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## **Document Summary**

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Document Title	Project Schedule and Cost Performance Management International Standard
Owner	TBG6, PSCPM Working Group
Status	Final
	This draft was prepared for submission to the TBG Chair

## Document Change History Log

Date of Change	Version	Paragraph Changed	Summary of Changes
March 8, 2006	0, Release 2	Sections 5.1.2. through 5.1.5	Added links in business use cases to information areas described in Section 5.3.
		Section 5.1.3.2	Added specifics for the error notice (new information area described in Section 5.3).
		Section 5.3.1	List of Entities were updated to reflect modifications to the draft data model. The Entity Name prefix "EV" (earned value – too specific) was replaced with "PM" (program management – a more generic term and is more consistent with overall content).
		Section 5.3.2	Diagram was replaced to reflect updated entities.
		Section 5.3.3	Subsection details were removed (items were consolidated into one view). Diagram was replaced to reflect updated entities.
		Section 5.3.4	Diagram was replaced to reflect updated entities.
		Section 5.3.5	Diagram was replaced to reflect updated entities.
		Section 5.3.6	Diagrams were replaced to reflect updated entities.
		Section 5.3.7	New section.
April 3, 2006	1, Release 1	Sections 53.2 through 5.3.5	Diagrams were replaced to reflect updated entries.

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98 99	5.5. DEFINITION OF TERMS	41

#### 104 **1. PREAMBLE**

- 105 The document authority is TBG6, Architecture, Engineering, and Construction Domain.
- 106

107 The document structure is based on the UN/CEFACT Business Requirements Specification

108 Documentation Template, Version 1, Release 5.

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110 The document was created by the TBG6 Project Schedule and Cost Performance Management (PSCPM)

working group and will be approved by the full TBG6 working group in collaboration with TBG1, Supply Chain Domain.

#### 113 2. REFERENCES

- UN/CEFACT Modeling Methodology (CEFACT/TMWF/N090R10, November 2001)
  - UN/CEFACT ebXML Core Components Technical Specification Version 2.01
- UN/CEFACT Business Requirements Specification Documentation Template, Version 1, Release
   5
- 118 UN/CEFACT TBG Library 2005\_10\_07
- 119 UML Version 2.0
- EDIFACT PROTAP (Project Tasks Planning) and PROCST (Project Cost Reporting) messages
- ANSI X12 806 (Project Schedule Reporting) and 839 (Project Cost Reporting) transaction sets

#### 122 **3. OBJECTIVE**

123 The objective is to enable the ability for the various entities involved in the execution of a project to 124 exchange relevant project management related schedule and cost data throughout the life of a project

125 using a standardized information exchange process and data content framework.

#### 126 **4. SCOPE**

Project schedule and cost performance management is part of the contract management business domain. Project schedule and cost performance management data exchange occurs once a contract for a project has been approved, funded, and authorization to proceed has been given by a client. This data exchange continues throughout the life of the project until the project naturally concludes or it is cancelled.

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The project schedule and cost performance management international standard focuses on exchangingthe relevant data for the four main purposes listed below.

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- Establishing the schedule and cost performance management baseline. The baseline is
  established as quickly as possible after contract award. This baseline provides the basis for
  measuring work performance over the life of the project.
- 2. Providing schedule progress and cost performance data on a periodic basis (such as weekly or monthly) for the purpose of reporting the work progress in schedule and cost terms in comparison to the schedule and cost performance measurement baseline. This periodic schedule and cost information is used to determine if the project is ahead or behind schedule, or if the project is over or under running the cost plan (the budget). It can also be used to identify high risk or problem areas for the project and for planning future work based on project performance to date.
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  3. Providing a means to incorporate changes to the schedule and cost baseline (contract changes) as well as other changes required to keep the current working schedule and future cost plan up to date.
- 4. Capturing end of contract schedule and cost data. Historical project performance data can be used as a basis for estimating the schedule and cost of future projects.

154 This project schedule and cost data exchange includes the many tiers of suppliers, prime contractors, and 155 the end client. Suppliers, prime contractors, and end clients may also be required to provide periodic 156 project performance data to internal entities for financial portfolio management purposes. 157 158 The focus of this data exchange is world wide across a number of industries including, but not limited to, 159 government functional entities (such as defense, energy, transportation, and social services), aerospace 160 and defense, engineering and construction, oil and gas, utility (such as energy, telecom, and municipal 161 services), scientific research and development, and information technology. 162 163 The data categories included in this exchange are summarized below and further defined in Section 5.3, 164 **Business Information Model Definition.** 165 166 • Schedule data which includes work task activities, milestones, activity relationships, and activity 167 resource assignments. 168 169 Cost data which includes time phased or summary budget costs, actual costs, earned value • 170 costs, and estimate to complete costs and related value type details such as labor hours, material 171 units or lots, direct costs, indirect costs (overheads), and total costs. 172 173 Contract and project summary data which includes details such as contract reference numbers, • 174 type of contract, procuring entity, and summary cost values and schedule dates. 175 176 Funding data which includes specifics about the source of funds (can be one or more entities) • 177 and the amount of funds provided over time. 178 179 Related auxiliary data that is used to code or organize the schedule and cost data for planning 180 and reporting purposes. Auxiliary data includes: 181 Accounting calendar fiscal periods for reporting cost details; 0 182 Schedule calendar (identifies work days for scheduling tasks); 0 183 Reporting structures (work breakdown structure, organization breakdown structure, 0 184 milestone hierarchy, resource breakdown structure); Other single level reporting structures used to organize, sort, and select data such as 185 0 186 contract line item numbers, phase, location, supplier, and so forth; 187 Resources used for work task assignments (who or what is required to complete work on 0 188 the project); 189 Variance thresholds (used for exception reporting; when a cost or schedule variance 0 190 exceeds a cost or percent limitation, it means there is a problem on the project). 191 192 Note: Various US government agencies such as the Department of Defense (DOD), Department of 193 Energy (DOE), and NASA have paper forms, data item descriptions (DID), and other formal documents 194 that list the required data content for project performance management reporting such as the Contract 195 Performance Report (CPR), Contract Funds Status Report (CFSR), and Integrated Master Schedule 196 (IMS) data item descriptions. These are usually included in the contract data requirements list for the 197 contractor. In addition, US government agencies must submit yearly program/project business cases to 198 the Office of Management and Budget (OMB) (Exhibit 300 forms). This Business Requirements 199 Specification and related Requirements Mapping Specification include the business and data element 200 detail required to support the formal reporting requirements for US government agencies. Other 201 international ministries of defense such as the UK, Australia, and Canada use similar reporting 202 requirements.

#### 203 5. BUSINESS REQUIREMENTS

The overall business requirements for this data exchange are illustrated in the business operation map below and further discussed in Section 5.1, Business Process Elaboration.

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207 There is a relationship between Project Schedule and Cost Performance Management and Contract

208 Financial Execution within the Contract Management business domain. A typical example of this

relationship is progress payments for items completed or delivered. The type of contract will determine

how the contractor is paid for their effort, but there is typically some relationship between project

211 performance (completing contracted work) and payment for that effort.



#### **5.1. Business Process Elaboration**

#### **5.1.1. The Actors**

The roles of the various parties involved in the execution of project are described and illustrated below. These actors are the initiators or participants in the use cases that follow.

#### 219 Data Consumers

The data consumers are the entities that are responsible for managing a project and/or have the authority to obligate funds (issue a contract) to a contractor or supplier to perform work. They are responsible for collecting the project status and performance data (they receive the data) for analysis on a periodic basis (weekly or monthly). These data consumers can include entities such as:

- Public or private client. This can be any commercial entity that has the authority to commit public or private money for one or more contractors to perform a service or to produce a product.
- Government Agency. This can be any government agency that has the authority to commit government money for one or more contractors to perform a service or to produce a product.
- Contractor. This is any commercial entity responsible for doing the work as defined in a client's project statement of work. A public or private client or government agency contracts with this entity to perform a service or to produce a product.
- Program or Project Manager. This can be a person or program management office internal to a public or private client, government agency, or contractor with the responsibility and authority to manage a program or project. They can also be an external entity hired for the specific purpose of managing a project for a given client.
- Internal Management. This is any internal management entity that wants to review the status or performance of a given project. For a government agency, it could be the head of the agency or other oversight entities such as the US Office of Management and Budget (OMB) that have funding authority. For a corporation, this is upper level management or financial management that is responsible for assessing the performance of a project (project portfolio analysis).

#### 247 Data Providers

Data providers are the entities that are responsible for doing the work or aggregating the project data for an end client. The data providers can include entities such as:

- Supplier. This is any commercial entity or independent contractor (a person) responsible for providing a service or producing a product for a contractor (the data consumer). There can be many tiers of suppliers and contractors. For the purposes of this document, teaming partners (two or more companies bid on a contract as a joint team), are grouped into the supplier category because one contractor in the teaming relationship functions as the lead contractor. Teaming partners must provide their data to the lead contractor much like a supplier though their schedule and cost data are likely to be more integrated with the lead contractor's than supplier's data would be.
- Contractor. This is any commercial entity responsible for doing the work as defined in a client's project statement of work. They have the role of aggregating their project data with supplier data to produce the required status and performance data to another higher level contractor, public or private client, government agency, or internal management.
- Program or Project Manager. This is the internal or external entity (person or office) responsible for managing the program/project for a public entity, private corporation, or a government agency.

They have the role of aggregating program data to produce required status and performance data for internal management including any higher level funding authority or financial manager, or for a public or private client.

The various actors involved in the project schedule and cost performance data exchange are illustrated
below. Note that an actor can function as a data provider as well as a data consumer. For example, a
contractor is a data consumer when they pull in supplier schedule and cost performance data for use in
their project management control system. They are also a data provider when they convey consolidated

- 276 schedule and cost performance data to their end client or to internal management who is the data
- 277 consumer.
- 278

### 282 5.1.2. Project Initiation Business Use Case

This use case applies once a contract has been awarded and authorization to proceed has been given bythe end client.

#### 285 **5.1.2.1. Create Project**

286

Business Process Use Case		
Name	Create Project	
Use Case ID Number	PSCPM-PI-1	
Description	The participants in a new contract award exchange applicable data (all parties can send and receive data) once authorization to proceed on a new project has been given.	
	This is a data transmission of selected data subsets during the project start up phase before the schedule and cost baselines are set (a short time frame right after contract award).	
	The purpose is to exchange the data components needed to begin developing the schedule and cost baselines in a collaborative type of environment. There are no set timetables for the data exchange, they occur when data updates need to be shared between the various parties.	
Initiating Actor	The data provider	
Participating Actor	The data consumer	
Event Flow	<ol> <li>Main Scenario         <ol> <li>Data provider sends desired data subset to participating party.</li> <li>Party receiving the data acknowledges receipt of the data subset submission.</li> </ol> </li> <li>Party receiving the data validates the content of the data submission.</li> </ol>	
	Example 1: The client sends the contract work breakdown structure	

	and contractual milestones with dates to the contractor.	
	Example 2: Contractor sends a preliminary project work breakdown structure or contractual milestones with dates to a supplier for initial project planning and scheduling.	
	Example 3: Supplier sends preliminary schedule data or time phased budget data to the contractor for incorporation into their environment.	
Expected Outcome	The party receiving the data processes the data for use in their environment.	
Exception	Data content exceptions are handled with a Provide Error Notice (PSCPM-PR-2).	
Business Process Data Categories	<ul> <li>Summary contract data</li> <li>Auxiliary data         <ul> <li>Reporting structure data (work breakdown structure, milestone hierarchy)</li> <li>Single level reporting structures used for selecting and sorting data</li> <li>Calendars (cost reporting and schedule)</li> <li>Variance thresholds</li> </ul> </li> <li>Network schedule data (work tasks, milestones, relationships)</li> <li>Network schedule data with resource assignments (resource amounts assigned to activities)</li> <li>Period based cost data (budget)</li> </ul>	

#### 290 5.1.3. Project Reporting Business Use Cases

291 These use cases apply once work begins on the project and the entity performing the work periodically

assesses their work progress over the life of the project. The intent is to provide management visibility to

all project stakeholders into what is currently going on with the project and how well the project is performing to the original schedule and cost plan (the baseline).

#### 295 **5.1.3.1. Report Project Performance**

296 This is the most typical data exchange that occurs throughout the life of the project – collecting and

297 providing current reporting period schedule status and cost performance data to another project298 stakeholder.

Business Process Use Case		
Name	Report Project Performance	
Use Case ID Number	PSCPM-PR-1	
Description	A supplier, contractor, or program manager sends current reporting period project schedule status and cost performance data or funding data to an external client on a periodic basis. Or, a contractor, program manager, or government agency sends current reporting period project schedule status and cost performance data to internal management on a periodic basis.	
	This is a data transmission of a complete report set or subsets for the current reporting period.	
	The purpose is to provide current project status and performance data on a regular, periodic basis to an external or internal data consumer on a set timetable such as monthly. Contractual documents or internal management define what schedule status and cost performance data	

	must be made available.
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<ol> <li><u>Main Scenario</u></li> <li>Data provider collects status and performance data.</li> <li>Data provider sends data to the data consumer.</li> <li>Data consumer acknowledges receipt of data submission.</li> <li>Data consumer validates the content of the data submission.</li> </ol>
	Example 1: Supplier sends current reporting period actual costs and earned value costs along with milestone status dates to the contractor.
	Example 2: Contractor incorporates supplier updates into their environment. Contractor sends cumulative to date and at complete costs (budget, actual, earned value, estimate at complete) and future staffing estimates to their client along with milestone status dates.
	<ol> <li><u>Alternate Scenario</u></li> <li>Data provider collects status/performance data subset.</li> <li>Data provider sends data subset to the data consumer.</li> <li>Data consumer acknowledges receipt of data submission.</li> <li>Optional. Data consumer validates the content of the data submission.</li> <li>Steps 1 to 3 are repeated until a complete data set has been sent. A data set is considered complete when:</li> </ol>
	<ul> <li>a. All required parts have been received, or</li> <li>b. A prearranged deadline has passed, or</li> <li>c. An explicit completion notice has been received by the data consumer.</li> </ul>
	submission.
	Example: In this scenario, the data provider sends the schedule status or cost performance data in chunks. When all the data chunks are received, or when a deadline occurs, the receiving party processes the data they have received.
Expected Outcome	<ul><li>a. Contractor receives supplier data for use in their environment.</li><li>b. End client receives data for use in their environment.</li></ul>
Exaction	c. Internal data consumer receives data for use in their environment.
Ехсерцоп	(PSCPM-PR-2)
Business Process Data Categories	Summary contract data as applicable (include updates as a result of any change orders since the last performance report)
	<u>Network schedule data (work tasks, milestones, relationships)</u>
	Current reporting period summary cost data (current period, cumulative to date, at complete budget, earned value, actual
	estimate to/at complete)
	Period based cost data where applicable
	<ul> <li>Budget (contractor baseline changes)</li> </ul>
	<ul> <li>Estimate (contractor equivalent heads - statting)</li> <li>Actual (supplier – as an alternative to cum/at complete</li> </ul>
	data)
	<ul> <li>Earned value (supplier – as an alternative to cum/at complete data)</li> </ul>
	Funding data

## 303 5.1.3.2. Provide Error Notice

#### 

Business Process Use Case		
Name	Provide Error Notice	
Use Case ID Number	PSCPM-PR-2	
Description	The data consumer discovers an error in the data sent by a data provider. The data consumer sends an error notice to the data provider identifying the data in error. This is a data transmission that identifies what data is in error from a	
	previous transmission that identifies what data is in error normal previous transmission. The purpose is to initiate a correction transmission from the data provider. The content of the error message is a basic report identifying errors.	
Initiating Actor	The data consumer	
Participating Actor	The data provider	
Event Flow	<ol> <li><u>Main Scenario</u> <ol> <li>Data consumer process rejects data content.</li> <li>Data consumer identifies the data content causing the error.</li> <li>Data consumer sends an error notice identifying items in error to the data provider.</li> <li>Data provider acknowledges receipt of error notice.</li> </ol> </li> <li>Example: Contractor notices a supplier is using incorrect milestone hierarchy codes for a given set of milestones. Contractor sends an error notice identifying the items in error. Supplier replies with a Provide Update Notice (PSCPM-PR-3) to correct the items in error.</li> </ol>	
Expected Outcome	Data provider responds with a Provide Update Notice (PSCPM-PR-3)	
Exception		
Business Process Data	Acknowledgements	
Categories		

## 308 5.1.3.3. Provide Update Notice

309

Business Process Use Case	
Name	Provide Update Notice
Use Case ID Number	PSCPM-PR-3
Description	The data provider sends an update to a data consumer to modify data previously sent. The data sent can identify data to be added, data to be replaced (change), or data to be deleted. This update can be in response to an error notice from the data consumer to correct data in error; or it can be updates that the data provider deems necessary to complete or update any previous exchange of data.
	This is a data transmission of selected data. It may be a data subset or a smaller (identifiable) chunk of data.
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	Main Scenario1.Data provider identifies data subset to be updated.2.Data provider sends updated data subset to data consumer.3.Data consumer acknowledges receipt of data subset.4.Data consumer validates the content of the data submission.Example 1: Supplier sends corrected data based on an error notice previously sent from their client. The new data replaces the data in error.
	Example 2: Contactor notices that they included the wrong set of cost data for small subset of the work breakdown structure cost

	performance report they provided to their client. They send an update notice to the client that replaces the incorrect data with the correct data.
	Example 3: Contractor notices they forgot to delete a planning package activity that they replaced with detailed activities. They send an update notice to the client that deletes the planning package activity and updates the applicable activity relationships.
Expected Outcome	Data consumer receives updated data for use in their environment.
Exception	Data content exceptions are handled with a Provide Error Notice (PSCPM-PR-2).
Business Process Data Categories	Can be any category of data.

#### 313 5.1.4. Project Modification Business Use Cases

These use cases apply when schedule or cost plan changes need to be exchanged between the various project stakeholders.

316

These can be extensive changes as a result of a contract change. These types of changes require client

318 approval and require creating a revised schedule and cost baseline. Typical examples include a change 319 in the scope of work or an unrecoverable schedule or cost condition that requires replanning the

320 remaining work.

321

322 Project modification can also be more routine changes that have no impact on the baseline plan; the

323 project participants simply need to exchange updated schedule and cost plan details for the remaining 324 work on the project.

#### 325 5.1.4.1. Reset Project Baseline

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Business Process Use Case		
Name	Reset Project Baseline	
Use Case ID Number	PSCPM-PM-1	
Description	The participants in a change order action exchange applicable data (all parties can send and receive data) when authorization to reset a project schedule and cost baseline has been given by the client. This is a data transmission of selected data subsets required to reset the project baseline. This reset action may be required as a result of a client directed change (scope of work or funding changed) or because	
Initiating Actor	the project has an unrecoverable schedule or cost condition. The purpose is to exchange the data components needed to reset the baseline in a collaborative type of environment. There are no set timetables for the data exchange, they occur when data updates need to be shared between contracting parties. This is similar to the Create Project (PSCPM-PI-1) use case.	
Participating Actor	The data provider	
Event Flow	<ul> <li><u>Main Scenario</u></li> <li><u>Data provider sends desired data subset to participating party.</u></li> <li>Party receiving the data acknowledges receipt of data subset submission.</li> <li>Party receiving the data validates the content of the data submission.</li> <li>Example 1: The program office sends change order specifics (such as summary contract cost data) to the contractor.</li> <li>Example 2: Contractor sends updated contractual milestone dates to a supplier based on a revised baseline plan.</li> <li>Example 3: Supplier sends updated schedule data or time phased budget data to the contractor for incorporation into their environment.</li> </ul>	
Expected Outcome	The party receiving the data processes the data for use in their environment.	
Exception	Data content exceptions are handled with a Provide Error Notice (PSCPM-PR-2).	
Business Process Data	Summary contract data including change order data	
Categories	<ul> <li>Auxiliary data         <ul> <li>Reporting structure data (work breakdown structure, milestone hierarchy)</li> </ul> </li> <li>Network schedule data (work tasks, milestones, relationships)</li> <li>Network schedule data with resource assignments (resource amounts assigned to activities)</li> <li>Period based cost data (budget, estimate to complete)</li> </ul>	

## 330 5.1.4.2. Update Project Within Baseline

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r		
Business Process Use Case		
Name	Update Project Within Baseline	
Use Case ID Number	PSCPM-PM-2	
Description	The participants in a project exchange applicable data (all parties can send and exchange data) when minor changes and updates need to be incorporated into the current working schedule or cost estimate to complete data. These updates incorporate normal maintenance or other minor changes that do not impact the schedule and cost baselines. An example would be replacing a planning package with detailed tasks (and related cost details).	
	This is a data transmission of selected data subsets during the execution phase of a project.	
	The purpose is to exchange the data components needed to keep the current working schedule (the future work plan) or estimate to complete data up to date based on what has occurred to date on the project. There are no set timetables for the data exchange, they occur when data updates need to be shared between contracting parties.	
Initiating Actor	The data provider	
Participating Actor	The data consumer	
Event Flow	<ol> <li>Main Scenario         <ol> <li>Data provider sends desired data subset to participating party.</li> <li>Party receiving the data acknowledges receipt of data subset submission.</li> </ol> </li> <li>Party receiving the data validates the content of the data submission.</li> </ol>	

	Example 1: Contractor sends updated product delivery dates (schedule milestones) to a supplier. Example 2: Supplier sends updated estimate to complete cost data to the contractor for incorporation into their environment	
Expected Outcome	The party receiving the data processes the data for use in their	
	environment.	
Exception	Data content exceptions are handled with a Provide Error Notice	
	(PSCPM-PR-2).	
Business Process Data	<ul> <li><u>Network schedule data (work tasks, milestones, relationships)</u></li> </ul>	
Categories	Network schedule data with resource assignments (resource)	
<ul> <li><u>amounts assigned to activities</u>)</li> <li><u>Period based cost data (typically estimate to constructed include rolling wave budget updates where planed include rolling wave budget updates wave budget u</u></li></ul>	amounts assigned to activities)	
	Period based cost data (typically estimate to complete, but may	
	include rolling wave budget updates where planning packages are	
	replaced)	
	Auxiliary data	
	<ul> <li>Variance Thresholds</li> </ul>	

#### **5.1.5.** Project Close Out Business Use Cases

These use cases apply when the project has come to an end (i.e., all contract objectives have been met), either naturally or because the end client has cancelled the contract.

#### **5.1.5.1. Cancel Project**

Business Process Use Case	
Name	Cancel Project
Use Case ID Number	PSCPM-PC-1
Description	The participants in a project exchange data once a cancellation notice
	has been given to stop work.

	This is a data transmission of selected data subsets.	
	The purpose is to capture schedule status, actual costs, and remaining obligation data related to the cancellation of the project. There may be a set timetable for the end client to receive all applicable data.	
Initiating Actor	The data consumer	
Participating Actor	The data provider	
Event Flow	<ol> <li><u>Main Scenario</u></li> <li>Data provider sends required data subset to data consumer.</li> <li>Data consumer acknowledges receipt of data subset submission.</li> <li>Data consumer validates the content of the data submission.</li> </ol>	
Expected Outcome	Data consumer receives data for use in their environment.	
Exception	Data content exceptions are handled with a Provide Error Notice (PSCPM-PR-2).	
Business Process Data Categories	<ul> <li>Summary contract data</li> <li>Network schedule data (final deliverables)</li> <li>Final period based cost data (actual)</li> <li>Funding data (required for contract close out to determine what funds have been expended so far and amount of cancellation obligations)</li> </ul>	

## 343 5.1.5.2. Complete Project

Business Process Use Case	
Name	Complete Project
Use Case ID Number	PSCPM-PC-2

Description	The participants in a project exchange data when a project has been completed (all final deliverables have been received and accepted by the end client). This is a data transmission of selected data subsets. The purpose is to capture final schedule and actual cost data at the end of the project (can be used for estimating the cost of similar projects). There may be a set timetable for the end client to receive all applicable data.
Initiating Actor	The data consumer
Participating Actor	The data provider
Event Flow	<ol> <li>Main Scenario</li> <li>Data provider sends required data subset to data consumer.</li> <li>Data consumer acknowledges receipt of data subset submission.</li> <li>Data consumer validates the content of the data submission.</li> </ol>
Expected Outcome	Data consumer receives data for use their environment.
Exception	Data content exceptions are handled with a Provide Error Notice (PSCPM-PR-2).
Business Process Data Categories	<ul> <li><u>Summary contract data</u></li> <li><u>Final network schedule data (work tasks, milestones, relationships)</u></li> <li><u>Final period based cost data (actual)</u></li> <li><u>Funding data</u></li> </ul>

#### 349 **5.2. Business Information Flow Definition**

The activity diagrams that follow further illustrate the data flow that occurs between a data provider and a data consumer. These are very simple data flows where one party is sending the relevant project

352 management data to another party.

#### 353 **5.2.1.** Provide Data

354 This activity diagram illustrates the data flow for the Create Project, Report Project Performance, Reset

- 355 Project Baseline, Update Project Within Baseline, Cancel Project, and Complete Project use cases. In
- these instances, the data provider gathers and then sends the applicable data they need to provide to the data consumer.
- 357 358

#### 361 5.2.2. Provide Error Notice

This activity diagram illustrates the data flow for the Provide Error Notice use case. This is the process that occurs when a data consumer identifies an error in data sent by a data provider.

#### 367 5.2.3. Provide Update Notice

368 This activity diagram illustrates the data flow for the Provide Update Notice use case. This is the process 369 that occurs when a data provider provides updated data in response to an error notice from a data

370 consumer. This process can also occur when a data provider needs to update data previously sent such

371 as for the Report Project Performance use case where the data provider is sending project status

information on a periodic basis to the data consumer.

#### 377 **5.3. Business Information Model Definition**

Section 5.3.1 lists the entities used for the main information areas identified in the use cases described in
 Section 5.1. The main information areas include:

380 381 • Schedule Data (Section 5.3.2); 382 383 Cost Data (Section 5.3.3); • 384 385 Contract and Project Summary Data (Section 5.3.4); • 386 387 • Funding Data (Section 5.3.5); 388 389 Auxiliary Data (Section 5.3.6); • 390 391 Acknowledgements (Section 5.3.7). • 392 393 394

Where applicable for each information area, targeted data exchanges are identified. The intent is to allow
the ability to exchange specific, selected data for a given purpose. Example use case scenarios are
included to further illustrate how the targeted data exchanges can be used. Note that a given data
exchange can also combine data from the information areas as needed.

#### 397 5.3.1. List of Entities

The following is an alphabetical list and business use description of the proposed entities that the main information areas will use to exchange the project management schedule and cost data.

These entities are further described in the related Requirements Mapping Specification (RMS) which provides the data element details. The purpose of the following list is to provide a general description of the entities.

404

The majority of the entities are new items. Existing entities used as is from TBG17 are noted with an "\*". Modified existing entities are noted with a "#".

Entity Name	Description
Acknowledgement_ Document. Details	Purpose is to provide details about an acknowledgement sent to another party.
Acknowledgement_ Header. Details	Purpose is to provide an acknowledgement to another party. Used as a means to provide an error notice to a data provider.
PM_ Contract. Details <sup>#</sup>	Purpose is to provide details about the contract such as name, type of contract, funding limits, total cost value, planned complete date, deliverable quantities, and the like. This information is needed when a contract is first awarded to a contractor. A contract identifier along with a project name provides the needed reference for other project related data such as reporting structures, network schedule details, and cost details exchanged throughout the life of the project.
	Note that this entity automatically includes a number of subordinate entities such as party and postal address.
PM_ Contract Change Order. Details	Purpose is to capture changes made to the contract after the contract has been initiated. It includes both negotiated and non- negotiated (preliminary) changes. Includes identifier, name, description, cost amounts, dates, status indicator, and requesting/approving parties.

Entity Name	Description	
PM_ Cost. Details	The purpose is to provide the means to identify the various cost types such as budget, actual, earned value, and estimate details as well as the ability to identify the various value types such as direct costs, indirect costs, total costs, as well as quantities such as hours, equivalent heads, and units or lots for a given resource. These cost values can be time phased using accounting calendar or other reporting periods.	
PM_ Custom Attribute. Details	The purpose is to provide a means to use a name and value pair used to select or sort schedule and cost data for reporting or identification purposes. A project will typically have a variety of reporting requirements for internal management or end client reporting needs. This provides the means for a project to define them and include them with the schedule and cost data	
PM_ Period. Details*	<ul> <li>The purpose is to provide information about the various pairs of dates for reporting calendar periods, work tasks, and other entities.</li> <li>Typical date pairs include: <ul> <li>Early start and finish dates</li> <li>Late start and finish dates</li> <li>Actual start and finish dates</li> <li>Baseline start and finish dates</li> <li>Estimated start and finish dates</li> <li>Reporting period start and end dates</li> </ul> </li> <li>It can also be used to provide information about various duration details such as an original duration for a work task.</li> <li>Note that milestones do include the same set of dates, but because milestones by definition do not have a duration, the start and finish dates reflect the same date.</li> </ul>	
PM_ Project. Details <sup>#</sup>	Purpose is to provide high level information about the project such as name and description along with summary dates and summary cost values such as management reserve. Projects have a direct association with a contract. A contract identifier along with a project identifier provides the needed reference for other project related data such as reporting structures, network schedule details, and cost details exchanged throughout the life of the project. Projects can be part of a project portfolio.	
PM_ Project Portfolio. Details	A collection of projects. Provides a means to group projects together for the purpose of performing summary project performance reporting and analysis at a project group level.	
PM_ Program. Details	Purpose is to provide high level information about a program such a name, description, and the program sponsor (party who defines the scope of work, controls the money, and lets contracts). A program may have multiple contracts awarded to various contractors.	
PM_ Remark. Details	Purpose is to provide a means to capture general text information at the contract level.	
PM_ Reporting Calendar. Details PM_ Reporting Period. Details	The purpose of these entities is to identify and define the calendars and calendar periods used for reporting cost details on a project. There can be multiple reporting calendars used on a project. For example, one calendar can be used to describe the accounting calendar reporting periods for distributing budget, actual, earned value, or estimate cost details over time (could be monthly or weekly time frames). Another calendar could be used to provide	

Entity Name	Description
	summary time frames for a given reporting period such as current period, cumulative to date, and at complete based on the project current reporting period setting
PM_ Reporting Node. Details	The purpose is to identify reporting node or element details for a given reporting structure such as a work breakdown structure or organization breakdown structure. This entity is related to the Reporting Structure entity that is used to identify the applicable reporting structure. Reporting nodes are used to summarize detail cost and schedule data as needed for reporting purposes. The summarized data may or may not be time phased
PM_ Reporting Node Association. Details	Provides a means to associate reporting nodes or elements with the detailed schedule and cost data. It allows the ability to group and summarize data in a variety of ways and at various levels of detail based on the reporting structures used on a given project.
PM_ Reporting Structure. Details	The purpose is to identify the various reporting structures used to organize the work and to summarize the cost and schedule data. A project can use many reporting structures for a variety of purposes. Typical reporting structures include the work breakdown structure (what), organization breakdown structure (who is responsible for the work), milestone hierarchy (when or sequence of deliverables), and resource breakdown structure (used to group resources into summary cost categories such as labor, material, and other direct costs).
PM_ Resource Assignment. Details	The purpose is to identify the work task resource assignments. This information provides the means to identify what resources are required to complete the work. Combined with the work task start and finish dates, the resource assignment details provide the basis for creating the time phased budget (or estimate to complete) cost for the work scheduled. The resource assignments are based on the available resources defined for the project (the resource details).
PM_ Resource. Details	The purpose is to identify the available resources that can be assigned to a project task. This includes details such as the value type (hours, units, or direct cost), rate per unit, and resource category (such as labor, material, and other direct costs).
PM_ Schedule Calendar. Details PM_ Work Shift. Details	The purpose is to describe the schedule calendar associated with the work tasks. It identifies the working days, non working days such as holidays, and work shift details needed to schedule work tasks over time
PM_Share Ratio. Details	Purpose is to provide customer and contractor share ratio details about a contract (when applicable for an incentive type of contract).
PM_ Task. Details	The purpose is to provide details related to work tasks and milestones in a schedule. Work tasks provide details about the work that must be performed to meet project objectives. This includes details such as the work task name or description, duration of the task, and status information. Milestones are used to identify project events (no duration). They
	are useful for measuring completed work (a deliverable is complete), establishing completion dates for a series of tasks (that result in an end item deliverable), or for work management purposes (manage to short term objectives used to measure work

Entity Name	Description
	accomplishments).
PM Task_ Relationship. Details	The purpose is to provide work task relationship or interdependency details. This information is needed to identify the sequence of work (what work task must be completed before the next one can start). This is required for a networked schedule of work tasks and milestones. Network schedules are the basis for critical path analysis, a method used to identify and assess schedule priorities.
PM_ Threshold. Details	The purpose is to identify cost and schedule variance thresholds for a given reporting structure (like a work breakdown structure) node or element. These are used for reporting by exception. Variance thresholds identify the parameters (a value or percent) that triggers the need to determine what is causing a schedule or cost variance (ahead or behind schedule, or cost is over or under running the budget plan) or at complete variance (estimate at complete exceeds the budget at complete).
PM_ Variance Analysis. Details	The purpose is to provide text information about schedule and cost variances that exceed a variance threshold limit. Typical uses include describing the source of the problem (a variance) and the action being taken to correct the problem.

#### 5.3.2. Schedule Data 409

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- Schedule data includes information specific to work tasks, milestones, the relationships or interdependencies between work tasks and milestones, and assigning resources to work tasks. 411

- 413
- 414 The core of the network schedule data exchange is the work task and milestone details (PM Task). The 415 relationships between tasks and milestones (PM Task Relationship) provide information about the interdependencies; this is used to determine the sequence of work. The resource assignment provides 416 417 information about which resource is doing the work or is required to do the work (PM Resource 418 Assignment) and an amount (PM Cost) such as number of labor hours, a direct cost, or number of 419 material units which can be distributed over time (PM\_Reporting Period). 420 421 Relationship and resource assignment details may or may not be included based on the needs of a given 422 project or the intent of a given data exchange. 423 424 Information related to the task details include: 425 426 A single project reference (an identifier) which relates to a single contract reference (an • 427 identifier): 428 429 A single schedule calendar reference; 430 431 Start and finish dates as well as duration details (PM Period); • 432 433 User attributes: • 434 435 Reporting node details (can be one or many) which relates to a named reporting structure. • 436 437 **Use Case Scenarios** 438 439 Example 1. Create Project or Reset Project Baseline use case. Contractor sends contractual milestones 440 with target complete dates to a supplier. This data exchange includes PM Task detail (the milestones) 441 and applicable dates (PM Period). 442 443 Example 2. Create Project or Reset Project Baseline use case. Supplier sends their preliminary network 444 schedule to their customer. This data exchange includes PM Task information (work tasks and milestone 445 information) and PM Task\_Relationship information. 446 447 Example 3. Create Project or Reset Project Baseline use case. Contractor sends their complete 448 baseline network schedule to their customer. This data exchange includes PM Task information (work 449 tasks and milestone information), PM Task\_Relationship information, and PM\_Resource Assignment 450 information.
- 451

452 Example 4. Report Project Performance or Update Project Within Baseline use case. Supplier or

- 432 Example 4. Report Project Performance of Opdate Project Within Baseline use case. Supplier of
   453 contractor sends milestone status information to their customer. This data exchange includes PM\_Task
   454 detail (the milestones) and applicable dates (PM\_Period).
- 455

### 456 **5.3.3. Cost Data**

457 Cost data includes the cost information for the project whether at the detail level or summarized to any

- intermediate or summary level using one or more reporting structure such as the work breakdown
   structure. This cost data can be time phased by accounting calendar reporting periods or summarized for
- the current reporting period (current period, cumulative to date, and at complete).

463 This cost data exchange is based on a given reporting structure such as a work breakdown structure 464 (PM\_Reporting Structure). This data exchange includes:

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- A single project reference (an identifier) which relates to a single contract reference (an identifier).
- The various reporting nodes and node associations for the reporting structure. These reporting nodes or elements can be at a single level within the reporting structure hierarchy or many levels. For each reporting node, related information includes:
  - Cost details (CV\_Cost) by cost type (budget, actual, earned value, estimate) and value type (hours, direct cost, equivalent heads, units, indirect costs, total cost) by reporting period (PM\_Reporting Period) with or without resource detail (PM\_Resource);
    - Variance analysis narrative.

#### 478 Use Case Scenarios

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480 Example 1. Report Project Performance use case. Contractor sends current reporting period cost
481 performance information at level 3 of the project work breakdown structure. Information includes the
482 reporting structure node and cost details (budget, actual, earned value, and estimate total costs) based
483 on summary reporting calendar time frames (current period, cumulative to date, at complete). As an
484 option, the contractor includes contract and project summary data (see Section 5.3.4) as a courtesy to
485 their customer.

486

487 Example 2. Report Project Performance use case. Contractor sends current reporting period cost
488 variance analysis information at level 3 of the project work breakdown structure. Information includes
489 selected reporting structure nodes that exceeded the variance threshold parameters along with narrative
490 variance analysis text (describes the source of the problem, impact of the problem, and how the problem
491 is being resolved).

492
493 Example 3. Report Project Performance use case. Supplier sends current reporting period cost
494 performance information at level 4 of the project work breakdown structure. Information includes the
495 reporting structure node and cost resource details (resource specific actual and earned value hours and
496 direct costs) based on an accounting calendar reporting period (week or month reference).

497

498 Example 4. Create Project or Update Project Within Baseline use case. Supplier sends time phased

budget or estimate cost information at level 5 of the project work breakdown structure with a cross
 reference to an organization. Information includes the reporting structure node association references

(WBS and OBS) and cost resource details (resource specific budget or estimate hours and direct costs)

502 based on accounting calendar reporting periods (weeks or months).

#### 504 5.3.4. Contract and Project Summary Data

505 Provides the means to exchange summary contract and project data useful for a new project or when 506 there are contract changes. The data can also be combined with other information areas as needed 507 when a complete set of contract and project summary data is required by the customer (in addition to the

508 simple reference identifier used for exchanging other information area details).

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Information related to the contract includes:

• A single program reference (there can be multiple contracts awarded for a given program);

and related project. It identifies overall contract and related high level project parameters that are exchanged between contracting parties on contract award or in the event there are change orders that

This data exchange focuses on the high level descriptive, date, and cost information specific to a contract

- A single project portfolio reference (optional use to group multiple projects together);
- Project references which includes high level descriptive, date (start and finish), and cost (such as management reserve) details;
- Change order summary details;
  - Applicable custom attributes specific to the contract;
- Narrative text as needed.

must be incorporated.

#### 532 Use Case Scenarios

533

Example 1. Create Project use case. Government agency program manager sends contract summary
 information to the contractor to establish the high level contract and project parameters. Or, contractor
 program manager sends contract summary information to their suppliers to establish high level contract
 and project parameters.

Example 2. Reset Project Baseline use case. Government agency program manager sends approved
 change order details to the contractor. Or, contractor program manager sends approved change order
 details to a supplier.

542

543 Example 3. Report Project Performance use case. Contractor sends contract summary information 544 along with the reporting structure cost data for the current reporting period to their customer. The 545 contract summary details are included to reflect recent changes as the result of a change order.

546

#### 547 5.3.5. Funding Data

548 This targeted data exchange provides the means to exchange funding details about the contract.

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550 551 552

552 This data exchange is based on a given reporting structure similar to the cost data exchange except the 553 cost data contents are focused on details specific to project funding such as: 554

• Funding authorized to date;

- Accrued expenditures;
- 558559 Open commitments;
  - Actual costs to date;
  - Forecast of billings.

564 565 Additional contract information is included (PM\_Contract) to identify the funding source (a project can be 566 funded by multiple entities) and allows the ability to include remarks.

# 567568 Use Case Scenario

569
570 Example. Report Project Performance use case. Contractor sends current reporting period funding
571 information at level 3 of the project work breakdown structure. Information includes the reporting
572 structure node and funding details based on reporting calendar time frames (cumulative to date and
573 future monthly/quarterly or other time frames agreed to with the customer).

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#### 575 **5.3.6.** Auxiliary Data

576 Auxiliary data includes related calendars, structures, and other details needed to organize the work as 577 well as to sort, select, and summarize the data for reporting purposes. The data can also be combined 578 with other information areas as needed to provide the necessary reference details for other data. 579

580 The named targeted data exchanges include:

- Reporting calendar used for cost details;
- Schedule calendar;
  - Reporting structure;
- Resources;
- Variance thresholds.

590 591

#### 592 5.3.6.1. Reporting Calendar

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596 This data exchange allows the ability to send details about a given cost reporting calendar. The reporting 597 periods associated with a calendar can reflect accounting periods (monthly or weekly), summary time 598 frames such as current period, cumulative to date, and at complete or other time frames as needed. The 599 period entity (PM\_Period) identifies the start and end dates for a given reporting period.

600

# 601 Use Case Scenarios602

603 Example 1. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data 604 provider sends their reporting calendar information to a data consumer for reference or for use in their 605

605 software tools.

- 606 607 608 Example 2. Report Project Performance use case. Contractor sends their current reporting period calendar along with the reporting structure cost data for the current reporting period to the customer.

## 609 5.3.6.2. Schedule Calendar

- 613 This data exchange allows the ability to send details about a given schedule calendar (holidays and rest
- 614 days) as well as work shift details.
- 615

- 618 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data
- 619 provider sends their schedule calendar information to a data consumer for reference or for use in their 620 software tools.

#### 5.3.6.3. Reporting Structure 621

622

This data exchange allows the ability to send details about a given reporting structure such as a work breakdown structure, organization breakdown structure, or milestone hierarchy structure.

<sup>623</sup> 624 625 626

- 628 Note that this entity can also be used to send details about a single level reporting structure used to 629 organize, sort, and select data such as by phase, location, supplier, and so forth.
- 630

632633 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data

- 634 provider sends reporting structure information to a data consumer for reference or for use in their 635 software tools.
- 636

#### 637 **5.3.6.4. Resources**

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639 640

641 This data exchange allows the ability to send details about available resources that will be used to

642 perform work on a given project. This detail is the source list used for the work task resource

- 643 assignments (network schedule with resource assignments data exchange). Availability time frames can 644 also be included (PM Period) with the resource detail as needed.
- 645

647 648 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data

- provider sends resource information to a data consumer for reference or for use in their software tools.
- 650

#### 651 5.3.6.5. Variance Thresholds

652

This data exchange allows the ability to send details about the variance thresholds used for cost and

656 variance analysis useful for exception reporting (work elements that exceed the thresholds allow 657 management to identify and address project problem areas). The thresholds apply to a given reporting

node within a reporting structure, typically the work breakdown structure. This allows the ability to tailor

- 659 the thresholds based on the scope of work (high risk versus low risk work). The boundaries can change 660 over the duration of the project (PM\_Period details).
- 661

663
664 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data
665 provider sends variance threshold information to a data consumer for reference or for use in their
666 software tools.

667

#### 668 5.3.7. Acknowledgements

- 669 This data exchange provides the means to send acknowledgment information to a data provider.
- 670

675 Example. Provide Error Notice use case. Data consumer sends an error notice to the data provider.

#### 677 **5.4. Business Rules**

- The business rules for this data exchange are common to other business data exchanges. It is anticipated that the data exchanges will occur in batch and/or interactive modes.
- 680
- 681 Standard data transmission and access requirements such as security and system level
- acknowledgements will be required. This is outside the scope of this document.
- 683
- 684 It is anticipated that digital signatures will be also be part of this data exchange. This is a typical 685 requirement for reporting project performance and funding status.
- 686

### 687 5.5. Definition of Terms

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#### 689 Project Management Terms

The source for the definition of common project management terms is the American National Standards
Institute/Electronic Industries Alliance (ANSI/EIA) Standard for Earned Value Management Systems (EIA748-A) published by the Electronic Industries Alliance, Technology Strategy & Standards Department,
2500 Wilson Boulevard, Arlington, VA 22201, USA.

ACTUAL COST	The costs actually incurred and recorded in accomplishing work performed.
ACTUAL DATE	The date on which a milestone or scheduled work task is completed.
APPORTIONED EFFORT	Effort that by itself is not readily measured or divisible into discrete work packages but which is related in direct proportion to the planning and performance on other measured effort.
AUTHORIZED WORK	Effort (work scope) on contract or assigned by management.
BUDGET AT COMPLETION	The total authorized budget for accomplishing the program scope of work. It is equal to the sum of all allocated budgets plus any undistributed budget. (Management Reserve is not included.) The Budget At Completion will form the Performance Measurement Baseline as it is allocated and time-phased in accordance with program schedule requirements.
CONTROL ACCOUNT	A management control point at which budgets (resource plans) and actual costs are accumulated and compared to earned value for management control purposes. A control account is a natural management point for planning and control since it represents the work assigned to one responsible organizational element on one program work breakdown structure element.
COST VARIANCE	A metric for the cost performance on a program. It is the algebraic difference between earned value and actual cost (Cost Variance = Earned Value - Actual Cost.) A positive value indicates a favorable position and a negative value indicates an unfavorable condition.
CRITICAL PATH ANALYSIS	See NETWORK SCHEDULE.
DIRECT COSTS	The costs or resources expended in the accomplishment of work which are directly charged to the affected program.
DISCRETE EFFORT	Tasks that are related to the completion of specific end products or services and can be directly planned and measured. (Also may be known as work packaged effort.)
DUE DATE	The date by which a milestone or task is scheduled to be completed.
EARNED VALUE	The value of completed work expressed in terms of the budget assigned to that work.
ESTIMATE AT	The current estimated total cost for program authorized work. It
COMPLETION	equals actual cost to a point in time plus the estimated costs to

	completion (Estimate To Complete).
ESTIMATE TO COMPLETE	Estimate of costs to complete all work from a point in time to the end
	of the program.
ESTIMATED COST	An anticipated cost for specified work scope.
EXPECTED COMPLETION	The date on which a scheduled milestone or task is currently expected
DATE	to be completed.
INDIRECT COST	The cost for common or joint objectives that cannot be identified
	specifically with a particular program or activity. Also referred to as
	overhead cost or burden.
INTERNAL REPLANNING	Replanning actions for remaining work scope. A normal program
	control process accomplished within the scope, schedule, and cost
	objectives of the program.
LEVEL OF EFFORT	Unmeasured effort of a general or supportive nature usually without a
	deliverable end product. Examples are supervision, program
	administration and contract administration.
MANAGEMENT RESERVE	An amount of the total budget withheld for management control
	purposes rather than being designated for the accomplishment of a
	specific task or set of tasks.
MILESTONE	A schedule event marking the due date for accomplishment of a
	specified effort (work scope) or objective. A milestone may mark the
	start, an interim step, or the end of one or more activities.
NETWORK SCHEDULE	A schedule format in which the activities and milestones are
	represented along with the interdependencies between activities. It
	expresses the logic of now the program will be accomplished. Network
	schedules are the basis for critical path analysis, a method for
	The biorestical exception and assessment of schedule priorities and impacts.
	The hierarchical arrangement for the management organization for a
STRUCTURE	program, graphically depicting the reporting relationships. The
	organization units are used by the company
	Light the remaining direct costs, other than labor and material like
OTHER DIRECT COSTS	travel and computer costs
OVER-TARGET BASELINE	Replanning actions involving establishment of cost or schedule
	objectives that exceed the desired or contractual objectives on the
	program. An over-target baseline is a recovery plan, a new baseline
	for management when the original objectives cannot be met and new
	goals are needed for management purposes.
PERFORMANCE	The total time-phased budget plan against which program
MEASUREMENT BASELINE	performance is measured. It is the schedule for expenditure of the
	resources allocated to accomplish program scope and schedule
	objectives, and is formed by the budgets assigned to control accounts
	and applicable indirect budgets. The Performance Measurement
	Baseline also includes budget for future effort assigned to higher Work
	Breakdown Structure levels (summary level planning packages) plus
	any undistributed budget. Management Reserve is not included in the
	baseline as it is not yet designated for specific work scope.
PERFORMING	The organization unit that applies resources to accomplish assigned
ORGANIZATION	work.
PLANNING PACKAGE	A logical aggregation of work, usually future efforts that can be
	identified and budgeted, but which is not yet planned in detail at the
	work package or task level.
PROGRAM BUDGET	I he total budget for the program including all allocated budget,
	management reserve, and undistributed budget.
PROGRAM TARGET COST	The program cost objective based on the negotiated contract target
	cost, or the management goal value of the authorized work, plus the

	estimated cost of authorized unpriced work.
RESOURCE PLAN	The time-phased budget, which is the schedule for the planned
	expenditure of program resources for accomplishment of program
	work scope.
RESPONSIBLE	The organizational unit responsible for accomplishment of assigned
ORGANIZATION	work scope.
SCHEDULE	A plan that defines when specified work must be done to accomplish
	program objectives on time.
SCHEDULE TRACEABILITY	Compatibility between schedule due dates, status, and work scope
	requirements at all levels of schedule detail (vertical traceability) and
	between schedules at the same level of detail (horizontal traceability).
SCHEDULE VARIANCE	A metric for the schedule performance on a program. It is the
	algebraic difference between earned value and the budget (Schedule
	Variance = Earned Value - Budget). A positive value is a favorable
	condition while a negative value is unfavorable.
STATEMENT OF WORK	The document that defines the work scope requirements for a
	program.
UNDEFINITIZED WORK	Authorized work for which a firm contract value has not been
	negotiated or otherwise determined.
UNDISTRIBUTED BUDGET	Budget associated with specific work scope or contract changes that
	have not been assigned to a control account or summary level
	planning package.
WORK BREAKDOWN	A product-oriented division of program tasks depicting the breakdown
STRUCTURE	of work scope for work authorization, tracking, and reporting purposes.
WORK BREAKDOWN	A listing of work breakdown structure elements with a description of
STRUCTURE DICTIONARY	the work scope content in each element. The work descriptions are
	normally summary level and provide for clear segregation of work for
	work authorization and accounting purposes.
WORK PACKAGE	A task or set of tasks performed within a control account.