

ARCHITECTURAL CONCEPT  
FOR  
ARMY TACTICAL COMMAND CONTROL  
COMMUNICATIONS AND INTELLIGENCE (C<sup>3</sup>I)

- TAB A - PURPOSE
- TAB B - BACKGROUND
- TAB C - ARCHITECTURAL CONCEPT
- TAB D - REQUIRED FUNCTIONAL CAPABILITIES
- TAB E - SCOPE
- TAB F - THE GOAL
- TAB G - CONCEPTUAL BASELINE
- TAB H - EVOLUTION
- TAB I - 1980 TEST BED AVAILABILITY
- TAB J - 1985 SYSTEMS

\*ARMY review  
completed\*



C<sup>3</sup>I  
PURPOSE

1. DEFINES, IN GENERAL TERMS, A CONCEPT FOR A TACTICAL C<sup>3</sup>I IN THE POST 1985 TIMEFRAME.
2. PORTRAYS A "ROADMAP" FOR ACHIEVEMENT OF THE ARCHITECTURAL CONCEPT.
3. IS AN INITIAL STATEMENT OF USER GOALS FOR SUCH PROGRAMS AS BATTLEFIELD EXPLOITATION AND TARGET ACQUISITION (BETA).
4. IS THE INITIAL POINT OF DEPARTURE FOR THE DEVELOPMENT OF A FINAL C<sup>3</sup>I ARCHITECTURE.
5. IN THE SHORT TERM IT WILL BE USED AS INPUT TO CURRENT ANALYTICAL EFFORTS SUCH AS THE ARMY COMMAND AND CONTROL MASTER PLAN (AC<sup>2</sup>MP) AND THE BATTLEFIELD AUTOMATION MANAGEMENT PLAN (BAMP).

**B**

C<sup>3</sup>I

BACKGROUND

1. RECENT EXPLOSION IN ADP TECHNOLOGY HAS GREATLY INCREASED ITS TACTICAL POTENTIAL.
2. IMPLIED ADVANTAGES ARE:
  - A. IN THE REDUCTION OF TIME AND EFFORT REQUIRED TO ACCUMULATE, PROCESS, CORRELATE, TRANSFER, AND DISPLAY LARGE VOLUMES OF DATA.
  - B. A POSSIBLE MEANS TO ENHANCE COMMAND CONTROL, COUMMUNICATIONS AND INTELLIGENCE (C<sup>3</sup>I) PROCESSING.
3. THE ARMY'S EFFORT TO EXPLOIT ADP HAS RESULTED IN NUMBERS DEVELOPMENTAL PROJECTS THAT ARE DESIGNED TO ENHANCE A PORTION OF A LARGER SYSTEM.
4. THIS PROLIFERATION INDICATES THE ARMY MUST TAKE AN IMPROVED APPROACH TO THE PROBLEMS OF C<sup>3</sup>I PROCESSING.
5. AN OVERALL ARCHITECTURAL PLAN IS REQUIRED TO ACHIEVE A COORDINATED DEVELOPMENT APPROACH.

C

C<sup>3</sup>I

ARCHITECTURAL CONCEPT

- GENERAL:
- \* THE ARMY IS FACED WITH A SITUATION UNIQUE IN ITS HISTORY
  - \* MOST SOPHISTICATED TECHNOLOGY BASE EVER DEVELOPED
  - \* POTENTIAL ENEMIES HAVE BEGUN TO OUTSTRIP US IN THE APPLICATION OF AUTOMATION TO BATTLEFIELD TASKS
  - \* POTENTIAL GAINS TO BE DERIVED FROM AUTOMATION MUST BE APPLIED AS PART OF AN OVERALL ARCHITECTURE
  - \* THE TACTICAL C<sup>3</sup>I ARCHITECTURE OF THE ARMY RESTS ON SEVERAL KEY PRINCIPLES:
    - CORPS AS A SYSTEM
    - FOCUS ON KEY INFORMATION
    - SUPPORT UNDER DIVERSE AND ADVERSE CONDITIONS

**D**



### REQUIRED FUNCTIONAL CAPABILITIES

- TO PROPERLY SEE, PLAN, ALLOCATE, FIGHT, AND SUSTAIN THE FORCE, TACTICAL C<sup>3</sup>I SYSTEMS SHOULD RESPONSIVELY PROVIDE:
  - COMMAND AND CONTROL SUPPORT
  - INTEGRATED COMMUNICATIONS
  - ACCESS TO JOINT, COMBINED AND ADJACENT DATA BASES AND SYSTEMS
  - PROCESSING OF SENSITIVE AND NONSENSITIVE INFORMATION
  - CONTROL OF INFORMATION COLLECTORS
  - FIRE PLANNING AND FIRE DIRECTION

E

C<sup>3</sup>I  
SCOPE

1. A DYNAMIC PLANNING AND DEVELOPMENT GUIDE FOR COMBAT/MATERIEL DEVELOPERS.
2. EMBODIES TWO CONCEPTS:
  - A. EXECUTIVE PROCESSING SYSTEMS THAT SUPPORT THE OPERATIONS OF A TACTICAL FORCE. EXECUTIVE SYSTEMS PROVIDE COORDINATION/CONTROL OF DATA WITHIN VARIOUS FUNCTIONAL SYSTEMS.
  - B. SYSTEMS THAT SUPPORT C<sup>3</sup>I. THESE SYSTEMS ARE A PORTION OF A LARGER ARCHITECTURE WHICH WILL BE DEVELOPED THROUGH SUCH EFFORTS AS THE ARMY BATTLEFIELD INTERFACE CONCEPT (ABIC) AC<sup>2</sup>MP AND FOLLOW-ON C<sup>3</sup>I DEFINITIONAL EFFORTS.
3. THE CONCEPT ENVISIONS THE CONDUCT OF A FDTE IN THE 1981-1983 TIMEFRAME. THE FDTE TO BE CONDUCTED UTILIZING EXISTING SYSTEMS, PROTOTYPE MODELS AND TESTBEDS. THIS FULL UP C<sup>3</sup>I SYSTEM FDTE WOULD FOLLOW AND EXPLOIT THE BETA FIELD EVALUATIONS WITH FOLLOW-ON EVALUATION POSSIBLY AT FORT HOOD IN THE 1980 - 1981 TIME FRAME.

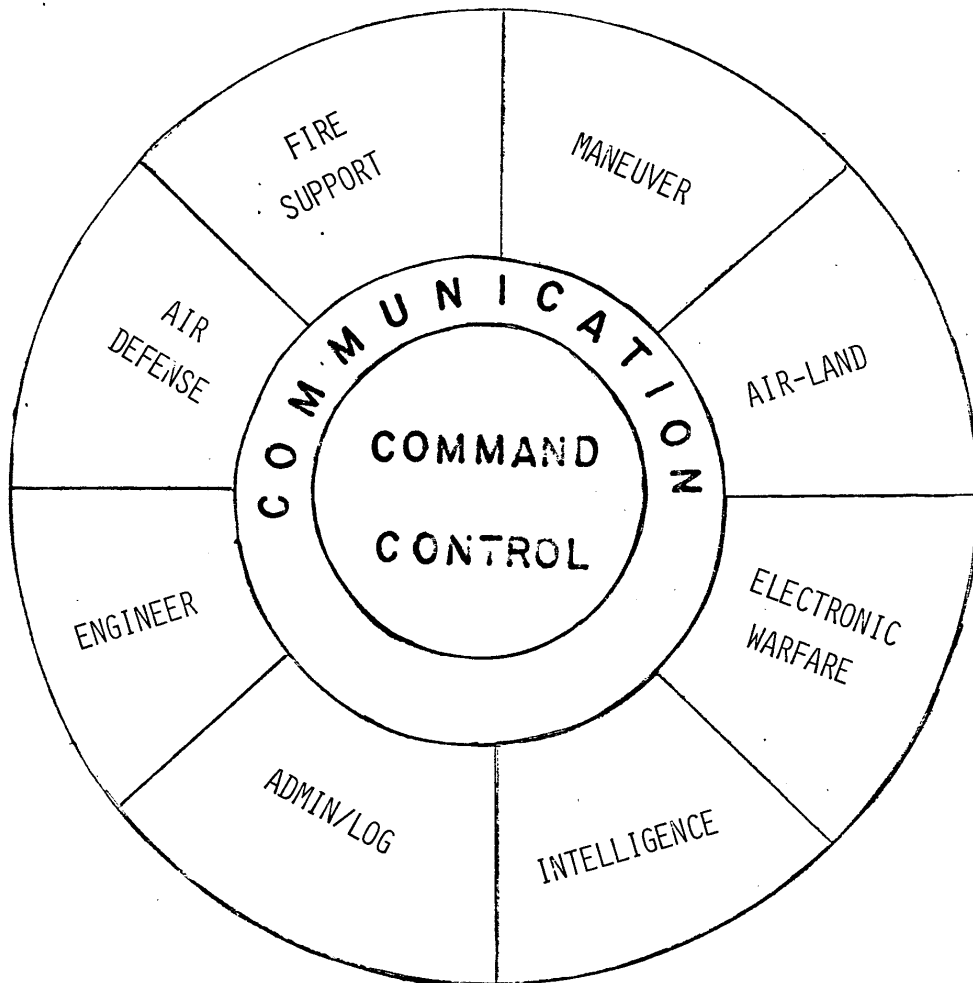
F

SUMMARY  
ARCHITECTURAL GOAL

- INTEGRATED COMMAND & CONTROL  
COMMUNICATIONS & INTELLIGENCE SYSTEMS  
CAPABLE OF SUPPORTING THE TACTICAL  
COMMANDER IN COMBAT, CRISIS OR PEACE  
TIME

G

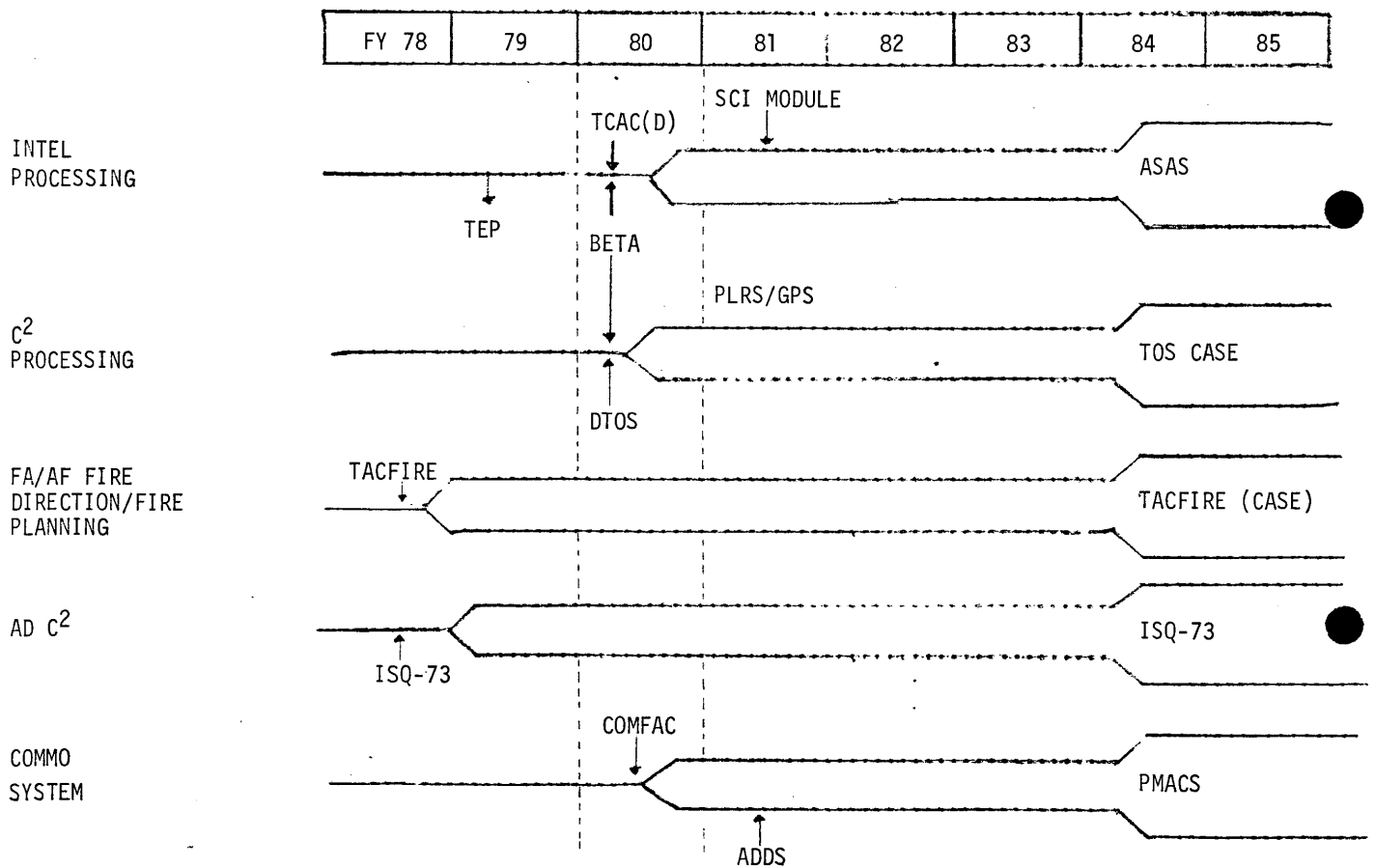
CONCEPTUAL BASELINE



H



EVOLUTION





## 1980 TESTBED AVAILABILITY

REQD CAPABILITY	LEVEL	DIVISION	CORPS	EAC/JT/ MULTI-NATIONAL
1. CMD & CNTL SPT		DTOS Mk I	MANUAL	MANUAL
2. COMMUNICATIONS		CURRENT TACTICAL COMMUNICATIONS	CURRENT TACTICAL COMMUNICATIONS	CURRENT TAC/STRAT COMMUNICATIONS
3. ACCESS TO HIGHER		BETA TESTBED I2S2 SELREP	BETA TESTBED I2S2 SELREP	BETA TESTBED I2S2 SELREP
4. COLLATERAL PROCESSING		BETA TESTBED DTOS Mk I	BETA TESTBED	BETA TESTBED
5. COMPARTMENTED PROCESSING		QRC TCAC	TEP	MULTI-NATIONAL CELL
6. COLLECTOR CONTROL		BETA TESTBED QRC TCAC	BETA TESTBED	BETA TESTBED
7. FIRE PLAN/ DIRECTION		TACFIRE	TACFIRE (?)/ TSQ-73	MANUAL/ TSQ-73

J

1985 SYSTEMS

REQD CAPABILITY	LEVEL	DIVISION	CORPS	EAC/JT/ MULTI-NATIONAL
1. CMD & CNTL SPT		TOS	TOS	JT/MULTI-NAT (?)
2. COMMUNICATIONS		INTACS	INTACS	INTACS/DCS
3. ACCESS TO HIGHER DATA BASES AND DETAILED INTELLIGENCE PROCESSING		ASAS	ASAS	ASAS
4. SENSOR CONTROL		ASAS/TACFIRE	ASAS/TOS	ASAS
5. FIRE PLAN/ DIRECTION		ASAS/TACFIRE/TSQ-73	ASAS/TOS/TSQ-73	JT/MULTI-NAT (?)