GIG Enterprise Services and the DoD Net-Centric Data Strategy

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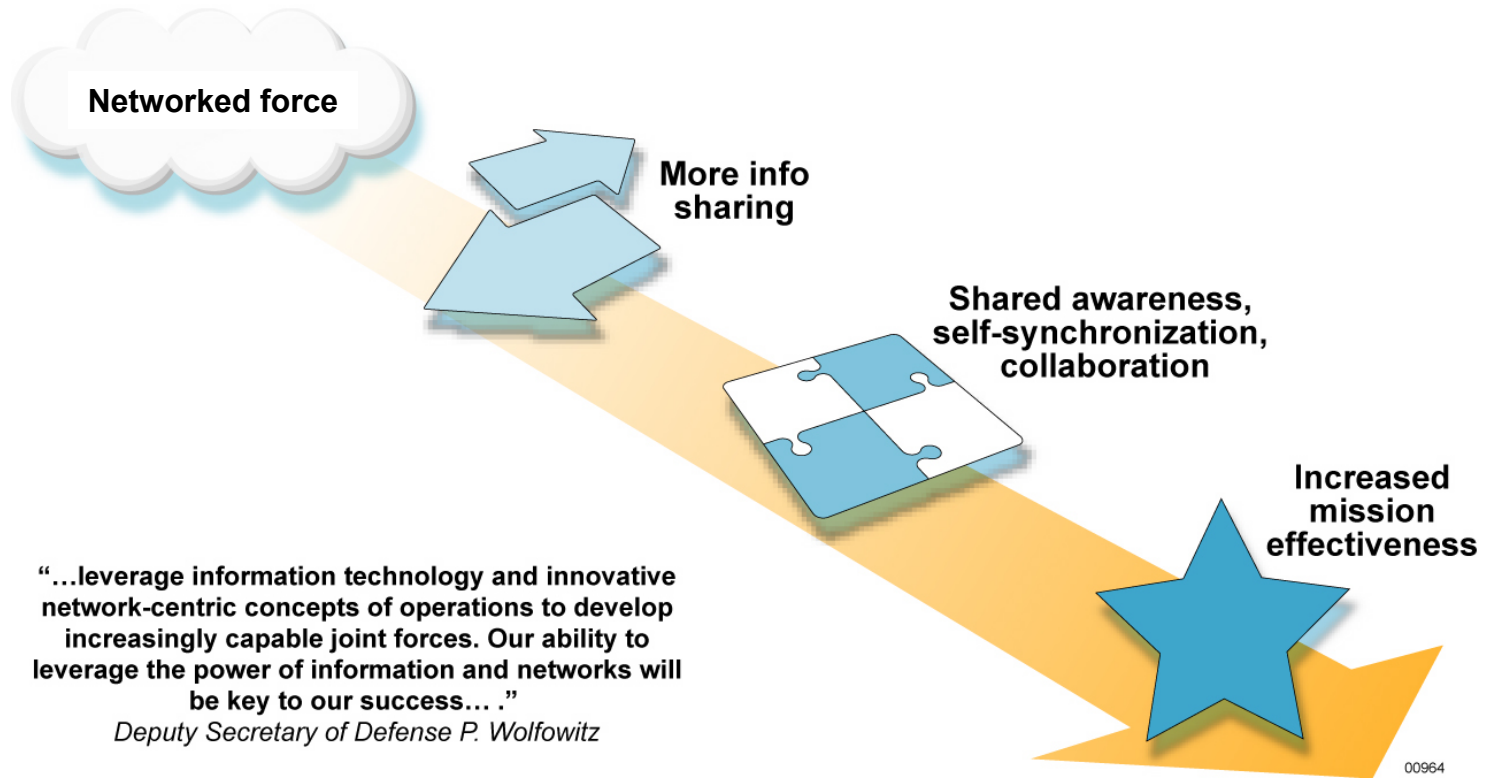*Power to the Edge*

Net-Centricity
Improved Information Management Paradigm

Net-Centricity is a transformation enabler that empowers all users on the network with the ability to easily discover, access, integrate, and fuse data and services that support their mission objectives. With Net-Centricity, the network is the source of information.

Information Age Evolution ➡ **Net-Centric Operations and Warfare**

Networked force

More info sharing

Shared awareness, self-synchronization, collaboration

Increased mission effectiveness

"…leverage information technology and innovative network-centric concepts of operations to develop increasingly capable joint forces. Our ability to leverage the power of information and networks will be key to our success… ."
Deputy Secretary of Defense P. Wolfowitz

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Net-Centricity Affords Key Benefits

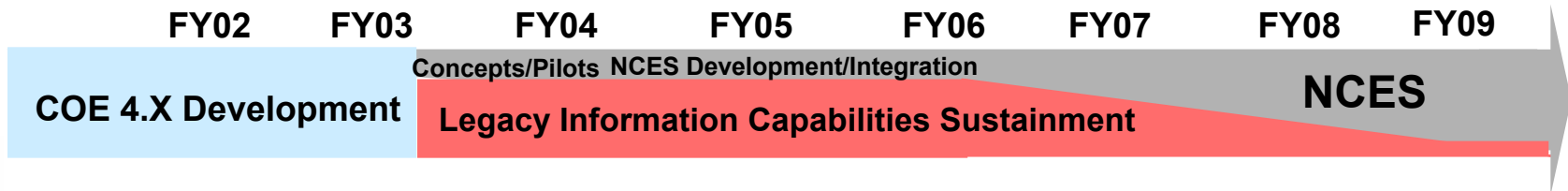| *Better use and protection of resources* | Faster decision cycles and shared awareness |
	Effective force multiplication through higher quality information
More effective use of information assets	Improved command and control
	Immediate awareness of information availability
	Near-real time availability of intelligence
More efficient use of platforms	Better "pictures" of the operating environment
	Better visibility into asset status
	Higher yield to warfighters based on transformed business processes

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The GIG Enterprise Services (GES)
Addressing the Policy and Infrastructure for Net-Centricity

- GIG enterprise services (GES) address the approved Global Information Grid (GIG) Architecture requirements for common capabilities to operate in a net-centric environment:
  – Task-Post-Process-Use (TPPU), storage, management and protection of information resources *on demand* for warriors, policy makers, and support personnel
  – Facilitate information sharing across systems

- GIG enterprise services support:
  – Entire DoD
  – SCI Intelligence Community (through ICSIS IAW DCID/DoD Directives)
  – Conventional and Nuclear Warfighting
  – Business units (e.g., BMMP)

- Net-Centric Enterprise Services (NCES) - Implementing the Net-Centric Objectives:
  – GES near-term focus is to establish an FY04 New Start for the NCES Program
  – "Fast Track" Concept development and OSD/JS/Service/Agency Coordination
  – Deals with transition from Common Operating Environment (COE)

FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09

Concepts/Pilots   NCES Development/Integration

COE 4.X Development

Legacy Information Capabilities Sustainment

NCES

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GIG Enterprise Services Scope

Domain & COI Enterprise Services
include levels of services *beyond* the
9 Core, Net-Centric Enterprise Services

Domains and their COI: - Business - Warfighter - Intel
**   *Plus*:   Cross-Domain COI**
**   *Plus*:   Expedient COI**

GIG Services

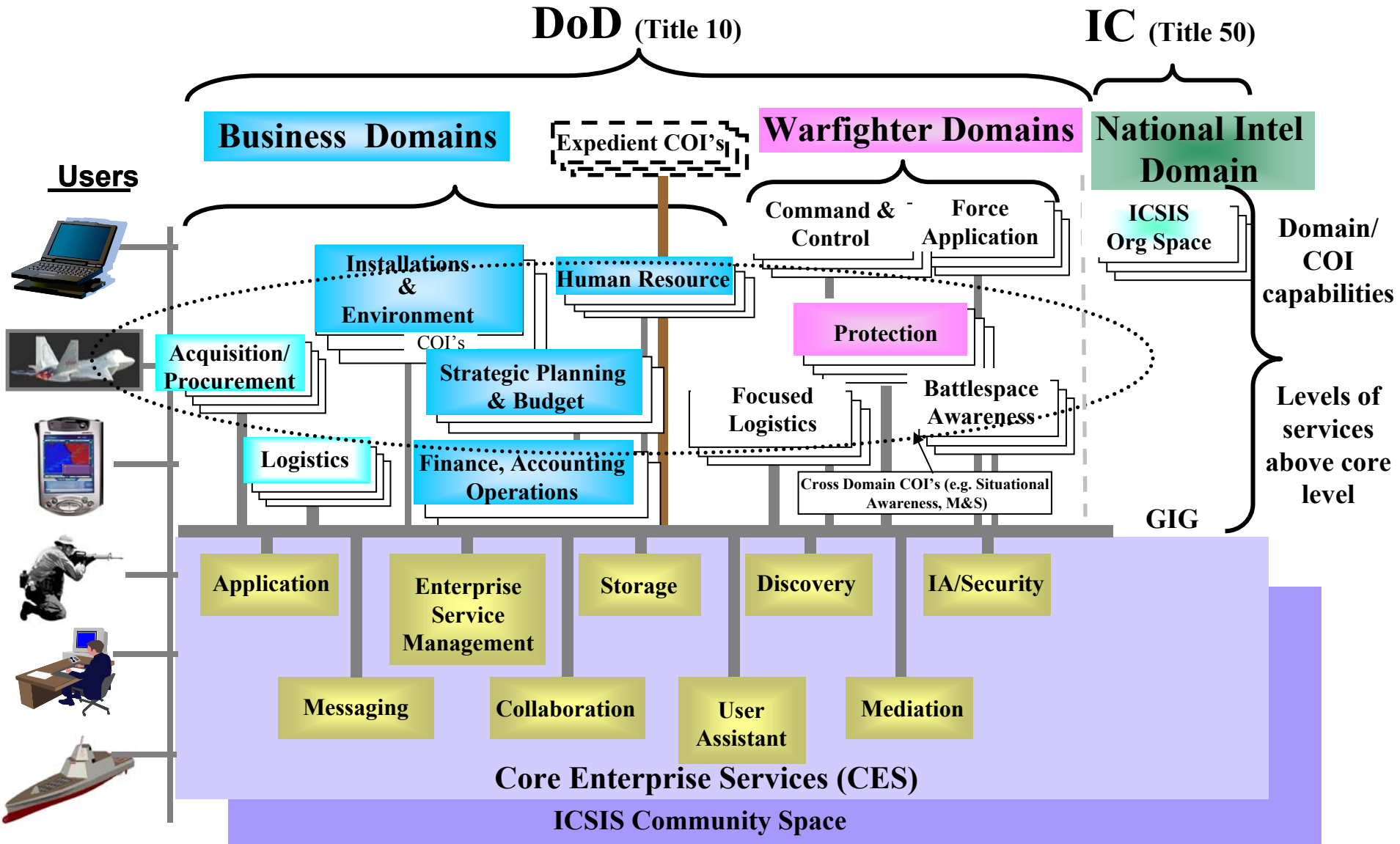**Net-Centric Enterprise Services (NCES *Program*)**
FY04-09: $380M

Milestone B, 2nd QTR FY04

Scope Includes:
** - 9 Core Enterprise Services**
** - Application Program Interfaces (APIs) for CES**

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GIG Enterprise Services

Support real-time & near-real-time warrior needs, and business users

DoD (Title 10)   **IC** (Title 50)

Business Domains   Expedient COI's   **Warfighter Domains**   **National Intel Domain**

Users

Command & Control   Force Application

ICSIS Org Space

Domain/ COI capabilities

Installations & Environment   Human Resource

Protection

Acquisition/ Procurement   COI's

Strategic Planning & Budget   Focused Logistics   Battlespace Awareness

Levels of services above core level

Logistics   Finance, Accounting Operations

Cross Domain COI's (e.g. Situational Awareness, M&S)

GIG

| Application | Enterprise Service Management | Storage | Discovery | IA/Security |

| Messaging | Collaboration | User Assistant | Mediation |

Core Enterprise Services (CES)
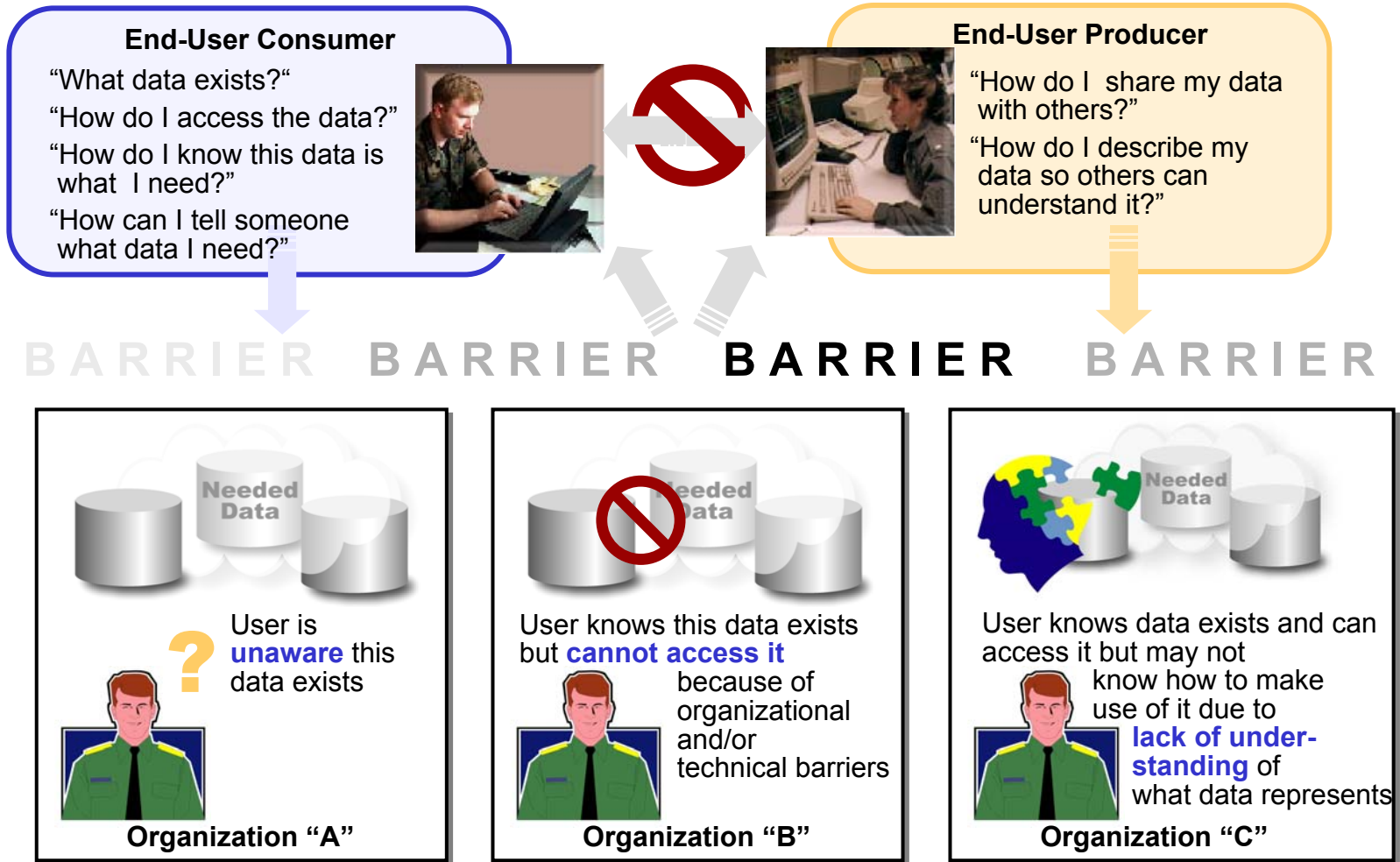
ICSIS Community Space

The Role of Domains and Communities of Interest

- Communities of Interest (COIs) are collaborative groups of users who exchange information in pursuit of their shared goals, interests, missions, or business processes
  - COIs should strive to be cross-functional and/or cross domain and include members that reflect user, developer, policy, and management communities
  - Some COI activities will require an advocate and executive agent

- Domains are the providers of the infrastructure required to support various COI activities
  - A Domain Owner will be assigned to each domain

- Domain owners will be responsible to:
  - Establish Domain EAs, as necessary, to execute requirements, acquisition, and budgeting processes for assigned Domain and cross-Domain services
  - Establish and recognize institutional COIs as needed within the Domain
  - Review MilDep, Agency and Domain EAs POM/budget for:
    - resource compliance to guidance
    - gaps, unnecessary duplicative services, and issues within and across Domains
  - Submit issues as required
  - Participate in Domain program OIPTs to assess compliance with net-centric objectives, architecture and standards.
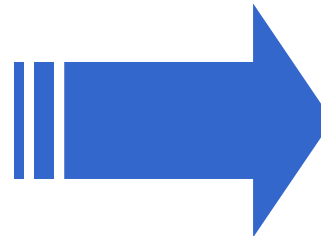
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Net-Centric Data Strategy
Defining the Problem

End-User Consumer

"What data exists?"

"How do I access the data?"

"How do I know this data is what I need?"

"How can I tell someone what data I need?"

End-User Producer

"How do I share my data with others?"

"How do I describe my data so others can understand it?"

B A R R I E R B A R R I E R **B A R R I E R** B A R R I E R

User is **unaware** this data exists

Organization "A"

User knows this data exists but **cannot access it** because of organizational and/or technical barriers

Organization "B"

User knows data exists and can access it but may not know how to make use of it due to **lack of under-standing** of what data represents

Organization "C"

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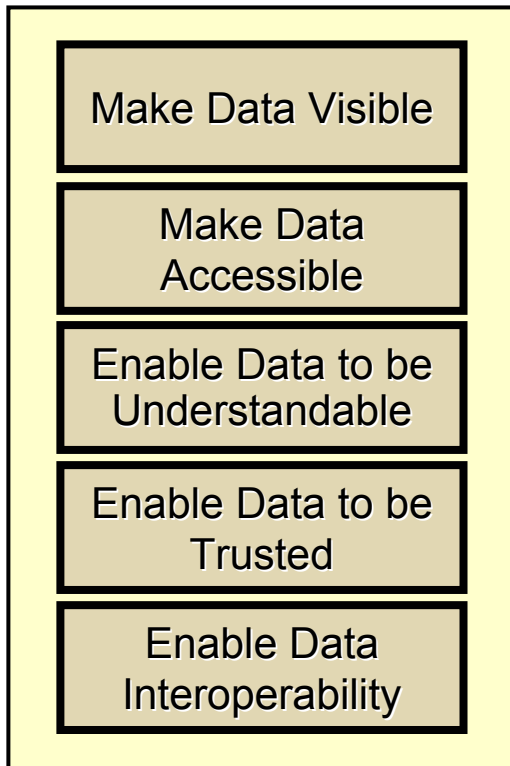
DoD Net-Centric Data Strategy
Defines Goals That Guide Net-Centric Activities

**Key Goals From the
Net-Centric Data Strategy**

- Make Data Visible
- Make Data Accessible
- Enable Data to be Understandable
- Enable Data to be Trusted
- Enable Data Interoperability

**What The Department
Wants You To Do:**

✓ **"Tag your data"**

✓ **"Post your data to shared spaces"**

Power to the Edge

Empowering Known and Unanticipated Users

Shift Power to the User:

- Bring data consumers, producers, and system developers closer together through Communities Of Interest

- Guide data management activities through user-driven metrics, user ratings/feedback, and data sharing incentives

- Provide the infrastructure and services (e.g., GIG B/E, NCES, Shared Spaces, Catalogs) to permit the user to find and retrieve data

Producer and Developer

Consumer

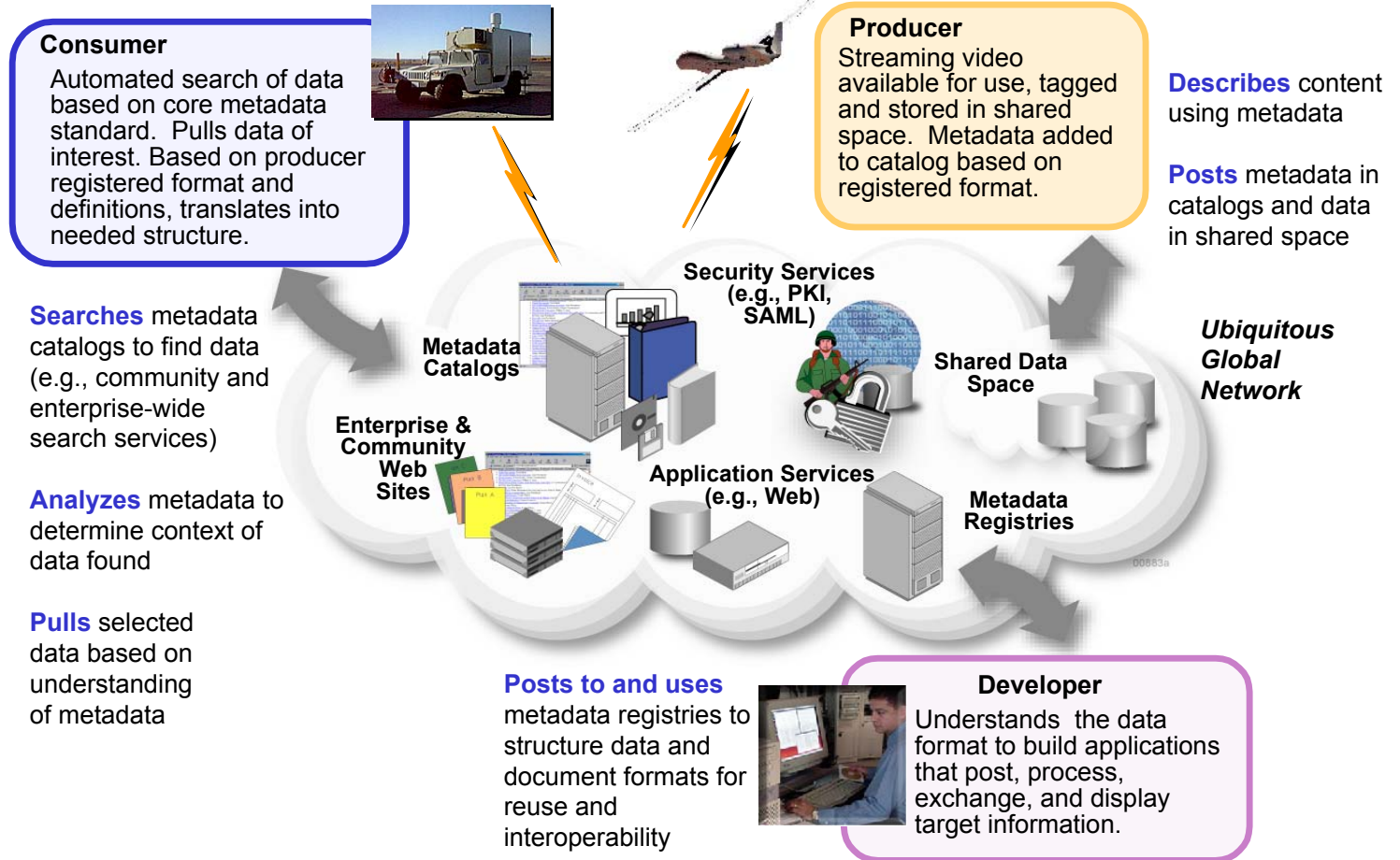*Make Data Accessible to and Usable by Known and Unanticipated Users*

Power to the Edge

Tagging and Posting Empowers Users
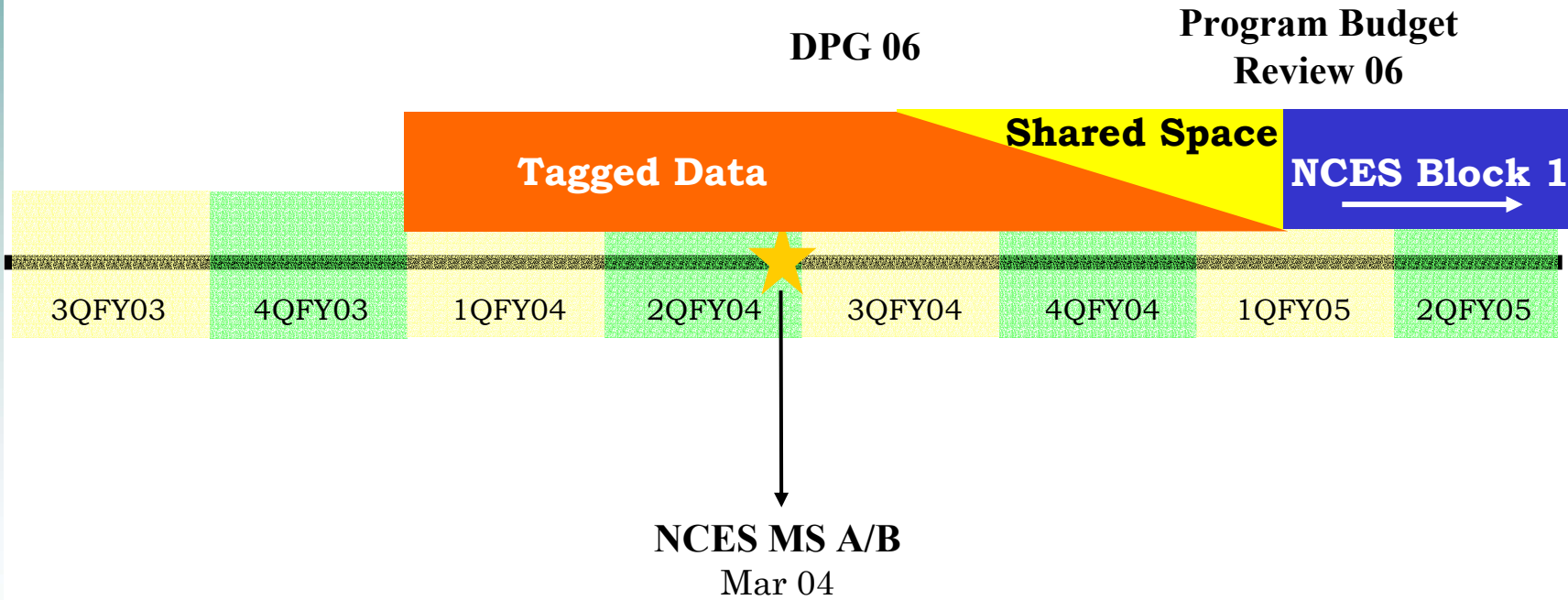## The Role Of Metadata and the Role of Shared Spaces

- **Users on the GIG discover and understand data through metadata tagging**
- **Users retrieve and store information on shared spaces that are accessible throughout the Enterprise***

Consumer
Automated search of data based on core metadata standard. Pulls data of interest. Based on producer registered format and definitions, translates into needed structure.

Producer
Streaming video available for use, tagged and stored in shared space. Metadata added to catalog based on registered format.

Describes content using metadata

Posts metadata in catalogs and data in shared space

Searches metadata catalogs to find data (e.g., community and enterprise-wide search services)

Analyzes metadata to determine context of data found

Pulls selected data based on understanding of metadata

Security Services
(e.g., PKI, SAML)

Metadata Catalogs

Enterprise & Community Web Sites

Application Services
(e.g., Web)

Shared Data Space

Metadata Registries

Ubiquitous Global Network

Posts to and uses metadata registries to structure data and document formats for reuse and interoperability

Developer
Understands the data format to build applications that post, process, exchange, and display target information.

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GIG ES Critical Path
(Mediation and Discovery Services)

A Net-Centric DoD
NII/CIO

DPG 06

Program Budget Review 06

Shared Space

Tagged Data

NCES Block 1

| 3QFY03 | 4QFY03 | 1QFY04 | 2QFY04 | 3QFY04 | 4QFY04 | 1QFY05 | 2QFY05 |

NCES MS A/B
Mar 04

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Issues

- Graceful legacy transition is important

- Need for extensive teamwork
  - Must be collaborative with other Service/Agency initiatives
  - PSA/Service/Agency leads for COIs

- Deployment strategy needs refinement (centralized, decentralized, federated, integrated)

- Security, Security, Security

- Must consider the "last tactical mile"

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Summary

- Net-Centric Enterprise Services (NCES) is on track to become a FY04 new start program to develop and field GIG enterprise services

- GIG enterprise services is the approach to providing the GIG infrastructure needed for timely, secure, ubiquitous edge user access to decision quality information

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