SA-CMM in a Large Complex Program

SEI Conference

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Washington, DC
Agenda

• Problem: How to modernize IRS Business Systems
• Approach
• SA-CMM Management Framework
• How SA-CMM was Implemented
• Capabilities
• Results
• Conclusion
• U.S. Tax system collects over two trillion dollars ($2,000,000,000,000) each year

• The IRS network is composed of thousands of computers, almost 3000 vendor-supplied software products, and over 50 million lines of IRS-maintained code

• Modernizing these systems is one of the most complex modernization efforts ever attempted in the federal government!
Challenge: Modernize IRS business systems and processes to improve service to taxpayers

- Technology is badly in need of modernization
  - Systems have evolved over 35 years
  - Many applications have outdated and/or proprietary system code – modifications are costly and difficult
  - Tax code changes and unanticipated events (e.g., tax rebate of 2001) require continual system modifications, in addition to regular maintenance and enhancements

- IRS reorganized from a geographic structure into customer-facing business divisions – systems and processes need to be realigned

- The increasing demand for e-filing and internet-based taxpayer and third-party transactions requires new capabilities

- The IRS must continue to administer the tax code without modernization-related service interruption or decreased service quality

*It’s like “rebuilding an airplane while it is flying.”*

*Quote from Charles Rossotti’s Keynote Address on 7 November 01 at the CERCA Luncheon*
Modernization Approach: Partnership

- IRS Business Systems Modernization Office (BSMO) was established to manage the modernization effort
  - Program size 12 – 15 Billion over 15 years
  - BSMO Staff currently at 165
  - IRS’ role in Modernization emphasizes acquisition rather than development
- December 9, 1998, the IRS selected CSC as the strategic partner to modernize the IRS business systems
  - CSC PRIME Alliance includes IBM, SAIC, BearingPoint (formerly KPMG), Northrop Grumman IT, and UNISYS
  - Current Staffing – 1000 +
- *The success of this management partnership is paramount to the success of the Modernization Program*
Modernization Approach: SA-CMM as a model to improve the program’s chances for success

• Our objective is to be the best at what we do
  – Committed to process improvement
  – Deliver timely solutions, with accountability and predictability
  – Uphold BSMO and PRIME responsibilities as solution and software acquiring organizations

• The SA-CMM was selected as the Modernization Program’s acquisition management model
  – Based on best practices and recommended by oversight entities to enhance acquisition management accountability
  – Provides for incremental and achievable improvement
  – Enables efficient and effective project life cycle management, from pre-award to transition to operations and maintenance

Process Improvement meets oversight organizations’ expectation that we improve and enhance our ability to effectively manage modernization
Not the Ordinary Acquirer/Developer relationship

This program is an acquisition program

BSMO acquires products and services from PRIME

PRIME, in turn, acquires products and services from its subcontractors
BSMO uses SA-CMM to develop capabilities for acquiring business solutions

### BSMO Acquisition Process Baseline

#### Acquisition Project Management

<table>
<thead>
<tr>
<th>KPA = PM</th>
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#### Acquisition Project Planning and Requirements Development & Management

<table>
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<tr>
<th>KPA = SAP, RDM</th>
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#### Task Order Development & Issuance

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<th>KPA = SOL</th>
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#### Task Order Monitoring

| KPA = CTO, EVAL |

- **Issue Task Orders**

#### PRIME Acquisition Process *(details on next slide)*

#### Systems Evaluation

| KPA = EVAL |

#### Transition to Support

| KPA = TTS |

#### Deliver Solutions

### BSMO Acquisition Activities
The PRIME uses SA-CMM to develop capabilities to manage acquisition of individual products.

### PRIME Acquisition Process Baseline

**KPA = PDM, ARM, TRA**

### S/W Acquisition Program/Project Management (Defined Process)

**KPA = PM, PPM, ARM, TRA**

<table>
<thead>
<tr>
<th>Planning and Requirements</th>
<th>Oversight KPA = CTO, EVAL, RDM, CPM, ARM, TTS</th>
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</thead>
<tbody>
<tr>
<td>KPA = PM, SAP, RDM, ARM, TTS</td>
<td>Projects (Developers)</td>
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- **Issue Contracts**
  - Solicitation
    - SOW
    - Specification Agreement
      - KPA = SOL

### PRIME Acquisition Activities

<table>
<thead>
<tr>
<th>S/W Acquisition Program/Project Management (Defined Process)</th>
<th>SI and Test KPA = RDM, EVAL</th>
<th>Trans. Mgmt. KPA = TTS</th>
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</thead>
<tbody>
<tr>
<td>PRIME Acquisition Activities</td>
<td>Deliver Products Services</td>
<td>CADE</td>
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- **Development Activities**
  - COTS/GOTS Acquisition
  - Development
  - Services
While establishing these capabilities, both partners had successful SA-CMM evaluations in the past year

- BSMO achieved SA-CMM Level 2 on December 6, 2002, on a group of five core modernization projects – the first Federal Civilian agency group evaluated at SA-CMM level 2

- CSC PRIME achieved SA-CMM Level 3 on August 23, 2002 – the first organization in the world evaluated at SA-CMM level 3

- First instance of coordinated SA-CMM accomplishment by a federal agency with associated contractor
SA-CMM is the enabler used to address Modernization Program issues

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<tr>
<th>Startup Issues</th>
<th>SA-CMM Enablers</th>
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<tr>
<td>• Management alignment</td>
<td>• Common framework and language</td>
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<tr>
<td>• Identification and management of risks and issues</td>
<td>• Improved management reporting structure</td>
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<tr>
<td>• Transition planning</td>
<td>• Emphasis on risk management for successful program execution</td>
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<tr>
<td>• Cultural resistance to change</td>
<td>• Emphasis on Transition Management for successful program execution</td>
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<tr>
<td>• Definition of roles and responsibilities</td>
<td>• Executive commitment to change</td>
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<td></td>
<td>• Developed common processes with clearly-defined roles for both partners</td>
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<table>
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<tr>
<th>Ongoing Issues</th>
<th>SA-CMM Enablers</th>
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<tr>
<td>• High Program complexity</td>
<td>• Orderly, formal management framework</td>
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<tr>
<td>• Program duration</td>
<td>• Common commitment to program integration</td>
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<tr>
<td>– Inevitable staff turnover</td>
<td>• Required planning</td>
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<tr>
<td>– Frequent ramp-ups</td>
<td>• Emphasis on standard training</td>
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<tr>
<td></td>
<td>• Standard processes</td>
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BSMO overcame many organizational challenges to implement SA-CMM

<table>
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<tr>
<th>Challenges</th>
<th>How Overcome</th>
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<tr>
<td>• Culture resistant to change</td>
<td>• Engaged proactive senior executive sponsorship</td>
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<tr>
<td>• Lack of understanding of how framework improves acquisition activities</td>
<td>• Educated and trained all stakeholders</td>
</tr>
<tr>
<td>• Lack of Organizational Commitment</td>
<td>• Benefits of process improvement</td>
</tr>
<tr>
<td>• Intense scrutiny by oversight organizations</td>
<td>• Dedicated group to implement the model</td>
</tr>
<tr>
<td>• Organizational instability</td>
<td>• Demonstrated continued progress</td>
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<tr>
<td></td>
<td>• Delivered BSMO process improvement strategy with executive commitment</td>
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<tr>
<td></td>
<td>• Continuously communicated clear goals</td>
</tr>
<tr>
<td></td>
<td>• Developed standard roles and responsibilities</td>
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<td>• Maintained executive leadership commitment to process improvement</td>
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Keys to successful SA-CMM implementation

- Establish Process Improvement Infrastructure
  - Management Steering Group (MSG) of senior leaders
  - Solution Acquisition Process Group (SAPG)
  - Process Improvement Strategic Plan – 3 years
  - Start with early adopter projects

- Align Process improvement program to organization
  - Seek, acquire and maintain executive sponsorship
  - Make a strong business case
  - Tie to organizational strategy

- Get real with expectations… get real with your schedule
  - Make your documented processes real to the project teams… only use the model to fill in the blanks
  - Use the process to address issues that are important to the practitioners
  - Engage experts to help you … and listen to them
Benefits

- SA-CMM as a common management model supports the IRS/PRIME partnership
  - Generates confidence from senior leadership and oversight organizations
  - Promotes alignment between BSMO/PRIME Management
  - Facilitates better understanding among all stakeholders
  - Enables better risk management from better and earlier planning
  - Increases morale
- SA-CMM helps identify opportunities for joint capability development
Program capabilities we now share

• Enterprise Lifecycle Methodology
• Process Asset Library
• Program Management Review Structure
• Risk Management Procedures
• Integrated Master Schedule
• Transition to Support Process
Enterprise Lifecycle and Shared Process Asset Library

Shared Development Life Cycle
- Standard development phases, techniques and methods
- Shared definition of governance and oversight requirements, checkpoints and milestones for Investment Review

Shared Process Asset Library
- Key repository for Modernization Standard Processes
- Includes both IRS and PRIME Policies and Procedures used on IRS Modernization Program
- Assets available electronically to IRS and PRIME personnel via Lotus Notes and Web interface
Joint Program Management Review Structure and Risk Management

Joint Program Management Meetings
- Regularly scheduled Program and project reviews provide oversight and communication mechanisms
- Provide insight into management and technical progress

**Examples**

**Project Status Reviews**
Monthly meeting to review progress, identify risks and issues, refine plans and identify corrective actions

**Program Management Reviews**
Quarterly briefing to Program Stakeholders to review status, risks/issues, and to initiate improvements/actions

**Program Integration Reviews**
Monthly reviews focused on integration dependencies, risks and issues

**Modernization Executive Team Mtg.**
Weekly meeting to focus management’s attention on critical issues & action items

**Risk Management**
- Identification
- Validation
- Analysis
- Mitigation Planning
- Tracking and Control
- Reporting
- Issue Management
- Action Item Management
- Escalation

**Shared Risk Mgmt.**
- Ability to address issues and risks early in project lifecycle
- Risks identified and tracked at both the Program and project level
- Shared Item Tracking, Reporting and Control System (ITRAC) repository
Program Integrated Transition to Support Map

- Start Early and Span entire Life Cycle
- Roles and Responsibilities Clearly Defined

<table>
<thead>
<tr>
<th>Activity</th>
<th>MS1</th>
<th>MS2</th>
<th>MS3</th>
<th>MS4</th>
<th>MS5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train IRS employees</td>
<td>Identify high level training needs</td>
<td>Develop training requirements</td>
<td>Develop training plans</td>
<td>Plan and schedule Training</td>
<td>Execute training plan</td>
</tr>
<tr>
<td>NTEU participation</td>
<td>Identify NTEU involvement</td>
<td>Evaluate NTEU impact</td>
<td>Notify NTEU</td>
<td>Ensure NTEU requirements satisfied</td>
<td>Complete any outstanding NTEU items</td>
</tr>
<tr>
<td>Cost evaluation</td>
<td>Produce Case for Action</td>
<td>Produce Preliminary Business Case</td>
<td>Produce Baseline Business Case</td>
<td>Update business case</td>
<td>Obtain approved budget</td>
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Business Results: We have fielded six major functional capabilities in less than 4 years …

- 1040 EZ Tele-filers accounts posted to modernized data store
- Taxpayer refund status over the Internet
- Modernized help desk; asset, network and systems management
- Modernized telephony architecture supports world’s largest call center
- First truly secure internet infrastructure within the IRS
- 4,000 Revenue Agents using new application to compute complex business tax returns

... while the IRS was in full operation!
Conclusion: SA-CMM as a management model is necessary for IRS Modernization success, but it is not a silver bullet

• Commitment to SA-CMM provides:
  – Opportunity to share Processes, Techniques, Information
  – Framework to improve chances of success in a large, complex program
  – Formality of terms for alignment and communication
  – Program Management and Planning best practices

• Other requirements for Program success:
  – Executive commitment to the process and process improvement is essential
  – Both organizations need to remain flexible and evolve together

Organizational performance cannot be improved without a structured improvement process