Session 1-1
Integrating EA with Management and Governance Practices
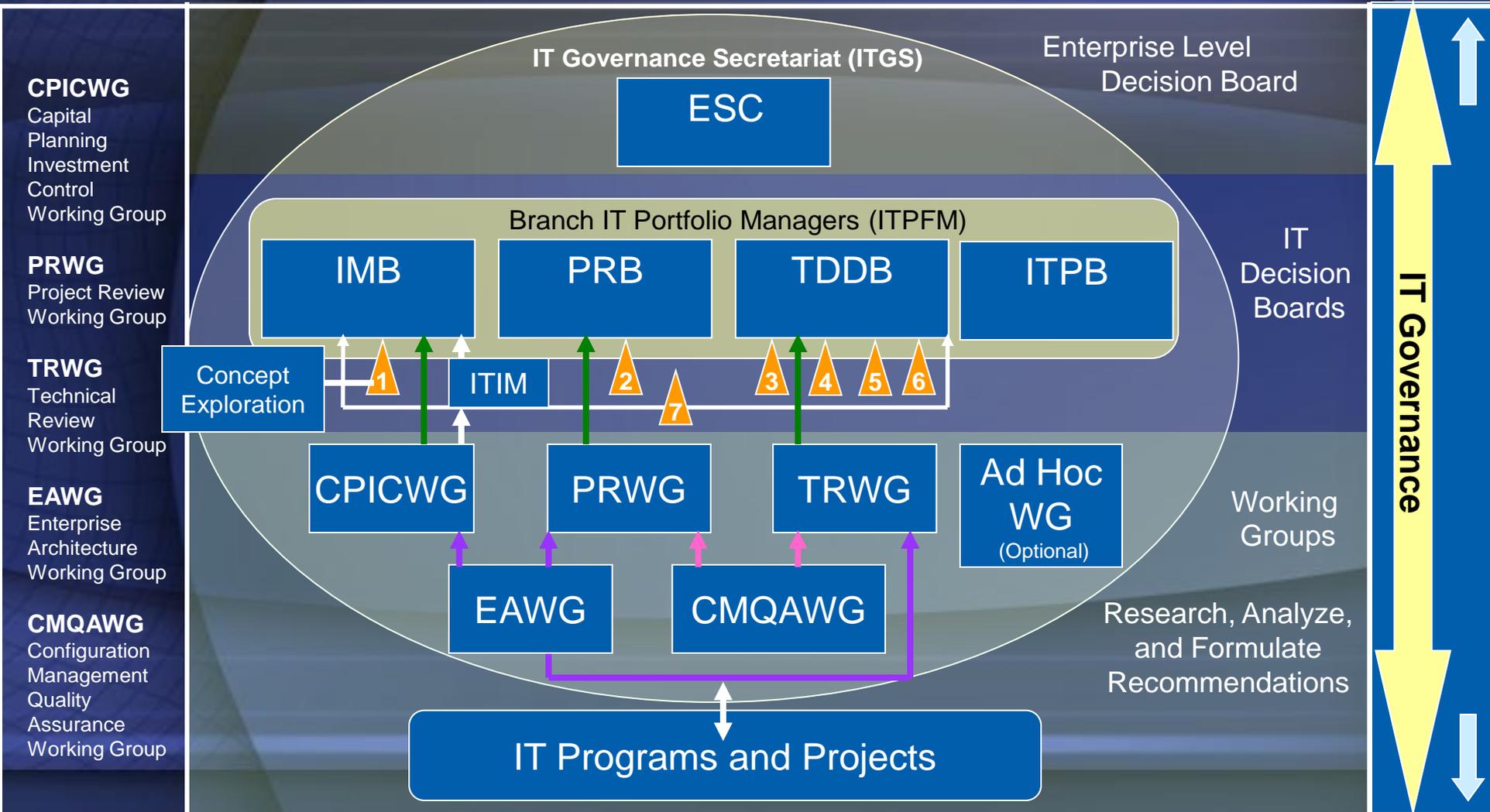
Sanjeev "Sonny" Bhagowalia*
Chief Information Officer (CIO)
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2007 E-Gov Conference
Washington, DC
September 5, 2007

* Former Program Management Executive, FBI (8/2007)

Q1: What EA policies help support integration with "other" agency management processes?

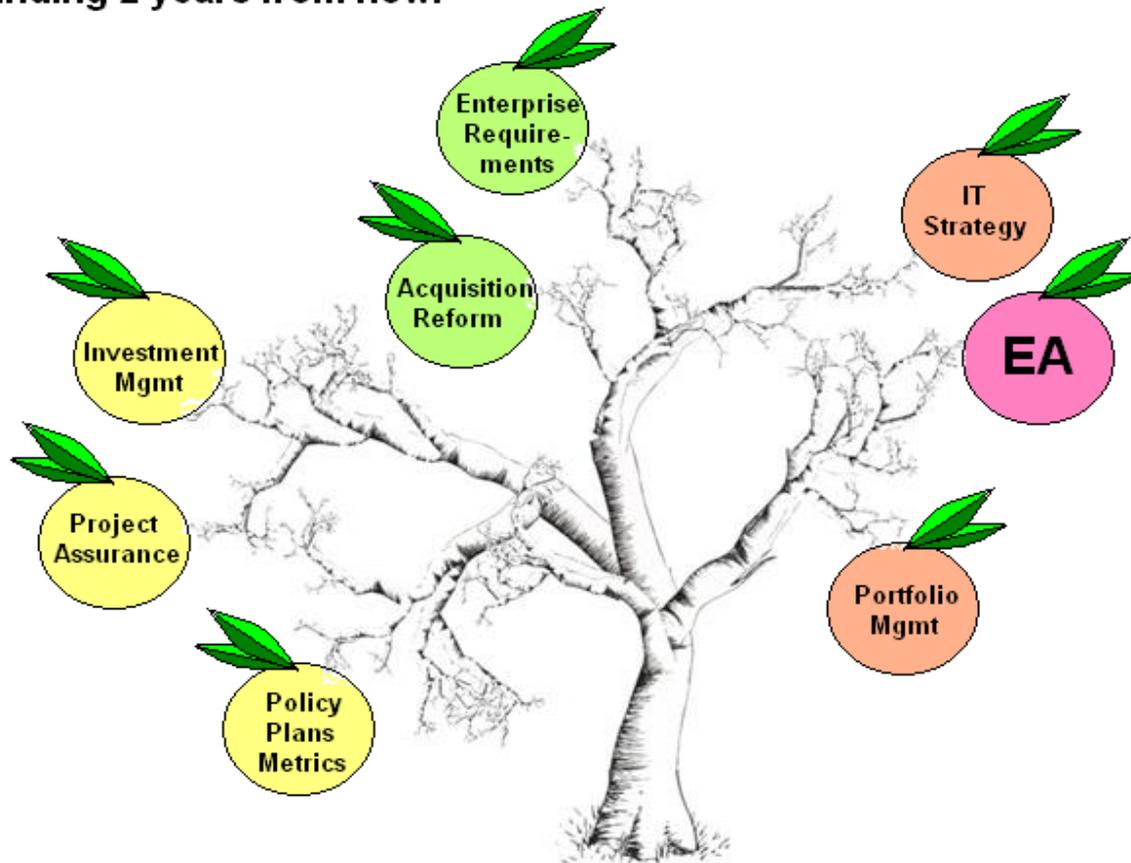*1st habit of highly effective architects: *"Be proactive"*

CPICWG
Capital Planning Investment Control Working Group

PRWG
Project Review Working Group

TRWG
Technical Review Working Group

EAWG
Enterprise Architecture Working Group

CMQAWG
Configuration Management Quality Assurance Working Group

IT Governance Secretariat (ITGS)

ESC

Enterprise Level Decision Board

Branch IT Portfolio Managers (ITPFM)

IMB   PRB   TDDB   ITPB

IT Decision Boards

Concept Exploration

ITIM

CPICWG   PRWG   TRWG   Ad Hoc WG (Optional)

Working Groups

EAWG   CMQAWG

Research, Analyze, and Formulate Recommendations

IT Programs and Projects

IT Governance

*Based on "7 Habits of Highly Effective People" by Stephen Covey

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Q1: What EA policies help support integration with "other" agency management processes?

Lesson learned: Advance planning for EA and *all its context as investments*

Invest early. Build costs for the enterprise planning functions that support selection, control and evaluation into your investment proposals. Establish a policy to set "planning reserve" as a %age above DM&E requirements. You must plant the seeds now if you are to reap the funding 2 years from now.

Enterprise Requirements

IT Strategy

Acquisition Reform

EA

Investment Mgmt

Project Assurance

Portfolio Mgmt

Policy Plans Metrics

"Enterprise Planting"

Q1: What EA policies help support integration with "other" agency management processes?

Case study: Risks of not using EA to plan agency investments

The IT support environment can be hit with huge staffing, operations and maintenance costs as a result of planned and unplanned projects

- Typically, O&M is funded and planned at 20-23% per year

- Hundreds of IT systems, networks, applications and databases already in operation

- Tens of projects in development (some deliver in FY07 and some in FY08 and some delivered in FY06) – inconsistent O&M allocations

- 45 enhancement requests planned for FY08

- Life Cycle Management and IT Governance is mitigating the problem with Lifecycle cost methodology – but enforcement challenges remain

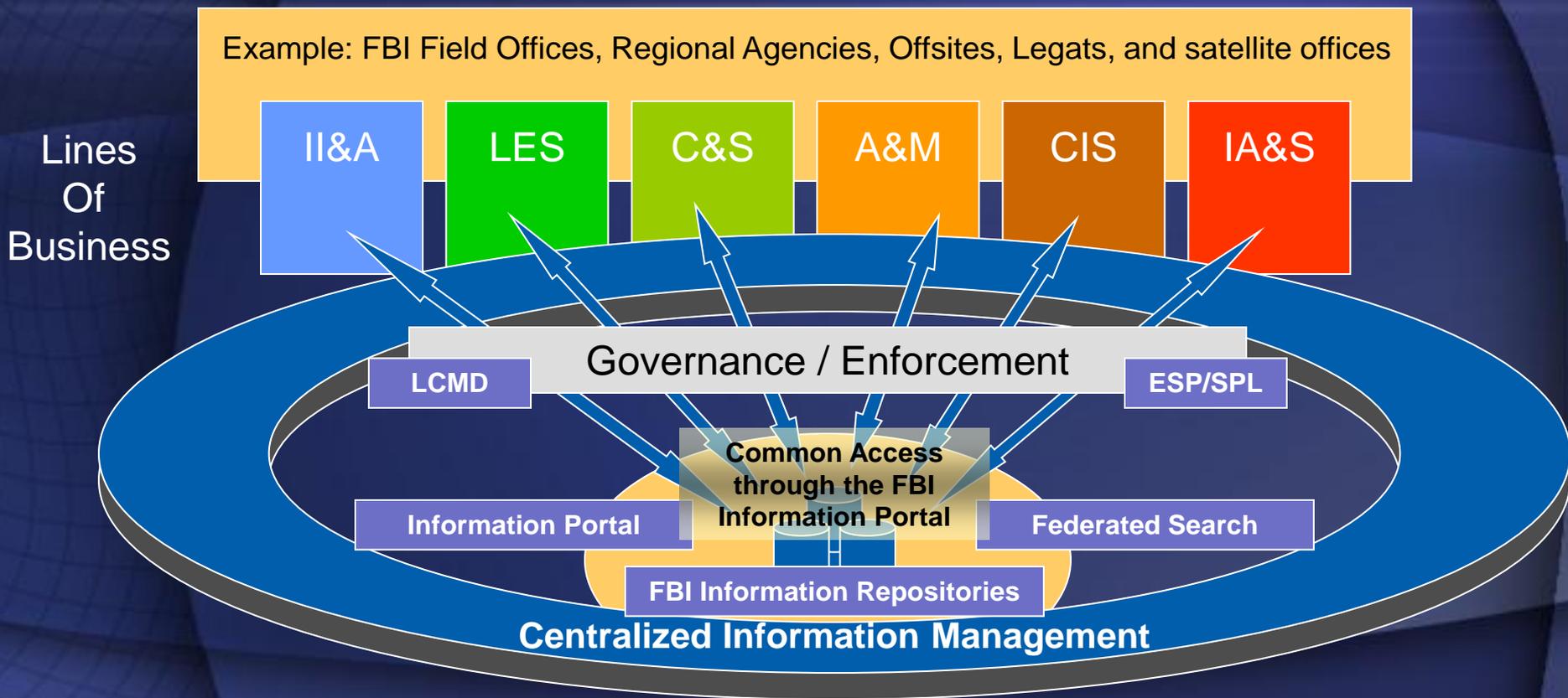- Resource allocation to competing priorities

Great Wave off Kanagawa   *Hokusai*
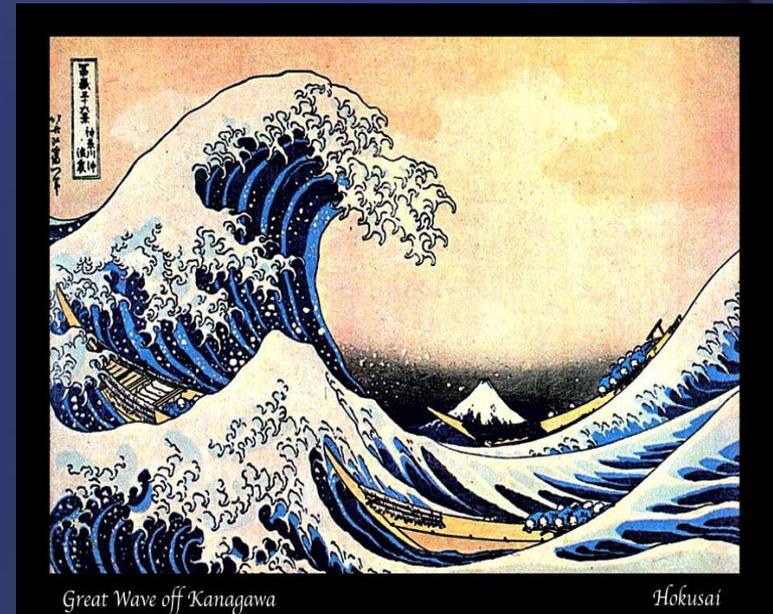
"The O&M Tsunami"

Additional Lifecycle Planning Factor (30<x<50%) should be included for all DME Projects

The Great Wave Off Kanagawa - From "Thirty-six Views of Mount Fuji"; 1823-29 (140 Kb); Color woodcut, 10 x 15 in; Metropolitan Museum of Art, New York

Q2: How does one establish collaborative EA governance involving mission programs in activities such as the unification of IT standards and services?

*2nd habit of highly effective architects: *"Begin with the end in mind"*

Example: FBI Field Offices, Regional Agencies, Offsites, Legats, and satellite offices

Lines Of Business

II&A LES C&S A&M CIS IA&S

Governance / Enforcement

LCMD

ESP/SPL

Common Access through the FBI Information Portal

Information Portal

Federated Search

FBI Information Repositories

Centralized Information Management

- LCMD – Lifecycle Management Directive
- ESP – Enterprise Standards Profile
- SPL – Standard Products List

Centralized Control & Access of Information supporting Decentralized Operations

*Based on "7 Habits of Highly Effective People" by Stephen Covey

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Q2: How does one establish collaborative EA governance involving mission programs in activities such as the unification of IT standards and services?

Best practice: EA Consolidated Systems Portfolio = Improved FISMA Performance

Consolidated IT Portfolios reduce security risks

GPRA
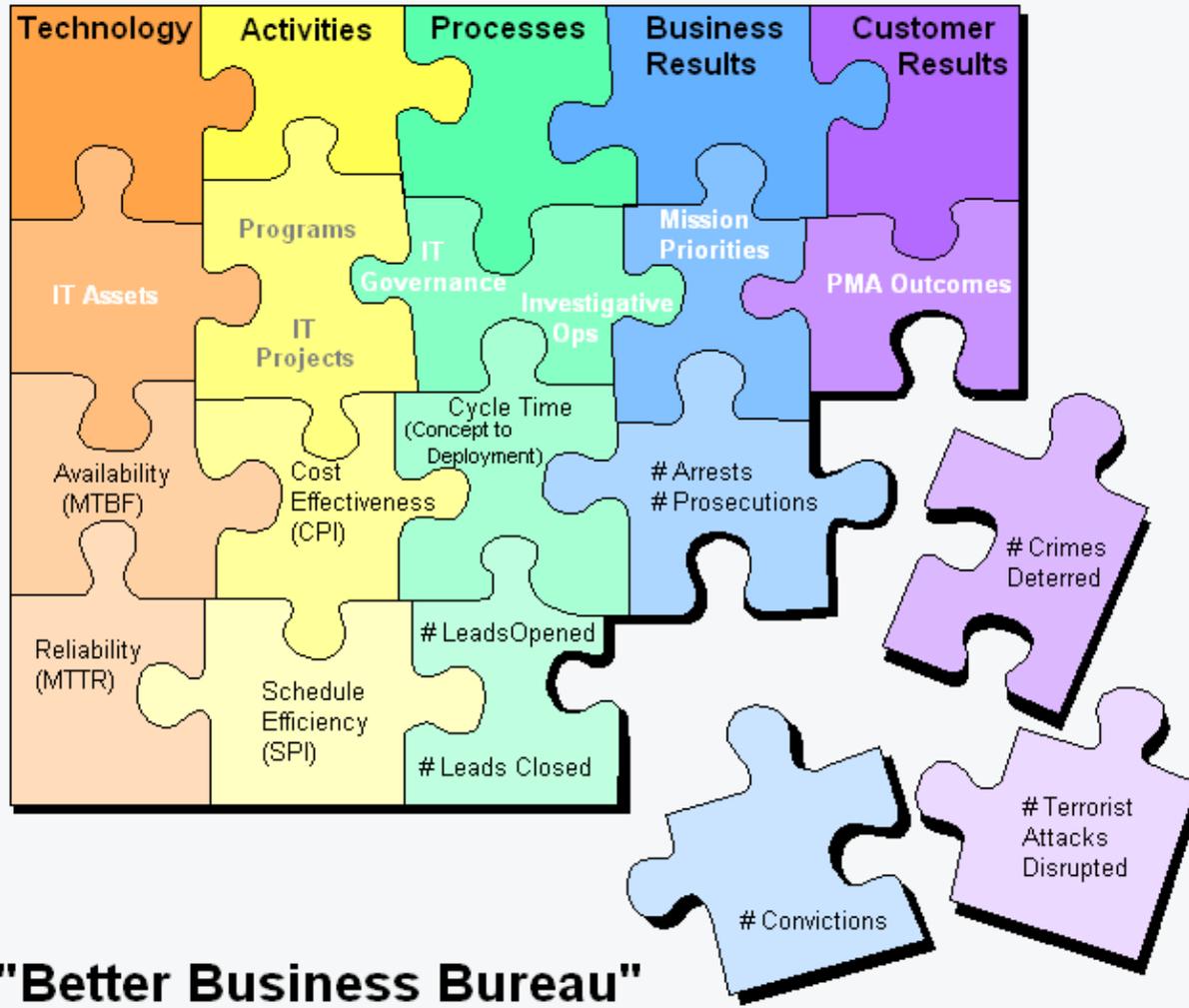FISMA

IT Portfolio
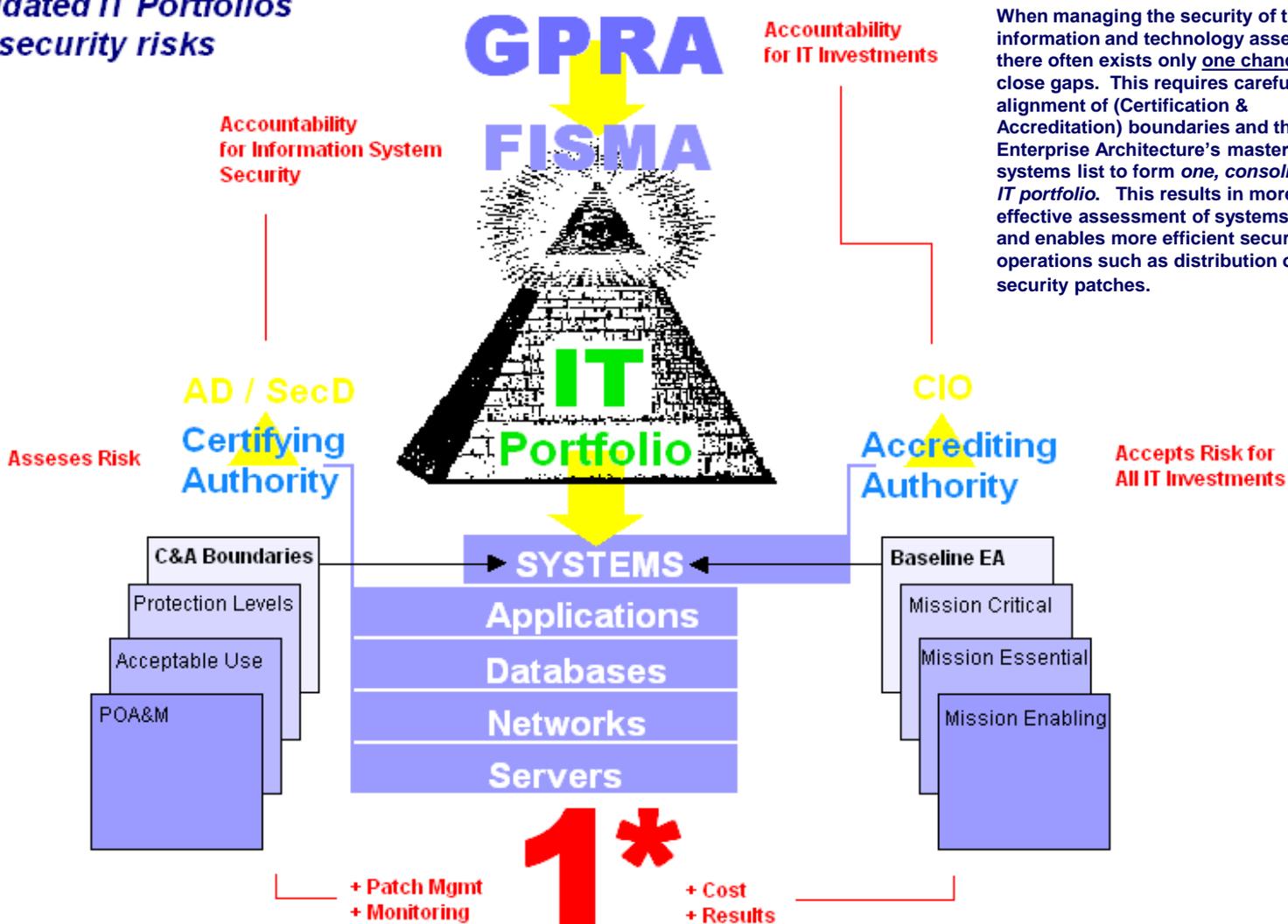
When managing the security of the FBI's information and technology assets, there often exists only <u>one chance</u> to close gaps. This requires careful alignment of (Certification & Accreditation) boundaries and the Enterprise Architecture's master systems list to form *one, consolidated, IT portfolio*. This results in more effective assessment of systems' risks and enables more efficient security operations such as distribution of security patches.

Accountability for Information System Security

Accountability for IT Investments

AD / SecD
Certifying Authority

CIO
Accrediting Authority

Asseses Risk

Accepts Risk for All IT Investments

C&A Boundaries
Protection Levels
Acceptable Use
POA&M

SYSTEMS
Applications
Databases
Networks
Servers

Baseline EA
Mission Critical
Mission Essential
Mission Enabling

1*

+ Patch Mgmt
+ Monitoring

+ Cost
+ Results

"When Success is Dependent on One Carefully Aimed Shot"

Q3: How can architects reach out to internal stakeholders and help them understand and gain value from their agency EA?
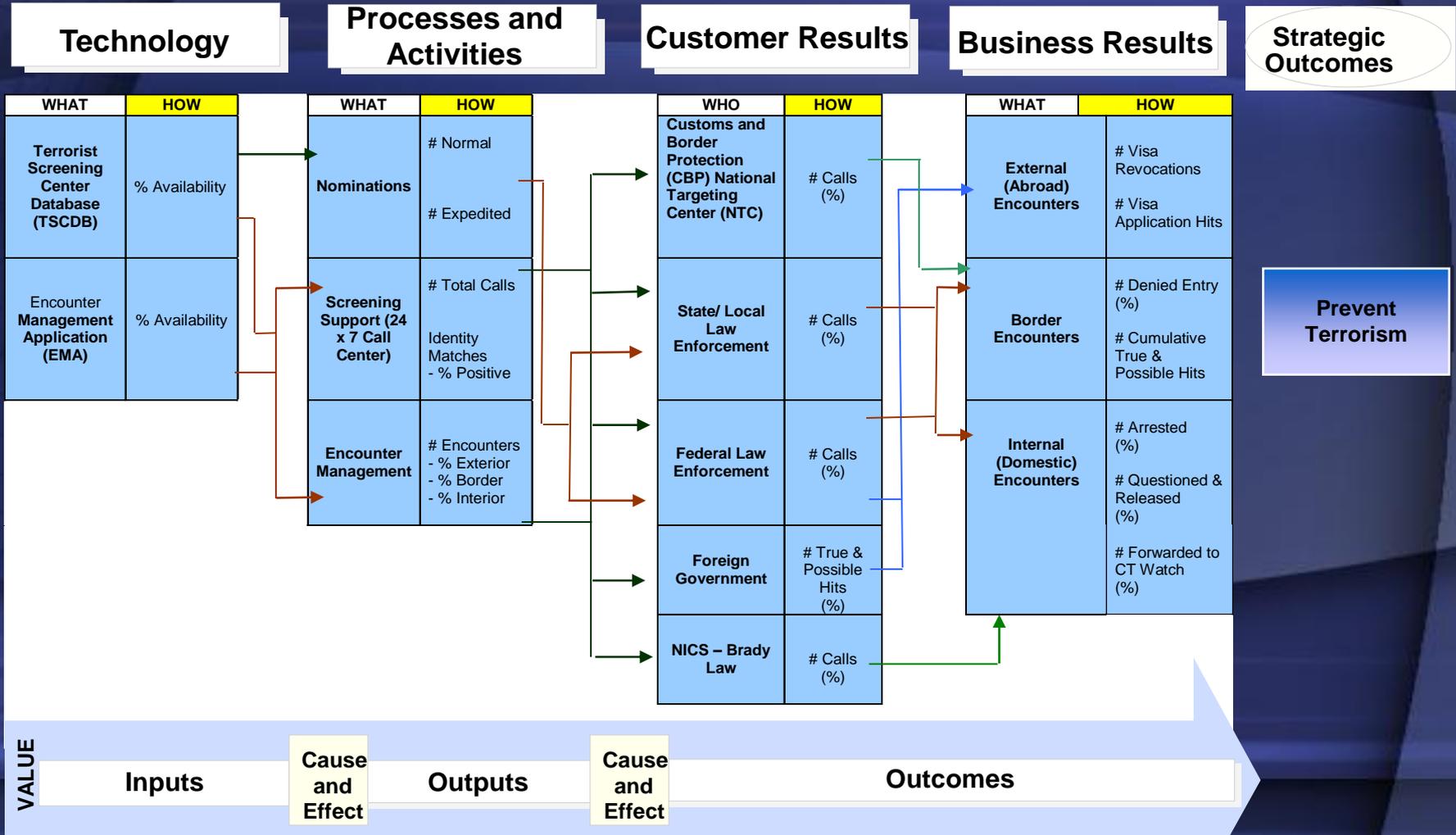
*3rd habit of highly effective architects: *"Think win-win"*

EA "Line of Sight" helps customers build better business cases and increases the likelihood of funding for their requirements --->

Best practice: Terrorist Screening Center (TSC) "Line of Sight"

Technology | **Processes and Activities** | **Customer Results** | **Business Results** | **Strategic Outcomes**

WHAT	HOW
Terrorist Screening Center Database (TSCDB)	% Availability
Encounter Management Application (EMA)	% Availability

WHAT	HOW
Nominations	# Normal # Expedited
Screening Support (24 x 7 Call Center)	# Total Calls Identity Matches - % Positive
Encounter Management	# Encounters - % Exterior - % Border - % Interior

WHO	HOW
Customs and Border Protection (CBP) National Targeting Center (NTC)	# Calls (%)
State/ Local Law Enforcement	# Calls (%)
Federal Law Enforcement	# Calls (%)
Foreign Government	# True & Possible Hits (%)
NICS – Brady Law	# Calls (%)

WHAT	HOW
External (Abroad) Encounters	# Visa Revocations # Visa Application Hits
Border Encounters	# Denied Entry (%) # Cumulative True & Possible Hits
Internal (Domestic) Encounters	# Arrested (%) # Questioned & Released (%) # Forwarded to CT Watch (%)

Prevent Terrorism

VALUE

Inputs	Cause and Effect	Outputs	Cause and Effect	Outcomes

Q4: What are the EA decisions and how does one make them key milestones in the Systems (solutions) Development Lifecycle (SDLC)?

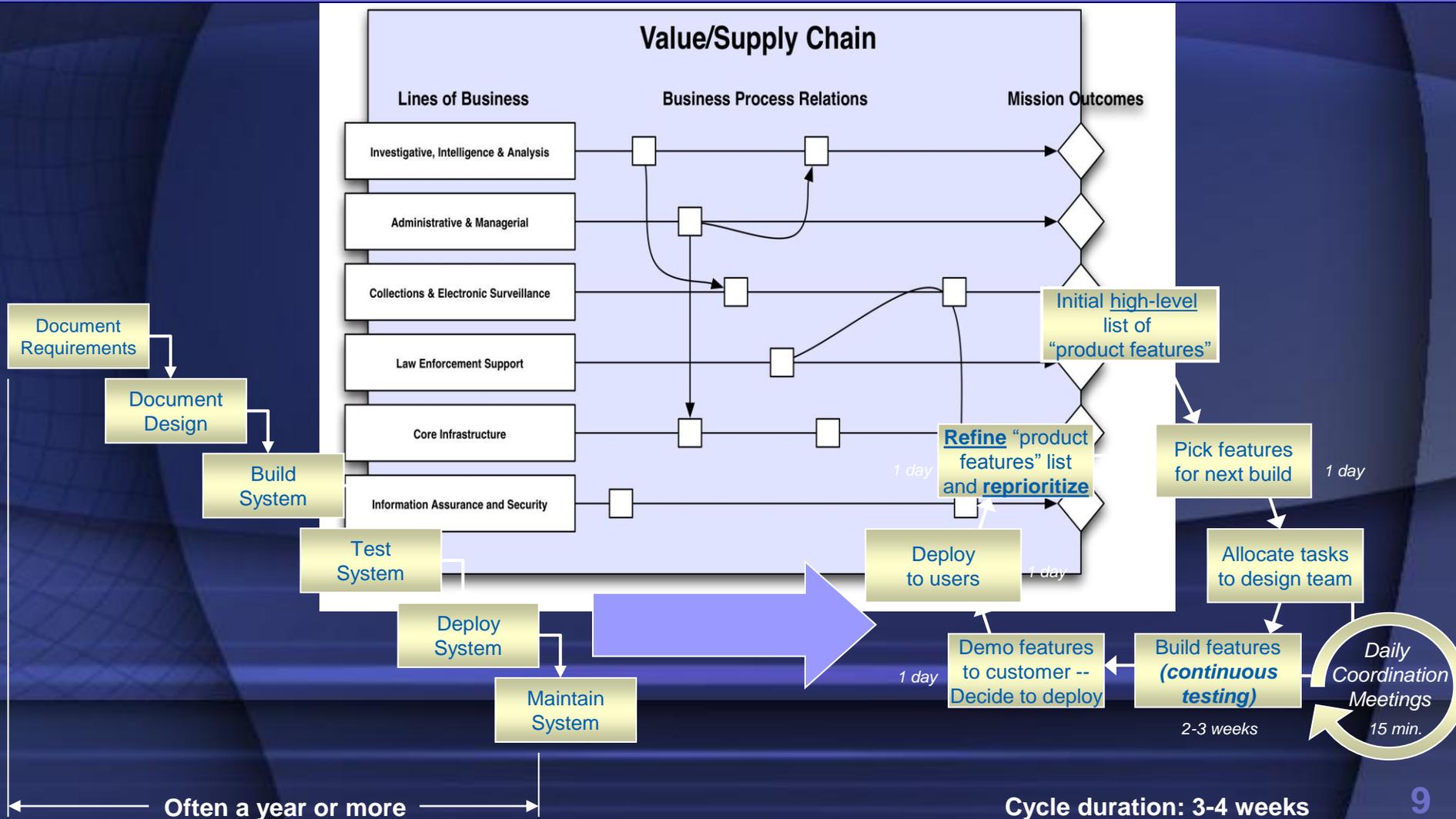*4thHabit of highly effective architects: *"Put first things first"*
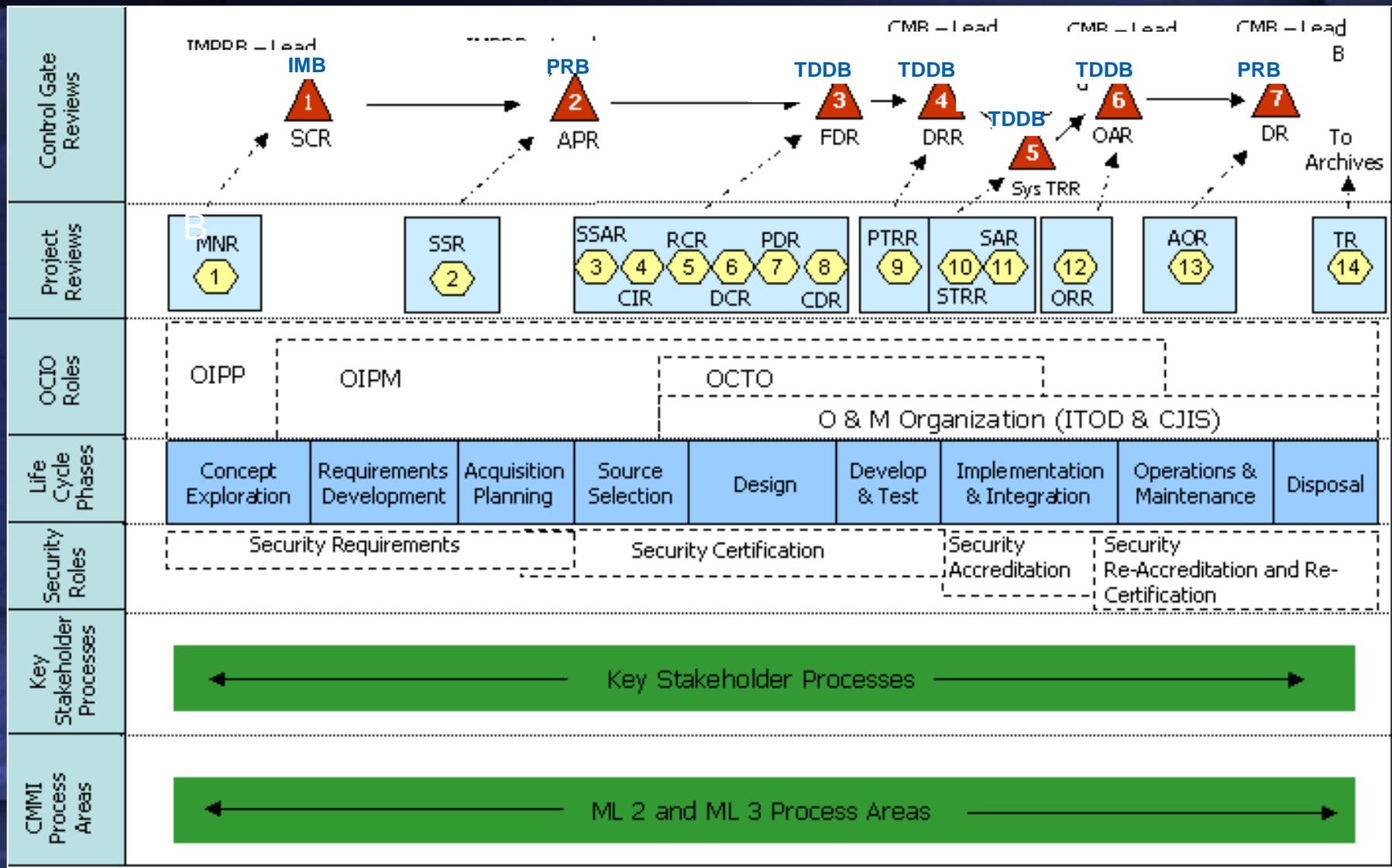
Q4: What are the EA decisions and how does one make them key milestones in the Systems (solutions) Development Lifecycle (SDLC)?

Case study: Example: FBI Evolution to "Incremental Development Cycle"

EA helps business stakeholders eliminate inefficient, low-value, resource-intensive business processes, and reduce the scope of technology activities necessary to implement the mission

Q5: What are best practices (within EA programs and in mission decision-making) regarding EA Governance?

*5th Habit of Highly Effective Architects: *"Seek first to understand"*

An example: FBI's EA Segments are individual building blocks describing the core mission, capabilities (business services) or common/shared services that comprise the FBI's Enterprise Architecture.
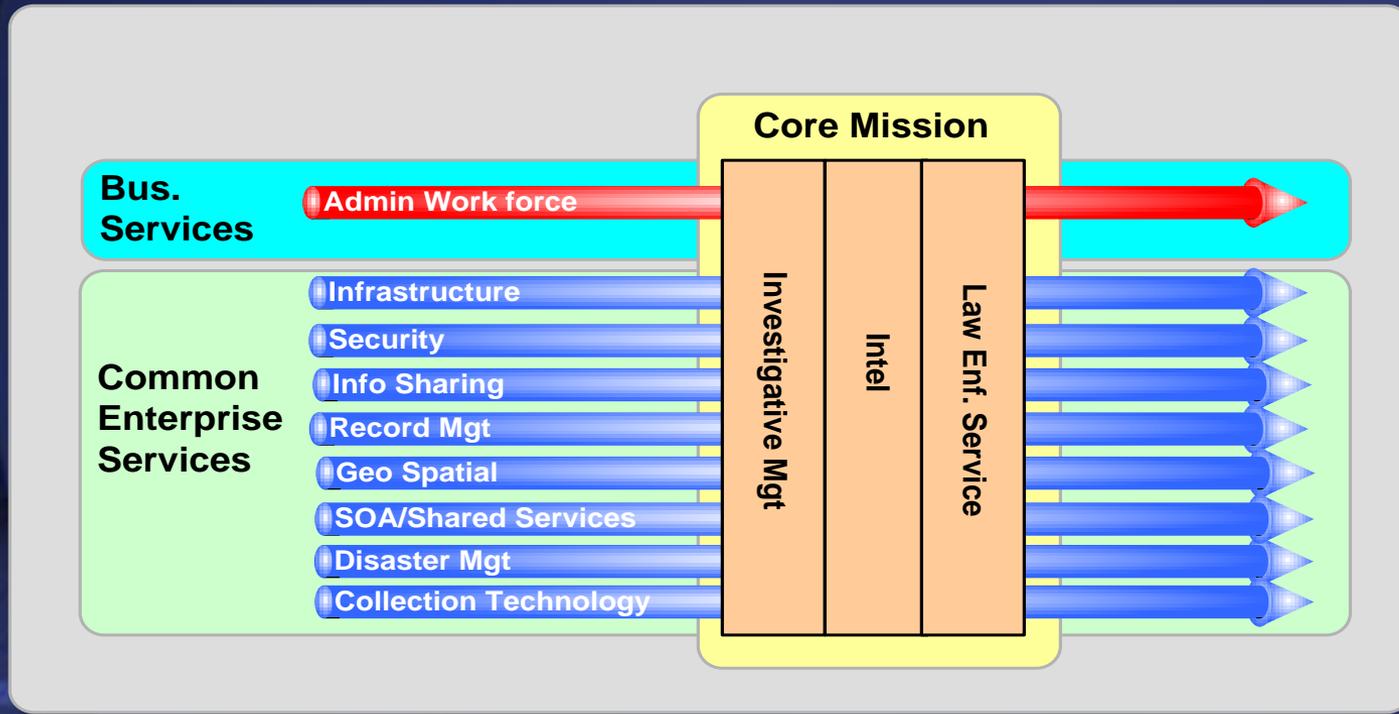
The FBI is moving towards a capabilities driven, service-oriented architecture

*Based on "7 Habits of Highly Effective People" by Stephen Covey

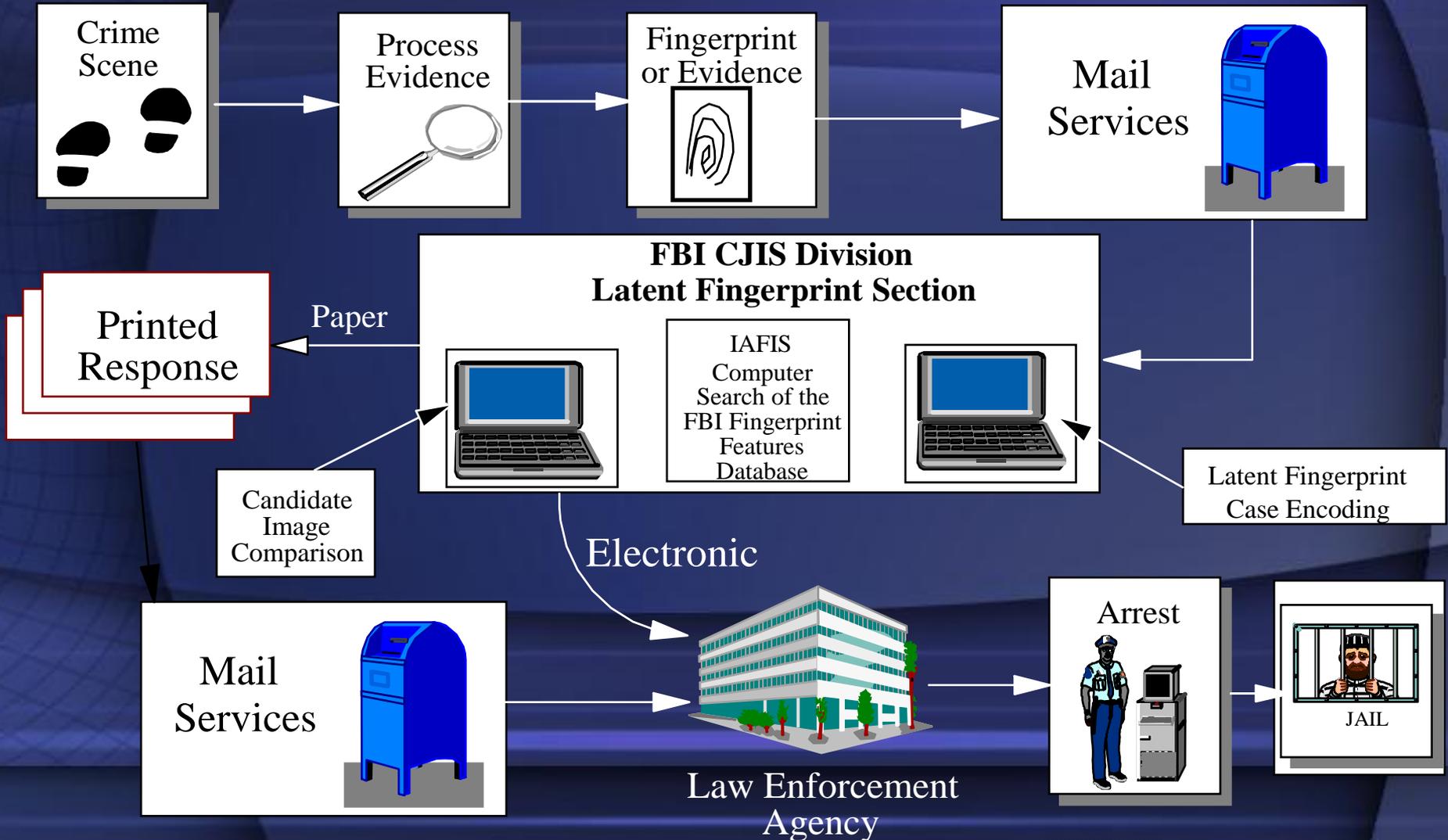Case study: IAFIS Core Service -- CJIS Electronic Ten-Print Submission (Criminal)
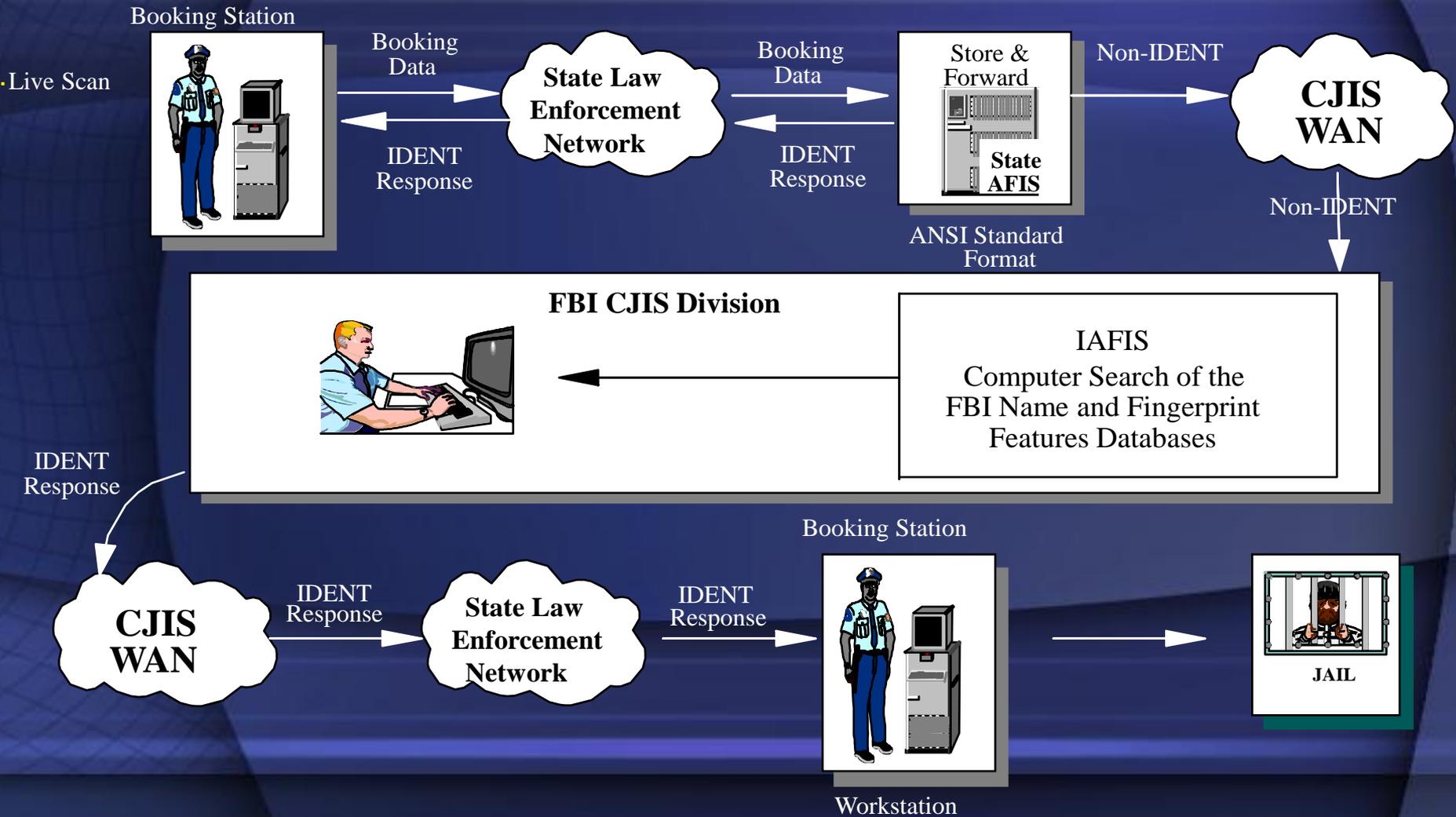
Q5: What are best practices (within EA programs and in mission decision-making) regarding EA Governance?

Case study: IAFIS Core Service – Latent Fingerprint Submission

Q6: Why leverage EA to identify and integrate "touch points" for data exchange services, inter- and intra-agency, within lines of business?

*6th habit of highly effective architects: *"Synergize"*

DISSEMINATION

Information Portal

Target Architecture for the FBI's Analytical Environment

KNOWLEDGE

| Smart Push | Alerting | Collaboration |
| Geospatial | Linking | Enterprise Search |

Federated Search

INFORMATION

Legacy

PROCESSING

Case data

Commercial/ Open Source

Terrorists' Computers

FAX, Email, Chat, Voice

Multimedia, Tips, Messaging, Alerts

Q6: Why leverage EA to identify and integrate "touch points" for data exchange services, inter- and intra-agency, within lines of business?

Case Study: Reducing the complexity of intra- and inter-agency communications

FBI SCI Networks

IC Agencies

Example: FBI

24x7x365 EOC
24x7x365 ESOC

SCI Community Shared Space

NCTC SCI

SCION

IC PKI

Non-Title 50 IC Agencies

CRL Common Services CA
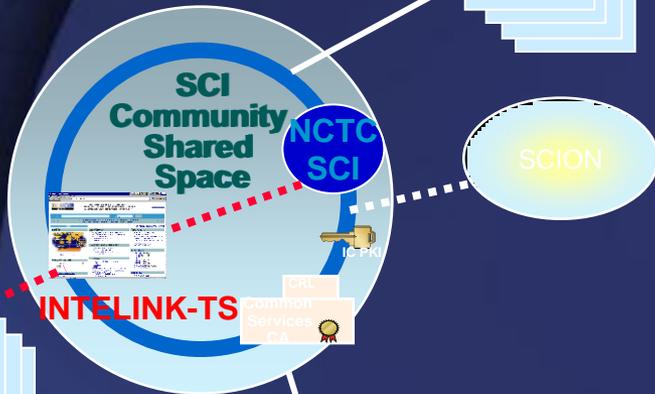
INTELINK-TS

FBI Collateral Networks
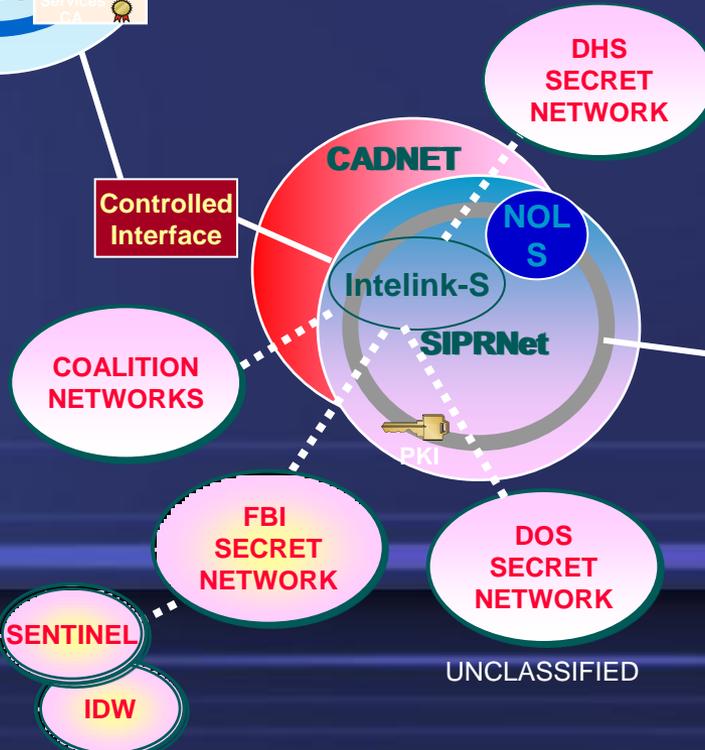
DHS SECRET NETWORK

FBI Unclass Networks
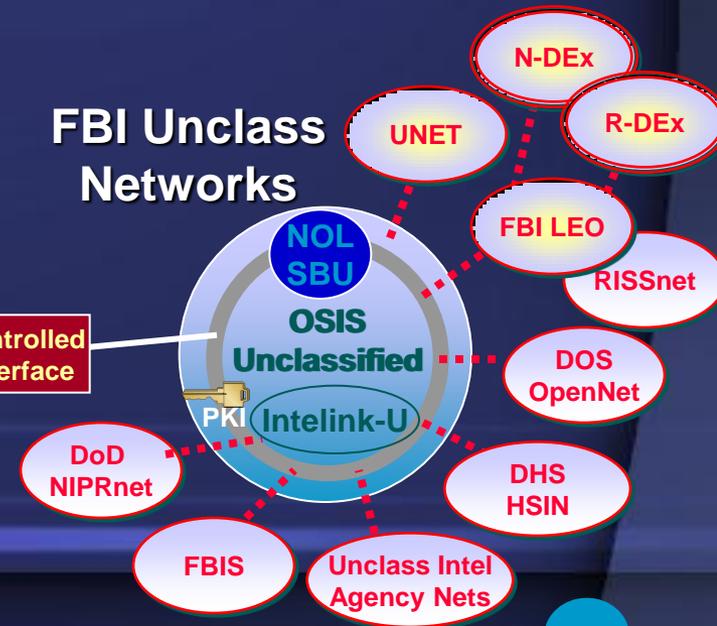
N-DEx

R-DEx

UNET

CADNET

Controlled Interface

NOL S

Intelink-S

SIPRNet

Controlled Interface

NOL SBU

OSIS Unclassified

PKI

Intelink-U

FBI LEO

RISSnet

DOS OpenNet

COALITION NETWORKS

PKI

DoD NIPRnet

DHS HSIN

FBI SECRET NETWORK

DOS SECRET NETWORK

FBIS

Unclass Intel Agency Nets

SENTINEL

UNCLASSIFIED

IDW

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Q7: What are best practices for using EA to streamline your investment portfolio, reduce duplications and drive mission alignment of IT and other investments?

*7th habit of highly effective architects: *"Sharpen the Saw"*

Enterprise Architecture Transformation

A — Sub-optimal
B — Agile

T&S PLAN

Transformation Strategies 7

1. Workforce transformation
2. Technology transformation
3. Enhance information Security
4. Enable information sharing
5. Promote Collaboration & partnerships
6. Enhance survivability
7. Improve Operational Effectiveness

IT Projects

On-going IT Projects
To be delivered incrementally

DM&E IT Projects

ITOD O&M/SS IT Projects

Retire
LATP/ITOD/PMU Recommendations
FBI IT assets evaluated
Recommended to retire, re-host or rebuild

Consolidate
Investment/Project/System Consolidation
Reduction of selected IT Assets

Survivability
COOP IT Requirements Strategy & Roadmap
Reduce Critical Systems List
And provide 100% recovery capability

Enhance
Infrastructure/Network Enhancement
Opportunities for enhancement

Shared Services
Common Shared Services
Build once – Re-use often

Enterprise Shared Services
- Directory services
- Secure Mobile Computing
- Network Services
- Document Mgt
- Security/Audit
- Federated Search
- Information Portal
- Role Based Access
- Knowledge Mgt
- Cross Domain Transfer
- Process Mgt/Workflow
- Disaster Recovery
- Geospatial
- Enterprise Storage

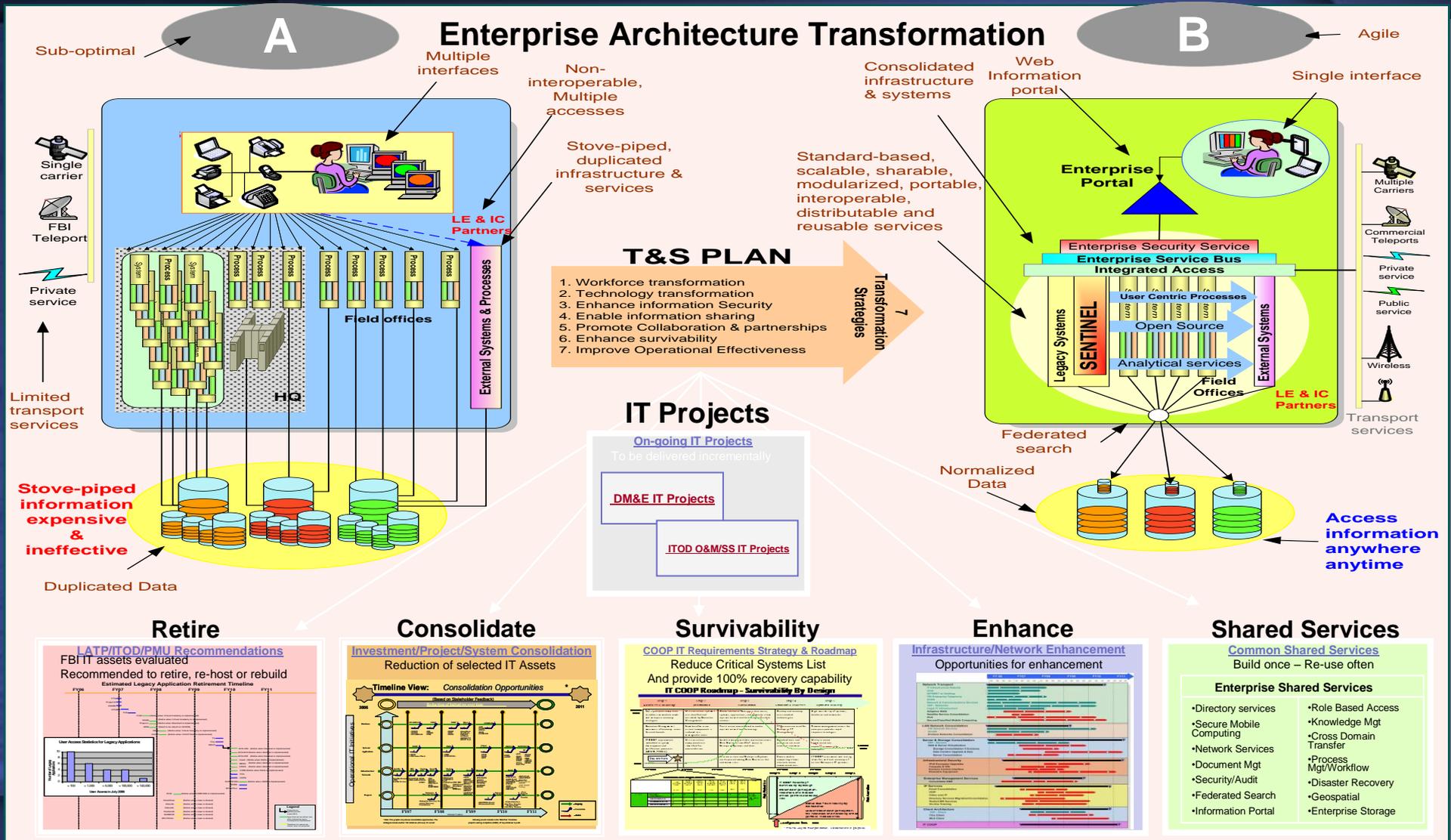UNCLASSIFIED

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Q7: What are best practices for using EA to streamline your investment portfolio, reduce duplications and drive mission alignment of IT and other investments?

Case study: Putting it all together / EA as a means of achieving business value