

The Army Geospatial Data Integrated Master Plan (AGDIMP)



Briefing to
SEDRIS Technology Conference

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Never have commanders had more ability to exercise increased direct control, yet never have they had more reason not to do so - **information is the springboard of initiative and independent action**. Using information technologies to empower subordinates has the potential to **increase the tempo of operations** beyond the level at which our adversaries can hope to respond.

--Army Field Manual 6-0, Command and Control

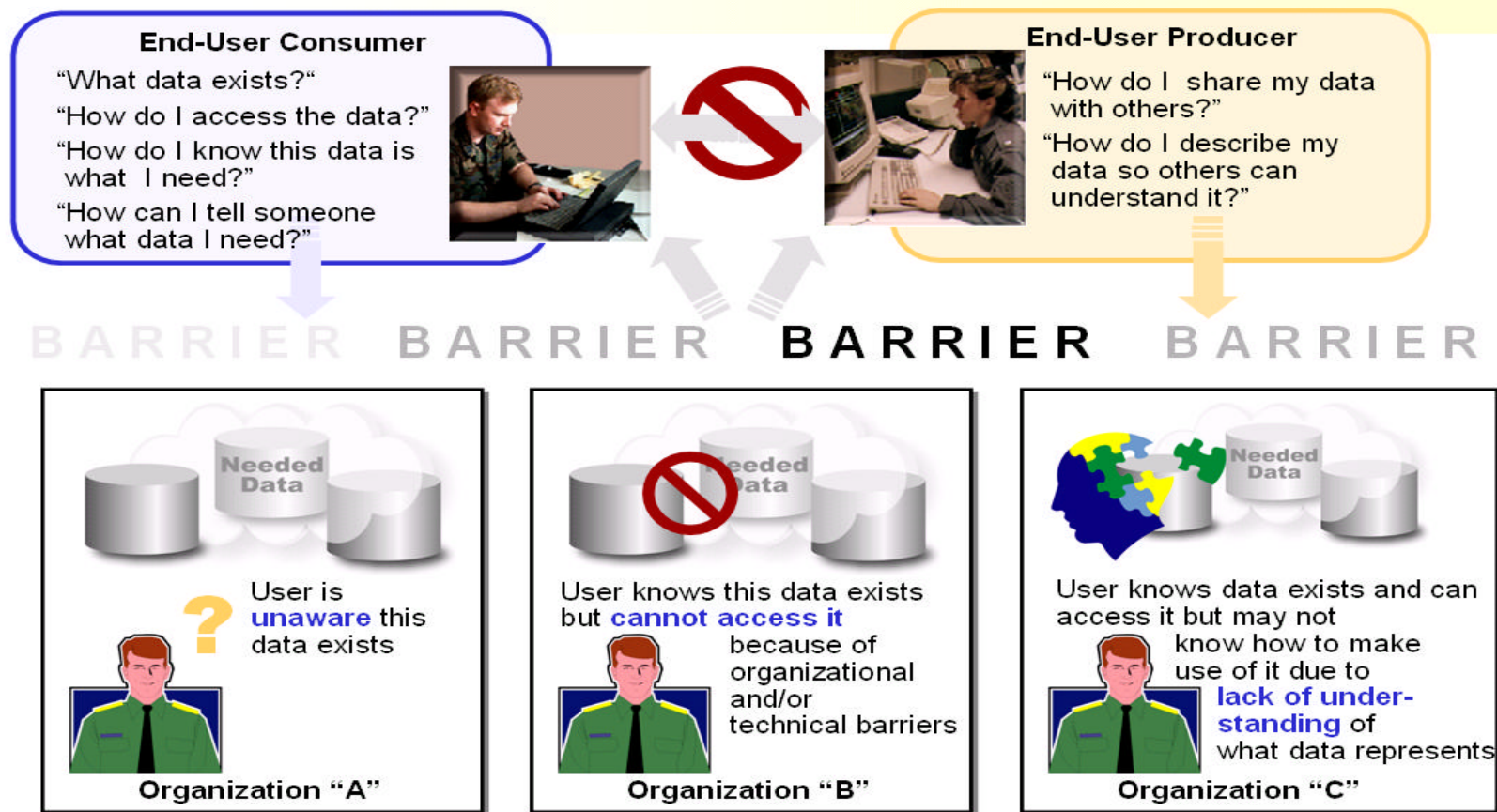
PURPOSE

Inform SEDRIS community on the status and progress of the Army's Geospatial Data Integrated Master Plan (AGDIMP)

AGENDA

- Background
- The AGDIMP End-to-End Process
 - New Geospatial Areas of Focus
 - Milestones including POM 06-11
- The Way Ahead
- How SEDRIS Can Help

Background: Today's Environment... Barriers Exist in Obtaining & Using Data



Power to the Edge ~~~~~

Background: The Geospatial Data Challenge

- Source Information
 - Lack of Information - Processed Data
 - Multiple Data Providers - Consistency Issues
- Data Collection and Fusion
 - Multiple, incomplete tool sets for data fusion, editing, validation, etc.
 - No common standard
 - No central repository
- Application Execution Environments
 - M&S and C4&ISR systems have different execution environments
 - Different application database standards needs
 - » compute platform, speed of execution, and complexity
 - Lack of tools to create / convert execution time databases
- Responsible Organization(s)
 - No single Army /Joint/DOD organization responsible for end to end process (horizontal)
 - No process in place to ensure efficient cross application (vertical) integration

Need to have a complete End to End Process

Growing Dependency on Geospatial Intelligence

- Geospatial Intelligence enables FCS

- Battle Command
- En Route Mission Planning and Rehearsal
- Embedded Training

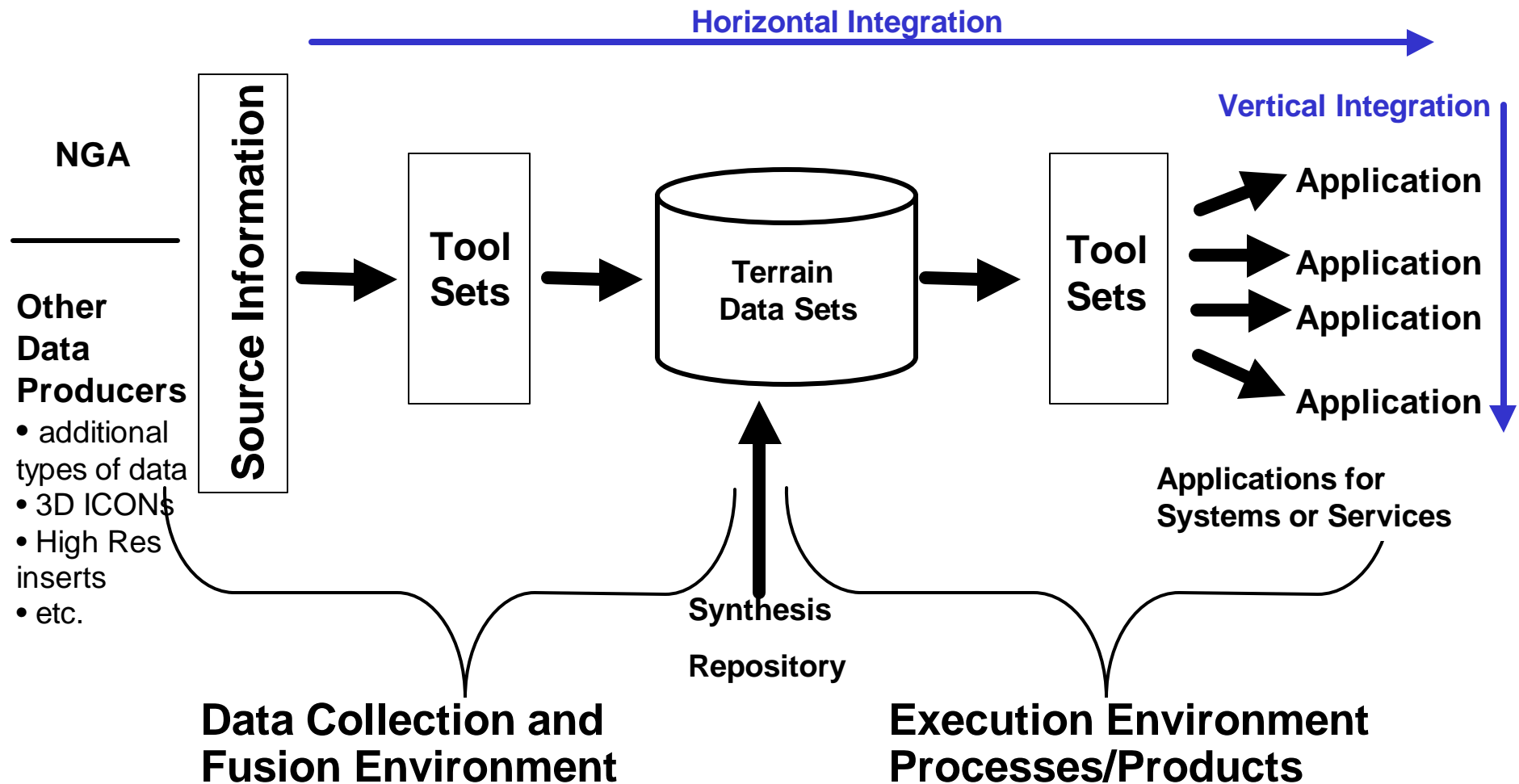
But FCS is just the first of many systems

- Other Systems

- Joint Mission Planning System, Unmanned Combat Air Vehicle
- Geospatial Intelligence data enables the JNTC by establishing a seamless LVC environment across the services for timely, correlated and normalized distributed data sets.
- Littoral Combat Ship & Advanced SEAL Delivery System
- F/A-22 Raptor & F-35 Joint Strike Fighter
- Small Diameter Bomb
- Expeditionary Fighting Vehicle

***All services have identified enhanced needs for geospatial intelligence...
a joint/DoD/National requirement***

Background: The Geospatial Data Process



*To meet FCS Operational Requirements and HQDA
Resourcing efficiencies, Army must have an integrated End to End
Process*

Semantic Clarity

Foundation-Based Operations

Foundation Data

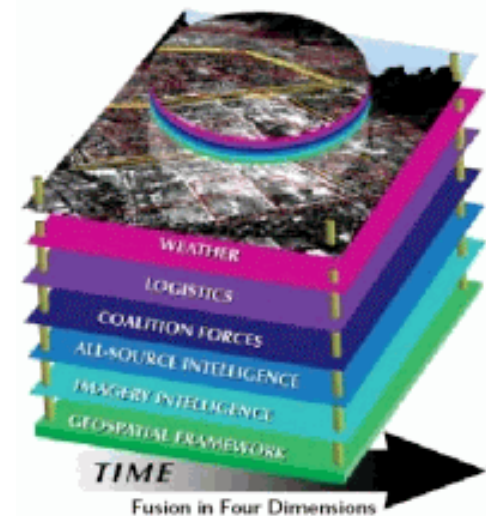
Near worldwide geospatial data that meets or exceeds standards for density, currency, and accuracy. It is created and maintained in advance of use, is independent of mission requirements, and is designed to support military readiness. Foundation Data includes digital elevation models, feature data, orthorectified imagery, stereo imagery, information supporting safety of navigation and flight, and supporting precise positioning over the earth.

Mission-Specific Data (MSD)

Intensified geospatial foundation data with greater detail and resolution, to meet specific mission requirements. May also include “tailoring” of geospatial intelligence. Customers may add data to mission-specific data for greater battlespace awareness (e.g. threat information, OB, ...)

The Readiness
Components of
Foundation-
Based
Operations

The
Responsiveness
Component of
Foundation-Based
Operations



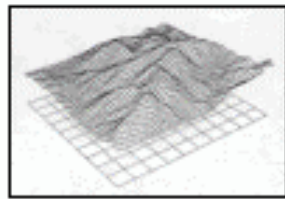
The Common Components

Foundation Data and Mission Specific Data



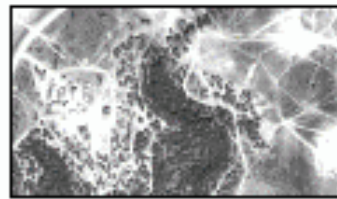
Feature Data

An agreed-to set of coverages, features, and attributes that varies in density, accuracy and content.



Elevation Data

Uniformly-spaced grid of terrain elevation values. Supports line-of-sight analyses, modeling & simulation, cross-country mobility and landing zone analyses.



Targeting Data

Stereo imagery. Supports warfighter's needs for targeting. Classified.



Safety of Navigation (SON)

Provides statutory navigation information for planning and operations.



Controlled Image Base (CIB)

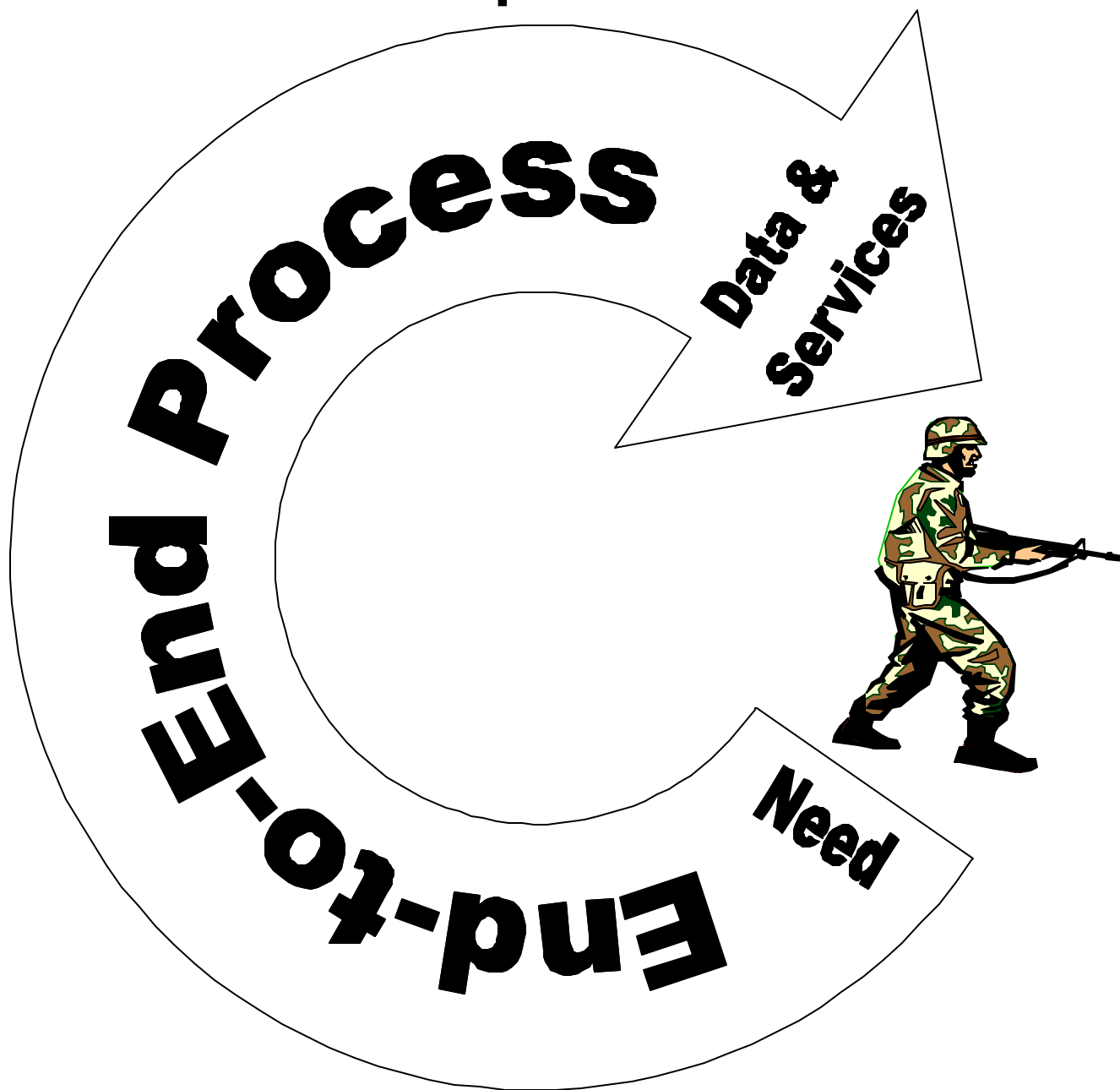
Mono Imagery. Supports Battlefield Visualization. Unclassified.

There are products associated with each of these components.

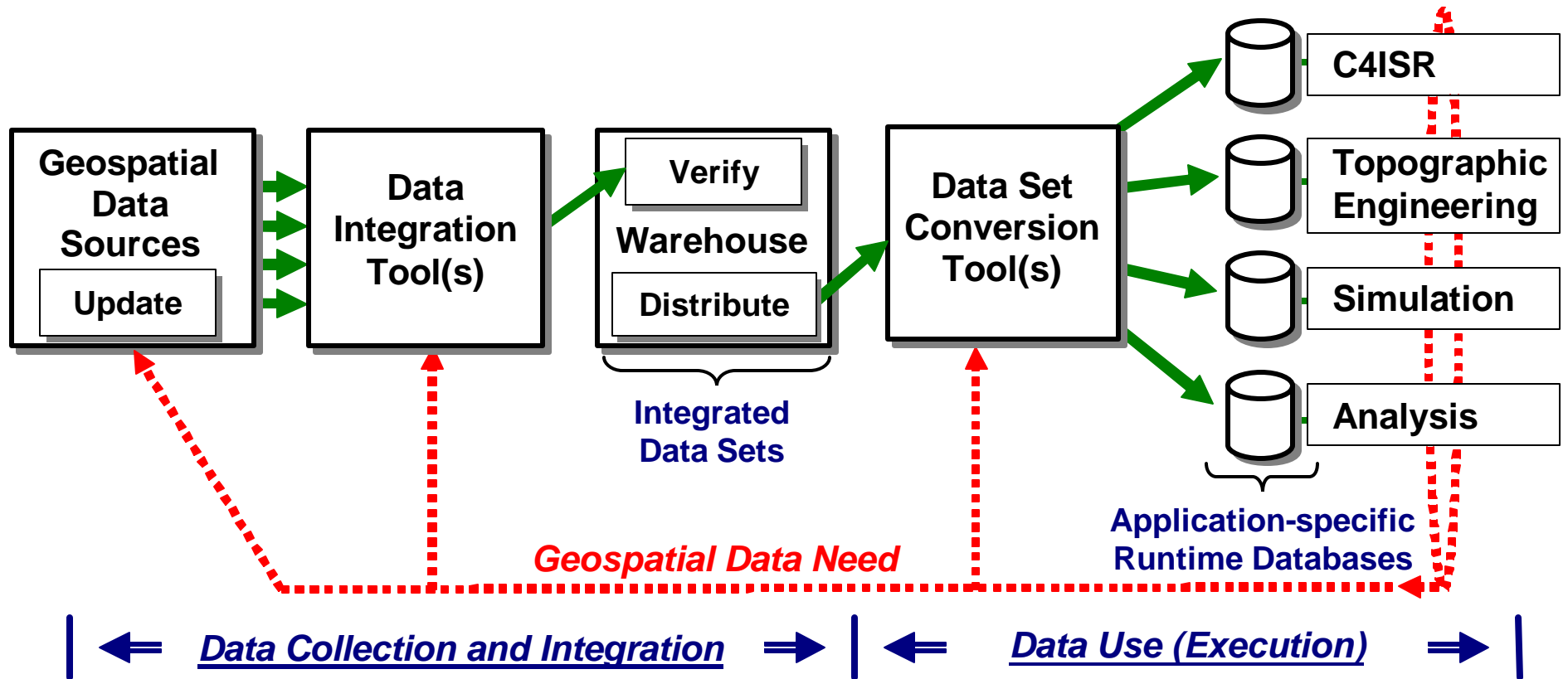
Background: G-3 Directives

- **8 Jul 2003: ADCS, G-3 approved development of an Army Geospatial Data Integrated Master Plan**
 - Definition of an End To End Process (Horizontal and Vertical)
 - Recommend policy changes (AR 115-11, AR 5-11, etc)
 - Need to Also Address Doctrine and Architecture Issues and determine the need for CRD
 - Integration of all Army geospatial data users
 - Mission planning/mission rehearsal (MP/MR), training, command and control, embedded training, Intelligence, Surveillance, and Reconnaissance (ISR), etc.
 - Identification of funding requirements:
 - POM 06-11
 - Refine year of execution (FY04/05)

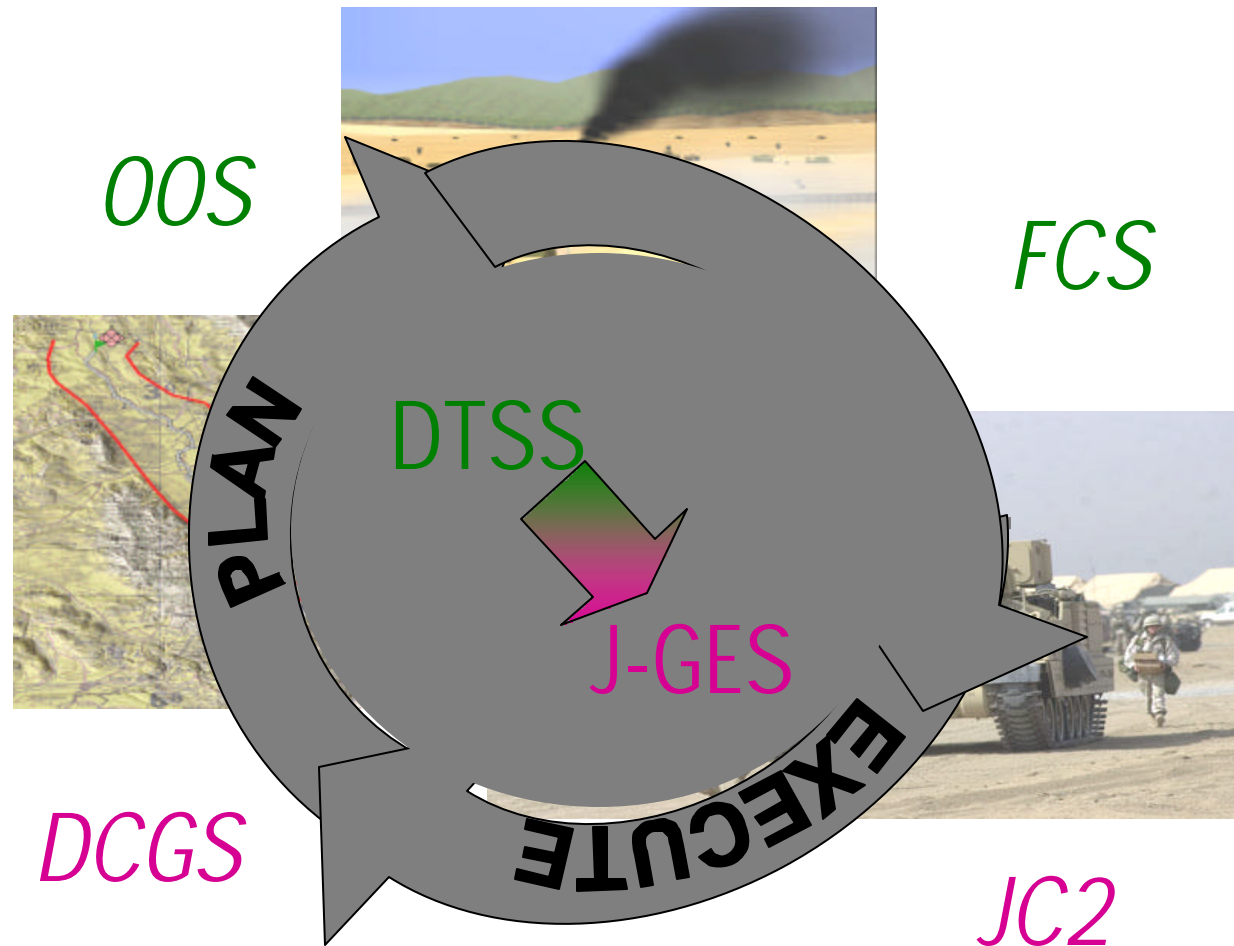
The New Geospatial Data Process



1.0: End-to-End System/Joint Considerations

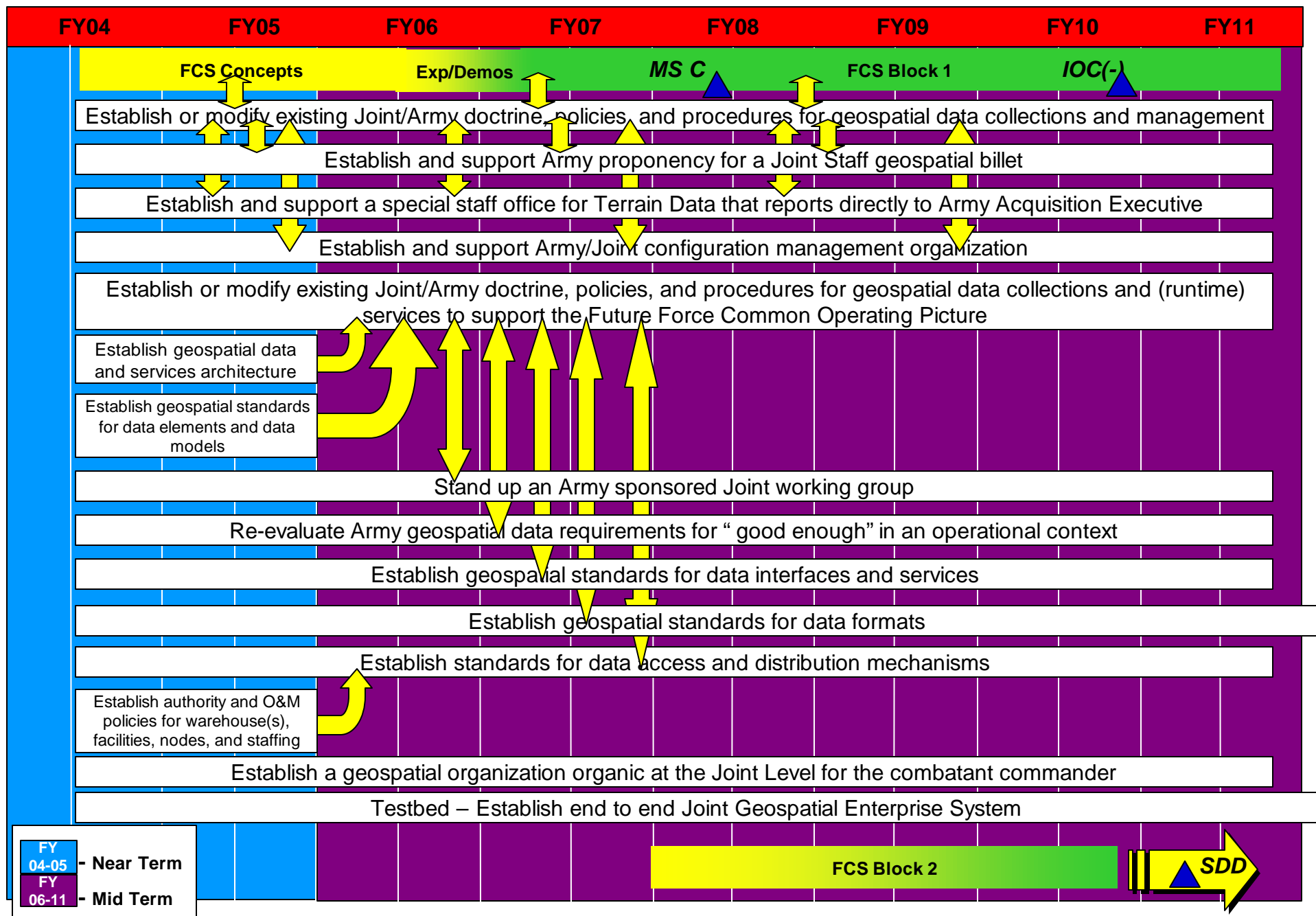


Foundation of the Family of Integrated Operational Pictures

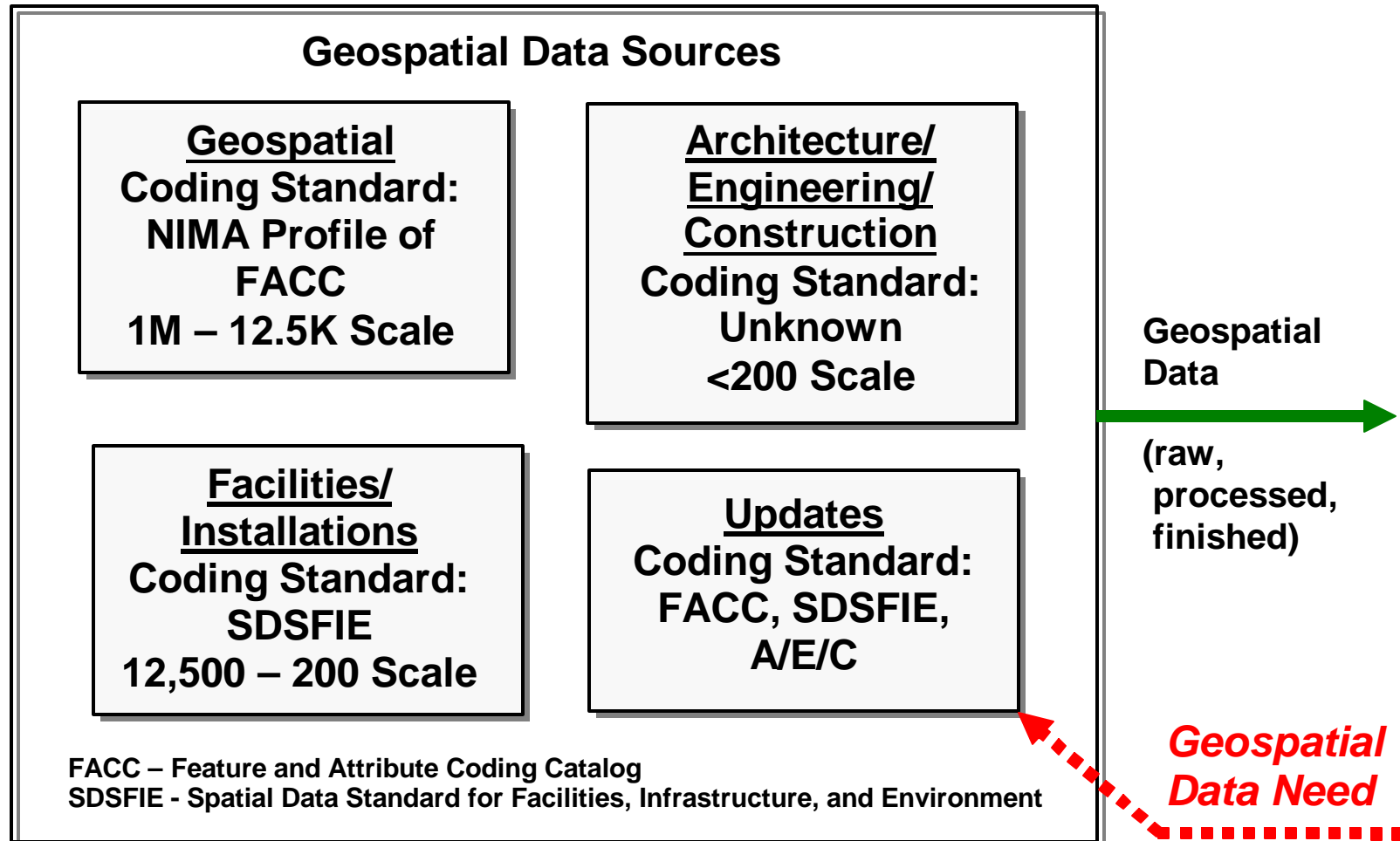


- DTSS currently supports two Joint systems; DCGS and JC2
- DTSS will migrate to the Joint Geospatial Enterprise System

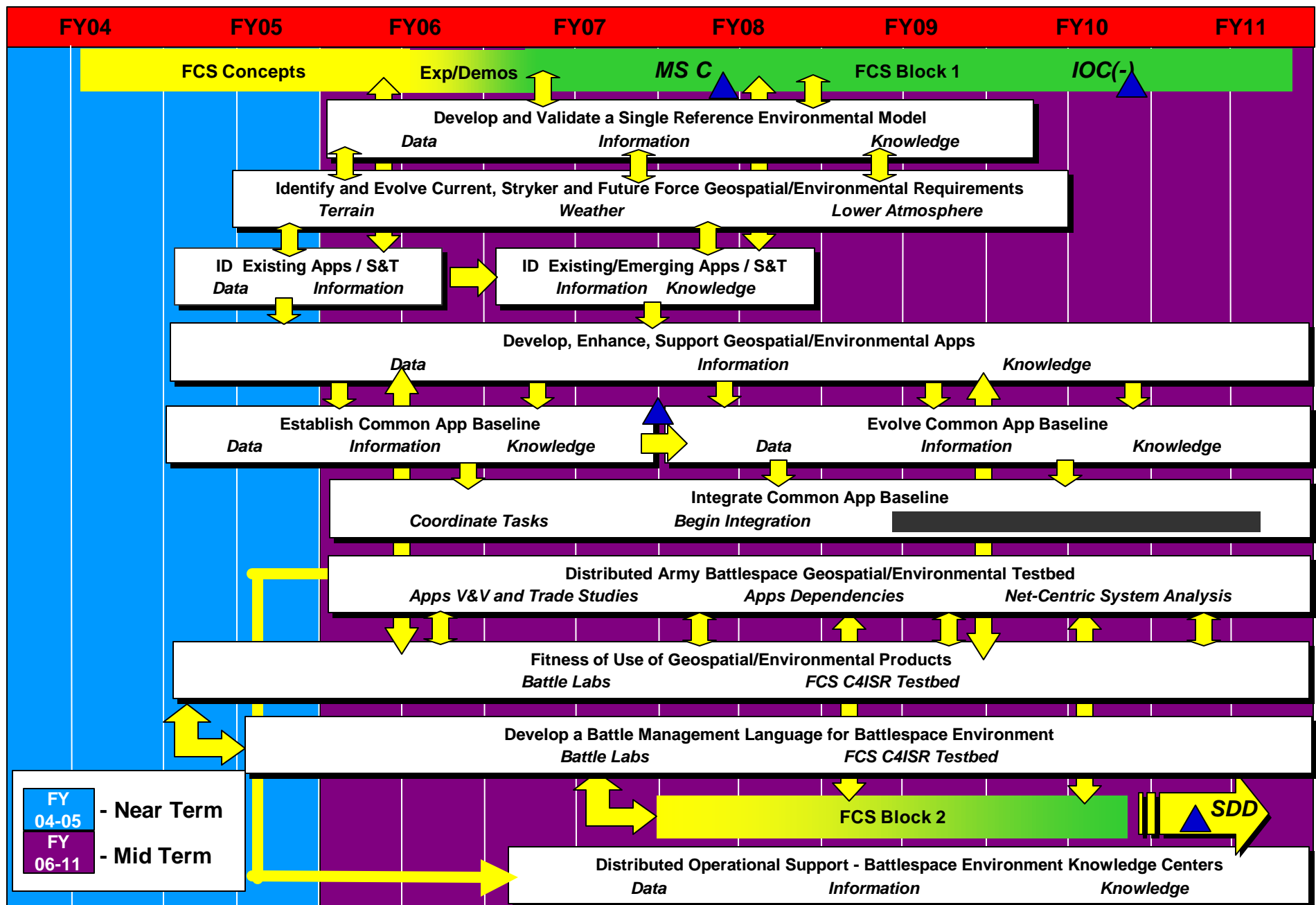
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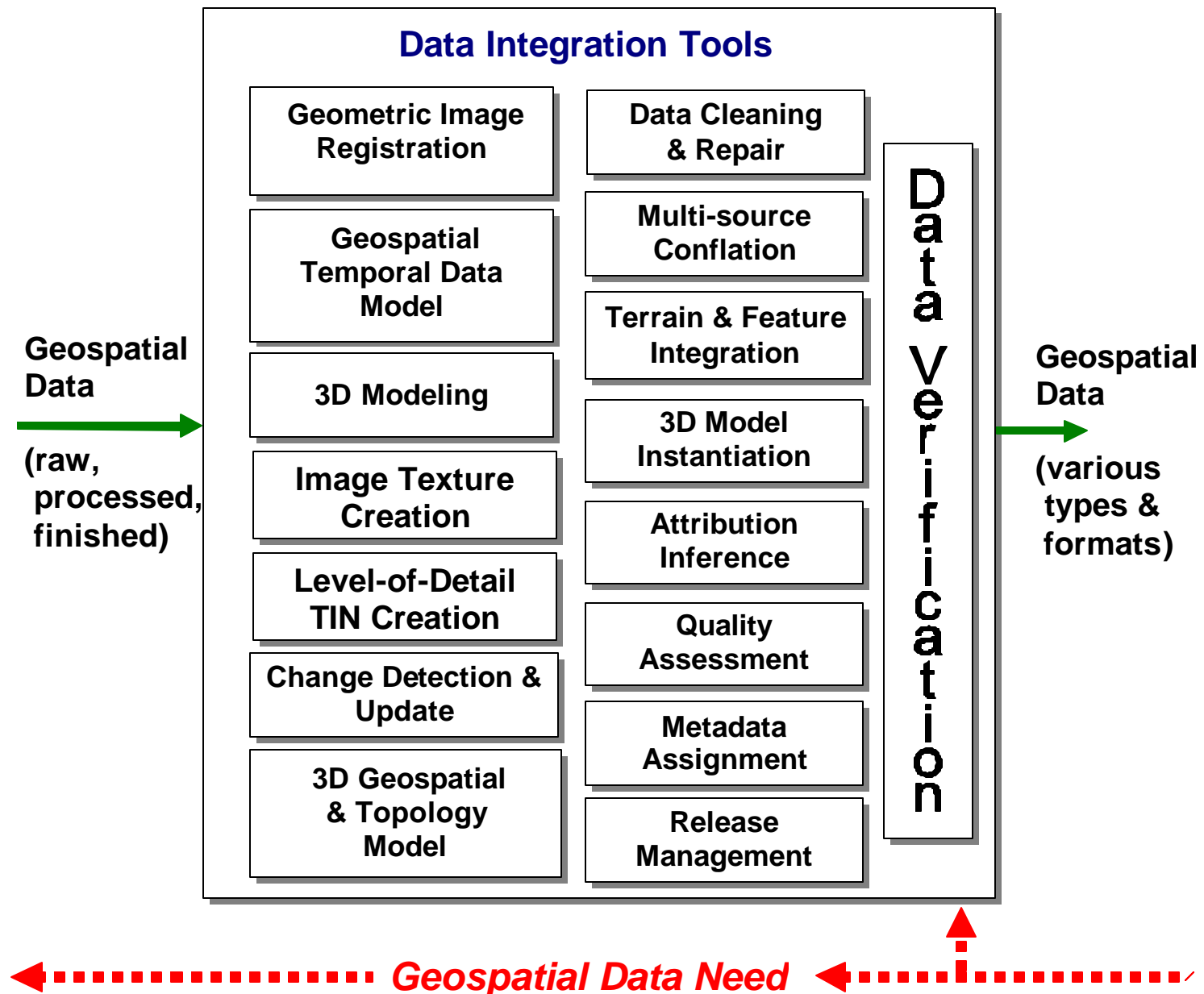
2.0: Collect/Update Data



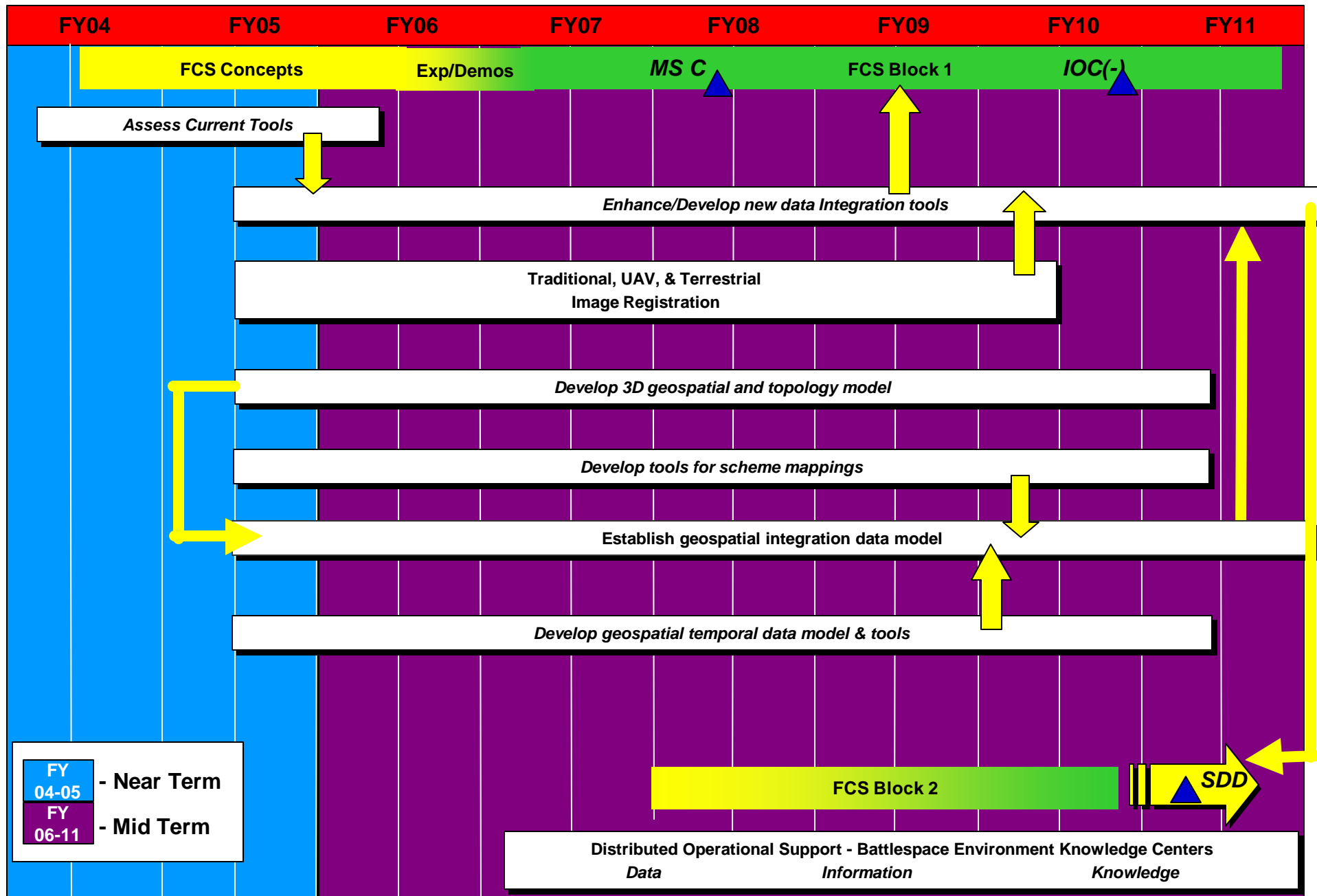
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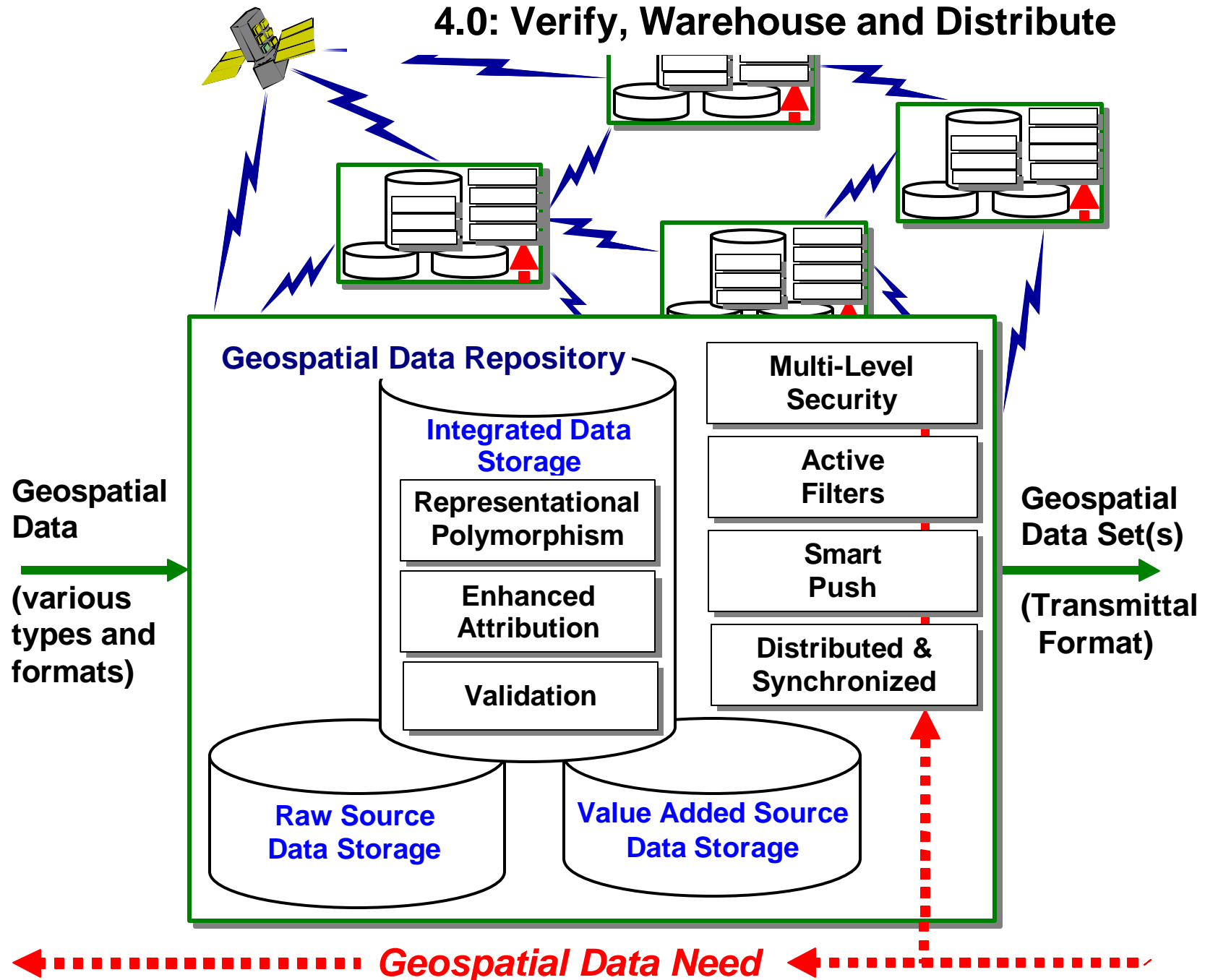
3.0: Integrate Requirement



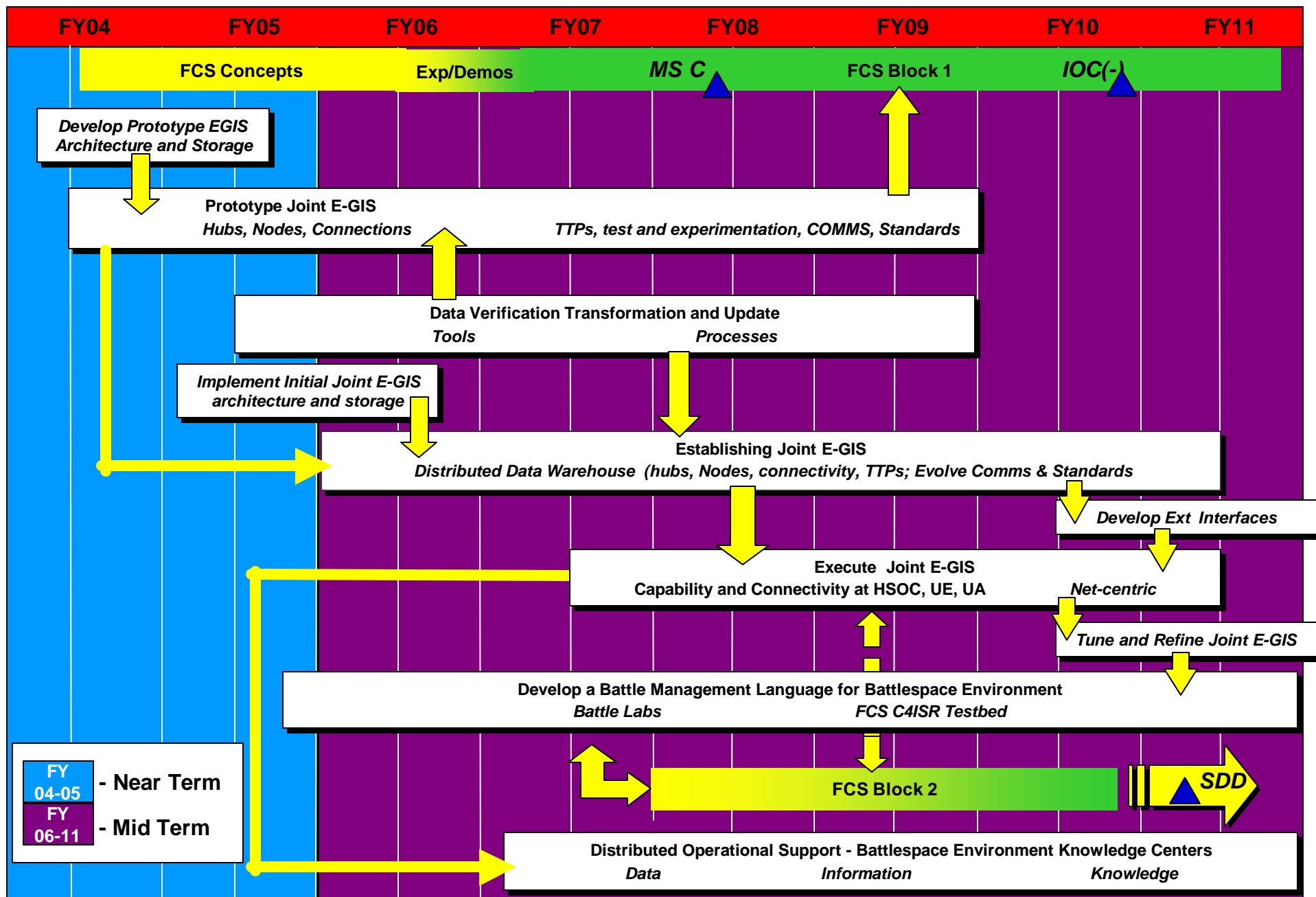
3.0: Integrate



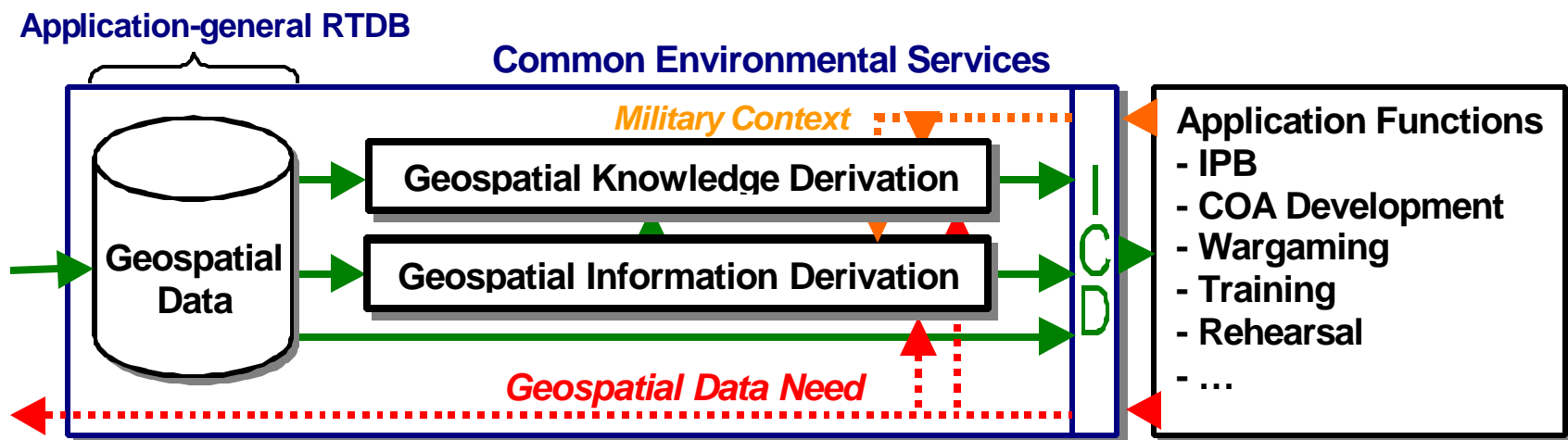
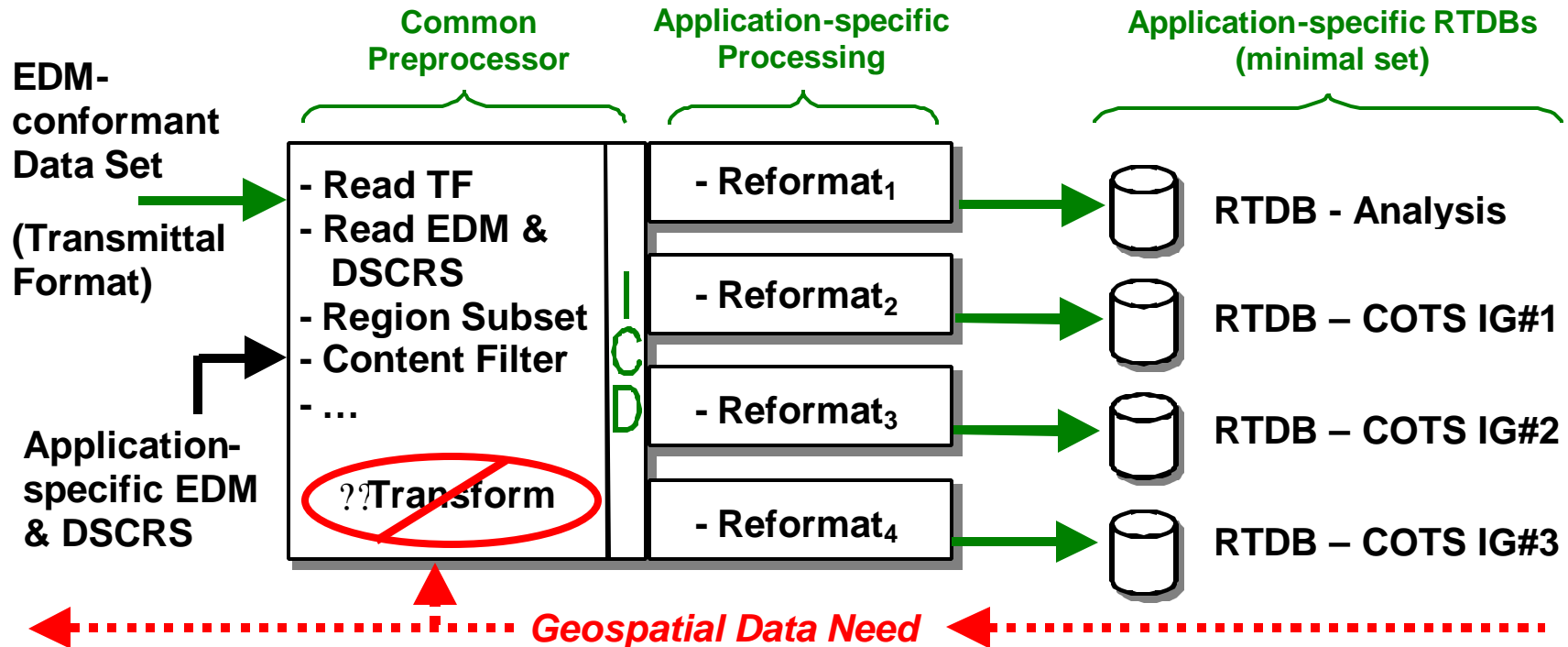
4.0: Verify, Warehouse and Distribute



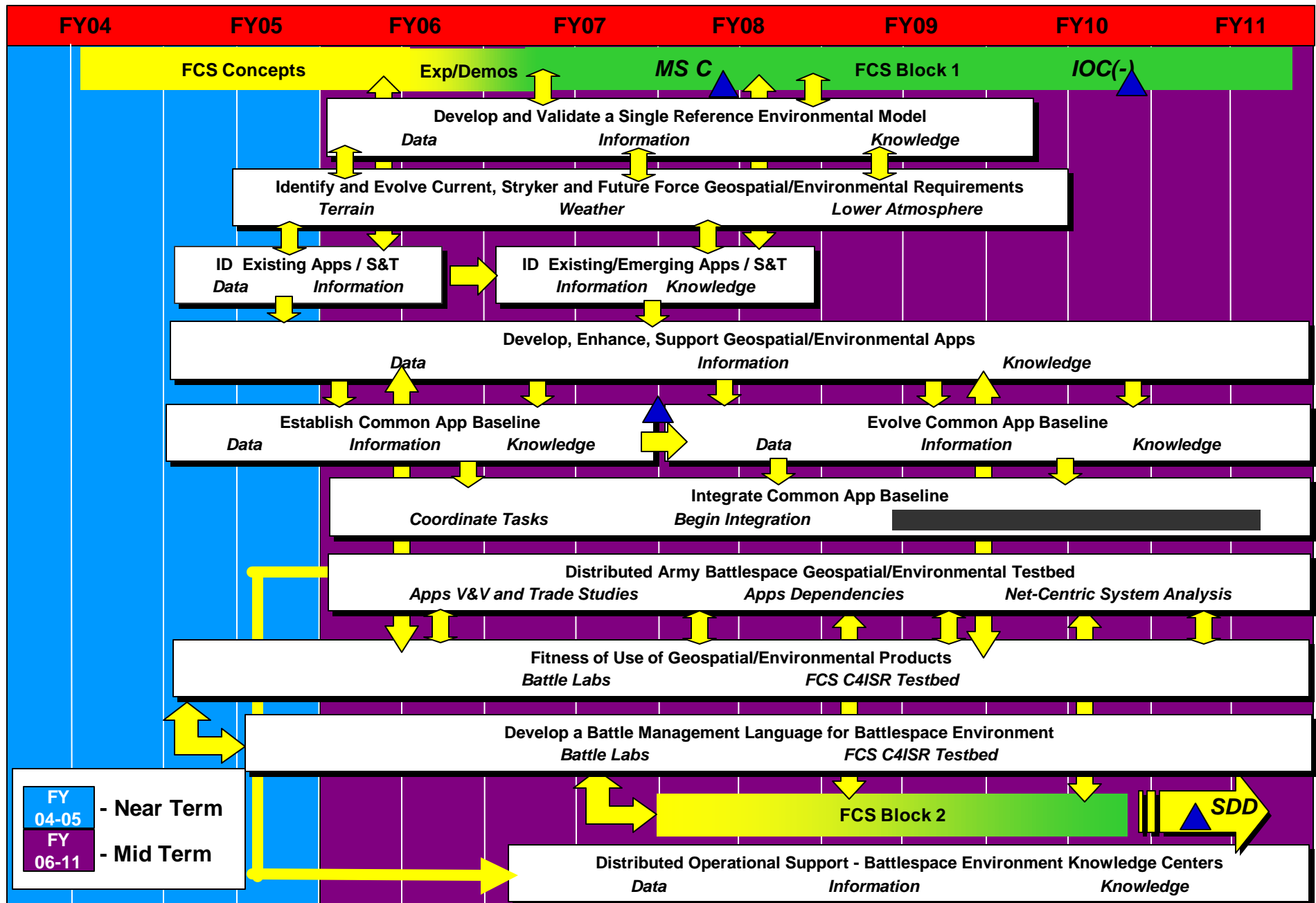
4.0: Verify, Warehouse and Distribute



5.0: Common Geospatial/Environmental Services/Applications



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The Way Ahead

- Brief Battle Command GOSC
 - Concurrence of AGDIMP by TRADOC, OCE, G-2 and G-3 for CSA's signature
- POM Input ready
 - S&T CoC input due 5 Feb 04
- Be aware of FCS OIPT Briefing in January '04 on Threshold Data Requirements
 - Impacts on NGA and Army responsibilities/tasks
- Brief to JFCOM J3, J7, & J9 and then JFCOM CDR

Master Plan Timeline

- ADCS, G-3 Brief 20 Jun 03
- G-3 Tasking Memo 8 Jul 03
- Conduct IPR to 2 Star BCGOSC Cancelled
- Initial DRAFT Master Plan 25 Aug 03
- Conduct Briefing to Ms. Condon 17 Sep 03
- Conduct IPR to 2 Star BCGOSC Cancelled
- Complete DRAFT Master Plan Dec 03
- Conduct IPR to 3 Star GOSC TBD
- Complete Integrated Master Plan Jan 04
- POM File 1.0 Feb 04

How SEDRIS Can Help

- Provide information on Industry's Geospatial Standards
- Help us prioritize Geospatial Requirements
- Assist Team in finding S&T efforts that align with our plans and objectives
- Support the integration of SEDRIS into the End-to-End process advocated in the Army's Geospatial Data Integrated Master Plan
- In addition, by...(see next two slides)

Encouraging the SEDRIS and Geospatial Data Partnership for Future Combat Systems

- **SEDRIS Momentum – Nearly 4 Years**
 - **Data Representation Model**
 - **Data Interchange Specifications**
 - Transparent to end use
 - Supported by Read and Write APIs
 - **Data Dictionary**
 - **Data Viewers**
 - **Browsers**
 - **V&V Tools**
- **SEDRIS M&S Standardization**
 - **Supports Reuse**
 - **Reduced Acquisition Life Cycle Time – Initial Concept to FOC**
 - **Enhanced C4ISR Interoperability**
 - Flexibility to Support Joint and Coalition Warfare
 - Shortened Decision Cycle for Combatant Commanders – GIS Technology

Filling the Geospatial Data Gaps by Leveraging SEDRIS Successes

- **Improve Data Consistency in an End-to-End Process**
- **Provide Common Standard for Both M&S and C4ISR Application Environments**
- **Improve the Acquiring/Developing Process for Data Tool Sets**
- **Provide a Focal Point for Collecting Both Foundation and Mission-Specific Data More Rapidly**
- **Increase Data Requirements Clarity for Future Joint and Service Systems**
- **WRT Joint Geospatial Data Integration costs – must leverage SEDRIS data collection and architectural accomplishments to diminish future costs**

Areas for SEDRIS to Assist

(from the STC Agenda items)

- Application of SEDRIS to oceanographic data sets
- Adding semantics to environmental databases/transmittals through EDCS
- Environmental data in international applications
- Converting visualization databases to and from SEDRIS
- Utilization of SEDRIS for space and/or atmospheric data representation
- Weather data sets and SEDRIS
- Consumption and production of SAF/CGF databases
- Environmental database generation techniques
- Use of SEDRIS in joint simulations or joint programs
- Topology and the representation of environmental data
- Use of SEDRIS in game/entertainment applications
- Creation and handling of large data sets
- Innovative or novel applications of environmental data
- Attributes and environmental modeling for sensor-based systems
- Extensions to the SEDRIS Level 1 API
- Modeling or simulation techniques for representing the environment
- Advanced techniques or applications dealing with complex data sets



Questions?