# Getting from Here (SW-CMM) to There (CMMI) in a Large Organization

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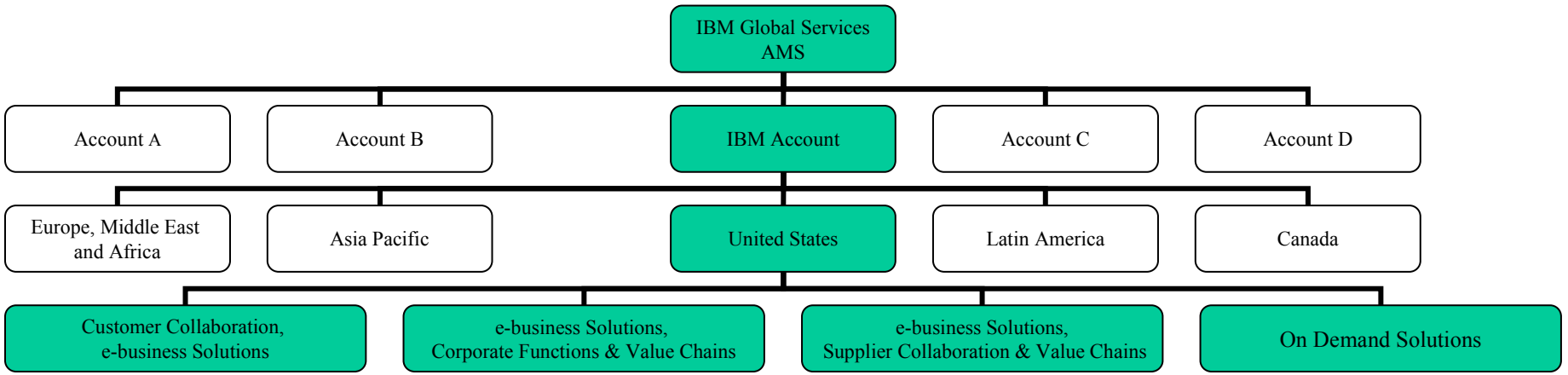
# Agenda

- Organization Overview
- Worldwide policy and management
- Standard Framework
- CMM Level 5 to CMMI Migration Plan
  - Key Decisions
  - Considerations
  - Special Considerations
  - Critical Success Factors

# Organization Overview

**IBM Global Services Application Management Services (AMS) provides application development, enhancement and maintenance for multiple customers globally. This presentation will focus on the IBM Customer Account in the United States.**




- Over 3000 Software Engineering practitioners in the United States
- Multiple locations with some employees 100% remote
- 100% distributed SEPG
- Very Small, Small and Large Projects
- Projects for multiple IBM Business Divisions
- Includes use of Global Resource

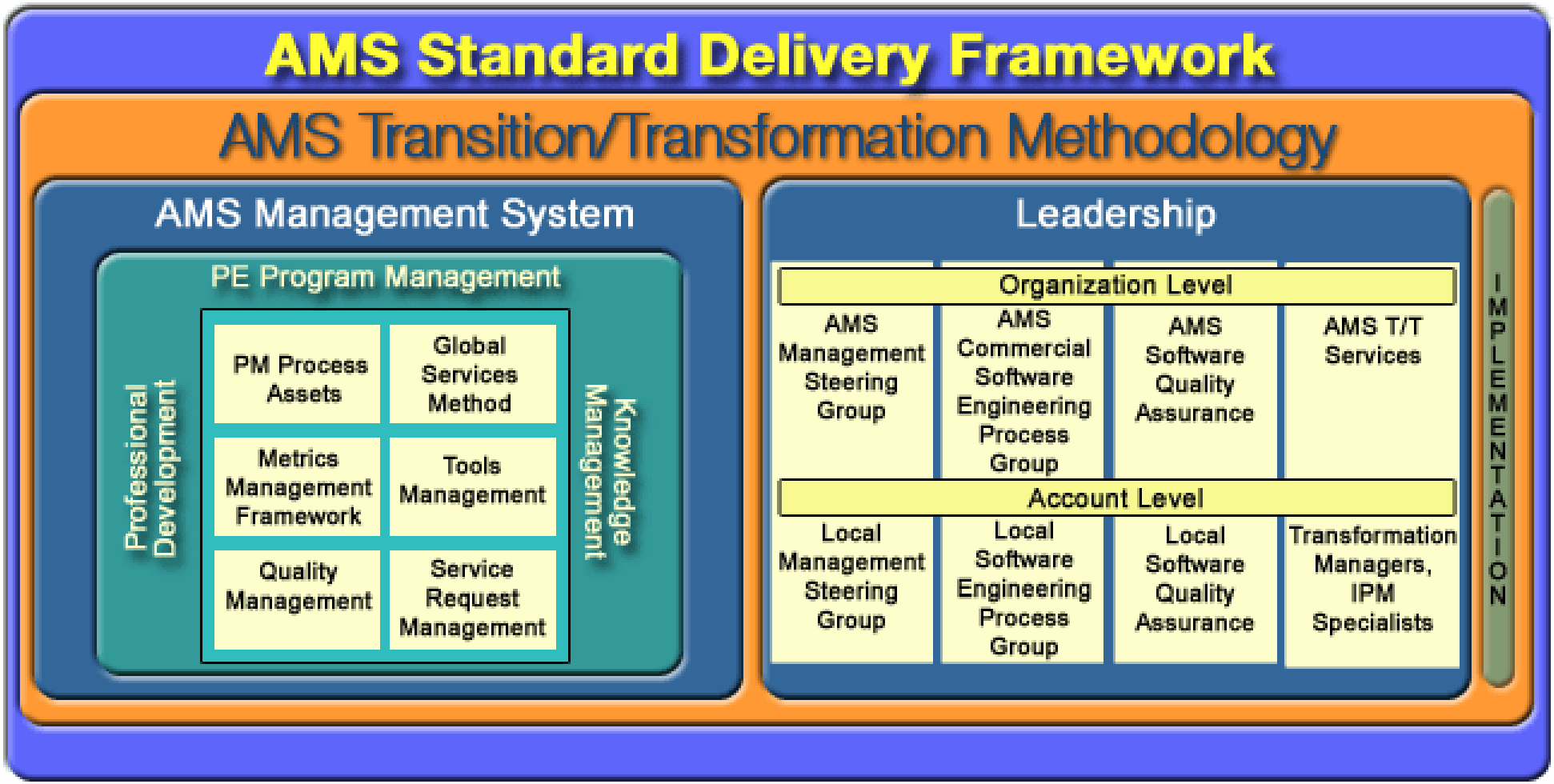
# Worldwide Process Deployment

**Deploying process capabilities worldwide requires a global infrastructure to develop one policy, exchange intellectual capital and coordinate activities.**

- Single, worldwide policy drives consistent process direction.
  - Worldwide Policy Council develops and updates the policy.
  - Executive management approves and sponsors the policy.
  - Deviation procedure provides insight into policy issues and can drive changes.
  - Common measurements verify policy adherence of the countries.
- Worldwide process community is established.
  - Each country has identified process leaders.
  - Process leaders meet regularly to share status, approach and information.
  - Intellectual capital is shared among process leaders.
  - Countries provide feedback and input to the Standard Framework.

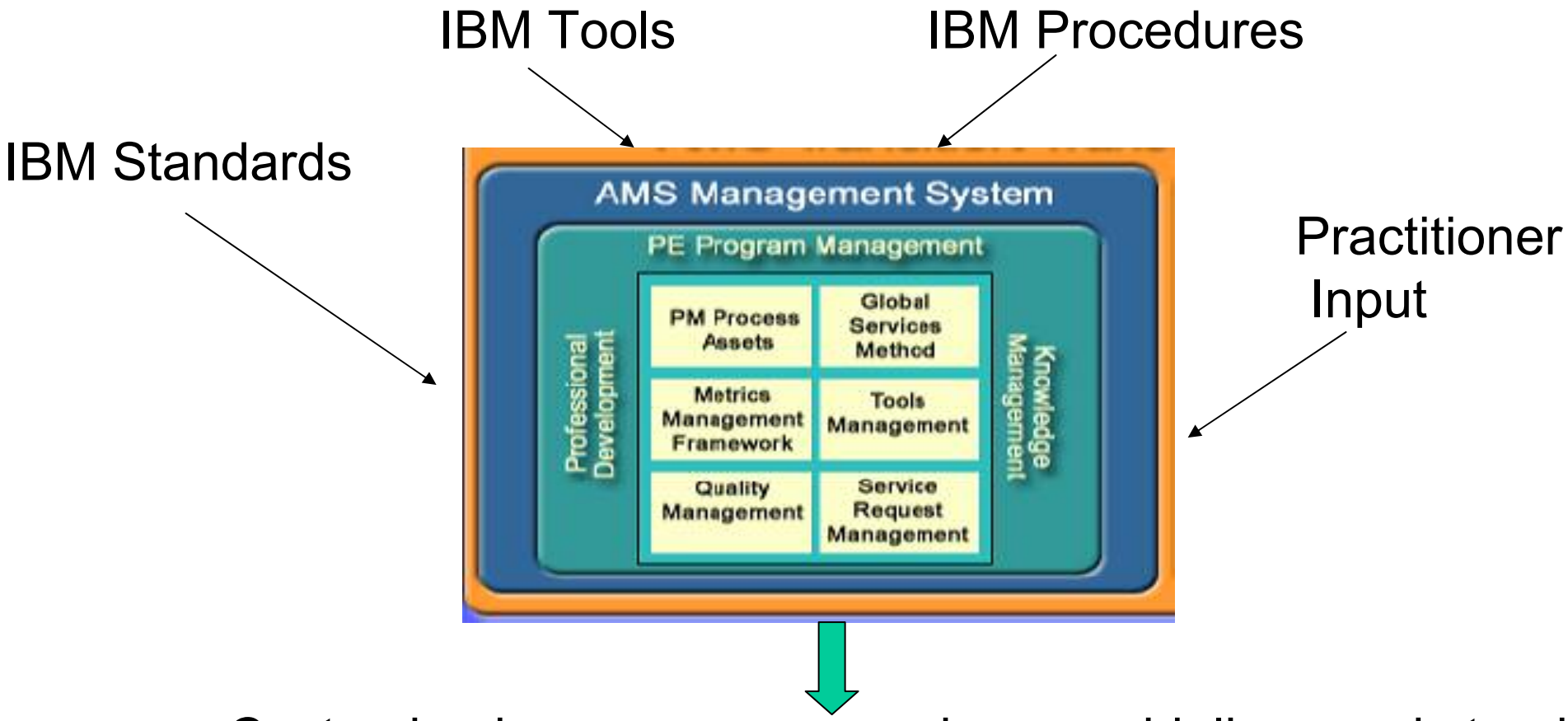
# Standard Framework

**In addition to Worldwide Policy, a standard set of processes were developed for global use. Corporate and worldwide strategies, processes and practices were leveraged to develop a consistent set of generic processes, methodologies and tools.**



# Account Use of the Standard Framework

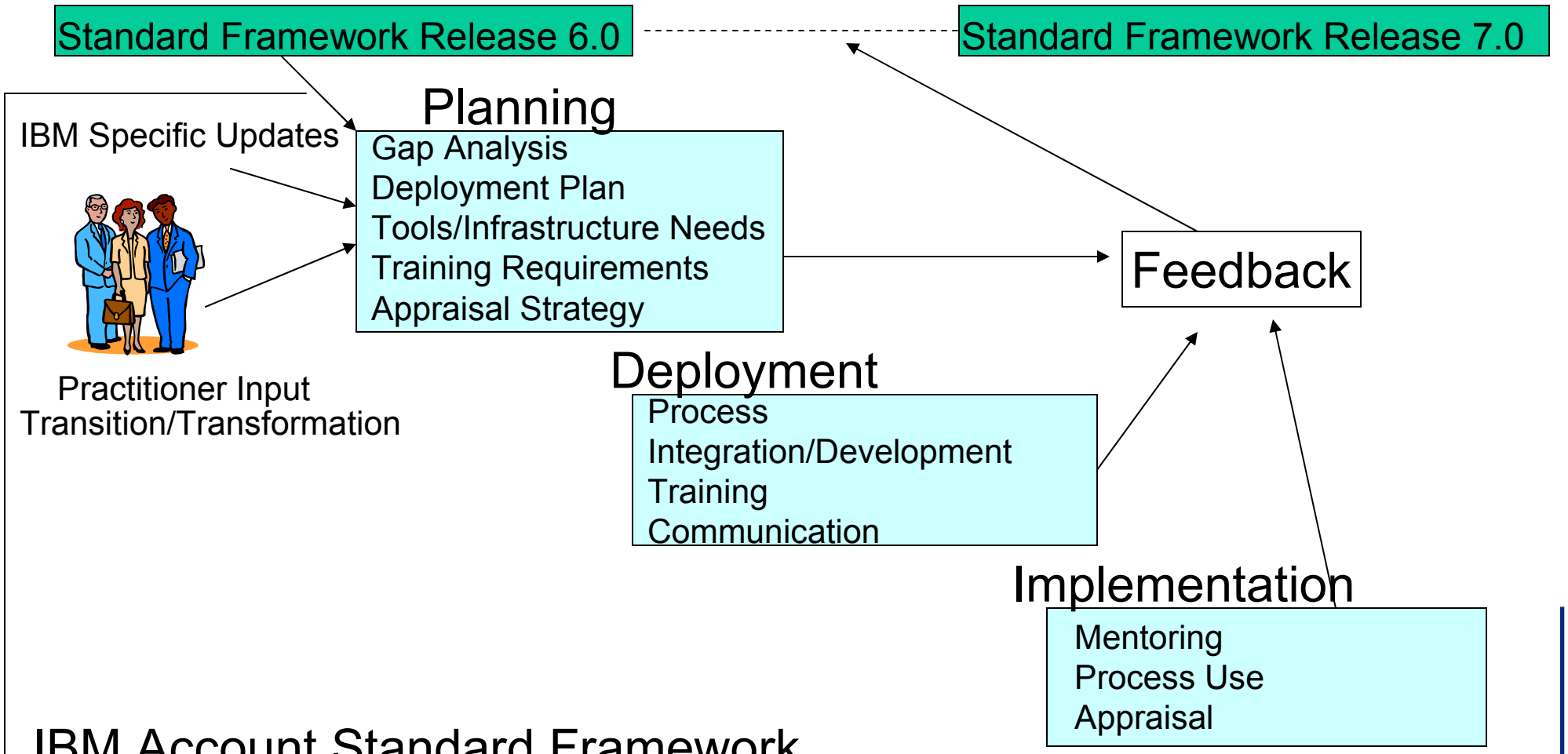
**Each account, including the IBM Account, starts with the Standard Framework and integrates the customer specific needs to create the account processes, procedures and methodologies.**




- Customized processes, procedures, guidelines and standards
- Work Breakdown Structure (WBS) Templates
- Account Specific Measurements
- Practitioner and Quality Management Checklists

# Continuous Improvement

**The Standard Framework is continuously improved and these improvements are integrated into the accounts' instance of the Standard Framework. While the IBM Account migrated to CMM Level 5, the Standard Framework was being updated to comply with CMMI.**



# CMM Level 5 to CMMI – Key Decisions

**Before planning the migration to CMMI, key decisions were made to set the direction for the migration.**

- Migrate to CMMI instead of remaining with CMM
  - Integrated model better supports our operational model components
  - CMMI recognition by the industry
- Staged instead of Continuous
  - Our Management System more appropriately supports staged
  - Staged approach meets our business culture and needs
- Discipline focus of Software Engineering (SW) and Systems Engineering (SE)
  - Systems Engineering discipline was in place prior to transition to CMMI
  - Systems Engineering was a key part of our CMM assessments

# Key Decisions (continued)

- CMMI Level 5 instead of CMMI Level 3 compliance
  - Our success at CMM Level 5 was a key consideration
  - Critical differences between CMM and CMMI occur at Level 3
  - Terminology mappings may be needed to bridge gap between CMM and CMMI higher maturity levels
- Appraisal Strategy of 3 Formal Appraisals
  - A key factor in our decision for multiple appraisals is the size and geographic distribution of our organization.

# CMM Level 5 to CMMI – Considerations

**The migration plan to CMMI from CMM needs to take into account other areas of consideration and include these considerations in the plan, as appropriate.**

- Business Return on Investment for migration
- Organizational and customer buy-in to a “new program”
- Organization readiness to go through additional change
- Cultural adjustment to existing processes and continued improvement
- Broad base of lessons learned
- Experience and education of Planning Team
- Gap closure requirements from previous CMM assessments
- Stakeholder involvement
- Dependencies on mandates being implemented in similar timeframe
- Delivery of processes with software engineer in mind
- Authorized SCAMPI Lead Appraiser involvement
- Overall budget

# Special considerations

**In a large, geographically dispersed organization, plans must also address management of some unique issues.**

- Strong communication plans and execution through multiple media
  - Within the process development and deployment team
  - Across the management team
  - To and from the practitioners
  - Frequency is critical
- Plans and infrastructure to support remote workforce
  - Capability to schedule “virtual meetings” across time zones
  - Common communication tools
  - Remote access requirements
- Alternate team building techniques are required for the SEPG and the practitioners
  - Taking time to discuss personal activities in conference calls
  - Introducing people over the phone
  - Efficient use of instant messaging, email and conference calls

# Special considerations (continued)

- Assurance program and adequate training
  - Formalized planning, tracking and performance
  - Adequate training and support tools to ensure consistency
- Project budget for travel as necessary
- Time versus resource for deployment
  - Aggressive schedule requires more mentoring resource
  - Larger organization takes longer for institutionalization
- Tools
  - Automated tools for tracking education and deployment.
  - Automated tools to support organization level activities.
  - Measurements collection, tracking, analysis and feedback
- Hierarchical deployment structure for reasonable span of control.
  - Impacts communication plan and capability to communicate
  - Creates consistency issues
- Variations in project types and sizes
  - Process may not be able to be “one size fits all”

# Special considerations (continued)

- Training
  - Stand up education is not a practical option.
  - Alternate media is required.
    - Conference calls
    - Detailed presentations
    - Recorded education sessions available from the Web
  - Additional time and cost is planned for development and deployment.
  - Tool is required for tracking and storing records.
  - Mentoring requirements, resource and skill, must be carefully planned.
  - Plans for ongoing personnel changes must be formalized.
- Global Resource
  - Managed as subcontractor using standard Statement of Work and contracted via a program single point of contact.
  - Managed as team members and provided training on account processes per the training program.

# Critical Success Factors

**As we move forward to CMMI, we continually focus on our Critical Success Factors.**

- Executive Management must be focused and continuously involved.
- Skilled resources to deploy processes, train and mentor the organization are needed to ensure institutionalization.
- Authorized SCAMPI Lead Appraiser needs to be involved and consult during the entire migration effort.
- Education plans must be in place, funded and executed for the process development and deployment team.
- Project management of the development and deployment must be performed using the processes and tools being rolled out.
- Practitioner involvement is critical to acceptance in the organization.
- Sufficient tools and education and mentoring resource must be identified in the plan and supported by Management.
- Time to deploy must be adequate for a large organization.

# Final Thoughts

- Leverage the organization's existing strengths and culture.
- Use the existing processes and management infrastructure to manage the migration.
- Apply the lessons learned from prior efforts.

Questions?