Measurement Information Specification
Project Schedule
Organization 1
Version 1.0

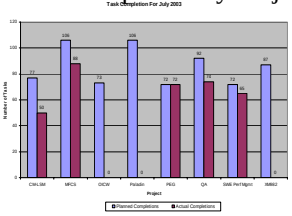
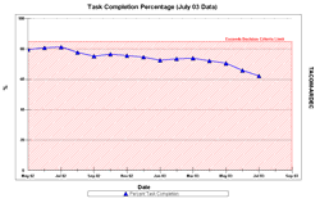
Information Need Description	
Information Need	• Is the schedule being followed? • How many tasks are behind schedule?
Information Category	Schedule and Progress

Measurable Concept	
Measurable Concept	Milestone Performance Work Unit Progress

Entities and Attributes	
Relevant Entities	Schedule
Attributes	Tasks

Base Measure Specification	
Base Measures	1. Planned start dates 2. Planned end dates 3. Actual start dates 4. Actual end dates
Measurement Methods	1. Plans are based on engineering judgment and documented in project plan. Each WBS element, including all defined tasks and activities, should be included. 2. Same as number 1. 3. Actual start is based on a task beginning and the defined entrance criteria have been satisfied. 4. Actual completion is based on task completion where the defined exit criteria have been satisfied.
Type of Method	1. Subjective 2. Subjective 3. Objective 4. Objective
Scale	Valid Dates
Type of Scale	Nominal
Unit of Measurement	Days

Derived Measure Specification	
Derived Measure	1. Total Planned Tasks 2. Total Actual Tasks 3. Task Completion Percentage
Measurement Function	1. Sum of the number of tasks where planned end dates are less than or equal to the relevant period. 2. Sum of the number of tasks where actual end dates are less than or equal to the relevant period. 3. (Total Actual Tasks - Total Planned Tasks)/Total Planned Tasks

Indicator Specification	
Indicator Description and Sample	1. Project Schedule (Project Level only)  2. Plan vs. Actual End Dates (Project and Organizational Level)  3. Task Completion by Project (Organizational Level only)  4. Task Completion Percentage (Organizational Level only)  **See end of file for full-size versions.**
Analysis Model	The measure provides an easy to understand view of the status of scheduled activities and events. Comparison of plan and actual milestone dates provides useful insight into both significant and repetitive schedule slips at the activity level. 1. Gantt chart with project milestones and activities. Critical path items should be highlighted. Chart presents information about the major activities of the project. Individual task completion can be monitored to identify those tasks behind schedule. 2. Graph plots the planned schedule end dates versus the actual dates. The actual data should stay within the decision criteria. 3. Bar chart compares the cumulative number of tasks planned versus the number of tasks completed for the different projects. Ideally, the actual data should be within the decision criteria of the planned data. 4. Graph plots the degree of variance from the decision criteria. Points above the decision criteria limit show a positive trend. Points below the line show a negative trend.
Decision Criteria	1. When critical path falls behind schedule or when a significant number of tasks are not done 2-4. More than 15% variance between plan and actual or increasing negative trend over 3 months

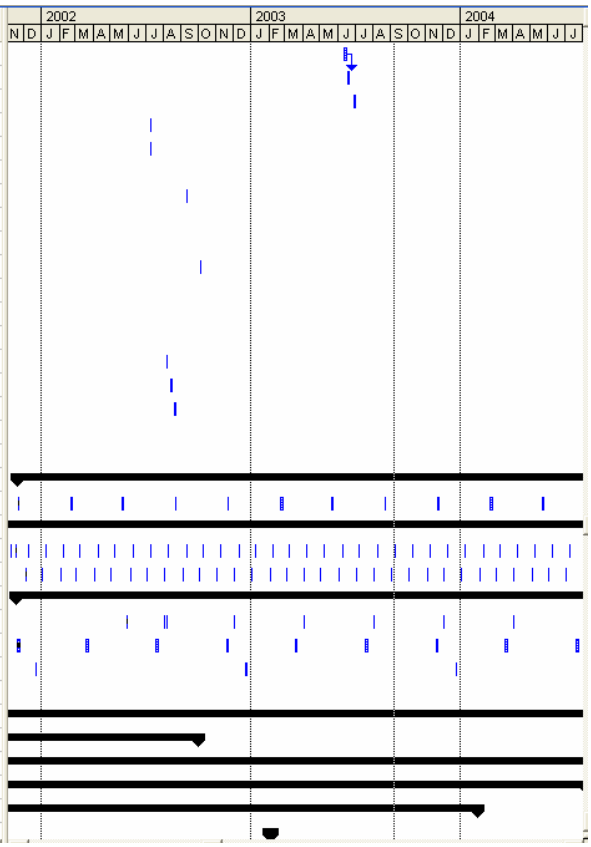
Indicator Interpretation	1. The Gantt chart shows the planned and actual schedule for the different parts of the project. The planned is shown in black, and the actual is marked in blue. 2. Based on the data provided for July 2003, this figure shows that the overall task completion is 38% below the plan, exceeding the lower-limit decision criteria of 15%. Specifically, 303 of 802 tasks/events have not been completed as planned. 3. We can see here that most projects are not completing tasks as planned. This may be because project leads are not updating their schedules. Three projects need to update their schedules before reporting data. 4. This figure shows the task completion percentage based on the July 2003 data submission. The task completion percentage is 62%, a decrease from 68% last month. This number exceeds the lower-limit decision criteria of 15%.

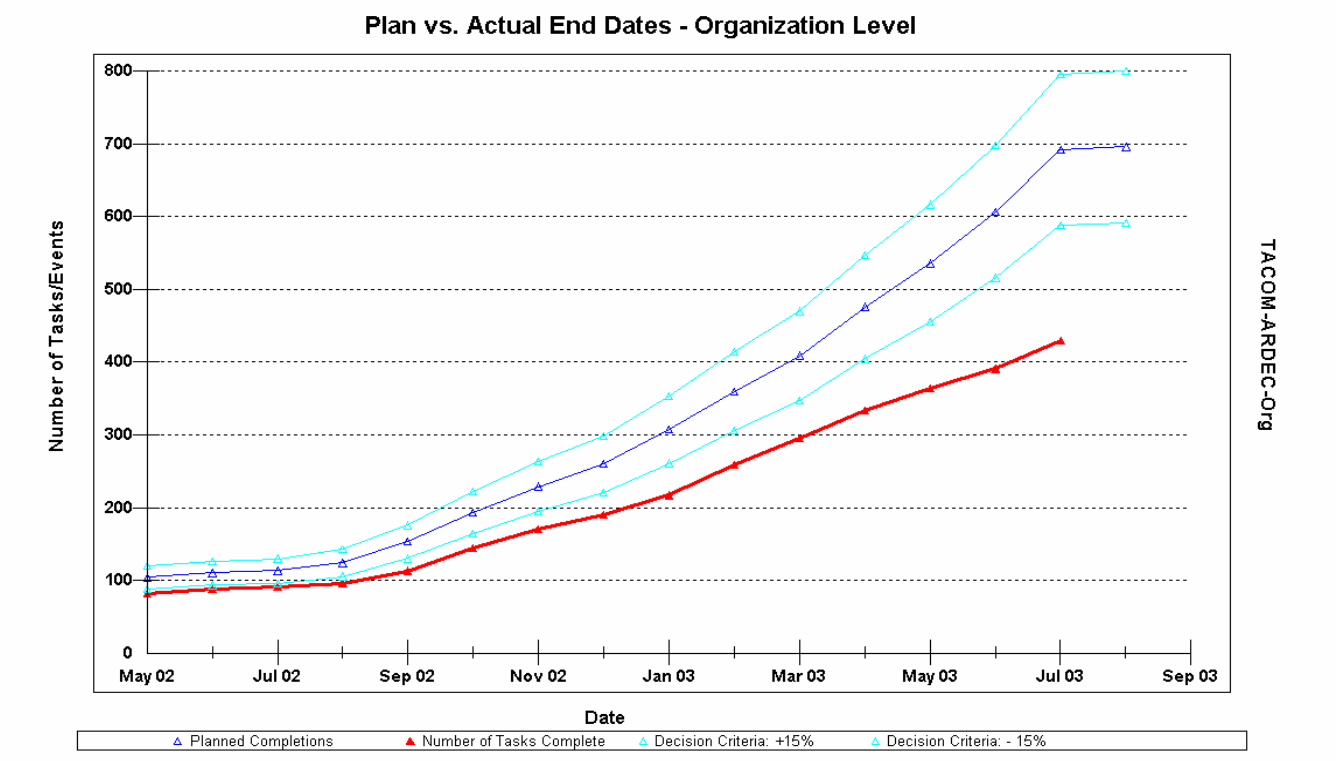
Data Collection Procedure (For Each Base Measure)	
Frequency of Data Collection	Monthly
Responsible Individual	• Project leads are responsible for maintaining MS Project file. • Measurement Analyst is responsible for project analysis and reporting to org. measurement. • Org. Measurement Analyst is responsible for organization analysis.
Phase or Activity in which Collected	All
Tools Used in Data Collection	MS Project, Gantt charts (project level)
Verification and Validation	Check to ensure that actual data has been updated for current month.
Repository for Collected Data	PAL and PSM Insight

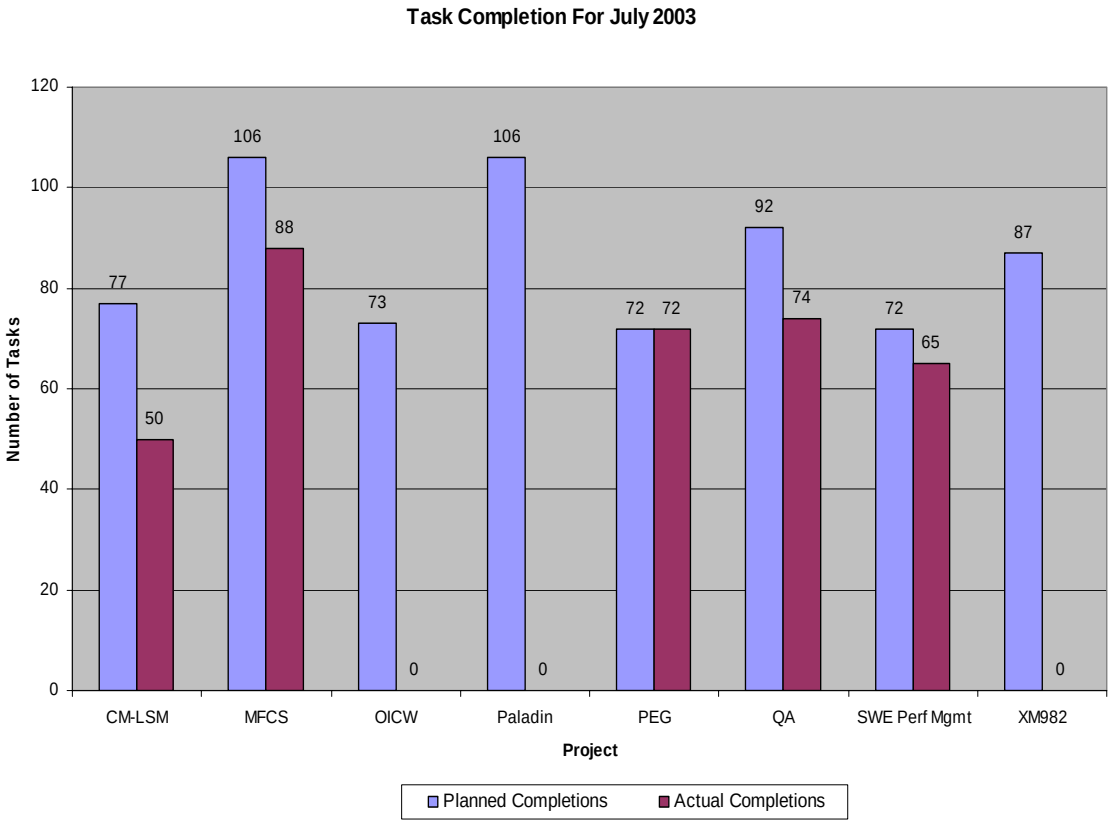
Data Analysis Procedure (For Each Indicator)	
Frequency of Data Reporting	Monthly
Responsible Individual	1. Project Measurement Analyst (project level) 2. Project Measurement Analyst(project level) and Org. Measurement Analyst (org. level) 3,4. Org. Measurement Analyst (org. level)
Phase or Activity in which Analyzed	All
Source of Data for Analysis	1. MS Project 2-4. PSM Insight
Tools Used in Analysis	PSM Insight
Review, Report, or User	1. Project Leader, BAM 2. Project Leader, BAM, Senior Management 3,4. BAMs, Senior Management

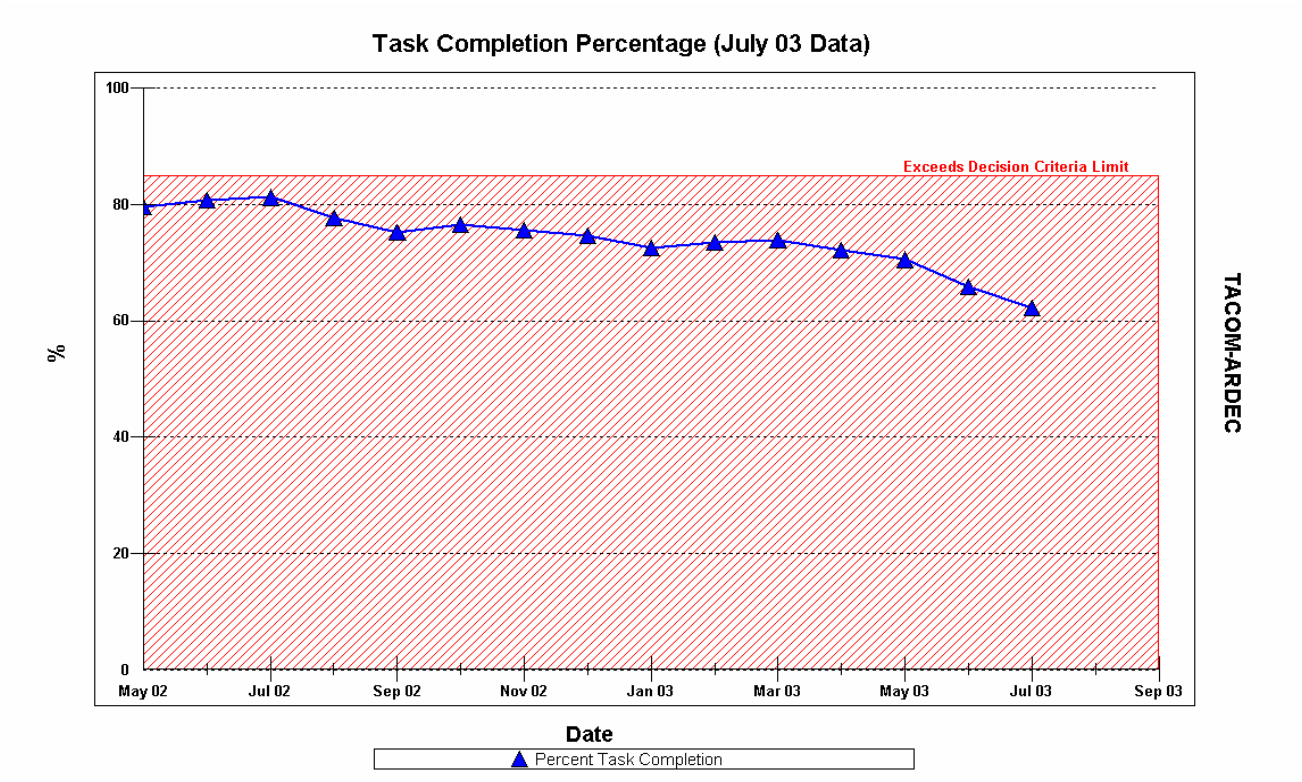
Additional Information	
Additional Analysis Guidance	• May want to draw indicators for critical path items, or look at variations with selected areas. • If tasks are behind schedule, analyze staffing and defect trends.
Implementation Considerations	• A good MS Project file makes this measure easier to collect. The MS Project file should have sufficient detail and should be updated regularly. • Interdependencies and critical path items should be identified in the schedule. • If multiple builds or releases are planned, separate activities and milestones should be defined for each build or release.

	WBS	ID	Task Name	Deliverable
262	1.20.20.71	262	SW test plan for P7.8b	Wed 5/29/03
263	1.20.20.72	263	P7.8b SVT TRR package	Wed 6/5/03
264	1.20.20.73	264	P7.8b SVT TRB package	Wed 6/5/03
265	1.20.20.74	265	Review Peer Review findings 10	Tue 7/9/02
266	1.20.20.75	266	Review Peer Review findings 11	Tue 7/9/02
267	1.20.20.76	267	Review Peer Review findings 12	Wed 8/7/02
268	1.20.20.77	268	Review Peer Review findings 13	Tue 9/10/02
269	1.20.20.78	269	Review Peer Review findings 14	Tue 9/10/02
270	1.20.20.79	270	Review Peer Review findings 15	Thu 10/3/02
271	1.20.20.80	271	Review Peer Review findings 16	Thu 10/3/02
272	1.20.20.81	272	Review Peer Review findings 17	Mon 2/14/05
273	1.20.20.82	273	Review Peer Review findings 18	Mon 5/16/05
274	1.20.20.83	274	Review Peer Review findings 19	Mon 8/15/05
275	1.20.20.30	275	Review and Comment OFS BOEs Rev. H	Tue 8/6/02
276	1.20.20.31	276	Software Test Plan for the Excalibur Operational Fl	Tue 8/13/02
277	1.20.20.32	277	Software Test Descriptions for the P7 Excalibur O	Mon 8/19/02
278	1.20.20.33	278	Review and Comment OFS BOEs Rev. I and J	Mon 9/2/02
279	1.20.20.34	279	XM982/TCM OFS Sub-System Requirement Review	Tue 11/13/01
280	**1.20.5**	**280**	**Risk Management**	**Tue 11/20/01**
281	**1.20.5.1**	**281**	**Develop & Update Risk Management Plan & P**	**Tue 11/20/01**
298	**1.20.6**	**298**	**Measurement & Analysis**	**Mon 7/9/01**
299	**1.20.6.1**	**299**	**Develop, Manage & Update Measurement Pla**	
352	**1.20.6.2**	**352**	**Integrate Measurement into the Technical &**	
402	**1.20.6.7**	**402**	**Management Reviews**	
403	**1.20.6.7.1**	**403**	**Senior Management Review (SMR)**	**Continue**
416	**1.20.6.7.2**	**416**	**BAM Project Review**	
429	**1.20.6.8**	**429**	**Submission of Lessons Learned**	
434		434		
435	**1.20.31**	**435**	**OUTYEARS - Software Technical Tasks**	**Thu 3/1/01**
436	**1.20.31.1**	**436**	**Code Analysis**	**Thu 3/1/01**
442	**1.20.31.8**	**442**	**Test Analysis**	**Sun 9/30/01**
445	**1.20.31.9**	**445**	**Software Safety Analysis**	**Sun 9/30/01**
451	**1.20.31.10**	**451**	**Software Evaluation Execution and Witness**	**Mon 9/3/01**
459	**1.20.31.11**	**459**	**Functional/Physical Configuration Audit**	**Mon 2/3/03**






Task Completion For July 2003
Number of Tasks
120
100
80
60
40
20
0
77
50
106
88
73
0
106
0
72
72
92
74
72
65
87
0
CM-LSM
MFCS
OICW
Paladin
PEG
QA
SWE Perf Mgmt
XM982
Project
Planned Completions
Actual Completions


Task Completion Percentage (July 03 Data)
%
100
80
60
40
20
0
Exceeds Decision Criteria Limit
May 02
Jul 02
Sep 02
Nov 02
Jan 03
Mar 03
May 03
Jul 03
Sep 03
Date
Percent Task Completion
TACOM-ARDEC