

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 CMMI Version 1.2 Compliance, Organizational Process Performance - White Paper

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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.

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CENTRE CMMI Specific & Generic Evidence Elements:

CENTRE – Organizational Process Performance

SP 1.1 Select the processes or sub-processes in the organization's set of standard processes that are to be included in the organization's process performance analyses.

CENTRE Evidence: The CENTRE processes that are available for Organizational Process Performance analyses and are direct evidence of compliance for this Specific Practice are included in the Measurements and Analysis and in Document and Control modules.

They include:

CENTRE Incident Management

Measurement of Failure Rates

Sample Labor & Parts Cost By Contract

Cost Deviation by Device (Against Company-Wide Average)

CENTRE Project Management, (Project Financials)

Contract & Company-wide Score Cards,

and,

SW Requirements

Change Management

CENTRE Projects Module

Software Score-Cards,

and,

DOCUMENT#	TITLE	AUTHOR	DCS SUBMISSION DATE	DB INFO REVISED
969-V3	Statistically Managed Subprocess - Number of Incidents Per Day	Elias Agritellis	6/30/2008 10:13:36 AM	11/6/2008 2:12:37 PM
968-V3	Statistically Managed Subprocess - Satisfaction Monitor	Elias Agritellis	6/30/2008 10:09:59 AM	11/6/2008 2:03:01 PM
970-V3	Statistically Managed Subprocess - SLA Compliance	Elias Agritellis	6/30/2008 10:35:59 AM	11/6/2008 1:52:21 PM
984-V2	Statistically Managed Subprocess - Subcontractor Labor Cost	Elias Agritellis	9/19/2008 10:25:56 AM	11/6/2008 2:18:15 PM
812-V2	Work Instruction - Statistical Revenue Analysis and Resolution, ITG QWI-28 - Executive Management	Michael Angelakis	6/19/2007 10:40:12 AM	10/30/2008 4:07:58 PM

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SP 1.2 *Establish and maintain definitions of the measures that are to be included in the organization's process-performance analyses.*

CENTRE Evidence: The data captured in CENTRE records, measured and used for OPP analyses are related to labor cost, material cost, defects, project performance, employee productivity, customer satisfaction, subcontractor, vendor and inventory utilization. These measures may be used as direct evidence for compliance with this Specific Practice.

MEASUREMENT & ANALYSIS	
Reports marked with a (Y) will only retrieve data from year <input type="text" value="2009"/> and beyond. You may change this to access data prior to the current year.	
Parts	<input type="radio"/> Owed by FE > 7 Days - (Y) <input type="radio"/> Owed by Sub > 7 Days - (Y) <input type="radio"/> All > 7 Days - (Y)
Activities	<input type="radio"/> AR Owed by FE - (Y) <input type="radio"/> AR Owed by Sub - (Y)
Service Record	<input type="radio"/> Find Service Record Percentage (Performance Measurements) <input type="radio"/> Find Service Record Percentage By Hour (Performance Measurements) <input type="radio"/> Item Type Service Record Summary By Contract and Item Type (Project Performance Measurements) <input type="radio"/> Open Service Records By Contract <input type="radio"/> TAM Open Service Records Not Dispatched <input type="radio"/> TAM Open Service Records Dispatched <input type="radio"/> TAM Open Service Records Dispatched w/Parts Shipped <input type="radio"/> Company Score Card (Project Performance Measurements) <input type="radio"/> Service Records and Service Record Complaints By Region <input type="radio"/> Item Types in Service Records Vs Contract Item List <input type="radio"/> Service Record Performance By Serial Number <input type="radio"/> SLA Performance For Each Contract <input type="radio"/> <input type="radio"/> Average Costs per Item Type For Each Contract <input type="radio"/> <input type="radio"/> Project Financials <input type="radio"/> <input type="radio"/> Service Record Type Report
Service Record Type	<input type="radio"/> Find Records of Selected Service Record Type by Contract
Subcontractor	<input type="radio"/> Find Subcontractor Service Record Percentage <input type="radio"/> Find Subcontractor Service Record Percentage By Hour
Project	<input type="radio"/> Find Tasks Exceeding Planned Period of Performance <input type="radio"/> Find Project Cost Categories Exceeding Year To Date Budget <input type="radio"/> <input type="radio"/> Project Financial Performance
Inventory	<input type="radio"/> Inventory Item Details By Contract <input type="radio"/> Repair Log Savings/Loss Analysis <input type="radio"/> Inventory Parts Usage By Contract <input type="radio"/> Repair Log Contract Labor Hour Analysis <input type="radio"/> <input type="radio"/> Repair Log Employee Labor Hour Analysis
QA	<input type="radio"/> Contract QA Summary Results <input type="radio"/> QA Summary Results For Each Contract <input type="radio"/> Contract QA Summary Results By TAM <input type="radio"/> Contract QA Summary Results By City <input type="radio"/> Contract QA Summary Results By SME <input type="radio"/> Contract QA Summary Results By BDM <input type="radio"/> Contract QA Summary Results By Local FE <input type="radio"/> Contract QA Summary Results By Subcontractor <input type="radio"/> Contract QA Summary Results For a specified Score and Specified User Category <input type="radio"/> Contract QA Less than Mean and Parameter

SP 1.3 *Establish and maintain quantitative objectives for quality and process performance for the organization.*

CENTRE Evidence: Organizational objectives may be established, maintained and compared to the outputs of the Measurements and Analysis, Project Financials and Statistically Managed Sub-Processes modules. The ITG quantitative objectives are outlined in the Organizational SMART Objectives document.

DOCUMENT#	TITLE	AUTHOR	DCS SUBMISSION DATE	DB INFO REVISED
291-V3	ITG Business Goals and SMART Objectives for 2008-2009 - Executive Management	Michael Angelakis	10/14/2004 6:30:00 PM	10/29/2008 3:25:55 PM
615-V5	Software Engineering Department SMART Objectives- Software Engineering	George Hadjikyriakou	9/23/2005 3:21:00 PM	10/29/2008 10:52:06 AM

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ITG BUSINESS GOALS AND “SMART OBJECTIVES” FOR 2008/2009

The company aims at maintaining a leadership position in competitive market space and ensuring efficiency of operations. To accomplish this it established the following goals:

- Improve ITG profitability by creating organizational consistency of practices and an integrated adaptive portfolio of efficient services;
- Improve customer satisfaction and contract compliance;
- Create comprehensive technology service offerings.

The company has recently identified six “smart objectives” in connection with its continual improvement plan most of which are statistically managed and analyzed. The baseline for comparisons will be the entire year 2007.

A. Increase customer satisfaction ratings

The company conducts random customer satisfaction surveys that contain nine questions and five ratings from 1 to 5. The company records and calculates averages for contracts, technical account managers (TAMs), business development managers (BDMs), as well as an overall company-wide rating per month and quarter. The initial objective, established in 2004, was to improve the company-wide rate to be above 93% by the end of 2005, while the average for all contracts, TAMs and BDMs should not fall below 92%. This objective was clearly met with the current company-wide rate exceeding 95%. The revised goal is to sustain an averaged rating of 96% for 2008, attain one percentage point improvement thereafter and maintain all Customer Satisfaction ratings above 90%.

B. Improve cost prediction

Successful and efficient completion of incidents in a timely manner and with a fully satisfied customer is one of ITG’s important objectives. The goal is to identify optimum usage of subcontractor hours to return equipment to operational status. The quantitative objective of this sub-process is 5% annual cost reduction from the 2007 actual level for each of the next three years (2008 through 2010).

C. Improve call and cost prediction

Our goal is to predict the number of incidents anticipated in the future for any given ITG contract and assist the Company both with the identification of outliers as well as resource capacity planning. The quantitative objective of this sub-process is to achieve 85% accuracy in prediction of monthly calls.

D. Reduce subcontractor labor cost deviation

Our goal is to identify subcontractors that consistently charge the company out of the ordinary or excessive hours to perform repairs of identical equipment.

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The quantitative objective of this sub-process is a 5% improvement of subcontractor charges from the 2007 base level.

E. Increase Service Level Agreement (SLA) compliance

ITG's contracts calculate the degree of compliance in terms of the contracted/agreed upon response time and repair time. TAMs are the owners of the incidents and are principally responsible for reaching the Service Level Agreements (SLA). The quantitative objective of this sub-process is a 5% annual improvement of compliance from the 2007 level for selected contracts.

F. Increase profit margins

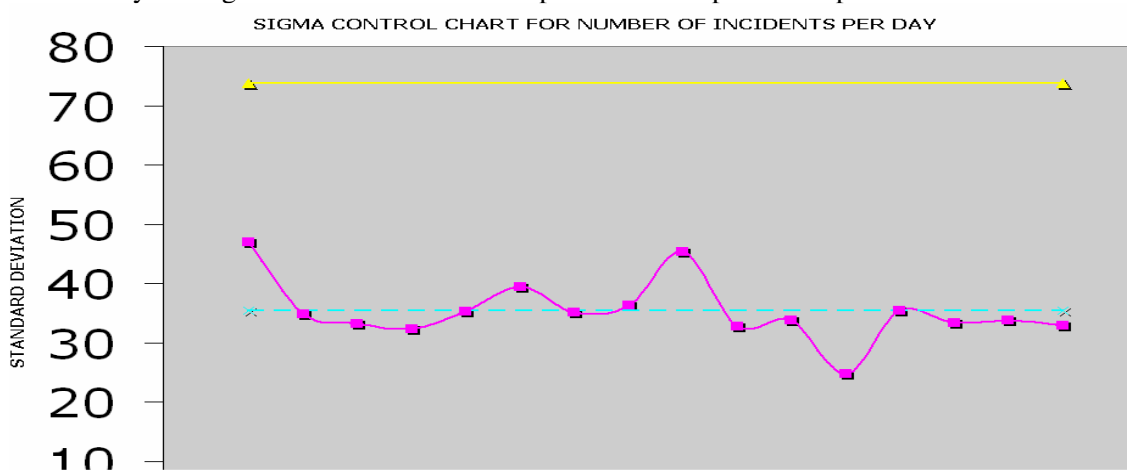
The company expects to realize financial benefit as a result of adoption of the ISO model. As a result of the efficiencies from all the above objectives, the company expects to increase its overall contract profit margin to 12% by the end of 2005. This goal was achieved. Because of the ADMC-2 contract, which in spite of high volume contains very low margin, the goal for 2008-9 is 8% profit as a % of revenue.

SP 1.4 *Establish and maintain the organization's process-performance baselines.*

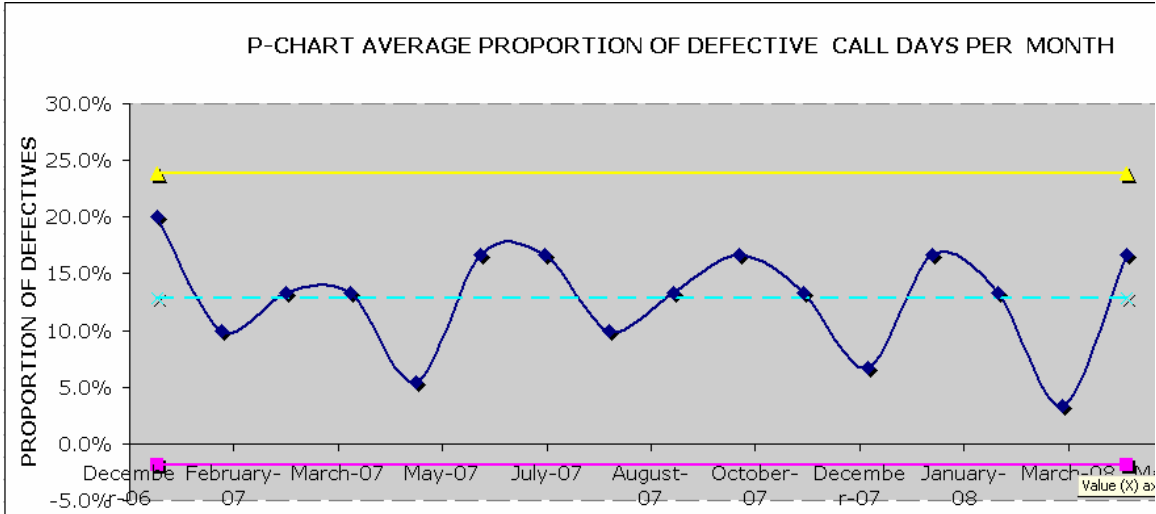
CENTRE Evidence: The Measurement and Analysis, Change, Requirements, Statistically Managed Sub-Processes, Project, IT Service Management and Supply Chain Management modules allow an Organization to establish, maintain and dynamically change baselines. The ITG direct evidence for compliance with this Specific Practice is baselines related to SMART Objectives.

SP 1.5 *Establish and maintain the process-performance models for the organization's set of standard processes.*

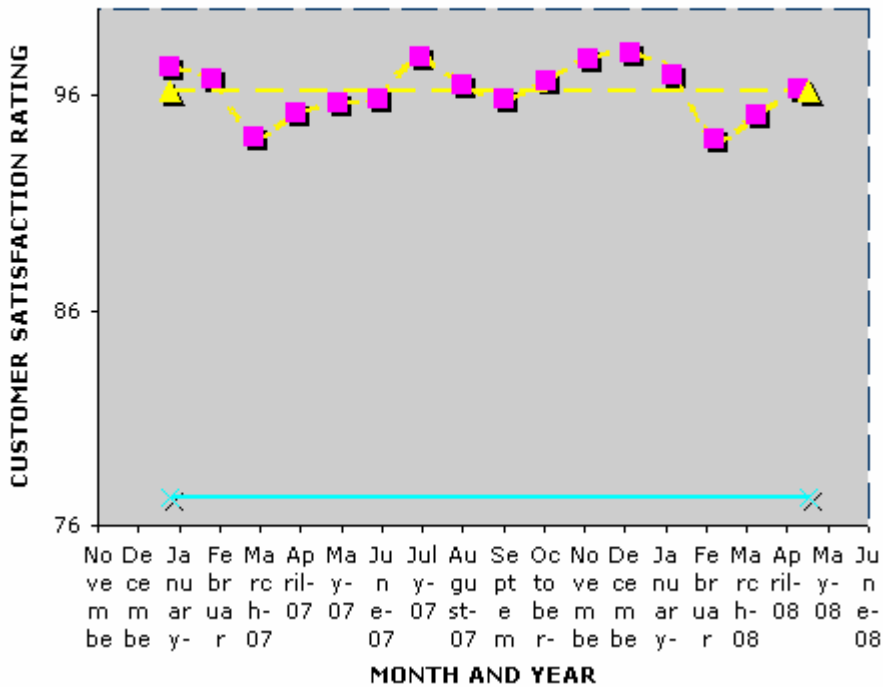
CENTRE Evidence: The direct evidence for compliance with this Specific Practice is the Statistically Managed Sub-Processes. Below please see samples of output.



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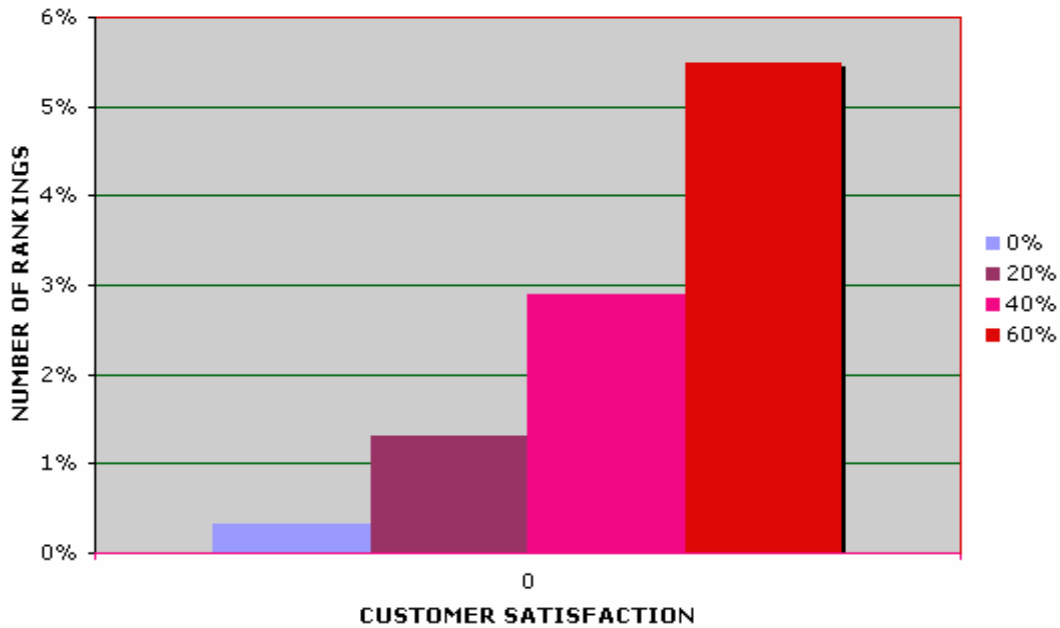
CUSTOMER SATISFACTION AVERAGES CHART



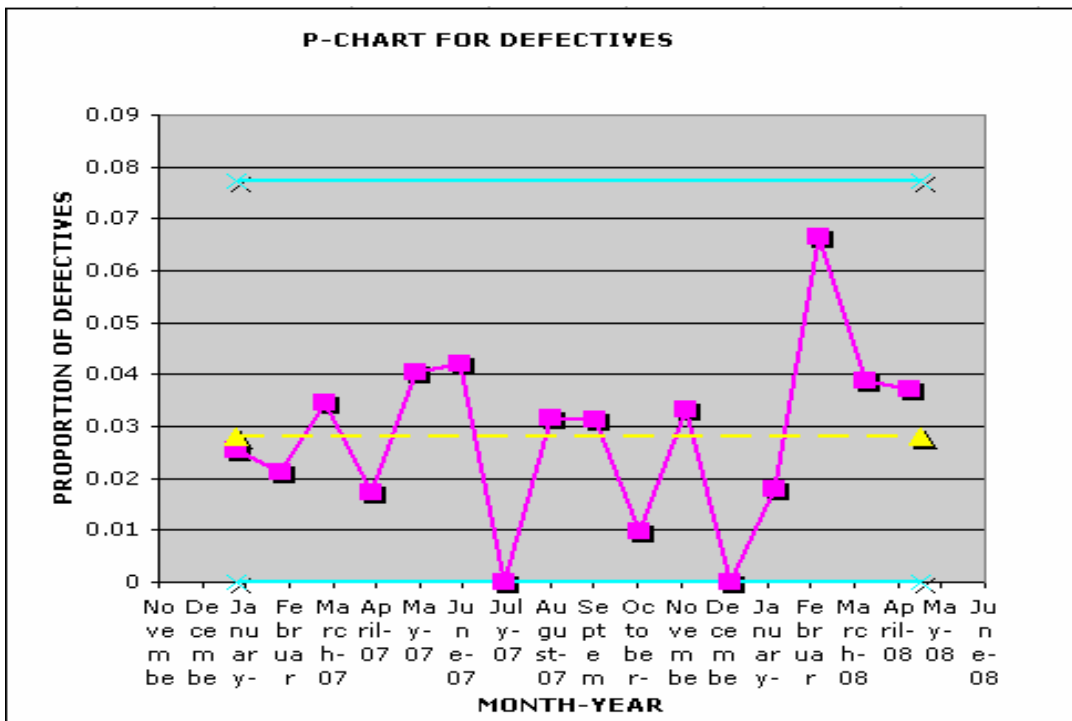
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FREQUENCY HISTOGRAM OF NUMBER OF DEFECTIVE INCIDENTS AND CUSTOMER SATISFACTION



P-CHART FOR DEFECTIVES



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