



We remember ...

NASA Project Management Shared Experience Program — 6

Enterprise Integration at the IRS PRIME Program

**Stephen Kalish,
President, Civil Group, Federal Sector
Computer Sciences Corporation**

September 11, 2002

Managing in Turbulent Times

How to

- **Set the target**
- **Lay out the road map to the target**
- **Stay on that road ...**
 - ... in the face of the many outside and inside pressures to deviate from the plan and drift off the baseline



Managing in Turbulent Times (Cont'd)

- **There is a new oversight context for the successful approval and funding of major programs**
 - **The criteria for the initial approval of the program, including multiyear funding, and ultimate success of assessment program have changed due to lack of critical business or mission results or other failures of too many past programs**
 - **The new programs must be designed to solve current agency and mission problems and achieve the future agency and mission objectives**
 - **The program definition must clearly show that the program will deliver specific business results and benefits with early and frequent operational deliverables per the plan**
 - **The oversight requirement for rigorous program management and governance has increased, as a key element of program success, showing how the funds are being rigorously managed to achieve the needed results and benefits**

Managing in Turbulent Times (Cont'd)

- **There are too many stories of past program failures**
 - **Full enterprise programs that spent excessive funds on early infrastructure with insufficient application benefits delivered**
 - **Mission programs that spent excessive funds on mission applications with insufficient underlying infrastructure delivered**
 - **Many ERP systems that never get delivered (core finance, HR, payroll, personnel, supply chain management)**
 - **Many programs with minimal program management and/or governance deviating from the program objectives and not delivering the required results and benefits**

Today's Complex Program/Project Environment Requires Enterprise Integration



More Demanding Congressional and OMB Control and Oversight of Program/Project Funding



Tighter Security Requirements and Higher Risks



A Lot More "Help"



Keeping up With Continuous Technology Change as Program/Project moves Forward



Expectations for Unqualified Program/Project Success

Enterprises Seeking Support in Critical Areas

Strategic/ External	<ul style="list-style-type: none"> • Become more customer facing and unique to more and different customers • Improve agency/mission success • Reduce future mission risk
Tactical/ Internal	<ul style="list-style-type: none"> • Improve top management information and service level metrics about every critical business element • Improve service throughput • Cut delivery time • Cut unit service costs • Increase data sharing • Reduce capital investment • Leverage existing infrastructure investment
Operational/ Internal or Outsourced	<ul style="list-style-type: none"> • Establish and improve service level agreements • Reduce operational issues and risks • Improve productivity • Optimize staffing

The IRS Business Systems Modernization Program

- **Congress directed that the IRS be transformed and modernized**
 - From an inward-looking traditional organization focused in its processes (tax processing) and maintaining its long-term geographical organization
 - To an outward-looking modern enterprise focused on its customers and their needs, with a customer-facing national organization
- **The new IRS has been transformed into four lines of business focused on their unique customers**
 - A new organization was established to achieve the new mission and perform the four lines of business
 - To be approved, the IRS Modernization Program had to deliver an enterprise architecture that fully enabled the lines of business of the new organization
 - The architecture was then partitioned into technology project designs that produced clear business benefits, and customer results, and a positive return on investment
 - A formal enterprise program management and a strict program governance model were required for funding approval each step of the way

Applying Governance at IRS BSM

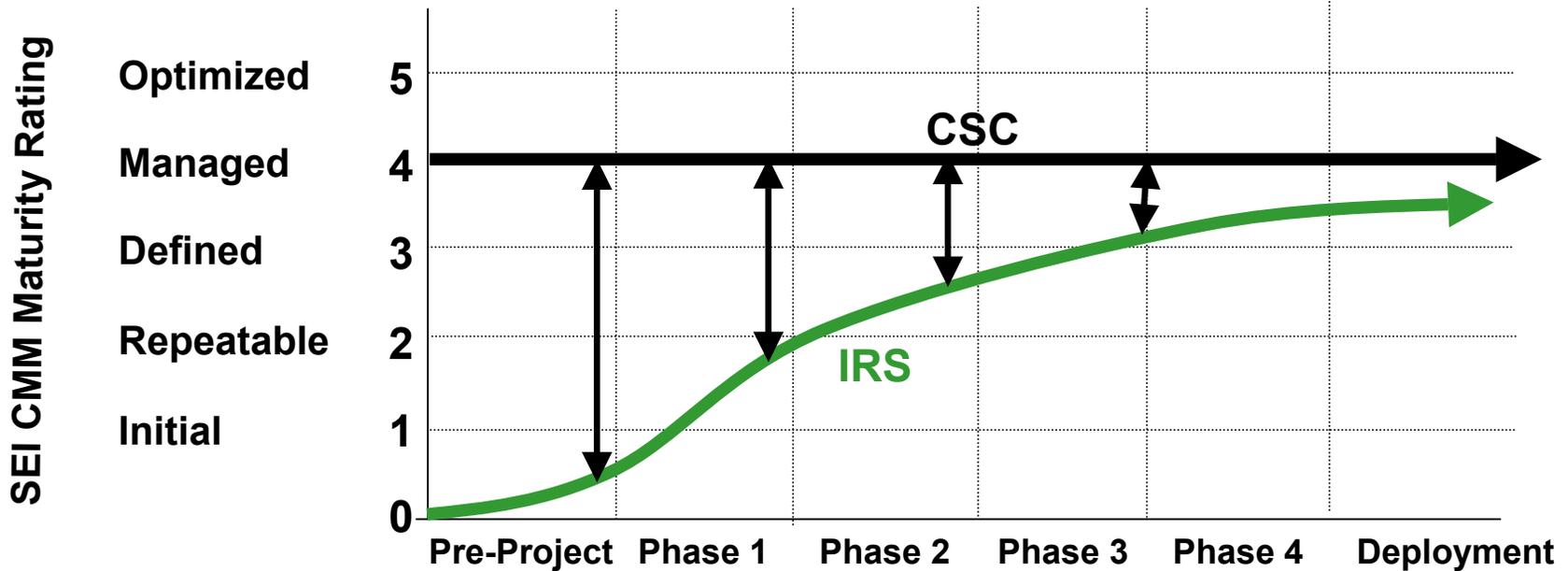
- **The IRS Business Systems Modernization Program (BSM) is in its fourth year and has delivered the planned projects through the very challenging transition to this formal management approach**
- **Previous IRS modernization attempts did not achieve the objectives and were cancelled**
 - **No business-driven architecture; mainly focused on building infrastructure**
 - **No formal program or project baselines; often many separate tasks**
 - **No formal development methodology; usually a system maintenance approach**
 - **No business case analysis or multiyear investment profile**
 - **No integrated system concept; mainly standalone, “stovepipe” projects with no clear business/mission value**
 - **No full system transition plan and release management plan**
 - **No programwide governance**

Applying Governance at IRS BSM (Cont'd)

- **Both the IRS and CSC (the prime contractor) have greatly matured through these program phases and are fully applying the oversight requirements**
- **The oversight authorities have increasingly given the program a vote of confidence as the management discipline has been applied and enforced**
 - **Formal governance being established the first two years: \$5M, \$64M**
 - **Formal governance enforced during years four and five: \$235M, \$306M**

Strengthening IRS Program Management Capability

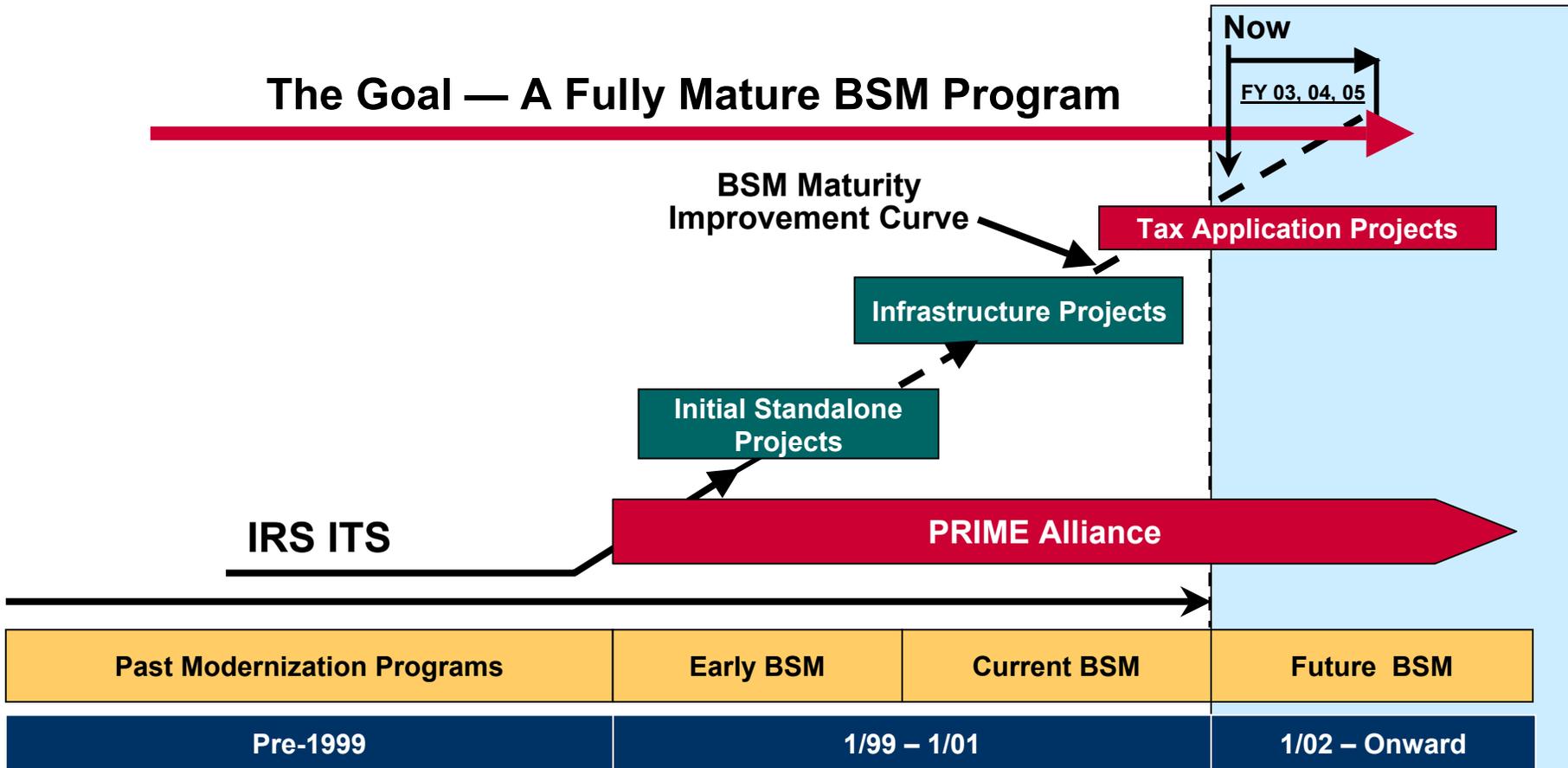
- IRS is using CSC’s Software Engineering Institute (SEI) Capability Maturity Model (CMM) tools to improve its performance levels



Note: CSC is rated as a Level 4 organization; the IRS curve is notional and for illustration only

BSM Has Matured and Is Ready for the Next Phase

Challenge — Bring the IRS up to a Program Management Maturity Level



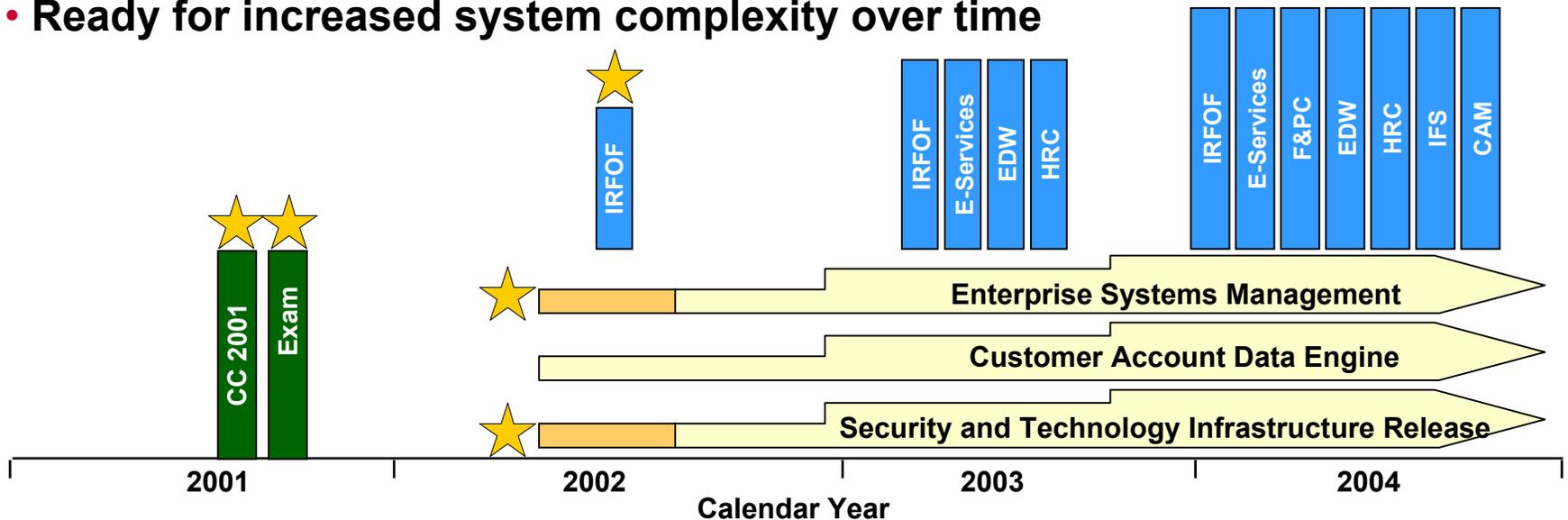
PRIME Is Delivering Key Business Value

BSM Has Major Accomplishments to Date: Foundation, Projects, Infrastructure, and Integrated Program

Key

- Standalone projects
- Infrastructure projects
- Integrated program projects
- Foundation
- Delivered

- Delivered significant value
- Ready for increased system complexity over time



The Foundation

- ★ Organizational Modernization
- ★ Enterprise Architecture
- ★ Enterprise Life Cycle
- ★ Business Case Analysis

The New Oversight Requirements for Program Approval

- The oversight authorities (Congress, OMB, GAO, IG, agency program executives) are changing the requirements for the initial approval and funding of major programs and the ongoing approval as the program meets its planned milestones
- These requirements are being enforced on the IRS BSM Program
- The following are examples of these requirements
 - An **Enterprise Life-Cycle Development and Deployment Methodology**
 - With clear program phases and milestones, with each milestone exit criteria defined and enforced by program executives
 - An **Enterprise Architecture**: defining the “to be” state
 - With full compliance required by each project partitioned from the architecture
 - Formal programwide **Management and Governance Model**
 - With regular reporting of any baseline compliance variances and formal corrective actions and issue escalation
 - Early **Investment Analysis** of the multiyear program and the individual projects
 - With full compliance to the return on investment claims and multiyear funding profile
- The CSC enterprise program management, governance, architecture, and investment analysis approach, **CSC CatalystSM**, described in this presentation, has long been established and is being applied to the \$5B IRS Modernization Program and other major programs

The New Program Approval and Funding Requirements

- These oversight requirements have been sometimes applied and often ignored; some are new
- In the new paradigm, an agency determines that a new mission will be initiated, or that the agency mission and operations will be improved through modernization, consolidation, and transition
- Define the **Program Definition Requirements** to ensure that the “to be” agency and mission targets are clear and attainable
 - Define the agency’s **Business and Mission Needs** and the results and benefits that must be achieved
- Design the enabling **Business and Technical Enterprise Architecture**
 - This product becomes the target to be met to achieve the agency’s mission and must comply to Federal standards
 - A technical architecture alone is no longer sufficient; all business needs must also be addressed
 - Partition the architecture into the key projects: mission applications, internal management, data infrastructure, and technical infrastructure
 - Select a COTS architecture that is fully compliant and minimizes life-cycle cost and risk, and the number of vendors

The New Program Approval and Funding Requirements (Cont'd)

- Develop and employ an **Enterprise Development Life Cycle Methodology** with all program phases and key milestones; must have the exit criteria of each milestone clearly defined
- Develop a **Business Case Analysis** for each project with return on investment thresholds clearly defined
- Develop a programwide multiyear **Portfolio Management** profile and spend plan
 - Show a three- to five-year profile of planned expenditures in each year for business/mission applications, internal management/ERP systems, data infrastructure, technical infrastructure and
 - All four must be covered, with emphasis on business/mission applications for early and important business/mission results and benefits
 - Only buy the infrastructure needed to support the applications in that phase and include the necessary security architecture
- Develop a programwide **Systems Integration Plan**
 - Assess all project dependencies, cross-project and legacy, and mitigate
 - Plan legacy and new system transition and deployment
 - Plan operational and user transformation and training
 - Establish all supporting infrastructure, including development and test facilities
 - Establish a risk management process
- Establish a **Program Management Plan and an Integrated Master Schedule**

Program Management and Governance: The Key to Staying on Track

- Establish and **enforce program governance** requirements to ensure that the program stays on track, delivers the planned benefits, and reaches the target
- Define the overall program and individual **project schedules, organizations, and staffing** to achieve the requirements and scope of work, and the **estimate to complete the scope of work**
- Define the **critical-path schedule and risks** to achieve that schedule
- Establish the above planning as the **formal program and project baseline** and formalize in contracts/task orders to **definitize the work as planned**
- Install the above baselines in a rigorous **earned-value management system** to enforce the baselines and assess any variance from the baselines (schedule, cost, budget, technical) and the required corrective actions
 - Monthly value achieved from each project is assessed by an independent earned-value assessment organization
- Establish and enforce **strict configuration management and issue escalation** for legacy and development projects

Program Management and Governance: The Key to Staying on Track (Cont'd)

- Establish program and project **change request boards** for strict change control enforcement
 - Change requests are submitted to the board for assessment of schedule/cost/performance impact and are approved/rejected by the board
 - Only approved change requests will modify the baseline and the definitized contracts, and keep the program on track with minimal negative impact
- Establish an **executive steering board** to assess the achievement of each milestone exit criteria, based on the enterprise life cycle methodology, and to approve continuation to the next milestone
- Establish program and project **risk management and issue escalation**
- Assess each **project's compliance to the enterprise architecture** and its positive **business case**, and the program's compliance to the **multiyear spend plan profile**
- Regularly report on programs and project status and issues
- Schedule and perform regular external **program status reviews** for executive management and oversight authorities
- Schedule and perform regular internal **program integration reviews** with all projects participating

Business Systems Modernization Is Maturing

Mega-Program Functions	Pre-BSM	Startup	Concept Development	Standalone Projects	Integrated Program	Ideal
Program Management	R	Y	Y	G	G	B
Governance	R	R	Y	G	G	B
Enterprise Life Cycle	R	R	Y	G	G	B
Enterprise Architecture	R	R	Y	G	G	B
Business Case Analysis	R	R	Y	G	G	B
Business Transformation	R	R	R	G	G	B
Systems Integration	R	R	R	Y	G	B
Data Infrastructure	R	R	R	Y	G	B
Technical Infrastructure	R	R	R	Y	G	B

Oversight Concerns Are Being Addressed by IRS and PRIME

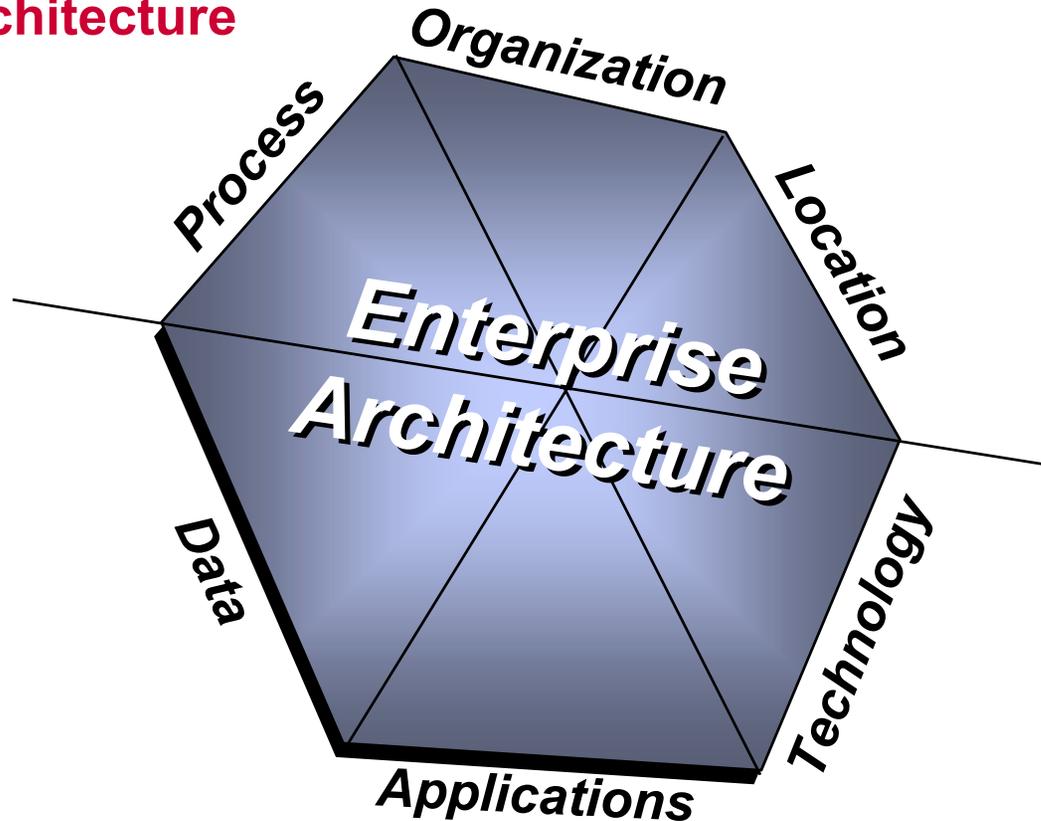
- Proposed trend based on approved corrective action plan

Process Areas	F	M	A	M	J	J	A	S	O	N	D
Software Acquisition Management	R	R	R	Y	Y	Y	G	G	G	G	B
Configuration Management	R	R	R	Y	Y	G	G	G	B	B	B
Quality Assurance	R	R	R	Y	Y	G	G	G	B	B	B
Risk Management	R	R	R	Y	Y	G	B	B	B	B	B
Enterprise Architecture Compliance	R	Y	G	G	G	G	G	B	B	B	B
Human Capital Management	R	Y	Y	Y	Y	Y	G	G	B	B	B
Release Management Scheduling	R	Y	Y	Y	G	G	G	B	B	B	B
Cost and Schedule Estimating	R	R	Y	Y	G	G	G	G	B	B	B
Program Performance Management	R	R	Y	G	B	B	B	B	B	B	B
Enterprise Life-Cycle Deployment	R	Y	Y	G	G	G	G	B	B	B	B
Management Reporting	R	Y	G	G	G	G	G	B	B	B	B

The CSC Catalyst Approach to Architecture

Six Domains of Design

Business Architecture



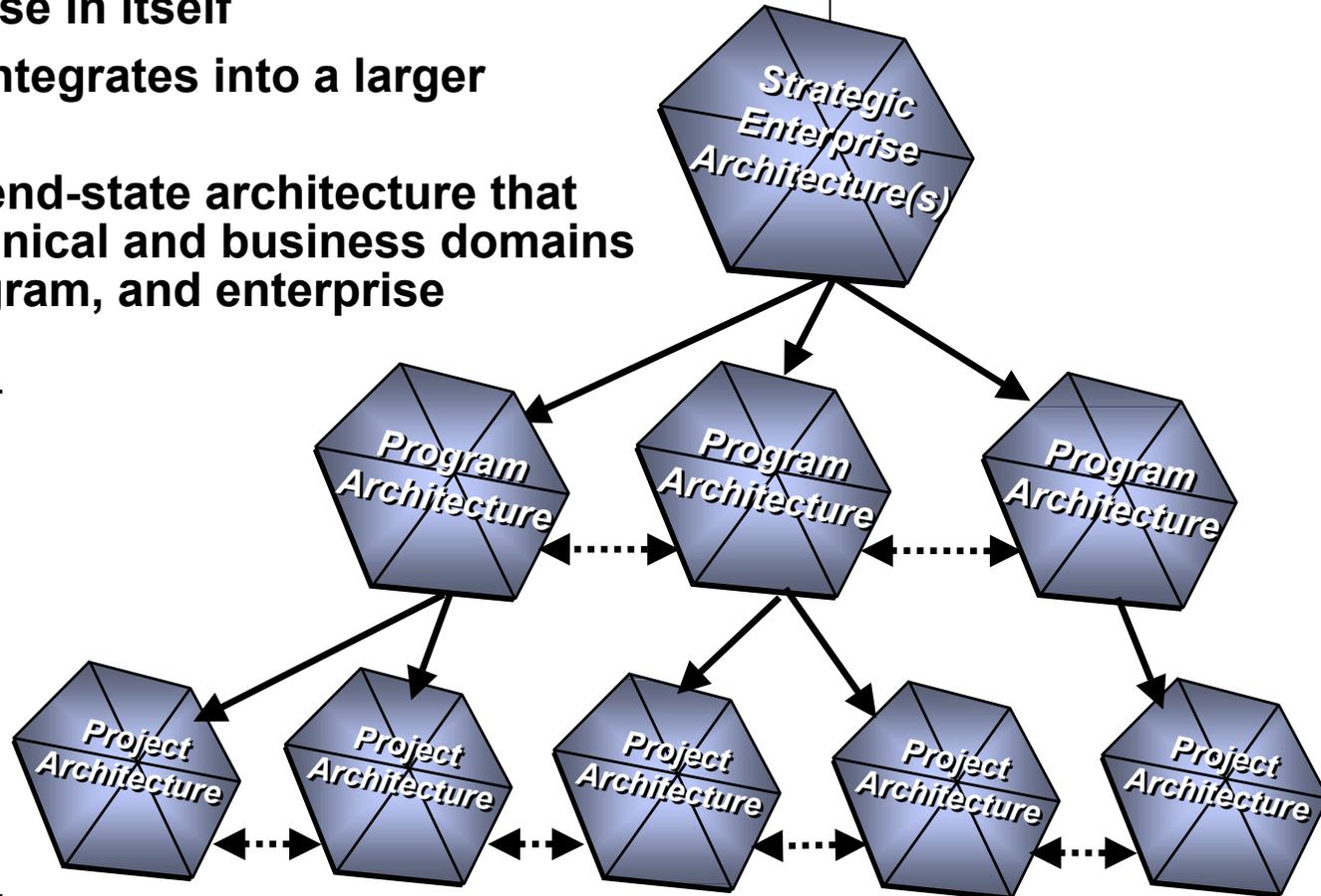
Information Systems Architecture

Keys to Success in Turbulent Times



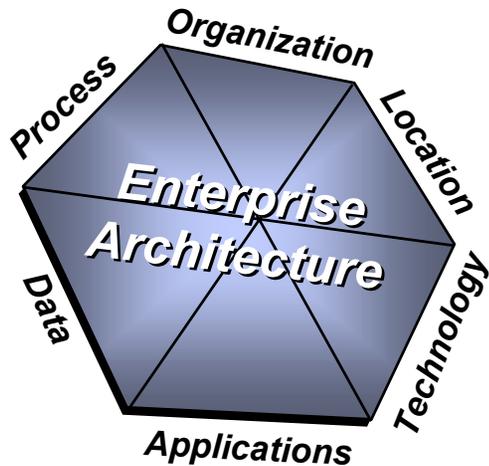
-  See your program/project as a Line of Business (LOB) — an enterprise in itself
-  That is part of and integrates into a larger enterprise
-  With a vision of an end-state architecture that integrates both technical and business domains across project, program, and enterprise

Lines of Business

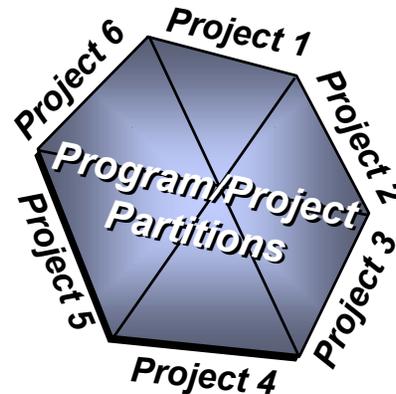
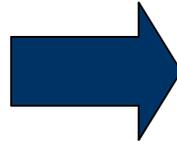


LOB Challenges

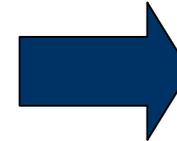
- 
Understand and capture the scope of the enterprise and the LOB in relation to it
 - Mission, business process, technology, operator requirements, user requirements
- 
Follow a disciplined road map to success driven by business needs and priorities



Where you want to go

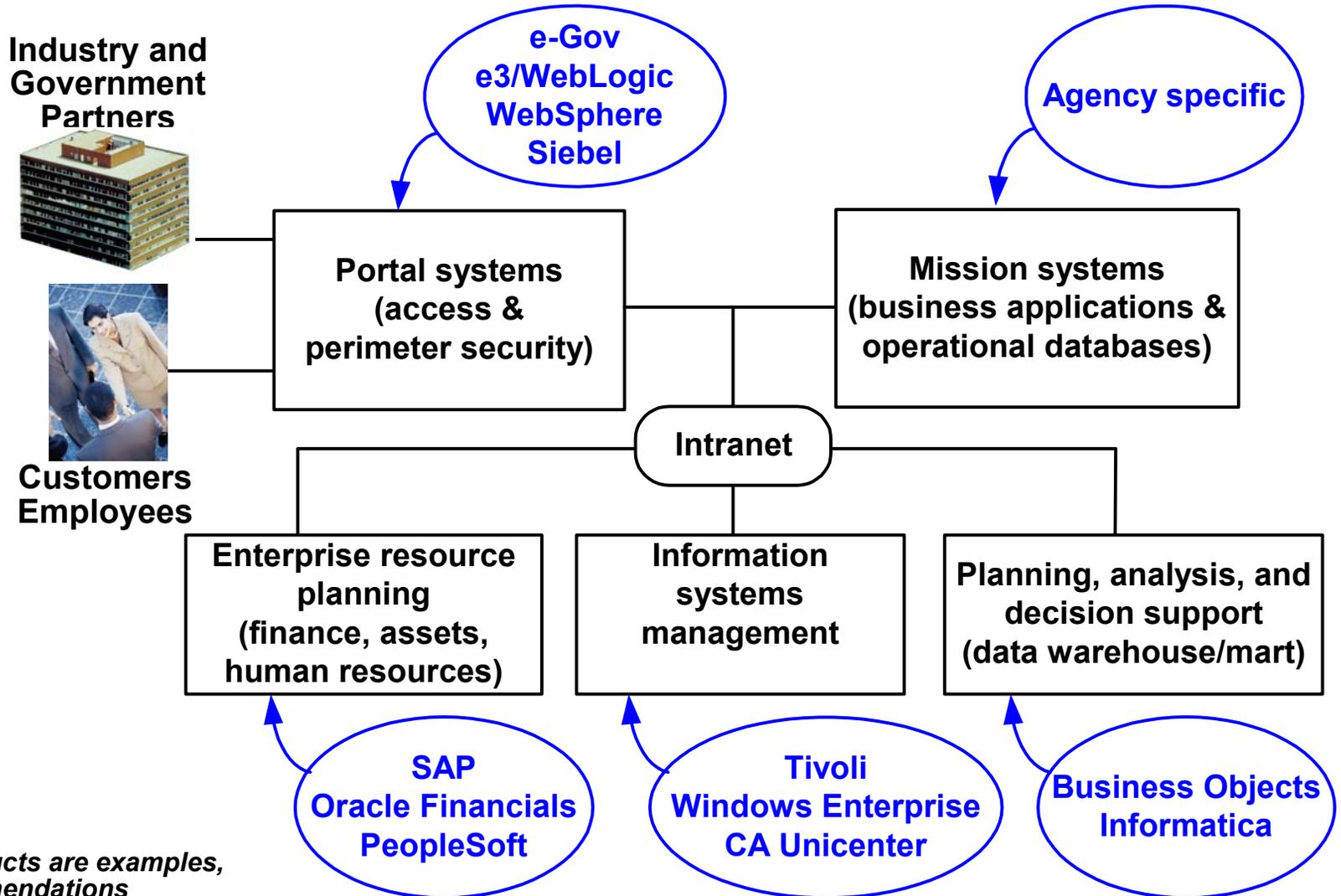


How you will get there



Program/project management tools

Enterprise Information System Scope



Note: Products are examples, not recommendations

An Enterprise Architecture: Business and Technology

Business Processes					
Line of Business 1	Line of Business 2	Line of Business 3	Line of Business 4	Line of Business 5	
Graphical User Interface					
Business Applications Includes Workflow Management and Business Rules					
Business Apps 1	Business Apps 2	Business Apps 3	Business Apps 4	Business Apps 5	Business Apps 6
E-Services					
Internal Management Applications (ERP)					
COTS Architecture					
Security and Privacy Architecture					
Data Architecture					
Data Center Infrastructure Includes Enterprisewide Utility, Recovery, and Load Sharing					
Communications and Networks					
Enterprise System Management Includes Remote Availability/Capacity/Upgrade Management					
Operations Model Headquarters, Field, Remote Support					
External System Interfaces					

Multiyear Portfolio Management Profile

	FY01	FY02	FY03	FY04	FY05
Mission Applications • Lines of business					
Focus major investment on mission tools					
Business Applications/ERP • Internal management	Tightly manage internal performance				
	Tightly manage all internal costs				
Data Infrastructure					
The most critical element					
Technical Infrastructure • Mainframes					
• Servers					
• Desktops	Buy what you need, when you need it				
• Laptops					
• Telecom					
Program Management and Systems Integration	Maintain a highly efficient management structure				

The Customer Model

Current Needs: Tactical and Operational Future Needs: Strategic			
Headquarters Needs			
Core Financial Systems	Telecom Management Systems	ERP Systems, Payroll, Personnel, etc.	Central Mission Systems
Field Site Needs			
Mission Operational Site Systems	Mission Support Systems, Logistics, etc.	Site Business Systems	Maintenance Systems



Eager

**We're ~~Ready~~ for Your
Questions!**

CSC Now Has a Fully Robust BSM Program Structure

- Integrated program management and program-driven processes
- Fully integrated systems integration and engineering
- Business transformation specialists with tax system expertise
- Proven development and infrastructure managers and engineers

Executive Management				
Program Management				
Program Governance		Financial Management		Program Support
Program Integration				
Business Transformation		Systems Integration		Project Integration
Application Projects		Infrastructure Projects		Existing Systems
Tax Administration Projects	Internal Management Projects	Business Infrastructure Projects	Technical Infrastructure Projects	Current Production Environment Projects
Partnership				
Accountability and Incentives	Communication	Issue Escalation and Resolution	Cultural Transformation	Relationships