

# Meeting the Challenge of a SCAMPI Level 5 Appraisal

**SEPG 2003**  
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**Infosys Technologies Limited**

# Agenda

Infosys Background

Challenges presented by the Organization  
Scope

Challenges presented to the team

Planning and Pre-onsite phase

Planning and On-Site phase

Success Factors

Traps to Avoid

# A global IT Consulting, System Integration & Software Services company



- Partnering for Technology led Business Transformation
- Listed on the NASDAQ
- Forbes' list of "20 for 2000"

- Performance optimization using CMM, CMMI, ISO-9001, Malcolm Baldrige Criteria, Six Sigma, Cross Functional Process Mapping
- Over 13,000 people strong, and growing
- Global Presence : 17 Development centers
- 275+ clients with over 85% repeat business

# Scope of Appraisal

## Software process within Infosys Chennai Development Center

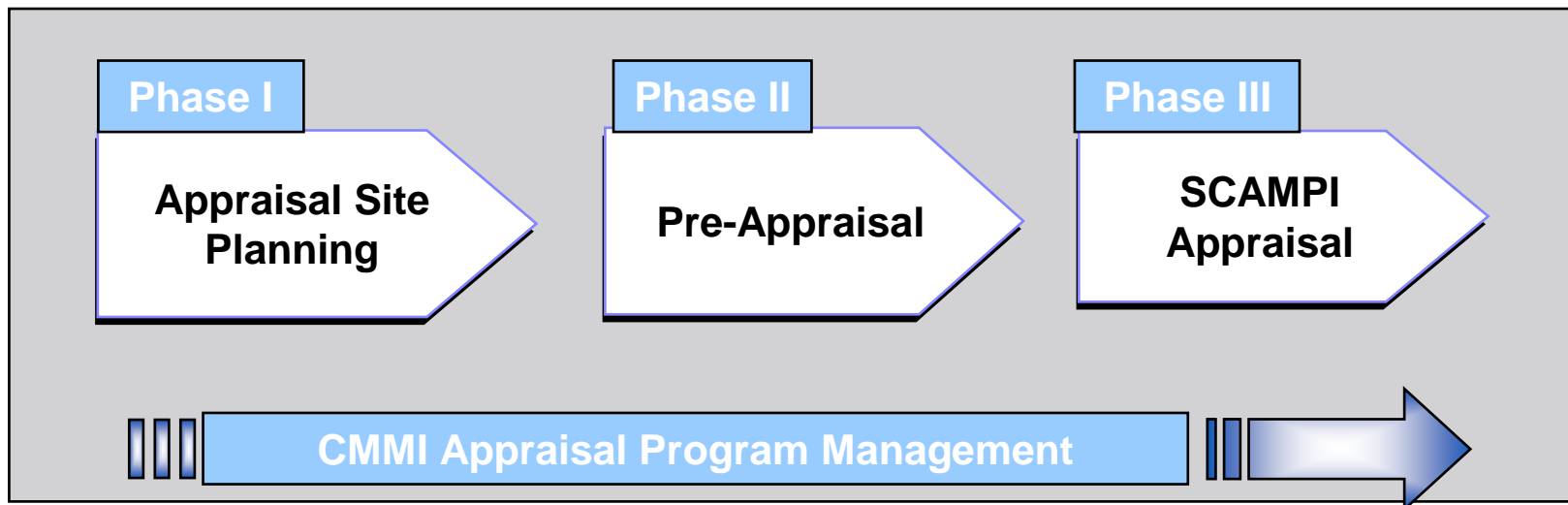
- 1000 s/w personnel, offshore
- 200 s/w personnel, onsite (Customer's site)
- 80 s/w projects

## Onsite personnel included in the appraisal

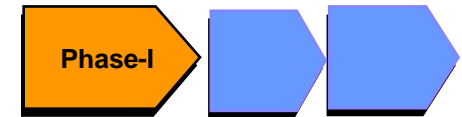
All 24 Process Areas of the CMMI - SE/SW/IPPD, Version 1.1 (Staged Representation) – Supplier Sourcing version released too late to include appraisal scope

# Appraisal Approach

- A three phase approach from gap analysis to the final appraisal
- Detailed plan for each phase by the Lead Appraiser and the Infosys CMMI Program Management Office (PMO)
  - Activities, responsibilities and timelines
  - Risk identification, mitigation and contingency plans



# Appraisal Site Planning



CMMI Model Training

SEPG & SQA groups trained on CMMI Model by Lead Appraiser

Gap Analysis

Gaps in Process definition & implementation identified with respect to the CMMI Model

Process Definition

Process definition by SEPG and working groups

Training & Process Implementation

Analysis & Results

Process Training to projects, Process implementation, feedback from process users and implementation results

Verification

Implementation verification by SQA & SEPG groups thru audits & reviews

**Responsibility : Infosys PMO**

# Pre-Appraisal



Pre-Appraisal was executed in two stages

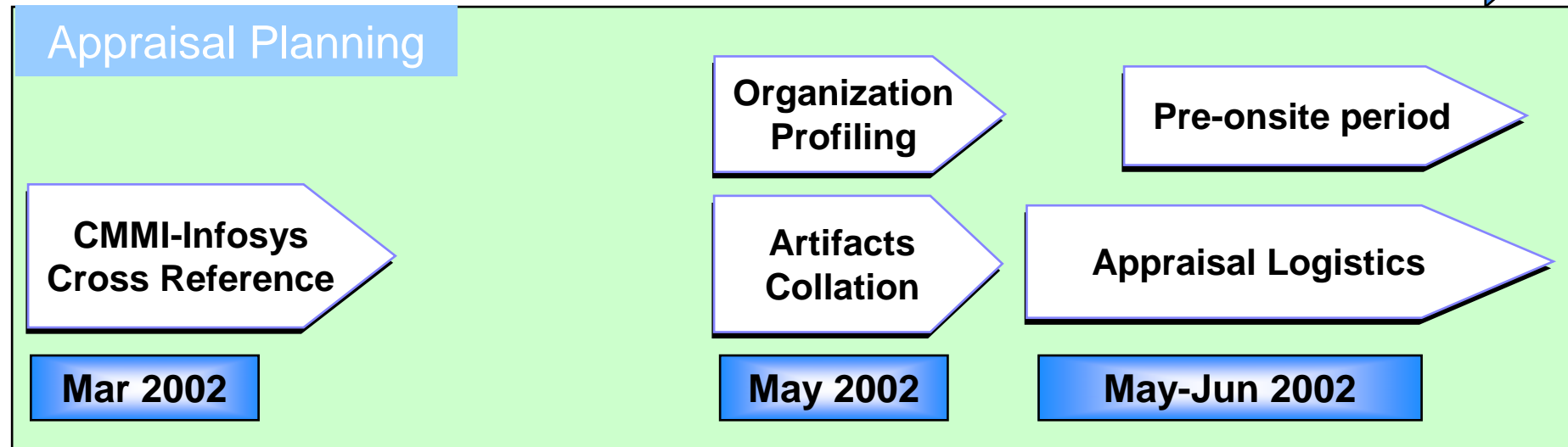
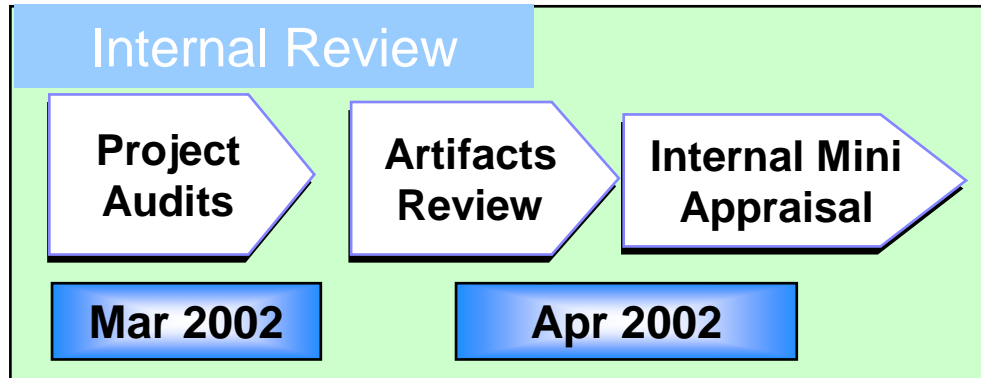
- Internal Review
- Appraisal Planning

Infosys SEPG, SQA, Projects and Lead Appraiser coordinated across locations and time zones

- Multiple locations in India, Europe & USA
- Communication thru Telecon, Mail, Video Conf

**Responsibility : Infosys PMO**

# Pre-Appraisal



Responsibility : Infosys PMO



# Internal Review



## Project audits

- Projects were audited by the **SQA groups** to verify the understanding and implementation of the CMMI practices
- Strengths and areas of improvement were identified for each project
- Special attention was given to the new process areas like Decision Analysis & Resolution (DAR), Supplier Agreement Management (SAM), etc.

## Artifacts review

- Artifacts from projects, departments and organization level policies and documents were reviewed by the **SEPG** to verify practice implementation across the organization

# Internal Review



## Internal Mini-Appraisal

- An org-wide appraisal of Infosys Chennai Development center by representatives of **SEPG** and **SQA** groups outside the Chennai center
- Mini-appraisal conducted according to the appraisal methodology
  - 4 Appraisers, 3 days
  - 43 personnel interviewed (across time zones)
  - Artifacts review
  - Findings presented to the organization

# Appraisal Planning



## Sponsor Interview during SCAMPI team training

- Established business goals and sponsor requirements for the appraisal

## Interview method

- Determined to interview as a whole team
  - Longer hours spent in interviews (-)
  - Better coverage (+)
  - Adhered to initial assessment philosophy because:
    - Face-to-face contact critical to acceptance (+)
    - Infosys growth rate in previous 2-3 years meant over 50% of organization was new since last CBA-IPI assessment (+)

# Appraisal Planning



## CMMI-Infosys Cross reference

- CMMI practices were **mapped at the sub-practice** level to Infosys processes, tools & artifacts (Specific & Generic practices)
- SEPG created the template for the mapping/Cross-reference
- The SQA groups were responsible for the mapping
- SEPG reviewed the CMMI-Infosys mapping
- These are **reusable** artifacts which can be used for future appraisals

Time Spent: 108 hours by 20 people

# Appraisal Planning



## Artifacts Collation

- A list of artifacts to map **sub practice implementation** at project level, departments and Organization made by the SEPG
- The artifacts were collated from individual projects/groups and a table of contents with links to the actual documents & tools was made
- Artifacts were mapped at the **section level** of a document/ feature level of a tool
- Artifacts were clearly marked as NA if not applicable, multiple documents/tools to satisfy a practice were all explicitly stated

# Appraisal Planning



## Artifacts Collation (contd)

- SEPG artifacts
  - Process artifacts, PAL, tools, assessment and audit plans, Process improvement plans, etc.
- SQA Artifacts
  - Compliance check reports, reports to management
- Project Artifacts
  - Project reports, engineering outputs, customer deliverables of 45 projects
- Department Artifacts
  - Relevant Artifacts from different departments like training, HR, Computer Operations, etc. were collated

# Appraisal Planning



## Organization Profiling

- **List of all projects** associated with the Chennai DC with the type of projects, the current life cycle stage, team strength, onsite location, customer, onsite-offshore ratio was made
- **List of all the people** associated with the Chennai DC with details of projects, current role played, FAR group suited for, availability during the appraisal time was made
- **Projects** were selected by the lead appraiser with input from the appraisal team to ensure significant projects (customer perspective) and coverage of all the project types
- **FAR groups** were randomly selected by the lead appraiser

# Appraisal Planning



## Appraisal Logistics

- Checklist for appraisal room, PC/network availability, stationary, food etc provided by the **Lead Appraiser**
- **Site coordinator** customized the checklist to suit local conditions
- Appraisal schedule drawn up by **Lead Appraiser** in consultation with Infosys PMO
- **Site coordinator** ensured telecon connectivity and availability of personnel and all other logistics thru a trial run
- Moved the responsibility of transportation, accommodation & food from the individuals in the appraisal team to Infosys **facilities department**



# Appraisal Planning



## Pre-onsite period

- Profile of candidates for the appraisal team prepared
- Candidates trained on SCAMPI Methodology
- 4 appraisers identified as back-ups for the appraisal team of 8
- Mini-teams of 2 formed with Process Areas assigned to each team
  - PAs assigned based on expertise of the team, related PAs, # of practices to review
  - One experienced CBA-IPI assessor and one “rookie” per mini-team (note that “rookies” all had auditing, interviewing, and assessing experience in other models or processes)

# SCAMPI Appraisal



## Pre-onsite period

- Training week used to start appraisal
  - Two days of training
    - Version 1.1 training materials not available
    - Half of the team had previous CBA-IPI experience with the Lead Appraiser, others had received CBA-IPI training
  - Scripting
  - SEPG presentation, Site Manager presentation, OT and Support Interviews conducted
    - “Break the Ice”
    - Run through interviews, tagging, consolidation and reviews

**Responsibility : Lead Appraiser**

# SCAMPI Appraisal

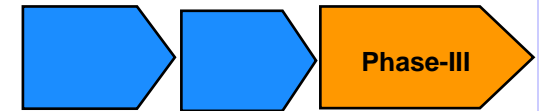


## Pre-onsite period (contd)

- Offline preparation of Appraisal scripts prepared by respective mini teams
  - Team review in India across 2 locations (Bangalore & Chennai) – team aware of all planned questions
  - Lead appraiser review
- Additional “role play” for “rookies”
- Offsite Artifact review by respective mini teams
  - Averaged 2 ½ days per team member (20 days)
  - Mini teams in Bangalore & Chennai
  - Observations reviewed within mini-teams then by entire team (excluding Lead Appraiser)

**Responsibility : Team & LA**

# SCAMPI Appraisal



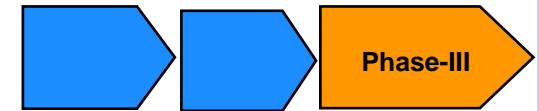
## 9 day Appraisal schedule

- 1 day for team review of document observations with LA
- 4 days of interviews
- 1 day findings preparation and review
- 1 day contingency (Sunday)
- 1 Day Draft Findings Presentation, Rating, Executive Session and Final Presentation Preparation
- 1 Day Final presentation, team wrap up

Elapsed times used in next slides – Lunch and Dinner were 30-45 minutes each. Typically ½ hour was allocated for tagging after each session

**Responsibility : Team & LA**

# SCAMPI Appraisal



Presentations provided significant amounts of information

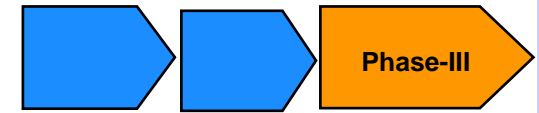
- SEPG
  - View of Organization Standard Process (OSP), tailoring, Measurement and Analysis, quantitative methods
- Site Manager
  - Background information

Used “standard” PIID forms presented at SCAMPI Upgrade class at SEPG 2002

- Word versioning allows tracking of additions and changes with minimum entry/review effort

**Responsibility : Team & LA**

# SCAMPI Appraisal



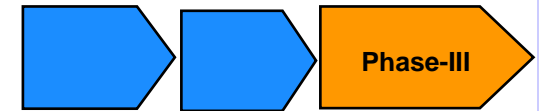
Opening meeting and 5 Project Leader interviews in the first 2 days

- Start Consolidation at 3 pm – Tagging took longer than planned the first 3 days, later the mini-teams usually completed tagging between interview sessions
- Finished by 9:30 pm (vs. plan of 9:00 pm)
  - In for the long haul – do not schedule too much
  - Building the baseline observations in most PAs so data entry, consolidation, and review will take longer

Day 3 presented first opportunity to gather detailed Engineering PA data

- Significant overload on this mini-team – 14 hour day (early start for US interviews), no “history” to build on
- Consider changing interview order to balance workloads

# SCAMPI Appraisal



## Days 4-5 (Thursday/Friday)

- Remainder of interviews, rotating PA reviews

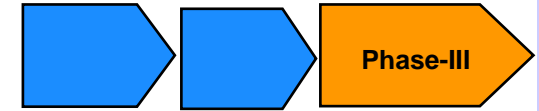
## Reserved Saturday for writing Draft Findings

- Strengths or Areas for Improvement for all SPs to meet local requirements added preparation and review time
- Provided more time on Friday night for consolidation and review
- Allowed for call-backs if necessary

Used Sunday contingency to review findings  
(apparent this contingency would be needed on Monday)

- Eliminates “rush job” and late hours

# Reporting Generic Practices (GP)



Impractical to report a finding on each GP

- $12 * 24 = 288$  findings
- Most of the findings would be “generic”
- Time to document would be excessive

Chose to summarize via a table (built in Excel and imported)

- Color coded for easy interpretation
- Highlight only exemplary strengths, all weaknesses
- See sample on next slide

May not be useful if many GPs are NOT satisfied



# Level 2 Generic Practices (sample)

Level 2	RM	PP	PMC	SAM	MA	PPQA	CM
2.1 Policy							
2.2 Plan Process							
2.3 Provide Resources	3						
2.4 Assign Responsibility							11
2.5 Train People			4				
2.6 Manage Configurations	5			8			
2.7 Stakeholders	1	2					
2.8 Monitor/Control Process						10	
2.9 Obj Eval Adherence			6				
2.1 Review w/ Management				9			
3.1 Estab Defined Process							
3.2 Improvement Information			7				
Generic Goal 2							
Generic Goal 3							

## Practices:

FI = Fully Implemented ■  
 LI = Largely Implemented ■  
 PI = Partially Implemented ■  
 NI = Not Implemented ■

## Goals:

S = Satisfied ■  
 U = Unsatisfied ■  
 (n) - See next page for Weakness

## Other Data

140 hours or 17 ½ days total by an 8 person team +  
14 days by the Lead Appraiser

- 12.9 + 82.6 = 95.5 hours spent on-site (April/June)
- 20 hours of document review
- 24 hours in training and planning

108 hours of effort spent preparing the cross-reference and other appraisal artifacts

From the facilities department:

“They had also consumed 214 fruit juices, 168 cups of coffee, 2.2 Kgs of cashew nuts and 47 packs of Frooty apart from lunch and dinner. We had to collect these metrics to show that QPM is not weak”

# Critical Success Factors

Detailed assessment & site planning

Effective risk management

***Documentation of the practice implementation  
and the process mappings of the organization***

Document observations prior to start of on-site –  
2 ½ days per person

“Rolling Reviews” in evening sessions based on PAs  
with significant data, mini-team capabilities, Lead  
Appraiser judgment

Planning... (but need to be flexible)

# What Would We Do Differently (next time)?

Balance the mini-team workload with better interview scheduling

Data tagging and PA review time were “excessive”

- Model knowledge – first SCAMPI for all of the team
- Team discipline
  - 24 PAs \* 15 minutes = 6 hours to review best case
  - Even more than CBA-IPI, teams need to reach consensus quickly and avoid unnecessary “chatter”
- Data collection Word templates
  - Table formatting can cause problems – simpler is better
  - Don't customize rows in tables – too difficult to add rows!

# Traps to Avoid

## Immersion in detail

- Level of detail required may cause teams to forget the most important part of the process – finding significant business related areas for improvement

## People contact

- Face-to-face contact with the team is part of establishing credibility of the results – process allows mini-team interviews, but time savings may put credibility at risk

## Daily Review

- 100% daily review is not possible with any depth; trying to do this will cause long hours and consequent team fatigue

# Contact Details

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# Thank You