Samsung SDS' Experience
Performing SCAMPI\textsuperscript{SM} Class A
with the People CMM\textsuperscript{®}

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Topics

• Company Overview
• Why SAMSUNG SDS chose the P-CMM
• P-CMM suitability with SCAMPI
• P-CMM and CMMI® correlation
• SAMSUNG SDS CMM Timeline
• My ProWayII Introduction
• Pitfalls and Successes in SDS’ 5 year journey to SW-CMM, CMMI and P-CMM
• Observations for other organizations with similar internal customer service requirements
• Lessons Learned Summary
Company Overview

- Revenue / Employee: $1.54 Billion USD / 7,100 (Domestic), 620 (Overseas)

Service Line Map:
- Segmenting the IT service sector based upon customer needs and concerns,
- Classifying service areas into categories to provide appropriate SDS capacity and solutions.

![Service Line Map Diagram](image-url)
Why SAMSUNG SDS chose the P-CMM

• IT Services business of Samsung SDS is “People Business” where competency-based delivery processes are critically important

• Combination of CMMI and P-CMM was recognized as the best reference model for SDS’ innovation and integration of IT service processes and HR practices

• “Lifetime” Employment paradigm eroding. Competency based career planning and training now a focus
P-CMM suitability with SCAMPI

• Staged Architecture of model
  - similar components (i.e. Process Areas, Common Features, Goals, Practices)

• SCAMPI requirements directly transferable e.g. Process Implementation Indicator (PII) structure, Direct and Indirect artifacts, verification versus discovery approach

• Essential ATM requirements the same e.g. application domain experience, Intro to P-CMM course, Team Training

• Organization preparation the same as for a CMMI SCAMPI (e.g. project selection, lifecycle considerations, management versus practitioners)

• Non-specific words in P-CMM caused some interpretation concerns e.g. “adequate”, “enough”, “fully”
P-CMM suitability with SCAMPI-2

• P-CMM common features practices very detailed—characterization can require “instances” outside of focus projects

• Interview question “threads” can require more preparation, coordination and consolidation for ATMs with basic knowledge of People CMM

• People CMM Maturity Questionnaire was not used due to language requirements and was not needed by SCAMPI due to PIID preparation. However, organizations could lose some high level “insights” of People CMM progress and preparation that come naturally with its’ use.
The following slides show the high level relationships between the two models.
CMMI SE/SW v1.1 to P-CMM v2 Relationships-1

CMMI-SE/SW Process Areas

3 Decision Analysis and Resolution
   Risk Management
   Integrated Project Management
   Organizational Training
   Organizational Process Definition
   Organizational Process Focus
   Validation
   Verification
   Product Integration
   Technical Solution
   Requirements Development

2 Configuration Management
   Process and Product Quality Assurance
   Measurement and Analysis
   Supplier Agreement Management
   Project Monitoring and Control
   Project Planning
   Requirements Management

People CMM Process Areas

Participatory Culture*
   Workgroup Development
   Competency-Based Practices
   Career Development
   Competency Development
   Workforce Planning
   Competency Analysis

Compensation
   Training and Development*
   Performance Management
   Work Environment*
   Communication and Coordination*
   Staffing

*Enablers for CMMI
### CMMI SE/SW v1.1 to P-CMM v2 Relationships-2

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<tr>
<th>Pittsburgh, PA 15213-3890</th>
<th>People CMM Process Areas</th>
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<td><strong>CMMI-SE/SW Process Areas</strong></td>
<td><strong>Continuous Workforce Innovation</strong></td>
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<td><strong>Organizational Performance Alignment</strong></td>
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<td><strong>Continuous Capability Improvement</strong></td>
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<td><strong>Mentoring</strong>*</td>
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<td><strong>Competency Analysis</strong></td>
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<td><strong>Risk Management</strong></td>
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<td><strong>Quantitative Project Management</strong></td>
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<td><strong>Requirements Development</strong></td>
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*Enablers for CMMI*
IPPD Relationships

Because of its inherent subject matter, the People CMM presents a more detailed model for the evolutionary development of workgroups or teams than do SW-CMM or CMMI.

CMMI with its IPPD extensions and People CMM both focus on process-based workgroup development at Maturity Level 3, and this was one motivation for creating People CMM Version 2.

The IPPD extensions to CMMI are each supported by several process areas in People CMM Version 2 as shown on the next several slides.
### IPPD Relationships - 2

| Integrated Project Management (IPPD) | Workgroup Development (Level 3)  
|                                      | Competency Analysis (Level 3)  |
| Integrated Teaming                  | Communication and Coordination (Level 2)  
|                                      | Workgroup Development (Level 3)  
|                                      | Empowered Workgroups (Level 4)  |
| Organizational Environment for Integration | Work Environment (Level 2)  
|                                      | Communication and Coordination (Level 2)  
|                                      | Performance Management (Level 2)  
|                                      | Compensation (Level 2)  
|                                      | Competency Analysis (Level 3)  
|                                      | Workforce Planning (Level 3)  
|                                      | Competency Development (Level 3)  
|                                      | Competency-Based Practices (Level 3)  
|                                      | Workgroup Development (Level 3)  
|                                      | Participatory Culture (Level 3)  
|                                      | Empowered Workgroups (Level 4)  |
# CMMI IPPD v1.1 to P-CMM v2 Relationships IPPD

## 4 Mentoring*
- Organizational Capability Management
- Quantitative Performance Management
- Competency-Based Assets
- Empowered Workgroups
- Competency Integration

## 3 Organizational Environment for Integration
- Decision Analysis and Resolution
- Participatory Culture*
- Workgroup Development
- Competency-Based Practices
- Career Development
- Competency Development
- Workforce Planning
- Competency Analysis

## 2 Communication and Coordination*
- Requirements Development
- Technical Solution
- Product Integration
- Validation
- Verification
- Integrated Project Management for IPPD
- Integrated Teaming
- Risk Management

## People CMM Process Areas
- Mentoring*
- Organizational Capability Management
- Quantitative Performance Management
- Competency-Based Assets
- Empowered Workgroups
- Competency Integration

## CMMI-SE/SW Process Areas
- Organizational Process Performance
- Quantitative Project Management

*Enablers for CMMI
CMMI IPPD v1.1 to P-CMM v2 Relationships IPPD-2

Pittsburgh, PA 15213-3890
CMMI-SE/SW Process Areas

3 Organizational Environment for Integration

- Decision Analysis and Resolution
- Integrated Teaming
- Risk Management
- Integrated Project Management for IPPD
- Organizational Training
- Organizational Process Definition
- Organizational Process Focus

2 Configuration Management

- Process and Product Quality Assurance
- Measurement and Analysis
- Supplier Agreement Management
- Project Monitoring and Control
- Project Planning
- Requirements Management

People CMM Process Areas

- Mentoring*
- Organizational Capability Management
- Quantitative Performance Management
- Competency-Based Assets
- Empowered Workgroups
- Competency Integration

- Participatory Culture*
- Workgroup Development
- Competency-Based Practices
- Career Development
- Competency Development
- Workforce Planning
- Competency Analysis

- Compensation
- Training and Development
- Performance Management
- Work Environment*
- Communication and Coordination*
- Staffing

*Enablers for CMMI
SAMSUNG SDS CMM Timeline

2001- Center for Advanced SW Engineering (CASE) achieved SW-CMM Maturity Level 3

2002- CASE adopted PSP/TSP, and achieved SW-CMM ML 5

2003- HR team started P-CMM adoption and reformed the standard HR Process based on P-CMM

2004- CASE achieved CMMI ML 5
   - New competency-based HR process went implementation

2005- Competency-based human resource development (HRD) system called My Proway was put in operation
   - CASE and the Architecture Center achieved P-CMM ML 3
My Proway Introduction - 1

Human Resource Development System for employees and managers to manage career path, competency, education and mentoring.

Information about Professions, Jobs, Ranks and Roles

Each employee’s Career Path Design

Each employee’s Education Plan and Registration
1. Select a job

2. Assess the level of competency for the selected job

3. Make education and certification plans

4. Submit for manager’s approval and mentoring comments
Pitfalls and successes in SDS’ 5 year journey to SW-CMM, CMMI and P-CMM

• Education and training of Human Resource staff and implementing projects staff were key factors (more project staff involved than anticipated)

• Cross-pollination from SAMSUNG CMMI efforts facilitated appraisal preparation

• Executive commitment to strategy and plan was crucial

• Information Systems enabling CMM/CMMI and P-CMM practices
  - CMM/CMMI: integration of OSSP, project management system and SW engineering methodologies
  - P-CMM: My Proway, HR inventory and workforce planning system

• Continuous improvement of standard services delivery processes and HR process through 6 Sigma DMAIC projects

• Organization of shared service roles (such as Architects, Process Engineers, Quality Assurors) into Centers of Competency helped achieving ML 3 of P-CMM
Observations for other organizations with similar internal customer service requirements

Ensure executive level commitment and funding

Enlist customer organizations in pilot efforts

Insist on disciplined, consistent training and education for all affected

Ensure motivation of selected “change agents” for consistent motivated implementation of processes/practices

Facilitate implementation with appropriate technology e.g. intranet, web-based applications, computer based training
Lessons Learned Summary - SDS

• Top management’s commitment was a key success factor

• Phased roll-out of P-CMM based on a long-term plan
  - ML 3 achieved for 5 competencies in 2005
    →All 35 competencies by 2006
  - ML 3 achieved for 2 Centers of competency in 2005
    →Entire organization by 2006
  - ML 5 to achieve for selected units in 2007
    →Entire organization by 2008

• Consistency between CMMI-based delivery processes and P-CMM-based HR processes
  - OSSP and CBP (Competency Based Practices)
  - Process Roles and Competencies
Lessons Learned Summary - SEI

Model implementation takes longer and costs more than is typically estimated

People CMM Implementation involves significant parts of the entire organization

Human Resources welcomes the model as a facilitating tool for accomplishing their job

Appraisals must be planned just like projects. You cannot skimp on logistical aspects i.e. facilities, tools, time, experience of ATMs

Experience, training and education are invaluable to any PI effort with any model
For More Information…

For more information about CMMI or People CMM, see
http://www.sei.cmu.edu/cmmi/
http://www.sei.cmu.edu/cmm-p/version2/

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<table>
<thead>
<tr>
<th>Level</th>
<th>Focus</th>
<th>Process Areas</th>
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<tbody>
<tr>
<td>5 Optimizing</td>
<td>Capability &amp; performance are continually improved</td>
<td>Continuous Workforce Innovation</td>
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<td>Organizational Performance Alignment</td>
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<td>Continuous Capability Improvement</td>
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<tr>
<td>4 Predictable</td>
<td>Capability is managed quantitatively and the organization exploits opportunities in its competency framework</td>
<td>Mentoring</td>
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<td>Organizational Capability Management</td>
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<td>Quantitative Performance Management</td>
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<td>Empowered Workgroups</td>
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<tr>
<td>3 Defined</td>
<td>Organization develops a framework of workforce competencies required to accomplish its business objectives</td>
<td>Participatory Culture</td>
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<td>Workgroup Development</td>
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<td>Competency Development</td>
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<td>2 Managed</td>
<td>Managers take responsibility for managing and developing their people</td>
<td>Compensation</td>
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<td>Training and Development</td>
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<td>Communication and Coordination</td>
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<td>1 Initial</td>
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<td>Staffing</td>
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People CMM Version 2
# CMMI Staged Representation

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<th>Including IPPD</th>
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<td>5 Optimizing</td>
<td>Continuous Process Improvement</td>
<td>Organizational Innovation and Deployment</td>
<td>Causal Analysis and Resolution</td>
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<td>4 Quantitatively Managed</td>
<td>Quantitative Management</td>
<td>Organizational Process Performance</td>
<td>Quantitative Project Management</td>
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<td>3 Defined</td>
<td>Process Standardization</td>
<td>Requirements Development</td>
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<td>Product Integration</td>
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<td>Organizational Process Focus</td>
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<td>Organizational Training</td>
<td>Integrated Project Management</td>
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<td>Integrated Project Management (Note: IPPD Goals)</td>
<td>Risk Management</td>
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<td>Decision Analysis and Resolution</td>
<td>Organizational Environment for Integration</td>
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<td>Integrated Teams</td>
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<td>2 Managed</td>
<td>Basic Project Management</td>
<td>Requirements Management</td>
<td>Project Planning</td>
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<td>Project Planning</td>
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