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 - 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.

CENTRE CMMI 1.2 Artifacts for Process Improvement

CENTRE CMMI Specific & Generic Evidence Elements:

CENTRE – Verification

SP 1.1 *Select the work products to be verified and the verification methods that will be used for each.*

CENTRE Evidence: At the Project level all deliverables should be verified for conformance with their specified requirements. The **CENTRE** Requirements module allows for recording verification data.

SP 1.2 *Establish and maintain the environment needed to support verification.*

CENTRE Evidence: The direct evidence supporting compliance with this Specific Practice are verification records included in the CENTRE Requirements module as seen above and Project documentation defining the Verification process as it relates to specific project requirements.

SP 1.3 *Establish and maintain verification procedures and criteria for the selected work products.*

CENTRE Evidence: Verification procedures are subject to Organizational policies. The CENTRE Document Control System contains documentation providing guidance on the ITG Verification process.

CENTRE CMMI 1.2 Artifacts for Process Improvement

DOCUMENT#	TITLE	AUTHOR	DCS SUBMISSION DATE	DB INFO REVISED
622-V1	CENTRE Ad-Hoc Reports Module Verification Test Cases - Software Engineering	John Cambiotis	10/18/2005 2:32:00 PM	10/29/2008 1:47:52 PM

VTC #	Feature	Purpose	Login Account(s)	Steps	Outcome (On Save)
1	Operations on existing reports	Test that you can run existing reports	Admin, TAM, Accounting	Self Explanatory	Self Explanatory
2		Test that you can export to Excel the results of a report	Admin, TAM, Accounting	Self Explanatory	The top row should include the titles of the columns.
3		Test that you can delete an existing Ad-Hoc Report	Admin	Self Explanatory	Self Explanatory
4		Test that you can navigate through the options of an existing Ad-Hoc Report and run the Report using the Run_Report link.	Admin	Use as many features as possible, and navigate using both links and Continue/Back buttons.	Self Explanatory
5		Test that removing a table in an existing reports, clears all related joins/columns/filters from the rest of the report	Admin	Self Explanatory	Self Explanatory
6		Test that the titles of each column in a Report can be modified by using the Selectcolumns->ColumnProperties feature.	Admin	Self Explanatory	Self Explanatory

SP 2.1 *Prepare for peer reviews of selected work products.*

CENTRE Evidence: The CENTRE Requirements module contains facilities intended for the collection of peer review records.

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 massages upon Save to prevent inconcistances of 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 Date 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: ☑	Issue Identified: ☐
Reviewed By: Hadjikyriakou, George	Date Reviewed: 5/7/2008 9:30:58 AM

These records may be used as direct evidence to comply with this Specific Practice.

SP 2.2 *Conduct peer reviews on selected work products and identify issues resulting from the peer reviews.*

CENTRE Evidence: The records seen above can be used to comply with this Specific Practice.

SP 2.3 *Analyze data about preparation, conduct, and results of the peer reviews.*

CENTRE Evidence: Management Meeting minutes may be used to demonstrate conduct of peer reviews and compliance with the analysis requirement of this specific Practice.

SELECT MEETING					
Meeting Name	Number of Sessions	Open Action Items	Closed Action Items	Action Items On Hold	Cancelled Action Items
◯ Weekly Meeting, Accessibility Solutions Group	25	0	0	0	0
◯ Weekly Meeting, Management	126	5	3	0	0
◯ Weekly Meeting, Software Engineering Dept.	79	3	8	2	0

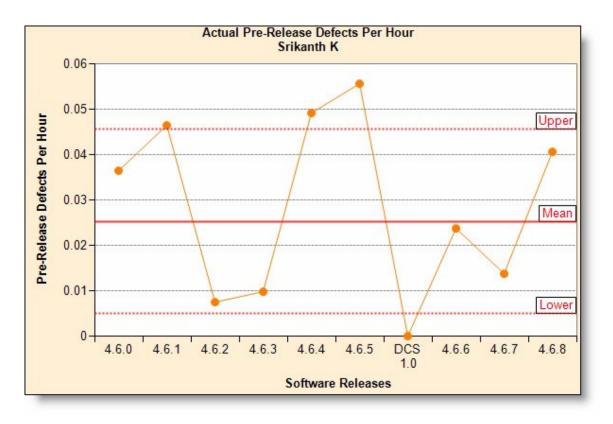## SP 3.1 *Perform verification on the selected work products.*

CENTRE Evidence: Verification records in the **CENTRE** Requirements module may be used to satisfy the requirements of this Specific Practice. Further, as seen in SP 1.3, organizational documentation and appropriate records can be provided to demonstrate compliance.

SP 3.2 *Analyze the results of all verification activities.*

CENTRE Evidence: The direct evidence provided to satisfy this Specific Practice is contained in Management Meeting minutes, in defect analysis and developer evaluations.

DEVELOPER SCORE CARD FOR [All Programs - All Releases]										
Line Item	Developer	Total Requirements (Closed)	Total Estimated Hours	Total Actual Hours	% Variance	Absolute % Variance	Total Defects Post-Release	Total Estimated Hours of Defects Post-Release	Total Actual Hours of Defects Post-Release	Developer Defect Chart
0	Agritellis, Elias C.	13	891.22	1012.5	-13.61	30.77	4	9.85	7.75	View Chart
1	Cambiotis, John (n)	15	41	36.7	10.49	66.59	0	0	0	View Chart
2	Coutoulakis, Emmanuel	22	666.23	618.28	7.2	12.22	4	22.19	16.75	View Chart
3	Fellers, Bridget S.	262	2941.71	2691.05	8.52	27.04	48	220.92	168.95	View Chart
4	Gentile, AJ	0	0	0	0	0	.	0	0	View Chart
5	Guttikonda, Maheedhar	123	2973.94	3168.85	-6.55	19.26	59	651.66	719	View Chart
6	Guttikonda, Sumabala	1	59.47	72.75	-22.34	22.34	0	0	0	View Chart
7	Hadjikyriakou, George	204	2142.6	2062.7	3.73	21.19	46	249.47	192.25	View Chart
8	Javaheri, Pouria	0	0	0	0	0	.	0	0	View Chart
9	Ludwig, Michael	14	107	26	75.7	83.18	0	0	0	View Chart
10	Pangalos, Spyro (n)	146	2371.99	2654.96	-11.93	44.45	52	272.33	238.4	View Chart
11	Software Group	1	150	154	-2.67	2.67	0	0	0	View Chart
12	Srikanth K	78	2221.69	2431.25	-9.43	19.96	38	387.68	373	View Chart

CENTRE CMMI 1.2 Artifacts for Process Improvement

Actual Pre-Release Defects Per Hour
Srikanth K