

CENTRE CMMI 1.2 Artifacts for Process Improvement

CENTRE™ (Common Enterprise Resource)

Systems and Software Engineering Platform designed for CMMI compliance

Capability Maturity Model Integration (CMMI) is a process improvement approach that provides organizations with the essential elements of effective processes. **CMMI** helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes. (Software Engineering Institute, **SEI** web-site, www.sei.cmu.edu/cmmi/general/)

CENTRE is a software product designed, authored and produced by **Integration Technologies Group Inc.** **CENTRE** is composed of configurable modules intended to provide compliance with **CMMI** process areas and **ISO** clauses while increasing organizational efficiency, effectiveness and continual improvement.

Integration Technologies Group Inc. (ITG), www.itgonline.com, is a systems and software engineering company founded in 1984 and headquartered in Falls Church, Virginia, USA. ITG is ISO 20000-1:2005, ISO 9001:2008 and ISO 27001:2005 registered. As well, the company is an SEI member and partner and has been externally appraised twice at CMMI Level 3.

This document contains brief descriptions of **CENTRE CMMI** Software features which cover specific and generic evidence of compliance for practices required by **CMMI for Development Version 1.2** process areas. As with all process improvement methodologies and industry best practices, management commitment, quality record collection, analysis and processing are required to achieve improvement objectives and successful appraisals and registrations.

CENTRE was developed to facilitate today's Best Practices Certifications and process improvement methodologies. By using **CENTRE**, businesses can increase efficiencies across key business processes and satisfy many of the requirements stipulated by the **SEI** and international standards boards. Some of the benefits that may be derived by implementing compliance with **CMMI** process areas are:

- Improved Quality of Output
- Increased Accuracy of Estimates
- Earlier Identification of Defects
- Accurate Measurements of Processes
- Higher Operational Efficiency
- Cost Reduction and Integration with Industry Standards

As a result, an organization using **CENTRE** will be recognized as delivering successful service to its clients and constituents with dependably high-quality and consistent methods and practices.

The **CENTRE CMMI** Software 1.2 implementation includes 'CENTRE ISO 9001:2008' Quality Management System elements which are:

CENTRE - Document Control System (DCS)

CENTRE - Records Control System (RCS)

CENTRE CMMI Version 1.2 Compliance, Decision Analysis and Resolution - White Paper

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CENTRE - Human Resources
CENTRE - Meeting Management
CENTRE - Customer Satisfaction Surveys
CENTRE - Supply Chain Management
CENTRE - Ad-Hoc Report Writer

These elements are described in more detail in the **CENTRE ISO 9001:2008** Compliance Package - White Paper.

Disclaimer

Use of CENTRE modules or similar software alone does not result in organizational CMMI conformance. Documented procedures, defined processes and work instructions, staff training and internal audits of Process Areas compliance are needed to prepare an organization for a CMMI appraisal. The ITG CENTRE Document Control System (DCS) contains documentation that describes the ITG Quality Management System and consists principally of the following documents:

- Business Quality Manual (BQM) in conformance with ISO 9001:2008,
- Information Technology Services Management manual (ITSM) in conformance with ISO 20000-1:2005,
- Information Security Management System manual (ISMS) in conformance with ISO 27001:2005,
- Corporate process workflow, Quality Procedures and Quality Work Instructions.

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CENTRE CMMI Specific & Generic Evidence Elements:

CENTRE – Decision Analysis and Resolution

SP 1.1 *Establish and maintain guidelines to determine which issues are subject to a formal evaluation process.*

CENTRE Evidence: The direct evidence for conformance with this Specific Practice is contained in Quality Procedure QP-14, Decision Analysis and Resolution.

DOCUMENT#	TITLE	AUTHOR	DCS SUBMISSION DATE	DB INFO REVISED
617-V3	Procedure - Decision Analysis and Resolution, ITG QP-14 - Executive Management	Michael Angelakis	10/6/2005 1:47:00 PM	10/29/2008 3:40:04 PM

Procedure: Decision Analysis and Resolution ITG QP-14

Purpose:

This procedure defines the company-wide standards for the formal process that is used to evaluate identified alternatives against established criteria in compliance with the ITG Business Quality Manual (BQM) Section 8, Measurement, Analysis and Improvement.

Scope:

This procedure applies to all departments engaged in decisions regarding the following areas:

- Commercial-off-the-Shelf (COTS) Software Acquisitions
- Business Continuity Plans
- Real Estate Acquisitions and Management
- Infrastructure Change Management
- Investments and Financial Instruments
- Business Process Change Management
- Organizational Innovations

References:

- Work Instruction: Decision Analysis and Resolution, ITG QWI-22
- ISO 9001:2000, Section: 8.5.2, Corrective Action

Definitions:

Decision Analysis and Resolution: Actions taken to establish scope and goals, evaluate assumptions, investigate alternatives, identify risks/mitigation plans and reach decisions with the most desirable outcomes.

Responsibility:

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This procedure designates Department Managers, Project Managers and Management Review Boards as the authorized staff/entities that collect, measure and analyze relevant data.

Procedure (incorporate inputs and outputs):

Relevant Staff	Identify decision as subject to the contents of this procedure. Collect, prepare and disseminate data for evaluation. Approve and supervise implementation of the contents of this procedure.
Staff Members	Assist with the implementation processes in accordance to relevant Work Instructions.
Q/A Staff Members	Audit and validate compliance.

Records

CENTRE, Projects, DAR records

SP 1.2 Establish and maintain the criteria for evaluating alternatives, and the relative ranking of these criteria

CENTRE Evidence: The direct evidence supporting compliance with this specific Practice is contained in QP-14, in Quality Work Instruction QWI-22 and in DAR records.

DOCUMENT#	TITLE	AUTHOR	DCS SUBMISSION DATE	DB INFO REVISED
618-V1	Work Instruction - Decision Analysis and Resolution, ITG QWI-22 - Executive Management	Michael Angelakis	10/6/2005 1:54:00 PM	10/30/2008 3:56:00 PM

Work Instruction: Decision Analysis and Resolution ITG QWI-22

Purpose:

This instruction designates Analysis and Resolution as required processes for all decisions involving the functional areas described in ITG QP-14, Decision Analysis and Resolution.

Scope:

This instruction applies to company-wide operations.

Definitions:

Decision Analysis and Resolution: Actions taken to establish scope and goals, evaluate assumptions, investigate alternatives, identify risks/mitigations and reach decisions with most desirable outcomes.

Scope: Overview of issue to be resolved, resources required, time limitations, and options under evaluation.

CENTRE CMMI Version 1.2 Compliance, Decision Analysis and Resolution - White Paper

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Responsibility:

This work instruction designates Department Managers, Project Managers and Management Review Boards as the authorized staff/entities that collect, measure, analyze relevant data and make decisions as required.

Instructions:

- Designate relevant decision as subject to QP-14.
- Establish scope and desired outcome.
- Establish evaluation criteria.
- Identify available options.
- Produce a table that contains and compares strengths, weaknesses and risks for each option.
- Disseminate data for peer review where applicable.
- Evaluate input(s)/comments.
- Select applicable decision alternative and record justification.
- Post records in the Document Control System (DCS) subject to security considerations, or,
- Make entry into the Records Control System (RCS) regarding the nature and location the relevant DAR records.

Records:

DAR records in DCS/RCS

DAR Record – Evaluation Criteria

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VIEW DAR FOR PROJECT [Remote Warehouse]	
DAR Type:	Business Continuity Plans
DAR Date:	6/27/2007
Scope / Desired Outcome:	Purpose: The purpose of this DAR is to evaluate the usage and effectiveness of the RW program.
	Scope: The evaluation will cover RWs with at least one year of operation using guidelines under OP - 14
Evaluation Criteria:	Evaluation Criteria: RW usage will be evaluated under contract 8068-000 (6) during a 1 year period between 5/1/06 through 5/1/07 on the following criteria:
	# Remote Warehouses 8068-000 Service Calls w/POs Service Calls using RW parts
Options:	Identified Options: 1. Continue Using RWs: Due to the limited impact on cost of inventory associated with RWs the continued use is desirable due to indirect benefits. 2. Reduce the number of RWs: Due to the limited usage four of the RWs (3, 4, 5 and 6)
Peer Review:	Tentative Recommendations: • Continue using the RW program while seeking to improve the RW processes. Evaluate the RW program on case by case basis and determine validity of each RW as needed. • Discontinue using RWs 3 through 6 due to low utilization percentages. • Re-evaluate the RW inventories of 1 and 2 and continue using until the end of 2007 at
Comments:	Lefteris Karmiris and Tom Reilly
Decision / Justification:	Decision and Justification:

SP 1.3 *Identify alternative solutions to address issues.*

CENTRE Evidence: As seen in response to Specific Practice 1.2 the direct evidence for this specific Practice are contained in the DAR record as “Options”.

SP 1.4 *Select the evaluation methods.*

CENTRE Evidence: The direct evidence demonstrating compliance with this Specific Practice is contained in Change, Requirements, and DAR records.

SP 1.5 *Evaluate alternative solutions using the established criteria and methods.*

CENTRE Evidence: Alternative solutions, selection criteria and rationale for selected options are contained in the Change Analysis, Design document and DAR records and to the extent that the appraised project contains such requirements may be used as direct evidence for compliance with this specific practice.

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VIEW REQUIREMENT [1102]

Workflow Status [Not Initiated]

Program Name: ITG CENTRE

Version Release Number: 4.6.8

Functional Area/Screen: Projects

Requirement Description: Add controls in the system to prevent Task start and end dates from falling outside the parent project's duration and project durations from falling outside the related contract period of performance. The same holds true when going the other way, i.e. the system should ensure that the contract expiration date is not before the Project end date and the Project end date is not before the end date in any of the related Tasks to ensure validity and consistency. Also consider adding the ability to create predecessor relationships between tasks and implement the appropriate control on the start dates of affected tasks. This will provide critical paths.

Requirement Rationale: Change Request # 142

Uploaded Documents: Change Request # 142 Tasks: 1

OVERVIEW
 Issued By: Hadjikyriakou, George Type: New Functionality
 Date Issued: 2/2/2008 4:18:26 PM Impact: NONE
 Approved By: SW Review Board Implementation Severity: NONE
 Approved Date: 2/8/2008 11:58:11 AM Preceding Requirement ID: 0
 Assigned To: Pangalos, Spyro (n) Implementation Order: 0

Verification Log:
 DB updated 8/30/2008 11:26:25 AM Entered by: Pangalos, Spyro (n)
 7/31/2008 5:13:20 PM Entered by: Coutoulakis, Emmanuel
 Tested extensively against the requirements and the feature seems that is working as it supposed. The projected dates on the edit task screen may need to be indicated as mandatory.
 Verification test = Passed
 7/30/2008 7:03:46 PM Entered by: Coutoulakis, Emmanuel
 On Edit project
 #Planned Start Date: = correct according to
 Pre-Release Defects: 1
 Verification Tests: Passed

Modified Components/Deployment-Integration Instructions:
 Tables:
 New Table -ProjectGroup-

 CREATE TABLE [ProjectGroup] (
 [ProjectGroupID] [int] IDENTITY (1, 1)
 NOT NULL,
 [ProjectID] [int] NOT NULL,
 [ProjectGroupName] [text] COLLATE
 SQL_Latin1_General_CP1_CI_AS NULL,
 CONSTRAINT [PK_ProjectGroup] PRIMARY
 KEY CLUSTERED
 (
 [ProjectGroupID]
) ON [PRIMARY]
) ON [PRIMARY] TEXTIMAGE_ON [PRIMARY]

EDIT DESIGN SPECIFICATION FOR REQUIREMENT [1102]

Date Created: 2/2/2008 4:18:26 PM Created By: Hadjikyriakou, George
 Date Last Updated: 5/12/2008 11:17:18 AM Last Updated By: Hadjikyriakou, George

Description:
 Modify the business logic and generate Java script messages upon Save to prevent inconcista date ranges between Proojects and Tasks on the following ASPs:
 NewTask.asp
 EditTask.asp
 EditProject.asp
 and COMs:
 BO_Task
 BO_Project
 DA_Task
 DA_Project

If there is a Predecessor Task make sure that the Start Date starts after the end of the End of the Predecessor Task.

The following Columns should added to Table Task:
 GroupNumber small int
 SequenceNumber small int

The Tasks of a Project with the same GroupNumber assigned, should be linked through the PrivTaskID. The SequenceNumber will be updated to reflect the order of the tasks (through traversing the link list) any time the PrivTaskID is updated.

Peer Review Performed:
 Reviewed By: Hadjikyriakou, George
 Issue Identified:
 Date Reviewed: 5/7/2008 9:30:58 AM

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Change Request Record

VIEW CHANGE REQUEST [82]	
Workflow Status [Not Initiated]	
Change Request Name: Change Quality Procedure #12 to reflect "Tailoring Guidelines"	
Category: Minor Change	Desired Completion Date: 4/11/2007
Change Type: Documentation	
Change Authority: Executive Management	
Proposed Change:	Include a "Tailoring Guidelines" sub-process within QP-12
Description of current or potential non-conformance/justification:	Process improvement and CMMI requirement
Root Cause:	New Requirement
Change Request Documents	

Change Analysis Record

VIEW ANALYSIS FOR CHANGE REQUEST [82]	
Describe the potential risks, impacts, and business benefits associated with the change request:	There are no risks associated with this change. The benefits include better awareness of contract implementation procedures, and improved stakeholder involvement.
Identify and describe a methodology for reverting or remedying the change if found unsatisfactory after implementation:	Revert to previous version of QP 12

SP 1.6 *Select solutions from the alternatives based on the evaluation criteria.*

CENTRE Evidence: Artifacts that may be used as direct evidence for compliance with this Specific Practice is contained in DAR records.