

# **Management Challenges and Lessons Learned Implementing CMMI in a Services Environment**

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## Objectives

- **Describe BAE Systems Information Technology's (BAE-IT's) journey implementing CMMI Level 3 in a services environment for Defense and National customers**
- **Offer insight into the management challenges BAE-IT encountered during the implementation**
- **Share BAE-IT's Lessons Learned**

# Introduction to BAE-IT

- **Who is BAE-IT?**

- Mission
- Breadth of services
  - » IT services
  - » Mission Support services
- Organizational structure

- **BAE-IT's CMMI Journey**

- Experience implementing CMMI Level 3 in a services environment
- Nature of challenges
- Resolution processes

## Challenges Aggregated into 8 Primary Foci

- **Senior Management**
- **Communications**
- **Budget**
- **Resources**
- **Schedule**
- **Security**
- **Customer**
- **Project Management**

# Senior Management

- **Challenge**

- To involve Senior Management, gain stakeholder buy-in, and obtain commitment to the goal – using a process improvement methodology typically associated with SE/SW

- **Mitigation Strategies**

- Management structure
  - » Office of Performance Excellence
- Authority
- Management buy-in
- Emphasize value-add

# Communications

## ■ Challenge

- To ensure effective and timely stakeholder communication across geographically diverse locations with limited electronic access

## ■ Mitigation Strategies

- Plan
- Schedule
- Types/Media/Venues
- Across the enterprise
- Senior management updates
- Project management updates
- ATL involvement
- Issues

# Budget

- **Challenge**

- To gain corporate commitment to a budget, with the flexibility to adjust priorities, in a services environment that is primarily LOE-based

- **Mitigation Strategies**

- Corporate resources
- Project full-time equivalent staff (FTEs)
- Training
- Consultant support
- Cost control
- Tools

## Resources

- **Challenge**

- To hire and retain CMMI model-knowledgeable, implementation-experienced, resources as a support function in a services-driven business

- **Mitigation Strategies**

- Model-knowledgeable
- Implementation experienced
- Understand business model
- Consultants in a non-traditional role
- Utilization/stress
- Adjusting/correcting resources
- Adjusting/correcting tasks/task emphasis



## Schedule

- **Challenge**

- To work to an externally imposed schedule deadline and implement to business priorities

- **Mitigation Strategies**

- Detailed project schedule with WBS Dictionary
- Model knowledge
- Documentation
- Stakeholder buy-in
- Customer constraints addressed
- Institutionalization

# Security

- **Challenge**

- To provide appropriate access to secure data of projects performing services across multiple secure sites, often co-located with the customer

- **Mitigation Strategies**

- Project/site information and access
- PAL access
- PPQA audit activity
- Artifacts
- PIID access
- Appraisal participation

# Customer

- **Challenge**

- To gain customer acceptance for implementing CMMI in a services environment

- **Mitigation Strategies**

- Emphasize value-add of CMMI for services
- Level of involvement
- Communications
- Training

# Project Management

- **Challenge**

- To structure the organizational resources best to provide direction, validate model interpretation, and ensure project success on services contracts

- **Mitigation Strategies**

- Utilizing Project Management structure/format for CMMI initiative
- Treating projects as customers
- Model interpretation
- Hard schedule deadline

## Lessons Learned -- I

- 1. Senior management buy-in and ongoing support were highly visible and crucial to ensuring corporate commitment**
- 2. Appropriate Responsibilities, Accountabilities, and Authorities (RAAs) must be assigned to lead the CMMI initiative**
- 3. CMMI model-knowledgeable and implementation-experienced staff were key**
- 4. Adequate funding/FTEs at HQ and project levels were required for success**
- 5. A detailed Project Plan lent credibility to CMMI initiative and helped earn stakeholder buy-in**

## Lessons Learned -- II

- 6. Stakeholder communication gained necessary support**
- 7. ATM access to sensitive project sites/data was required for complete and full appraisal of process maturity**
- 8. Non-traditional use of consultants as full-time, on-site project team members provided key focus & direction**
- 9. Early focus on alignment of PAs against business priorities & resources ensured a CMMI implementation consistent with business focus**
- 10. Adopting a project management structure for the CMMI initiative elevated the probability of success**

## Lessons Learned -- III

- 11. Tool selection/investment must be commensurate with business needs**
- 12. An early working relationship with the ATL afforded insight into, and feedback on, our implementation approach and Model interpretation**
- 13. Incorporating a QPM focus in ongoing efforts, keyed to services key measurement indicators, provided an important baseline for maturing the organization**
- 14. The mapping of the CMMI Model to a services environment illustrated the flexibility and tailorability of the model and its clear application to our business**

## Conclusions & Going Forward

- **The CMMI Model is flexible and provides documented benefits in a services environment**
- **BAE-IT's business is growing and continued focus on interpreting the CMMI Model for our services business will be necessary**
- **We must structure our future approach to address our key business issues and strategic goals as a services provider**
- **BAE-IT will implement ITIL (Information Technology Infrastructure Library) consistent with the CMMI Model**
- **SCAMPI certification of maturity against the CMMI Model will continue to be a discriminator in our services industry**



## Contact Information

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