



# The CMMI<sup>®</sup> Product Suite and International Standards

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| Report Documentation Page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                    |                                     |                                                           | Form Approved<br>OMB No. 0704-0188                  |                                 |
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# **Agenda**

**Evolution of Capability Maturity Models® and ISO/IEC 15504**

**ISO/IEC 15504 Overview and Status**

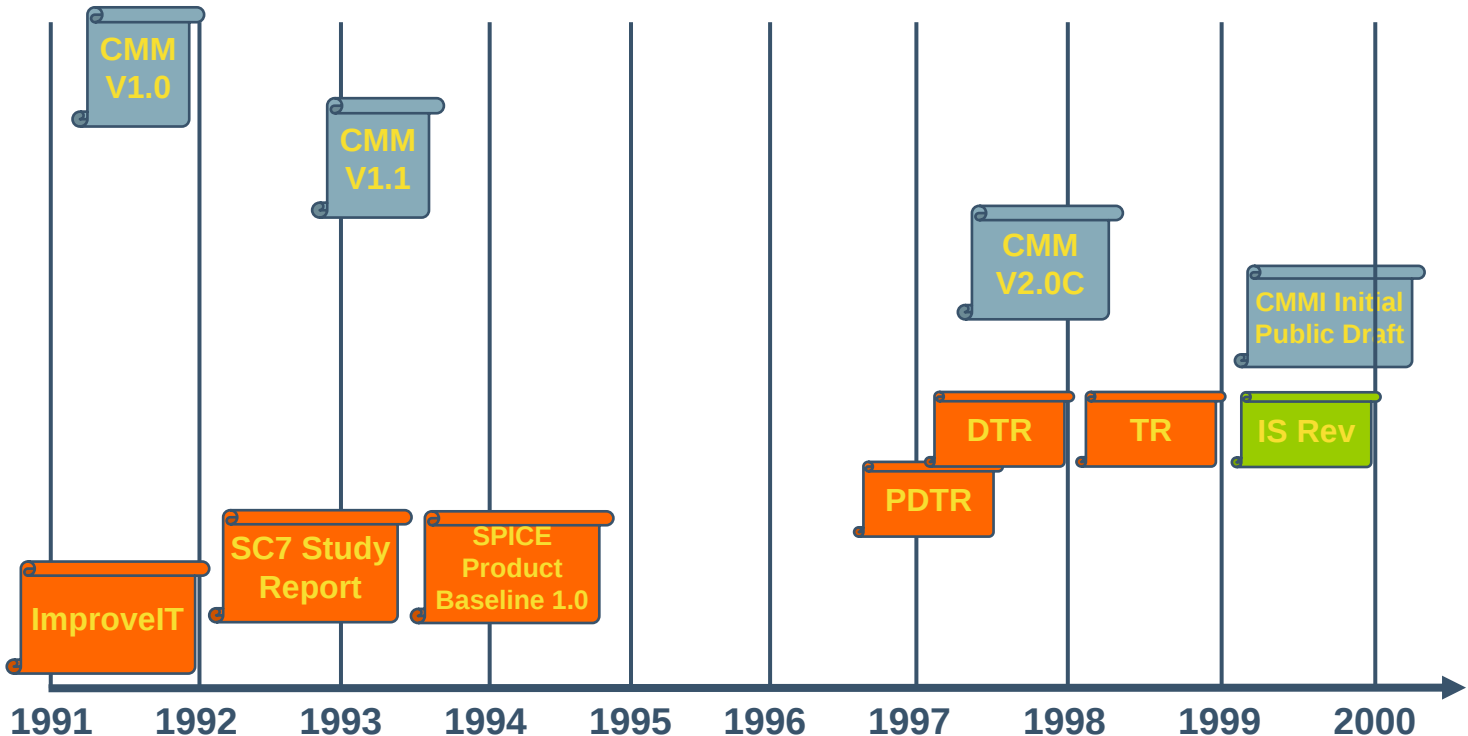
**CMMI Synergy with International Standards**

**Work to be Done**

**Future Directions**

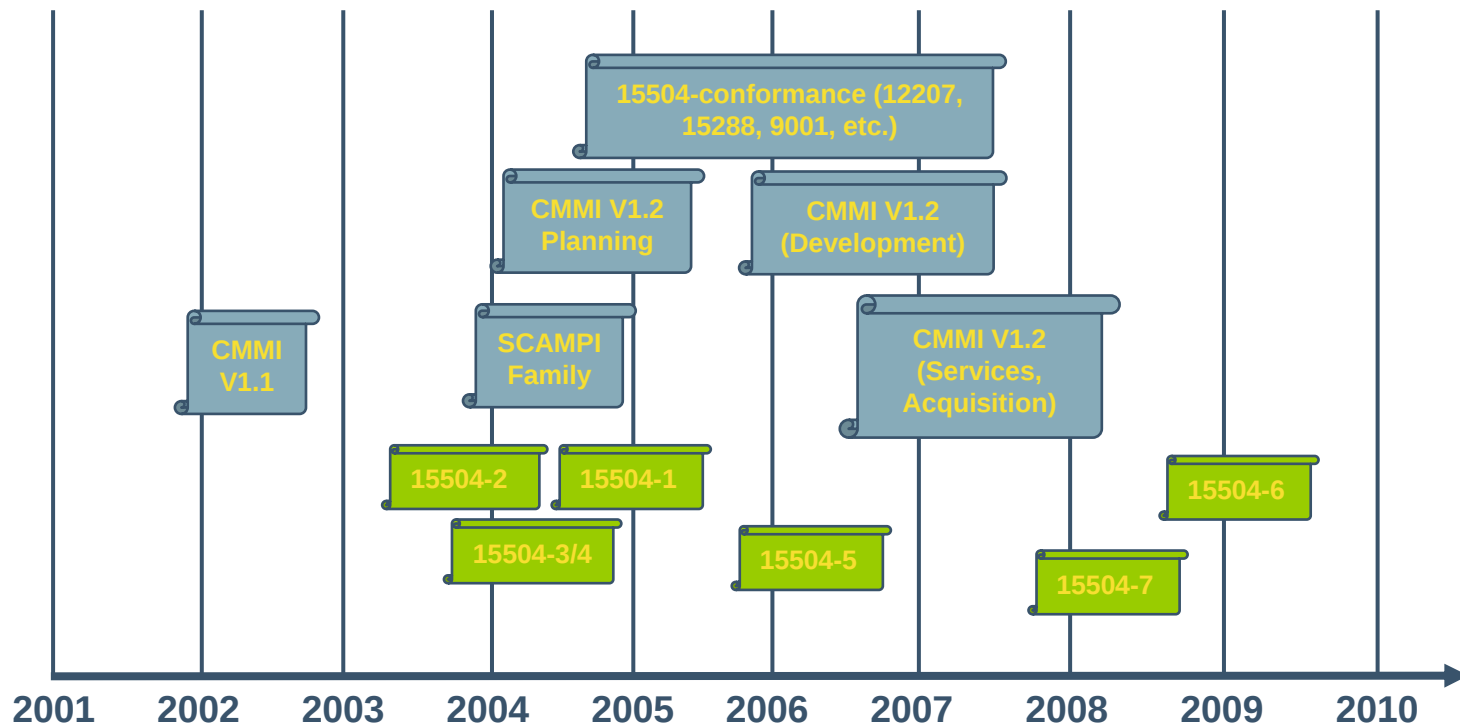
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# Progression of CMMs® and 15504 -1



® CMM is registered in the U.S. Patent and Trademark Office by Carnegie Mellon University

# Progression of CMMs and 15504 -2





# What EXACTLY is 15504?

ISO/IEC 15504 is an international standard being progressed by WG10 - a working group established by ISO/IEC/JTC1 SC7.

Prescribes requirements for process assessment; is a framework standard.

Consists of 5 documents (15504-1, ..., 15504-5); note that all parts are now published.

Not the same as ISO/IEC TR 15504 – this is a 9-part set of documents published as ISO Technical Reports in 1998.



# **Key Premise Underlying 15504**

**Assessments of process capability will yield results which are comparable as long as:**

- the process assessment model satisfies 15504 model compatibility requirements**
- the assessment process satisfies 15504 assessment requirements**
- the assessment contexts are similar**



# Evolution of 15504 Specificity

**1st generation (pre-Pilanesburg) - practices were HARD-WIRED into 15504 (as a normative component - BPG)**

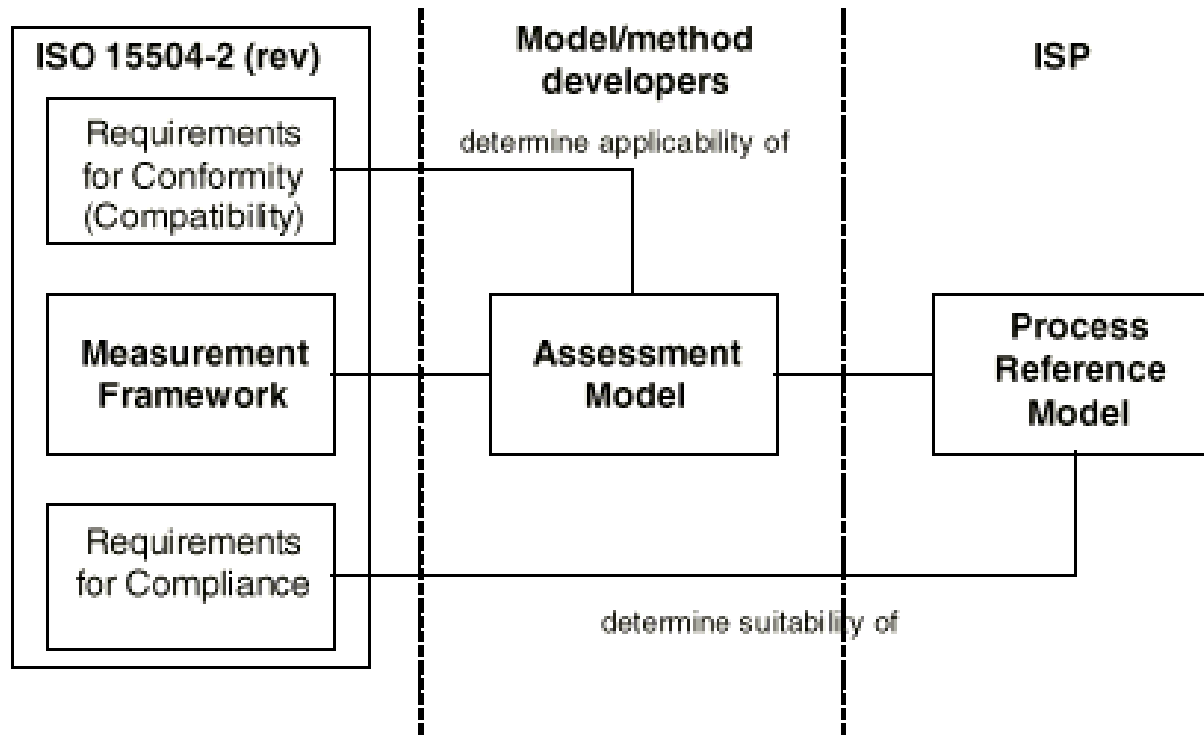
**2nd generation (pre-IS) - process definitions were HARD-WIRED into 15504 (as a normative component - 15504-2)**

**3rd generation (IS) - compliance requirements for Process Reference Models (PRMs) HARD-WIRED into 15504 (as a normative component - 15504-2):**

- **PRMs will be externally specified**
- **12207 includes as an amendment a PRM encompassing TR 15504-2 process definitions (and more)**



# Architecture for 15504





# **CMMI and 15504**

**A-spec requirements relevant to international standards:**

## **“2.3 Reference Documents**

**2.3.1 Applicable ISO/IEC documents, including ISO/IEC 12207 and ISO/IEC 15504.”**

## **“3.1 Development User Requirements**

**3.1.6 The CMMI Product Suite shall be consistent and compatible with ISO/IEC 15504.”**



# **Synergy With Selected International Standards -1**

**Identify areas where there are opportunities for synergy between key international standards and the CMMI Product Suite**

**Exploit these opportunities by developing appropriate work products and/or liaising with appropriate individuals and organizations**



# **Synergy With Selected International Standards -2**

**Two of the key areas identified to date are the ISO 9000:2000 family of standards and the ISO/IEC 15504 standard**

**Note that 15504 provides a mechanism for establishing important relationships to other important process-related international standards such as ISO 9001:2000, 12207, 15288**



# **Key Supplements Needed**

**Identification of suitable process reference models,**

**Mappings between CMMI model (s) and PRM (s)  
satisfying 15504 -2 requirements,**

**Translation mechanism**



# Translation Mechanism

**Purpose:** for representing the results of an assessment as a set of process attribute ratings for each process selected from the specified Process Reference Model

**How?:**

1. direct translation of Process Assessment Model ratings into a process profile
2. or the conversion of the data collected during the assessment (with the possible inclusion of additional information) through further judgment on the part of the assessor.

# Status

A detailed mapping has been developed from CMMI to:

- the Measurement Framework in ISO/IEC 15504; and
- the Process Reference Model included in ISO/IEC 12207.

A possible approach has been developed for verifiable conversion of results.



# **An Approach for Data Conversion - 1**

## **For the Process Dimension:**

- **Collect data and generate observations for all Specific Practices in Process Areas within the scope of the assessment.**
- **Using the mapping tables, assign the data observations to all Process Outcomes and Attributes indicated from the mapping.**
  - **Thus, if a Specific Practice maps to multiple Process Outcomes, assign the data to all of the possibilities.**
- **Review the assigned data and remove observations that are not relevant.**
- **Judge whether the remaining data is adequate to enable judgement of achievement of the outcomes.**



## **An Approach for Data Conversion - 2**

**Where adequate data is available, consolidate the data to the process level and rate the performance of the process (Process Attribute 1.1).**

**If the data is not adequate, either:**

- **Collect additional data; or**
- **Remove the process from the 15504 scope of the appraisal.**



# **An Approach for Data Conversion - 3**

**Repeat the exercise for the Generic Practices and Process Attributes 2.1 – 5.2.**

**Additional data will need to be collected to address gaps in the mapping**

- **Most notably in Process Attribute 3.2**

**In some cases, evidence from Advanced Practices may also be relevant to a particular Process Attribute for a specific Process or set of Processes.**



# Tool Support

To achieve this form of conversion is complex and difficult, without tool support.

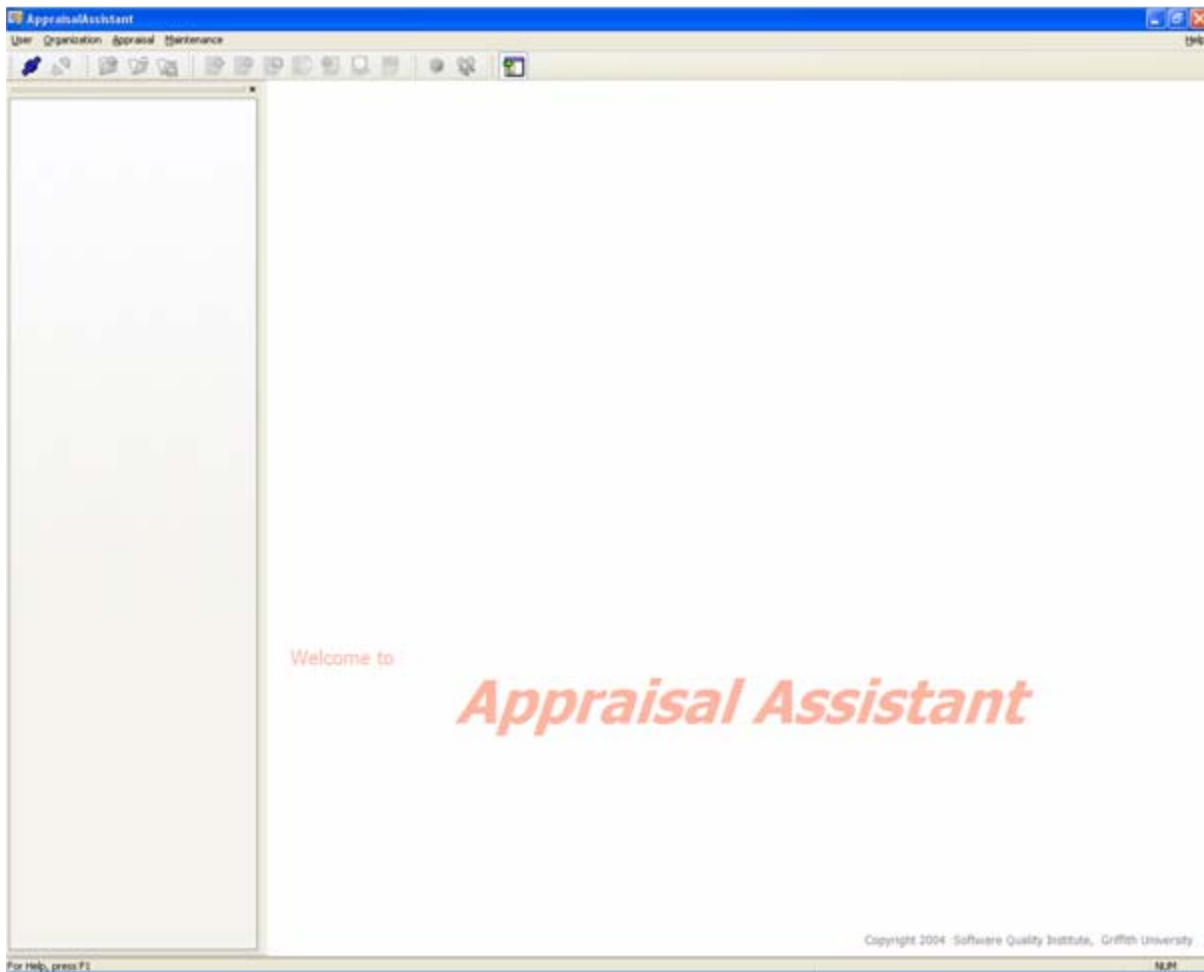
A tool (the Appraisal Assistant) has been developed for managing evidence and ratings in CMMI appraisals, with a specific focus on conversion of data to generate ISO15504 Process Profiles.

The tool automatically generates lists of data for a Process Attribute based upon detailed ratings tables.

- It permits de-selection of data judged to be not relevant.
- It highlights areas where there may be a lack of relevant evidence.



# The Appraisal Assistant



# Model Details

**Standard Appraisal Model Editor**

Process Specific Dimension | Generic Dimension

**Process Specific Dimension**

- [OT] Organizational Training
- [OPF] Organizational Process Focus
- [OPD] Organizational Process Definition
- [OPP] Organizational Process Performance
- [OID] Organizational Innovation and Improvement
- [PP] Project Planning
  - SG 1 Establish Estimates
    - SP1.1-1 Estimate the Scope**
      - Task descriptions
      - Work package descriptions
      - Work breakdown structure
      - Top-level WBS revision
    - SP 1.2-1 Establish Estimates
    - SP 1.3-1 Define Project Life Cycle
    - SP 1.4-1 Determine Estimate
  - SG 2 Develop a Project Plan
  - SG 3 Obtain Commitment to the Project
- [PMC] Project Monitoring and Control
- [SAM] Supplier Agreement Management
- [IPM] Integrated Project Management
- [RSKM] Risk Management
- [IT] Integrated Teaming
- [QPM] Quantitative Project Management
- [REQM] Requirements Management
- [RD] Requirements Development
- [TS] Technical Solution
- [PI] Product Integration
- [PSM] Integrated Supplier Management

**Generic Dimension**

Name: Estimate the Scope of the Project

Acronym: SP1.1-1 Capability: Level 1

Group: Maturity: P.I.I. Type:

C. Feature: P.I.I. Type:

☒ Practice Included in Stage Representation

**Appraisal Consideration**

- Determination of WBS usage for this practice must be based on top-level WBS only, not its fully elaborated and expanded form as referenced in subsequent practices of this PA
- Top-level work breakdown structure should be driven by and linked to specified product requirements. (See Requirements Management PA)

**Summary**

Establish a top-level work breakdown structure (WBS) to estimate the scope of the project

**Related ISO-12207 Process Outcomes/ISO-15504-2 Attribute Achievements**

- F.3.1.3/1 The scope of the work for the project is defined (Process specific)
- F.3.6/4 The reuse potential of each domain is assessed (Process specific)
- F.3.6/5 Reuse proposals are evaluated to ensure the reuse product is suitable

**Framework Selection**

☒ CMMI ☐ ISO12207/15504-5

Add Process Area

Add Goal

Add Practice

Add P.I.I.

Delete Subtree

Max. Capability Level: 5

Delete All Mapping

Import Mapping Table

Add Mapping

Delete Mapping

Close



# Pilot Appraisal

**15504-conformant SCAMPI A appraisal conducted at  
Critical Software, SA during February-March 2006**

- **Maturity level 3 scope**
- **Process reference model embedded in ISO/IEC 12207 (amended)**
- **Mapping between CMMI and 12207 provided by Software Quality Institute**
- **Appraisal team included 3 SCAMPI Lead appraisers , one ISO 9001 auditor and one SPICE assessor**
- **Support automation provided by Software Quality Institute – Appraisal Assistant**
- **Subset of 15504 process profiles generated as well as selected ISO 9001 outcomes.**



# **Project Management Process**

**Maps to elements from the following Process Areas:**

- **Project Planning**
- **Project Monitoring and Control**
- **Supplier Agreement Management**
- **Requirements Management**
- **Integrated Project Management**
- **Quantitative Project Management**

**With minor linkages to**

- **Organizational Process Performance**
- **Risk Management**
- **Verification**



# Project Management Process

ISO15504 Process Profiler

Process Name: F.3.1.3 Project management  
The purpose of the Project management process is to identify, establish, co-ordinate, and monitor the activities, tasks, and resources necessary for a project to produce a product and/or service, in the context of the project's requirements and constraints.

RA1.1 | RA2.1 | RA2.2 | RA3.1 | RA3.2 | RA4.1 | RA4.2 | RA5.1 | RA5.2 | Process Summary | ISO 15504 Profile Summary

Process Attribute: RA3.1 Process Performance attribute

Process Attribute Achievement: Fully Achieved

Strength: Weakness:

Outcome: 1) The scope of the work for the project is defined.

Address Evidence

| Evidence                                                                                                | Instantiation | CMMI Practice     | Characteristic | Evidence Description             |
|---------------------------------------------------------------------------------------------------------|---------------|-------------------|----------------|----------------------------------|
| Analyse Phase Overview Presentation                                                                     | GSFP2         | PP-SG 1-SP1-2-1   | Strength       | Presentation - analysis overview |
| Architecture (deliverable)                                                                              | SSAI1         | PP-SG 1-SP1-2-1   | Strength       |                                  |
| Audit Report                                                                                            | WCHIBES       | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| CSH-2004-RBL (S60-external-mice-technical.doc)                                                          | SMICE         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| csu-spl-open-project-form.doc                                                                           | OFF           | PP-SG 2-SP2-4-1   | Strength       |                                  |
| CSH-QM-2003-PCS-2206-project-ifa-cyclex.pdf                                                             | WCHIBES       | PP-SG 1-SP1-3-1   | Strength       |                                  |
| CSH-SGA1-2003-QAP-2002-qa-plan.doc                                                                      | SSAI1         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| CSH-SMICE-2004-QPL-2013-external-mice-detailed-plan.mpp                                                 | SMICE         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| Detailed Plan Analysis Phase                                                                            | GSFP2         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| Detailed Plan Modeling Phase                                                                            | GSFP2         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| Internal project file (with used with Request@ - from Spandystems - for requirements change management) | WCHIBES       | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Exceptions and non-compliance                                                                           | GSFP2         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| External Meeting minutes with consortium                                                                | GSFP2         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| R&R Support Category                                                                                    | WCHIBES       | PP-SG 2-SP2-1-1   | Strength       |                                  |
| Financial maps                                                                                          | SSAI1         | PP-SG 2-SP2-1-1   | Strength       |                                  |
| Financial Proposal                                                                                      | SSAI1         | PP-SG 2-SP2-1-1   | Strength       |                                  |
| http://www.critical.pt/cmm/ra3management/project-management/CSH-QM-2003-PCS-L779-project-management.pdf | GSFP2         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| Interview OFF Team                                                                                      | OFF           | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Interview PM                                                                                            | GSFP2         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| Interview SMICE team                                                                                    | SMICE         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| Management proposal                                                                                     | SSAI1         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| Master Plan                                                                                             | GSFP2         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| Meeting minutes (Technical)                                                                             | OFF           | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Modeling Overview Presentation                                                                          | GSFP2         | PP-SG 1-SP1-2-1   | Strength       |                                  |
| open-project-external-mice.doc                                                                          | SMICE         | PP-SG 2-SP2-4-1   | Strength       |                                  |
| OFF Team Interview                                                                                      | OFF           | PP-SG 1-SP1-5-1   | Strength       |                                  |
| Project Life Cycle Management Process                                                                   | GSFP2         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| Project Progress Reports                                                                                | SSAI1         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Proposal: part5:technical-proposal                                                                      | GSFP2         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| Prototype presentation to the customer                                                                  | SMICE         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Requirements doubts meeting                                                                             | SMICE         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| R&D Forms                                                                                               | GSFP2         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| SGA1 - Master Plan.mpp                                                                                  | SSAI1         | PP-SG 2-SP2-1-1   | Strength       |                                  |
| Statement of work                                                                                       | GSFP2         | PP-SG 1-SP1-3-1   | Strength       |                                  |
| System requirements review report                                                                       | SMICE         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| technical proposal                                                                                      | SSAI1         | PP-SG 1-SP1-2-1   | Strength       |                                  |
| User requirements review report                                                                         | SMICE         | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| Workshop with customer for presenting requirements for analysis                                         | WCHIBES       | REQM-SG 1-SP1-5-1 | Strength       |                                  |
| WCHIBES PM Interview                                                                                    | WCHIBES       | PP-SG 1-SP1-3-1   | Strength       |                                  |

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# PA 2.1 – Process Management

ISO15504 Process Profile

Process Name: Acquisition preparation  
The purpose of the Acquisition preparation process is to establish the needs and goals of the acquisition and to communicate these with the potential suppliers.

PA1.1 PA2.1 PA2.2 PA3.1 PA3.2 PA4.1 PA4.2 PA5.1 PA5.2 Process Summary ISO 15504 Profile Summary

Process Attribute: PA2.1 Performance management attribute

Process Attribute Achievement: Fully Achieved

Strength: Weakness:

Achievement: all objectives for the performance of the process are identified

Related Evidence

| Evidence                                                              | Instantiation | OWE Practice    | Characteristics |
|-----------------------------------------------------------------------|---------------|-----------------|-----------------|
| <input checked="" type="checkbox"/> Detailed project plan             | SHICE         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Engineering board meeting minutes | Organisat...  | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> F&B Process Management Category   | Organisat...  | SAM-GG 2-GP 3.1 | Strength        |
| <input checked="" type="checkbox"/> Master Plan                       | GSPF2         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> PMAC Interview PM SHICE           | SHICE         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Project Plan                      | SSGAI         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Quality Council meeting minutes   | Organisat...  | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Quality Manual                    | Organisat...  | TS-GG 2-GP 3.1  | Strength        |
| <input checked="" type="checkbox"/> Quality Policies                  | Organisat...  | SAM-GG 2-GP 3.1 | Weakness        |
| <input checked="" type="checkbox"/> SW Construction Process           | Organisat...  | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> SW Design Process                 | Organisat...  | TS-GG 2-GP 2.2  | Strength        |

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Achievement: all performance of the process is planned and monitored

Related Evidence

| Evidence                                                               | Instantiation | OWE Practice    | Characteristics |
|------------------------------------------------------------------------|---------------|-----------------|-----------------|
| <input checked="" type="checkbox"/> Audit Report                       | WOHERS        | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> Audit Report - 2006                | OFF           | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> Audit Report Jan 06                | GSPF2         | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> CSW-SIA3-2005-QAP-2002-qa-plan.doc | SSGAI         | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> Detailed project plan              | SHICE         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Document Review Records            | SHICE         | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> Interview PM GSPF2                 | GSPF2         | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> Interview PM SSGAI                 | SSGAI         | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> Master Plan                        | GSPF2         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Meeting minutes (Technical)        | OFF           | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> Milestone SQA report               | SSGAI         | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> PDR milestone report               | WOHERS        | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> PDR product assurance report       | SHICE         | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> PMAC Interview PM SHICE            | SHICE         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Project Detailed Plan              | SHICE         | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> Project SQA Plan                   | SSGAI         | TS-GG 2-GP 2.2  | Strength        |
| <input checked="" type="checkbox"/> Review records                     | SHICE         | SAM-GG 2-GP 2.9 | Strength        |
| <input checked="" type="checkbox"/> SW Construction Process            | OFF           | TS-GG 2-GP 2.8  | Strength        |
| <input checked="" type="checkbox"/> SW Design Process                  | Organisat...  | TS-GG 2-GP 2.2  | Strength        |

Reset Evidence Delete Unchecked

Report on audit of the project conducted as planned.

Reset Profile Report Close



# PA 2.2 – Work Product Management

6015504 Process Profiler

Process Name: Acquisition preparation

Process Attribute: PA2.2 Work product management attribute

Process Attribute Achievement: Fully Achieved

Strength: [ ] Weakness: [ ]

Related Evidence

| Evidence                                                         | Instantiation | CMMI Practice  | Characteristic |
|------------------------------------------------------------------|---------------|----------------|----------------|
| <input checked="" type="checkbox"/> Detailed project plan        | SHICE         | TS-GG-2-GP-3.2 | Strength       |
| <input checked="" type="checkbox"/> Document Review Records      | SHICE         | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-OPR             | OPF           | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-SSGAI           | SSGAI         | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Master Plan                  | SSGAI         | TS-GG-2-GP-2.2 | Strength       |
| <input checked="" type="checkbox"/> Meeting minutes (Technical)  | OPF           | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Milestone SQA report         | SSGAI         | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> ROR milestone report         | WOWERS        | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> ROR product assurance report | SHICE         | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> PHC Interview PM-SSGCE       | SHICE         | TS-GG-2-GP-2.2 | Strength       |
| <input checked="" type="checkbox"/> Project Detailed Plan        | SHICE         | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Project Plan                 | SSGAI         | TS-GG-2-GP-2.2 | Strength       |
| <input checked="" type="checkbox"/> Project plan (QMS 3.0)       | Organizati... | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Review records               | OPF           | TS-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> SW Construction Process      | Organizati... | TS-GG-2-GP-2.2 | Strength       |
| <input checked="" type="checkbox"/> SW Design Process            | Organizati... | TS-GG-2-GP-2.2 | Strength       |

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Achievement: 3) Requirements for documentation and control of the work products are defined

Related Evidence

| Evidence                                                    | Instantiation | CMMI Practice   | Characteristic |
|-------------------------------------------------------------|---------------|-----------------|----------------|
| <input checked="" type="checkbox"/> CDR PM Reviews          | SHICE         | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Detailed project plan   | SHICE         | TS-GG-2-GP-2.2  | Strength       |
| <input checked="" type="checkbox"/> Interview PM-SSGAI      | SSGAI         | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-SSGAI      | SSGAI         | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-SSGCE      | SHICE         | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-OPR        | OPF           | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview PM-SSGAI      | WOWERS        | SAH-GG-2-GP-2.8 | Strength       |
| <input checked="" type="checkbox"/> Interview SSGAI Team    | SSGAI         | TS-GG-2-GP-2.8  | Strength       |
| <input checked="" type="checkbox"/> Master Plan             | SSGAI         | TS-GG-2-GP-2.2  | Strength       |
| <input checked="" type="checkbox"/> PHC Interview PM-SSGCE  | SHICE         | TS-GG-2-GP-2.8  | Strength       |
| <input checked="" type="checkbox"/> Project Plan            | SSGAI         | TS-GG-2-GP-2.2  | Strength       |
| <input checked="" type="checkbox"/> SW Construction Process | Organizati... | TS-GG-2-GP-2.2  | Strength       |
| <input checked="" type="checkbox"/> SW Design Process       | Organizati... | TS-GG-2-GP-2.2  | Strength       |

Reset Evidence Delete Unchecked

Achievement: 2) Work products are appropriately identified, documented, and controlled

Related Evidence

Evidence Description

See 10PA-200 and 10PR-200 "Software Requirements Engineering". This is the planned task and effort for performing the process.

Work products are controlled using CVS.

Reset Profile Report Close



# PA 3.1 – Process Definition

ISO15504 Process Profiler

Process Name: Acquisition preparation  
The purpose of the Acquisition preparation process is to establish the needs and goals of the acquisition and to communicate these with the potential suppliers.

PA1.1 | PA2.1 | PA2.2 | **PA3.1** | PA3.2 | PA4.1 | PA4.2 | PA5.1 | PA5.2 | Process Summary | ISO 15504 Profile Summary

Process Attribute: PA3.1 Process definition attribute

Process Attribute Achievement: Not Rated

Strength: Weakness:

Achievement: (A) A standard process, including appropriate tailoring guidelines, is defined that describes the fundamental elements that must be incorporated into a defined process.

Related Evidence

| Evidence                                  | Instantiation  | ORG Practice  | Characteristic |
|-------------------------------------------|----------------|---------------|----------------|
| Interview PM-ORF                          | QPP            | TS-66-3-SP3.1 | Strength       |
| KOM minute                                | SMCE           | TS-66-3-SP3.1 | Strength       |
| KOM Presentation                          | SMCE           | TS-66-3-SP3.1 | Strength       |
| Project Life Cycles                       | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Project Management Process                | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Project Master Plan                       | SMCE           | TS-66-3-SP3.1 | Strength       |
| Project SQA Plan                          | QPP            | TS-66-3-SP3.1 | Strength       |
| Project Technical and Management proposal | SMCE           | TS-66-3-SP3.1 | Strength       |
| Proposal                                  | WOWERS         | TS-66-3-SP3.1 | Strength       |
| QA Plan Template                          | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Quality Assurance Plan                    | QSP2           | TS-66-3-SP3.1 | Strength       |

Reset Evidence Delete unchecked

Evidence Description: Galois Standards are integrated with Orbital's own standards to give a coherent set to work from.

Achievement: (B) The sequence and interaction of the standard process with other processes are determined.

Related Evidence

| Evidence                   | Instantiation  | ORG Practice  | Characteristic |
|----------------------------|----------------|---------------|----------------|
| Interview PM-ORF           | QPP            | TS-66-3-SP3.1 | Strength       |
| KOM minute                 | SMCE           | TS-66-3-SP3.1 | Strength       |
| KOM Presentation           | SMCE           | TS-66-3-SP3.1 | Strength       |
| Management proposal        | QPP            | TS-66-3-SP3.1 | Strength       |
| Project Life Cycles        | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Project Management Process | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Project Plan               | SMCE           | TS-66-3-SP3.1 | Strength       |
| Project Proposal           | QSP2           | TS-66-3-SP3.1 | Strength       |
| Project SQA Plan           | QPP            | TS-66-3-SP3.1 | Strength       |
| QA Plan Template           | Organizatio... | TS-66-3-SP3.1 | Strength       |
| Quality Assurance Plan     | QSP2           | TS-66-3-SP3.1 | Strength       |

Reset Evidence Delete unchecked

Evidence Description: Galois Standards are integrated with Orbital's own standards to give a coherent set to work from.

Achievement: (C) Required competencies and roles, for performing a process are identified as part of the standard process.

Related Evidence

| Evidence | Instantiation | ORG Practice | Characteristic |
|----------|---------------|--------------|----------------|
|----------|---------------|--------------|----------------|

Reset Evidence Delete unchecked

Evidence Description:

Reset Profile Report Close



# PA 3.2 – Process Deployment

ISO15004 Process Profiler

Process Name: Acquisition preparation

Process Description: The purpose of the Acquisition preparation process is to establish the needs and goals of the acquisition and to communicate these with the potential suppliers.

PA3.1 | PA2.1 | PA2.2 | PA3.1 | PA3.2 | PA4.1 | PA4.2 | PA5.1 | PA5.2 | Process Summary | ISO 15004 Profile Summary

Process Attribute: PA3.2 Process deployment attribute

Process Attribute Achievement: Not Rated

Strength: [ ] Weakness: [ ]

Achievement: (A) A defined process is developed based upon an appropriately selected and/or tailored standard process.

Related Evidence

| Evidence                                  | Initiation      | CMMI Practice | Characteristic | Evidence Description                                                     |
|-------------------------------------------|-----------------|---------------|----------------|--------------------------------------------------------------------------|
| MM-Process Management Categories          | Organization... | TS-60 3-SP3.1 | Strength       | The QMS provides support for most functions in projects within Critical. |
| Follow-up Interviews                      | WVVERS          | TS-60 3-SP3.1 | Strength       |                                                                          |
| Interview PM-Off                          | OMF             | TS-60 3-SP3.1 | Strength       |                                                                          |
| KOH inputs                                | SMICE           | TS-60 3-SP3.1 | Strength       |                                                                          |
| KOH Presentation                          | SMICE           | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Life Cycles                       | Organization... | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Management Process                | Organization... | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Master Plan                       | SMICE           | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Plan                              | SSAI            | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Plan (PMP)                        | OMF             | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Proposal                          | GSFP2           | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project SQA Plan                          | OMF             | TS-60 3-SP3.1 | Strength       |                                                                          |
| Project Technical and Management proposal | SMICE           | TS-60 3-SP3.1 | Strength       |                                                                          |
| Proposal                                  | WVVERS          | TS-60 3-SP3.1 | Strength       |                                                                          |
| QA Plan Template                          | Organization... | TS-60 3-SP3.1 | Strength       |                                                                          |
| Quality Assurance Plan                    | GSFP2           | TS-60 3-SP3.1 | Strength       |                                                                          |

Reset Evidence Delete Unchecked

Achievement: (B) Required roles, responsibilities and authorities for performing the defined process are assigned and communicated.

Related Evidence

| Evidence | Initiation | CMMI Practice | Characteristic | Evidence Description |
|----------|------------|---------------|----------------|----------------------|
|          |            |               |                |                      |

Reset Evidence Delete Unchecked

Achievement: (C) Personnel performing the defined process are competent on the basis of appropriate education, training, and experience.

Related Evidence

| Evidence | Initiation | CMMI Practice | Characteristic | Evidence Description |
|----------|------------|---------------|----------------|----------------------|
|          |            |               |                |                      |

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Achievement: (D) Required resources and information necessary for performing the defined process are made available, allocated and used.

Related Evidence

| Evidence | Initiation | CMMI Practice | Characteristic | Evidence Description |
|----------|------------|---------------|----------------|----------------------|
|          |            |               |                |                      |

Reset Profile Report Close



# **Pilot Appraisal Report**

**Result considered a successful demonstration of ability to fulfill 15504 requirements and generate 15504 process profile relative to a separate process reference model,**

**Demonstrated criticality of adequate supporting automation**



# **Pilot Observations**

**Improvement opportunities were identified for support automation**

**Sample of 12207 processes were rated and a sample of 9001 clauses were examined**

**Observed consistency between CMMI findings and prior 9001 audit reports as well as prior SPICE assessments, given the expected progress of the improvement program at Critical.**



# Issues from the Pilot Appraisal

## Model-related:

- Deficiencies previously identified in the relationship between CMMI Generic Practices and the 15504 Measurement Framework had a significant impact on assessment of Level 3 Process Attributes.

## Technology-related:

- Significant issues in usability of the “translation” functions.
- Need to incorporate the ability to capture additional evidence where needed.



## **Further effort**

**Additional pilot appraisals are required to identify any additional issues and to raise confidence in the translation mechanism as well as the translation requirements of 15504.**

**Ideally a combined CMMI / SPICE assessment using two independent teams should be undertaken.**

**The ability to perform “bi-directional” translation would be useful (i.e. determine CMMI capabilities from a SPICE assessment) would be useful.**



# Beta-2 Release

Significant improvements to the Evidence Registry and to Ratings Generation.

CMMI – ISO 15504 mapping functions improved in line with findings from the Pilot Appraisal.

Available for download from

<http://www.sqi.gu.edu.au/AppraisalAssistant>

The SQI is committed to two further beta releases of the Appraisal Assistant in 2007.



# Beta Test Programme

Initial release 2005

Beta 2 release 28 July 2006

503 registered beta testers

217 downloads of Beta 2 version



# More Information

## The Appraisal Assistant:

- <http://www.sqi.gu.edu.au/AppraisalAssistant>

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