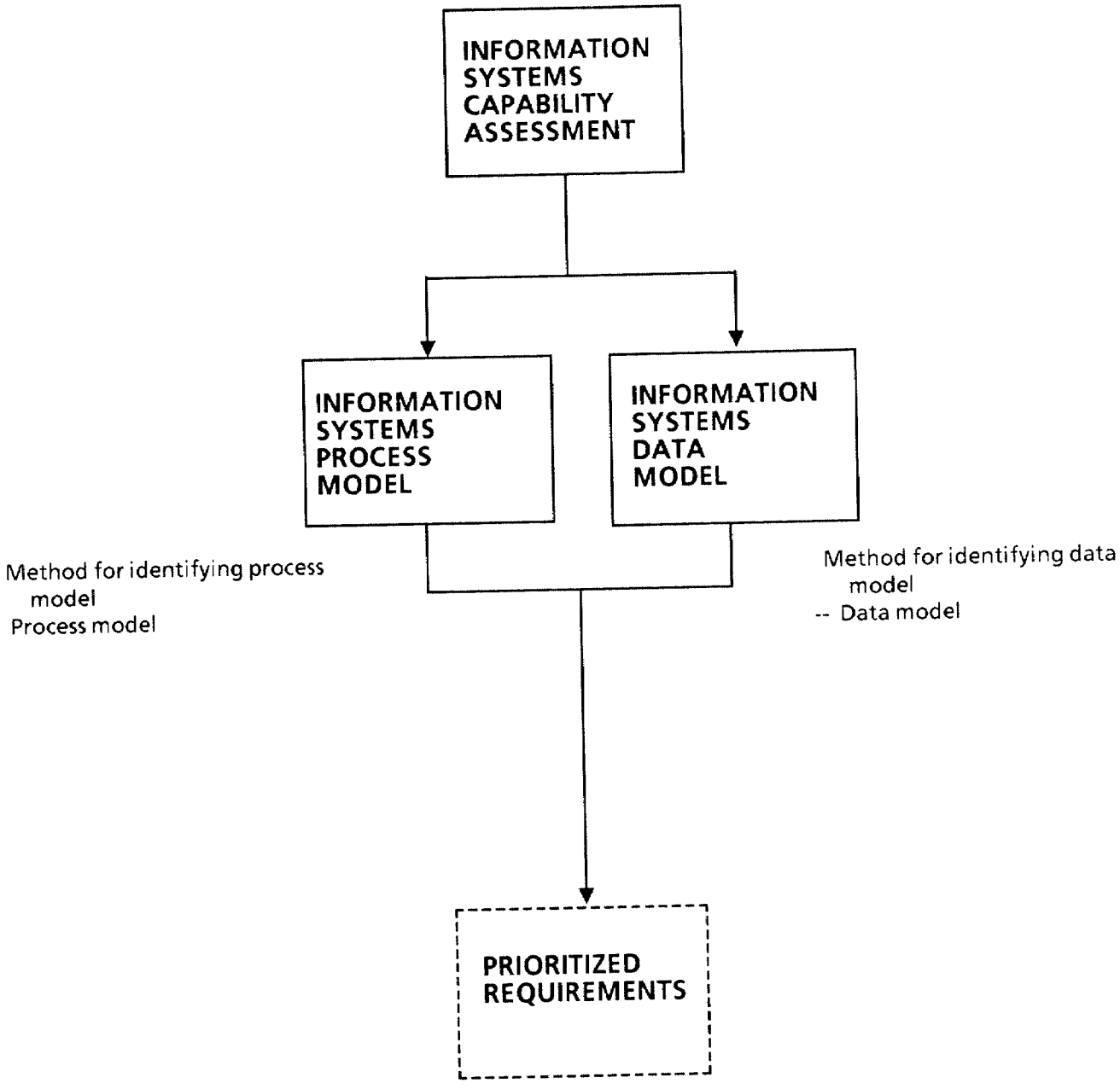
PHASE III - INFORMATION SYSTEMS STRATEGY
(Future Path)



PHASE III - INFORMATION SYSTEMS STRATEGY
(Current Path)



PHASE III - INFORMATION SYSTEMS STRATEGY
(Information Systems Path)



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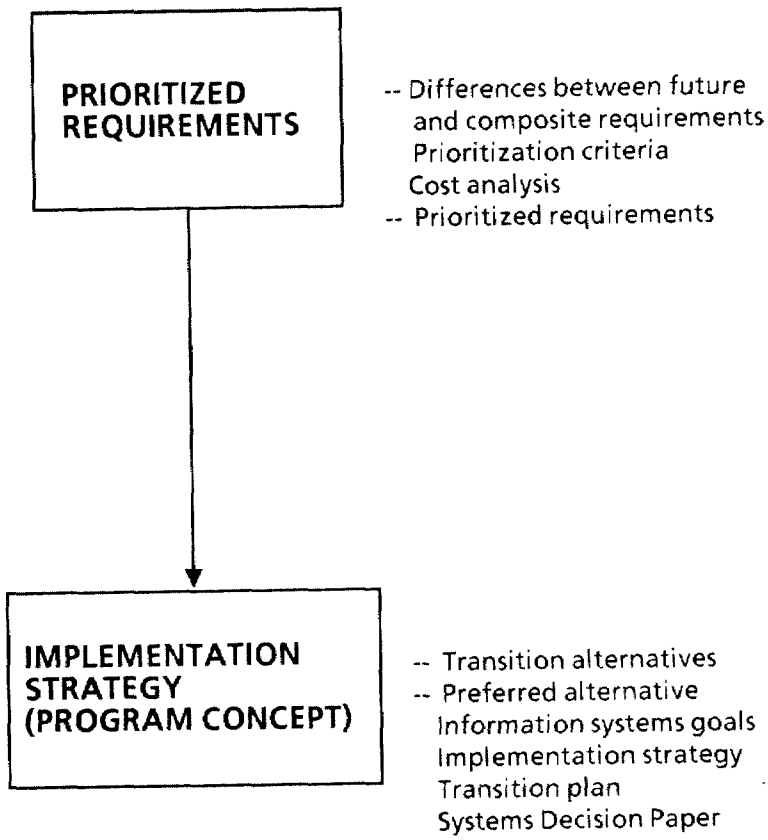
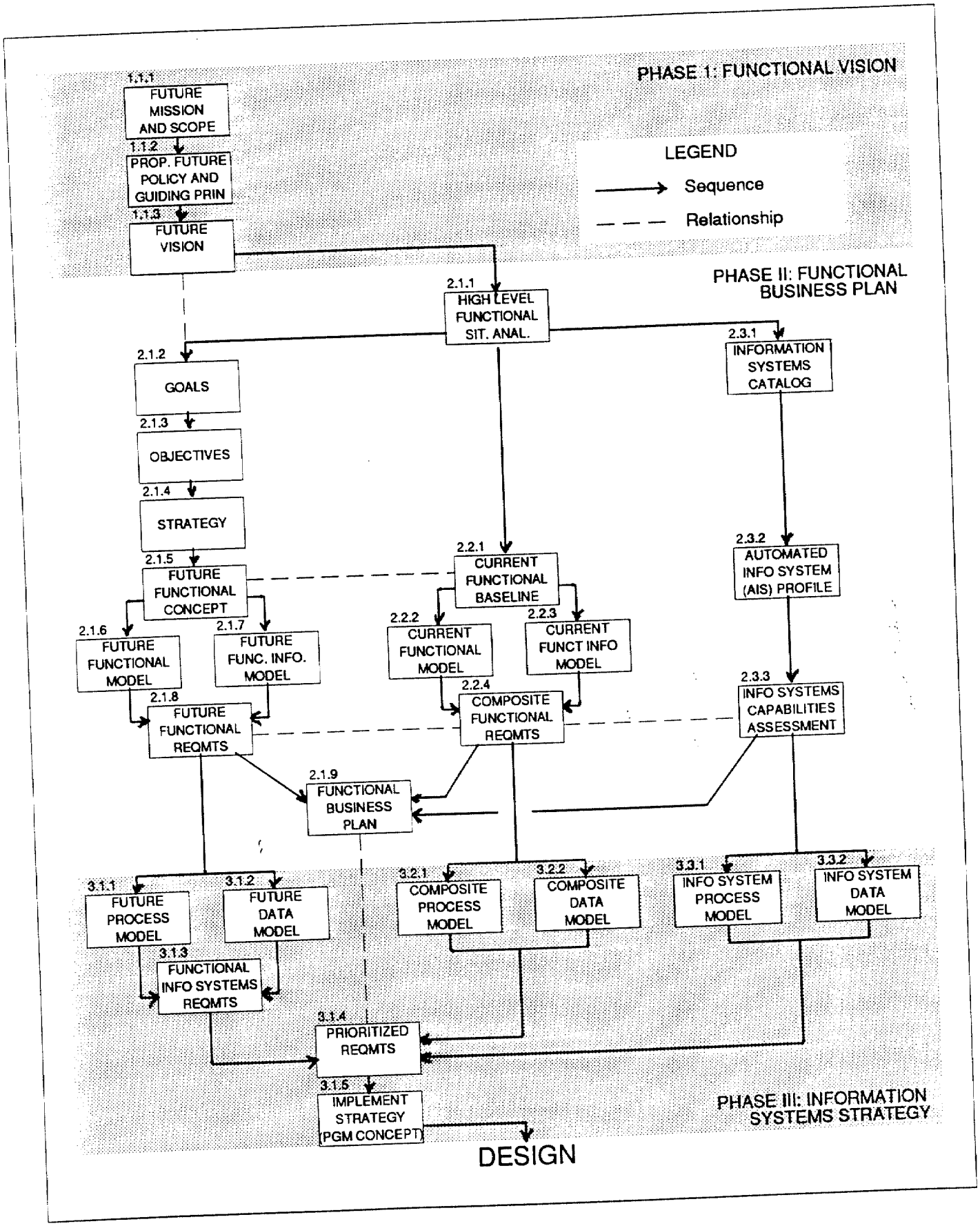


AUTOMATED SUPPORT FOR PROCESS

- NEED COMPUTER AIDED SOFTWARE ENGINEERING TOOL FOR DOCUMENTATION, VERIFICATION, AND MAINTENANCE OF ANALYSIS
  - DATA MODELS
  - PROCESS MODELS
  - RECONCILIATION OF MODELS
- OTHER TOOLS SUPPORTING THE PROCESS
  - PROJECT MANAGEMENT
  - DECISION SUPPORT

ENTERPRISE MODEL AND INTEGRATION

- ENTERPRISE MODEL/INFORMATION ARCHITECTURE
- FUNCTIONAL INTEGRATION
- DATA INTEGRATION


PHASE 1: FUNCTIONAL VISION
1.1.1 FUTURE MISSION AND SCOPE
1.1.2 PROP. FUTURE POLICY AND GUIDING PRIN
1.1.3 FUTURE VISION
LEGEND
Sequence
Relationship
PHASE II: FUNCTIONAL BUSINESS PLAN
2.1.1 HIGH LEVEL FUNCTIONAL SIT. ANAL.
2.1.2 GOALS
2.1.3 OBJECTIVES
2.1.4 STRATEGY
2.1.5 FUTURE FUNCTIONAL CONCEPT
2.1.6 FUTURE FUNCTIONAL MODEL
2.1.7 FUTURE FUNC. INFO. MODEL
2.1.8 FUTURE FUNCTIONAL REQMTS
2.1.9 FUNCTIONAL BUSINESS PLAN
2.2.1 CURRENT FUNCTIONAL BASELINE
2.2.2 CURRENT FUNCTIONAL MODEL
2.2.3 CURRENT FUNCT INFO MODEL
2.2.4 COMPOSITE FUNCTIONAL REQMTS
2.3.1 INFORMATION SYSTEMS CATALOG
2.3.2 AUTOMATED INFO SYSTEM (AIS) PROFILE
2.3.3 INFO SYSTEMS CAPABILITIES ASSESSMENT
PHASE III: INFORMATION SYSTEMS STRATEGY
3.1.1 FUTURE PROCESS MODEL
3.1.2 FUTURE DATA MODEL
3.1.3 FUNCTIONAL INFO SYSTEMS REQMTS
3.1.4 PRIORITIZED REQMTS
3.1.5 IMPLEMENT STRATEGY (PGM CONCEPT)
3.2.1 COMPOSITE PROCESS MODEL
3.2.2 COMPOSITE DATA MODEL
3.3.1 INFO SYSTEM PROCESS MODEL
3.3.2 INFO SYSTEM DATA MODEL
DESIGN

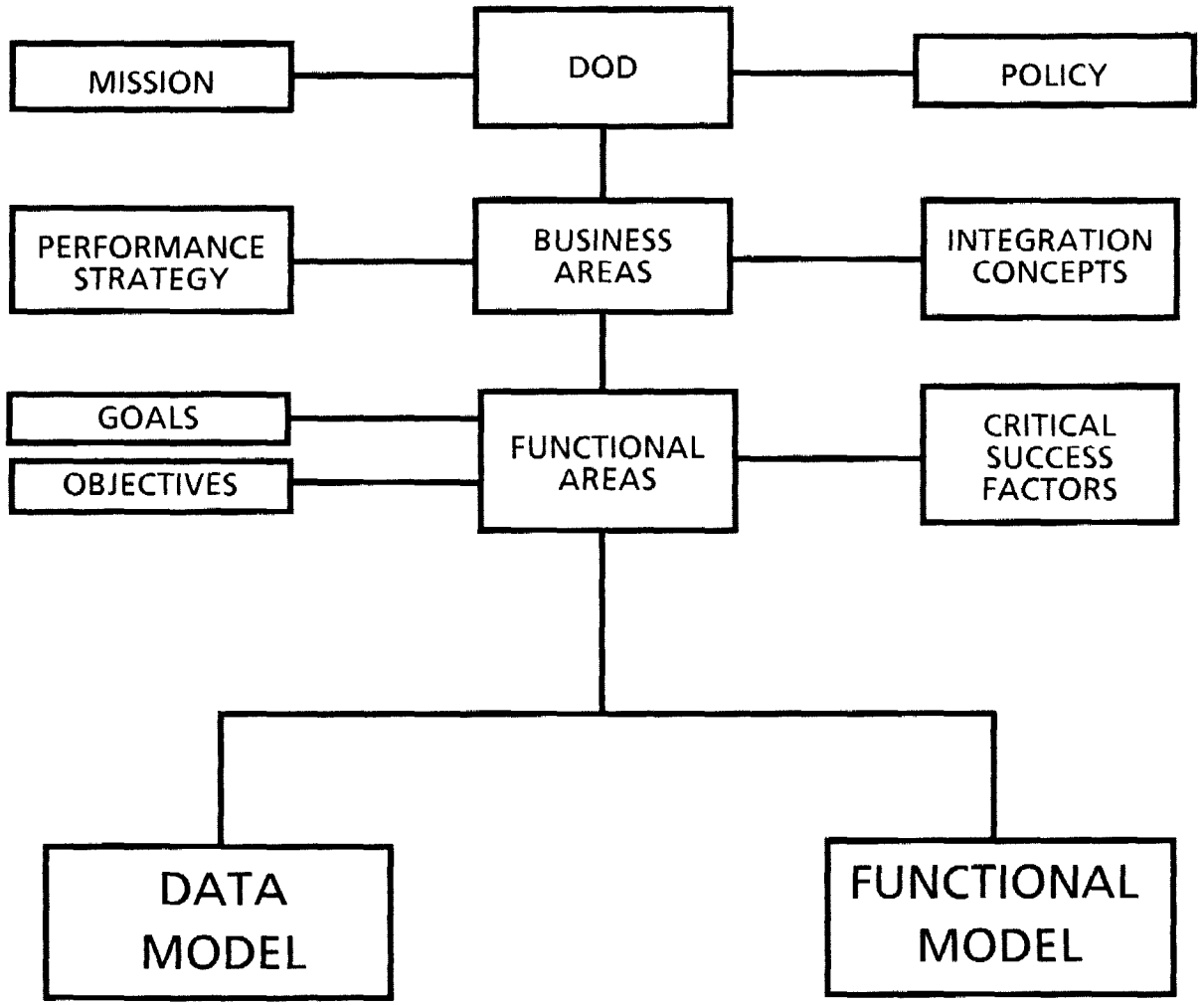
ENTERPRISE MODEL

- HIGH LEVEL MODEL OF THE DEPARTMENT'S INFORMATION ARCHITECTURE
  - BUSINESS AREA/FUNCTION MODEL
  - INFORMATION/DATA MODEL
- DEVELOPED USING SENIOR MANAGERS' GUIDANCE
- ESTABLISHES FRAMEWORK FOR FIM INTEGRATION

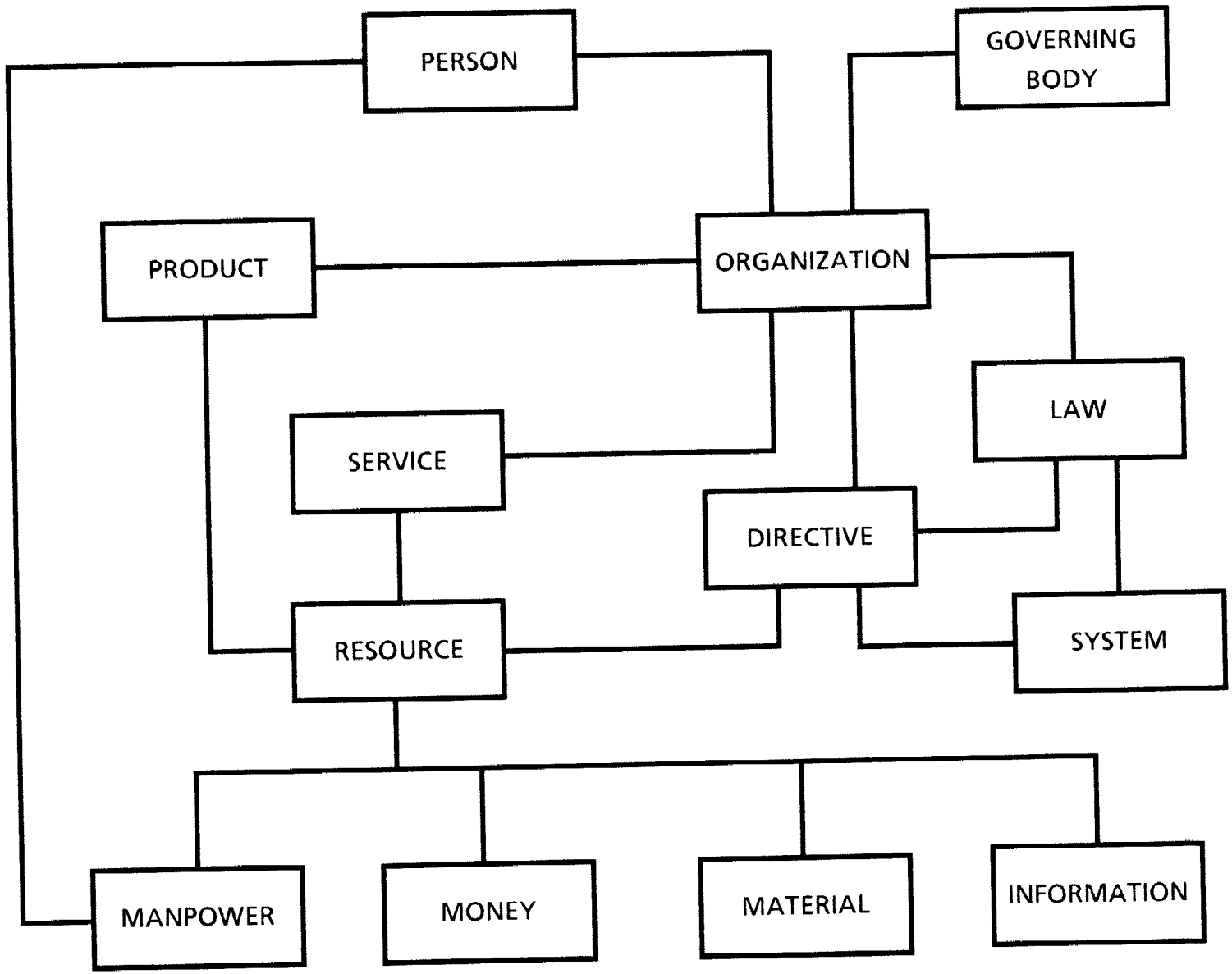
THE ROLE OF THE ENTERPRISE MODEL

- A TOOL FOR INTEGRATING CIM FUNCTIONAL AREAS
- DEVELOPED TO DEFINE BOUNDARIES AND IDENTIFY LINKAGES AND CONNECTIONS BETWEEN FUNCTIONAL AREAS

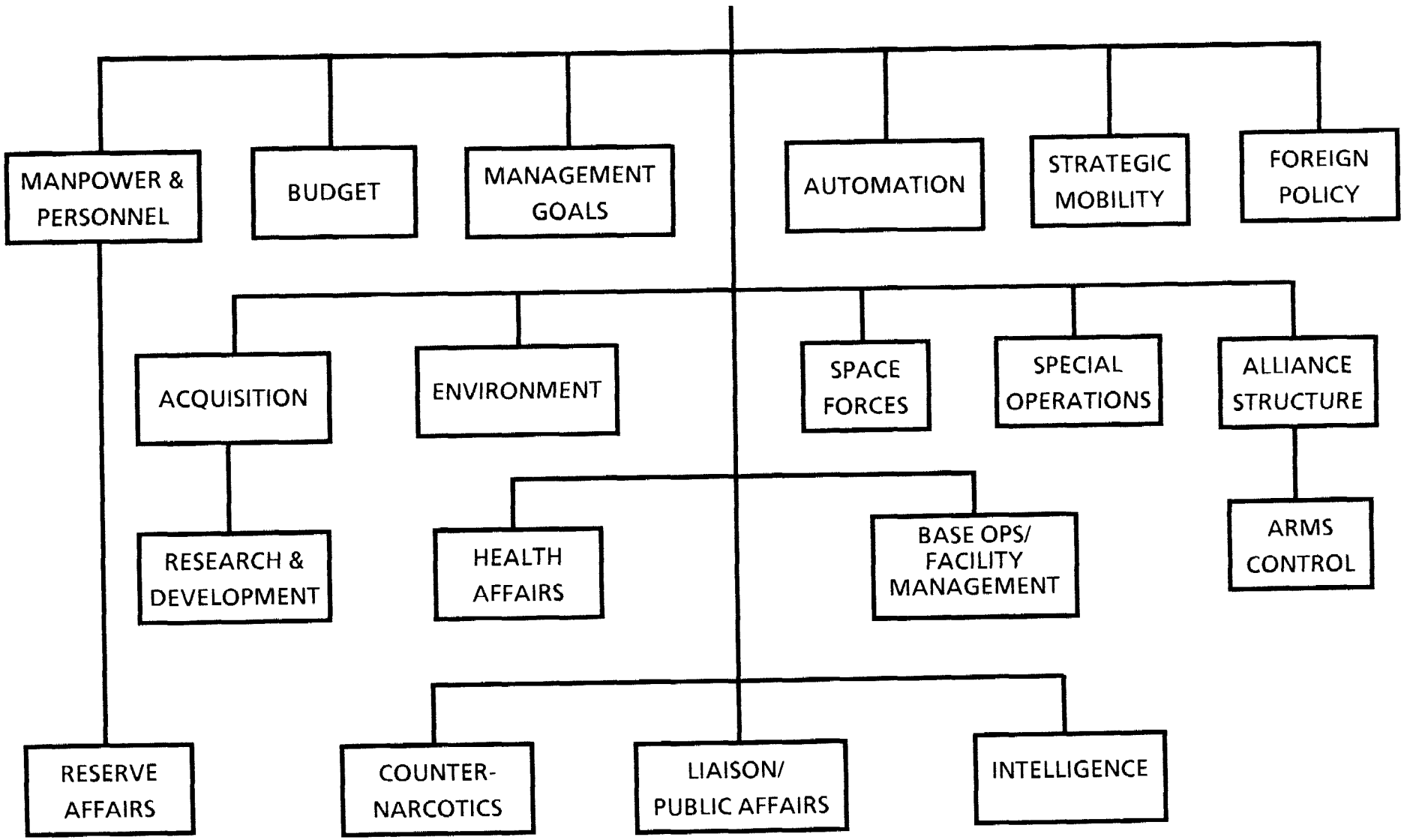
DoD ENTERPRISE MODEL



DATA MODEL


PERSON
GOVERNING BODY
PRODUCT
ORGANIZATION
LAW
SERVICE
DIRECTIVE
RESOURCE
SYSTEM
MANPOWER
MONEY
MATERIAL
INFORMATION

FUNCTIONAL MODEL



HOW WILL THE ENTERPRISE MODEL BE DEVELOPED?

- Combination of methodologies
- Carefully facilitated group interaction
- Advance preparation of analytical strawmen

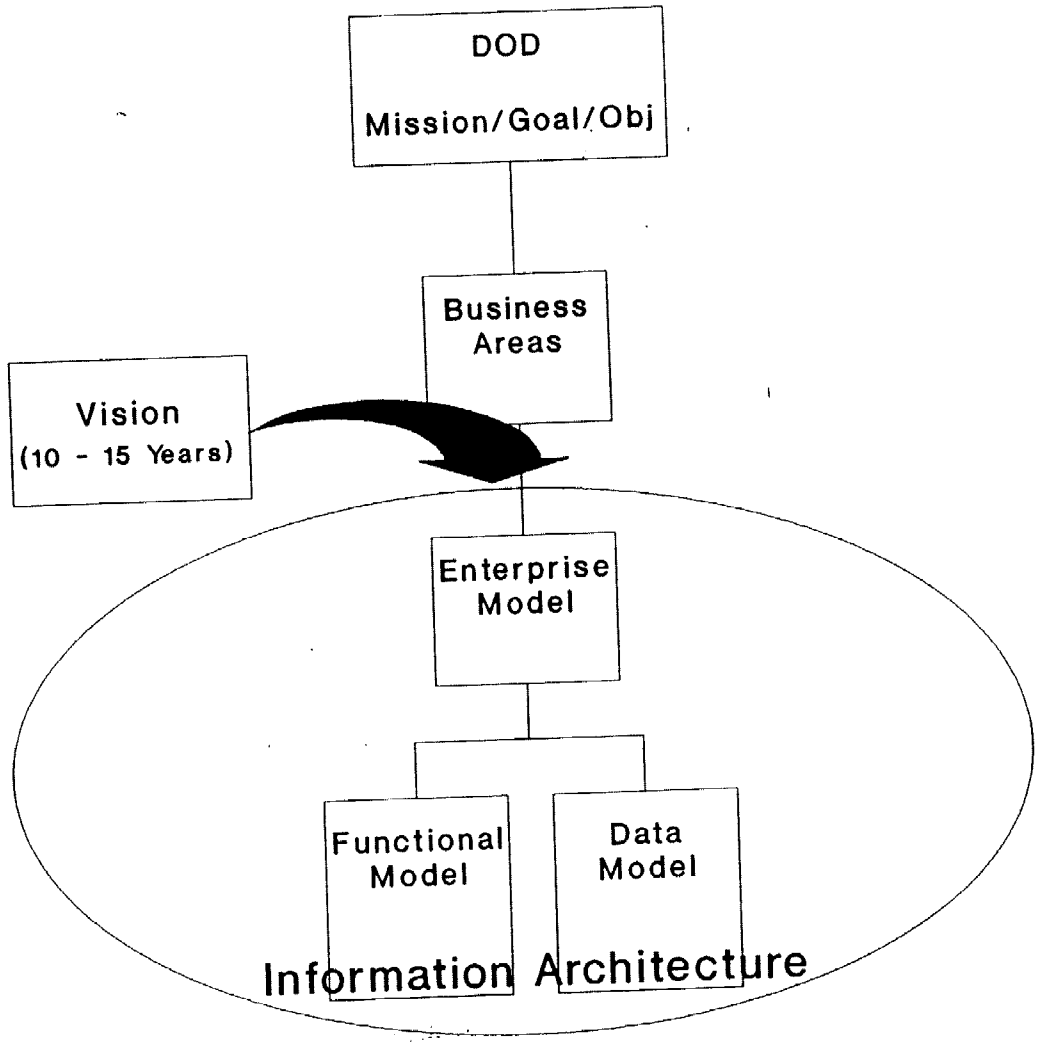
METHODOLOGY
Dual Track

- Function/Process
  - Functional Decomposition
    - Defines *Business Processes*
- Information/Data
  - Information Engineering
    - Identifies Data and Relationships based on *Business Policy*

INFORMATION ARCHITECTURE DEVELOPMENT

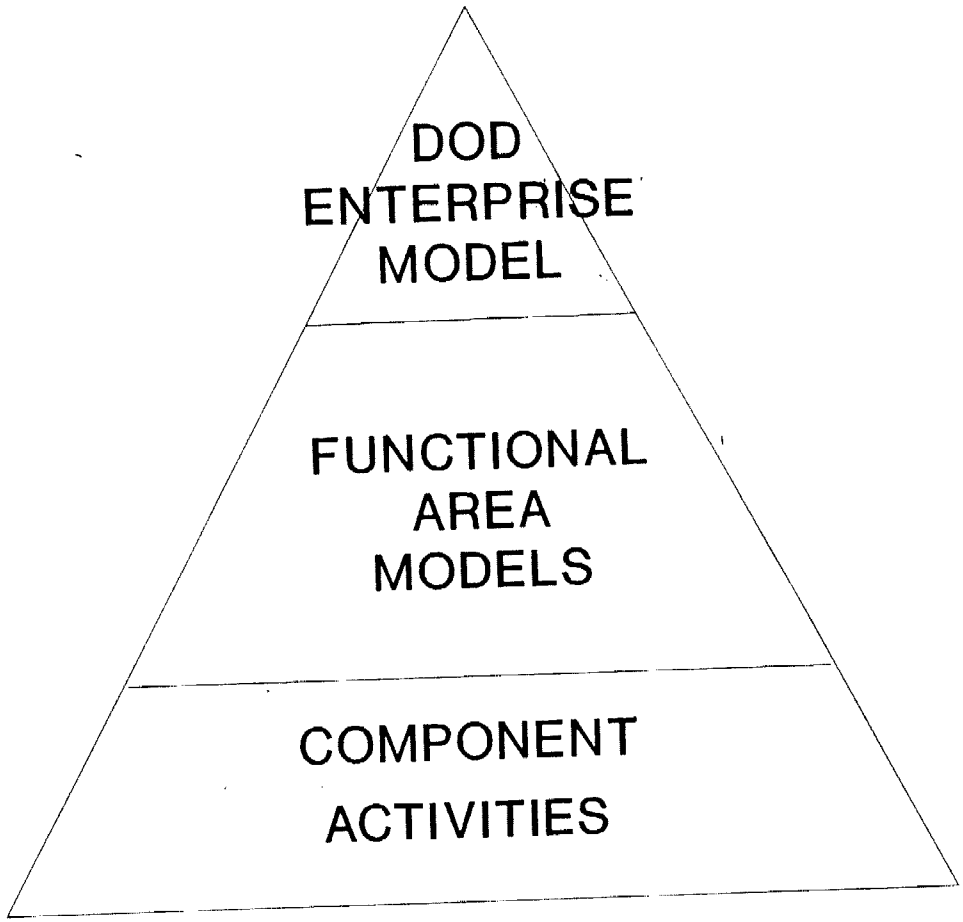
- Analyze Defense Guidance
- Refine Vision Input from Top Management
- Develop Business Model
  Functional Model
  Data Model
- Use Standardization Rules

INFORMATION ARCHITECTURE COMPONENTS



ALLHANDS-7

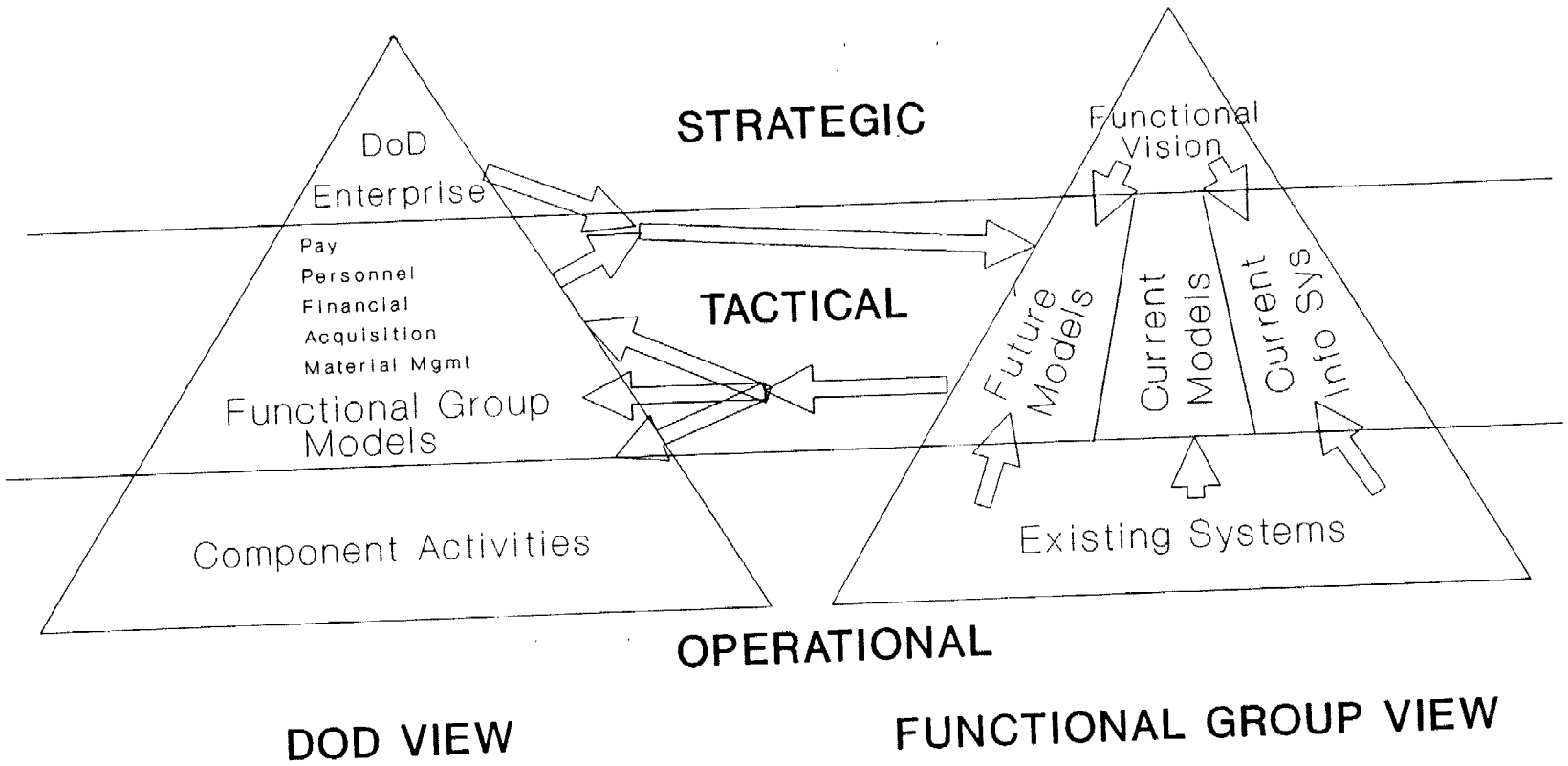
MODEL INTEGRATION



FUNCTIONAL INTEGRATION

- MAINTAINS PROCESS
  - CONFIGURATION CONTROL
  - PERIODIC REVIEW AND REFINEMENT BASED ON LESSONS LEARNED
- SUPPORTS IMPROVED BUSINESS PRACTICES ACROSS BUSINESS AREA/FUNCTION BOUNDARIES
- TIES ARCHITECTURE AND FUNCTIONAL REQUIREMENTS DEVELOPMENT TOGETHER
- QUALITY ASSURANCE OF PRODUCTS
- ASSIST IN ANALYSIS PRIOR TO DESIGN

MODEL INTEGRATION



ALLHANDS-24

DATA INTEGRATION

- FRAMEWORK FOR DATA MANAGEMENT BY THE FUNCTIONAL GROUPS
- ELEMENT OF DEPARTMENT-WIDE DATA STANDARDIZATION PROGRAM
- EVOLUTIONARY IMPLEMENTATION IN PARALLEL WITH STANDARD SYSTEMS DEVELOPMENT

FIM PROCESS MANAGEMENT

FUNCTIONAL GROUP LEVEL

- FIM/FACILITATORS PERFORM DAY-TO-DAY COMPLIANCE REVIEWS
- FIM REPS PROPOSE PROCESS CHANGES

INTEGRATION GROUP LEVEL

- MAINTAIN THE PROCESS
- PRODUCT QUALITY ASSURANCE
- ENSURE ARCHITECTURE COMPLIANCE

FIM PROCESS MANAGEMENT

FIM, DIRECTOR

- OVERALL PROCESS REVIEWS
- IN PROCESS REVIEWS FOR COMPLIANCE
- ENSURES PROCESS COMPLIES WITH DOD POLICY

DC (IRM)

- OVERSIGHT OF PROCESS WITHIN BROADER DOD POLICY

SUMMARY WRAP UP: LESSONS LEARNED

- CATALYST FOR CHANGE -- FUNCTIONAL RECOGNITION THAT IM IS MUCH MORE THAN IT
- INFRASTRUCTURE
- COORDINATION WITH KEY INFLUENCERS -- INTERNAL AND EXTERNAL
  - -POLICY DEVELOPMENT (e.g., data standards)
  - -COMPONENTS
  - -PUBLIC RELATIONS (GAO, press)
- QUALITY ASSURANCE AND CONFIGURATION MANAGEMENT
  - -PROCESS GUIDE
  - -OUTPUTS
  - -SUPPORT TOOLS

PLANS FOR FUTURE

- MANAGEMENT
  - -SUSTAINING MANAGEMENT STRUCTURE
- OPERATIONS
  - -ENTERPRISE MODEL AND INTEGRATION
  - -PROCESS STRENGTHENING
- RELATIONSHIPS
  - -LIAISON WITH COMPONENTS
- CONSTRAINTS THAT STILL EXIST
  - -STAFFING LEVELS
  - -FACILITIES