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UN/CEFACT

**SIMPLE, TRANSPARENT AND EFFECTIVE PROCESSES
FOR GLOBAL BUSINESS**

Business Requirements Specification (BRS)

Business Domain: Contract Management

**Business Process: Project Schedule and Cost Performance
Management**

Document Identification:

**Title: Project Schedule and Cost Performance Management
International Standard**

**Trade Facilitation and Business Working Group:
TBG6 – Architecture, Engineering and Construction Domain**

Version: 1

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Document Issue Date	April 3, 2006

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Document Summary

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Owner	TBG6, PSCPM Working Group
Status	Final This draft was prepared for submission to the TBG Chair

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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 5.3.2 through 5.3.5	Diagrams were replaced to reflect updated entries.

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103 **1. PREAMBLE**

104 The document authority is TBG6, Architecture, Engineering, and Construction Domain.

105

106 The document structure is based on the UN/CEFACT Business Requirements Specification
107 Documentation Template, Version 1, Release 5.

108

109 The document was created by the TBG6 Project Schedule and Cost Performance Management (PSCPM)
110 working group and will be approved by the full TBG6 working group in collaboration with TBG1, Supply
111 Chain Domain.

112 **2. REFERENCES**

- 113 • UN/CEFACT Modeling Methodology (CEFACT/TMWF/N090R10, November 2001)
- 114 • UN/CEFACT ebXML Core Components Technical Specification Version 2.01
- 115 • UN/CEFACT Business Requirements Specification Documentation Template, Version 1, Release
116 5
- 117 • UN/CEFACT TBG Library 2005_10_07
- 118 • UML Version 2.0
- 119 • EDIFACT PROTAP (Project Tasks Planning) and PROCST (Project Cost Reporting) messages
- 120 • ANSI X12 806 (Project Schedule Reporting) and 839 (Project Cost Reporting) transaction sets

121 **3. OBJECTIVE**

122 The objective is to enable the ability for the various entities involved in the execution of a project to
123 exchange relevant project management related schedule and cost data throughout the life of a project
124 using a standardized information exchange process and data content framework.

125 **4. SCOPE**

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

131

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

134

- 135 1. Establishing the schedule and cost performance management baseline. The baseline is
136 established as quickly as possible after contract award. This baseline provides the basis for
137 measuring work performance over the life of the project.
138
- 139 2. Providing schedule progress and cost performance data on a periodic basis (such as weekly or
140 monthly) for the purpose of reporting the work progress in schedule and cost terms in comparison
141 to the schedule and cost performance measurement baseline. This periodic schedule and cost
142 information is used to determine if the project is ahead or behind schedule, or if the project is over
143 or under running the cost plan (the budget). It can also be used to identify high risk or problem
144 areas for the project and for planning future work based on project performance to date.
145
- 146 3. Providing a means to incorporate changes to the schedule and cost baseline (contract changes)
147 as well as other changes required to keep the current working schedule and future cost plan up to
148 date.
149
- 150 4. Capturing end of contract schedule and cost data. Historical project performance data can be
151 used as a basis for estimating the schedule and cost of future projects.
152

153 This project schedule and cost data exchange includes the many tiers of suppliers, prime contractors, and
154 the end client. Suppliers, prime contractors, and end clients may also be required to provide periodic
155 project performance data to internal entities for financial portfolio management purposes.
156

157 The focus of this data exchange is world wide across a number of industries including, but not limited to,
158 government functional entities (such as defense, energy, transportation, and social services), aerospace
159 and defense, engineering and construction, oil and gas, utility (such as energy, telecom, and municipal
160 services), scientific research and development, and information technology.
161

162 The data categories included in this exchange are summarized below and further defined in Section 5.3,
163 Business Information Model Definition.
164

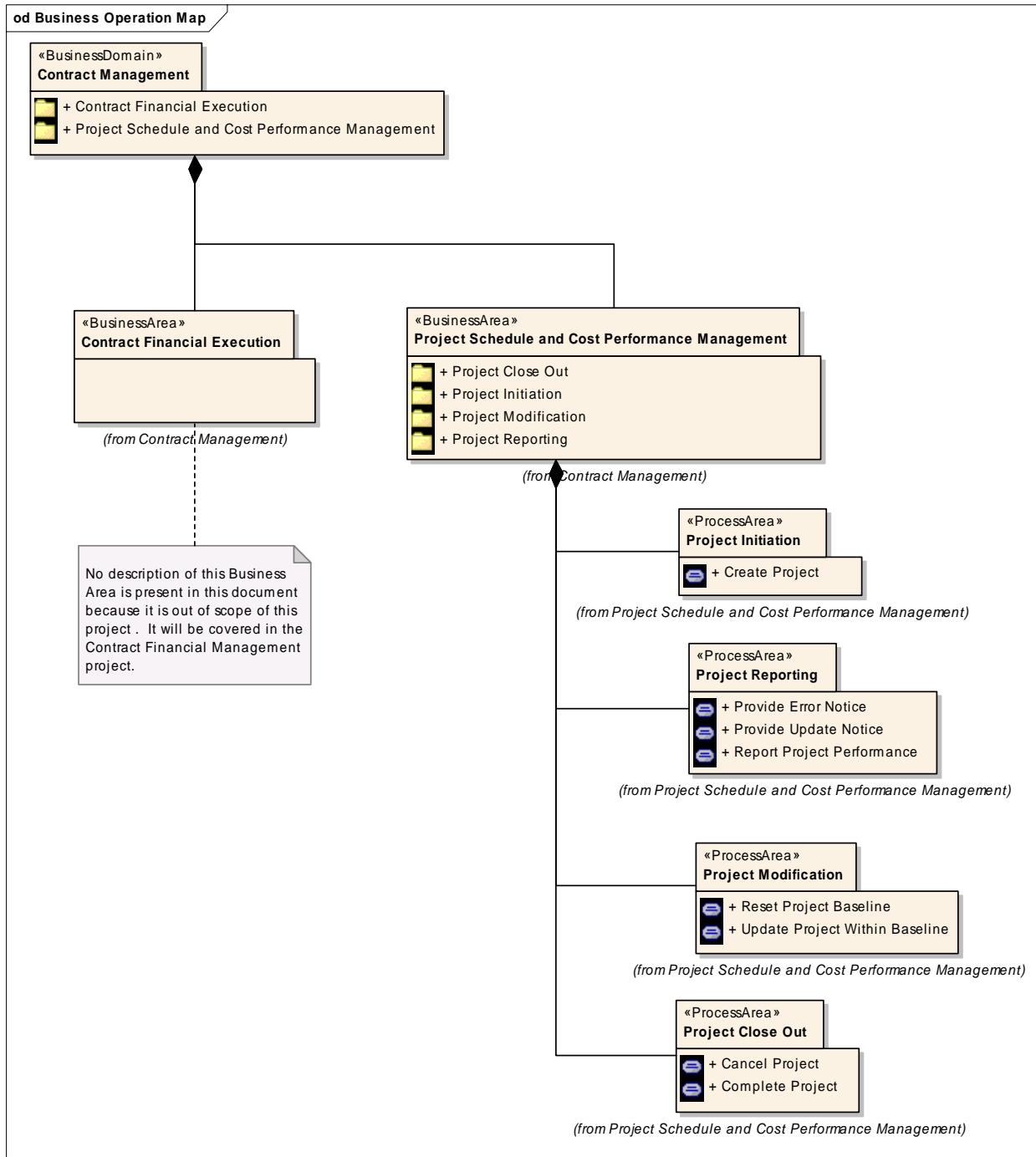
- 165 • Schedule data which includes work task activities, milestones, activity relationships, and activity
166 resource assignments.
167
- 168 • Cost data which includes time phased or summary budget costs, actual costs, earned value
169 costs, and estimate to complete costs and related value type details such as labor hours, material
170 units or lots, direct costs, indirect costs (overheads), and total costs.
171
- 172 • Contract and project summary data which includes details such as contract reference numbers,
173 type of contract, procuring entity, and summary cost values and schedule dates.
174
- 175 • Funding data which includes specifics about the source of funds (can be one or more entities)
176 and the amount of funds provided over time.
177
- 178 • Related auxiliary data that is used to code or organize the schedule and cost data for planning
179 and reporting purposes. Auxiliary data includes:
 - 180 ○ Accounting calendar fiscal periods for reporting cost details;
 - 181 ○ Schedule calendar (identifies work days for scheduling tasks);
 - 182 ○ Reporting structures (work breakdown structure, organization breakdown structure,
183 milestone hierarchy, resource breakdown structure);
 - 184 ○ Other single level reporting structures used to organize, sort, and select data such as
185 contract line item numbers, phase, location, supplier, and so forth;
 - 186 ○ Resources used for work task assignments (who or what is required to complete work on
187 the project);
 - 188 ○ Variance thresholds (used for exception reporting; when a cost or schedule variance
189 exceeds a cost or percent limitation, it means there is a problem on the project).
190

191 Note: Various US government agencies such as the Department of Defense (DOD), Department of
192 Energy (DOE), and NASA have paper forms, data item descriptions (DID), and other formal documents
193 that list the required data content for project performance management reporting such as the Contract
194 Performance Report (CPR), Contract Funds Status Report (CFSR), and Integrated Master Schedule
195 (IMS) data item descriptions. These are usually included in the contract data requirements list for the
196 contractor. In addition, US government agencies must submit yearly program/project business cases to
197 the Office of Management and Budget (OMB) (Exhibit 300 forms). This Business Requirements
198 Specification and related Requirements Mapping Specification include the business and data element
199 detail required to support the formal reporting requirements for US government agencies. Other
200 international ministries of defense such as the UK, Australia, and Canada use similar reporting
201 requirements.

202 **5. BUSINESS REQUIREMENTS**

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

205
 206 There is a relationship between Project Schedule and Cost Performance Management and Contract
 207 Financial Execution within the Contract Management business domain. A typical example of this
 208 relationship is progress payments for items completed or delivered. The type of contract will determine
 209 how the contractor is paid for their effort, but there is typically some relationship between project
 210 performance (completing contracted work) and payment for that effort.
 211



212

213 5.1. Business Process Elaboration

214 5.1.1. The Actors

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

217 **Data Consumers**

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

- 222 • Public or private client. This can be any commercial entity that has the authority to commit public
223 or private money for one or more contractors to perform a service or to produce a product.
224
- 225 • Government Agency. This can be any government agency that has the authority to commit
226 government money for one or more contractors to perform a service or to produce a product.
227
- 228 • Contractor. This is any commercial entity responsible for doing the work as defined in a client's
229 project statement of work. A public or private client or government agency contracts with this
230 entity to perform a service or to produce a product.
231
- 232 • Program or Project Manager. This can be a person or program management office internal to a
233 public or private client, government agency, or contractor with the responsibility and authority to
234 manage a program or project. They can also be an external entity hired for the specific purpose
235 of managing a project for a given client.
236
- 237 • Internal Management. This is any internal management entity that wants to review the status or
238 performance of a given project. For a government agency, it could be the head of the agency or
239 other oversight entities such as the US Office of Management and Budget (OMB) that have
240 funding authority. For a corporation, this is upper level management or financial management
241 that is responsible for assessing the performance of a project (project portfolio analysis).
242

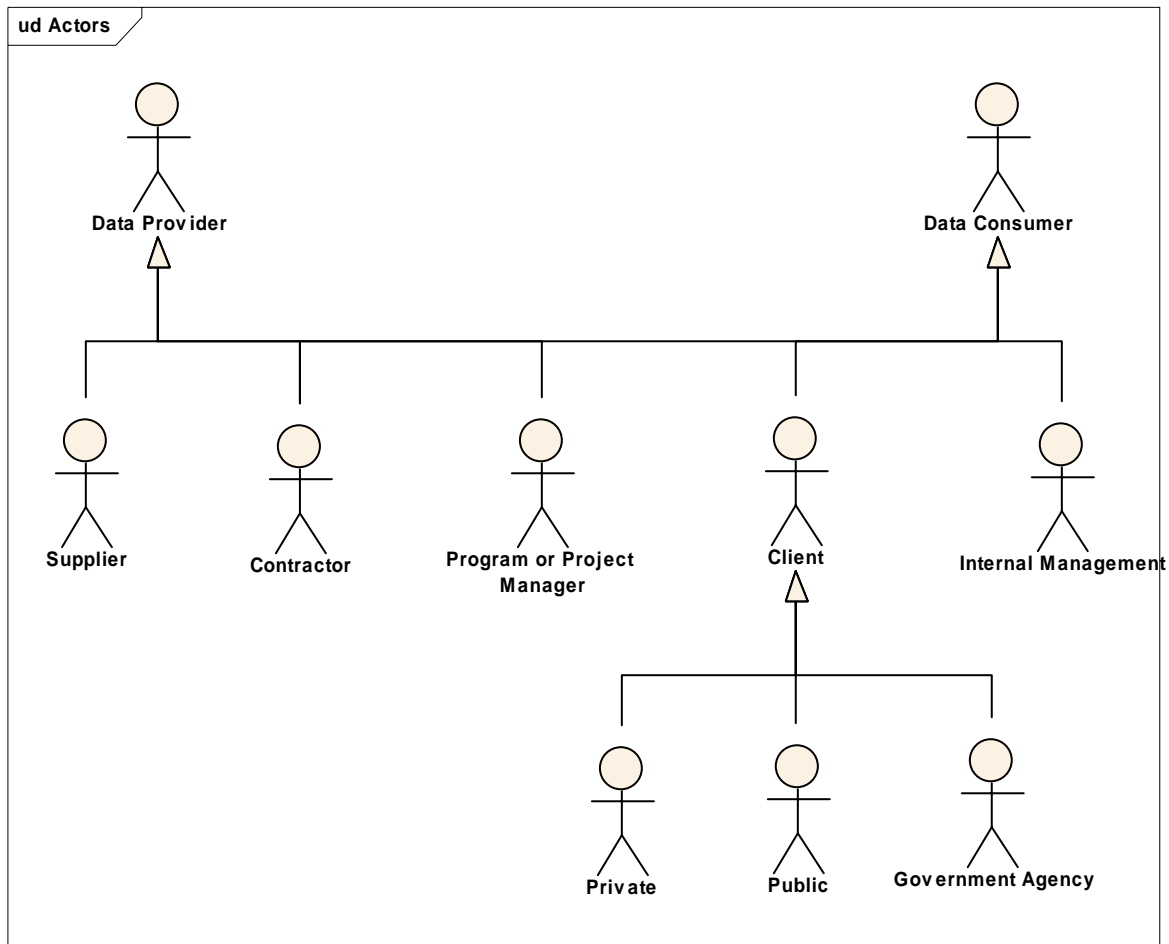
243 **Data Providers**

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

- 246 • Supplier. This is any commercial entity or independent contractor (a person) responsible for
247 providing a service or producing a product for a contractor (the data consumer). There can be
248 many tiers of suppliers and contractors. For the purposes of this document, teaming partners
249 (two or more companies bid on a contract as a joint team), are grouped into the supplier category
250 because one contractor in the teaming relationship functions as the lead contractor. Teaming
251 partners must provide their data to the lead contractor much like a supplier though their schedule
252 and cost data are likely to be more integrated with the lead contractor's than supplier's data would
253 be.
254
- 255 • Contractor. This is any commercial entity responsible for doing the work as defined in a client's
256 project statement of work. They have the role of aggregating their project data with supplier data
257 to produce the required status and performance data to another higher level contractor, public or
258 private client, government agency, or internal management.
259
- 260 • Program or Project Manager. This is the internal or external entity (person or office) responsible
261 for managing the program/project for a public entity, private corporation, or a government agency.
262

267 They have the role of aggregating program data to produce required status and performance data
268 for internal management including any higher level funding authority or financial manager, or for a
269 public or private client.
270

271 The various actors involved in the project schedule and cost performance data exchange are illustrated
272 below. Note that an actor can function as a data provider as well as a data consumer. For example, a
273 contractor is a data consumer when they pull in supplier schedule and cost performance data for use in
274 their project management control system. They are also a data provider when they convey consolidated
275 schedule and cost performance data to their end client or to internal management who is the data
276 consumer.
277



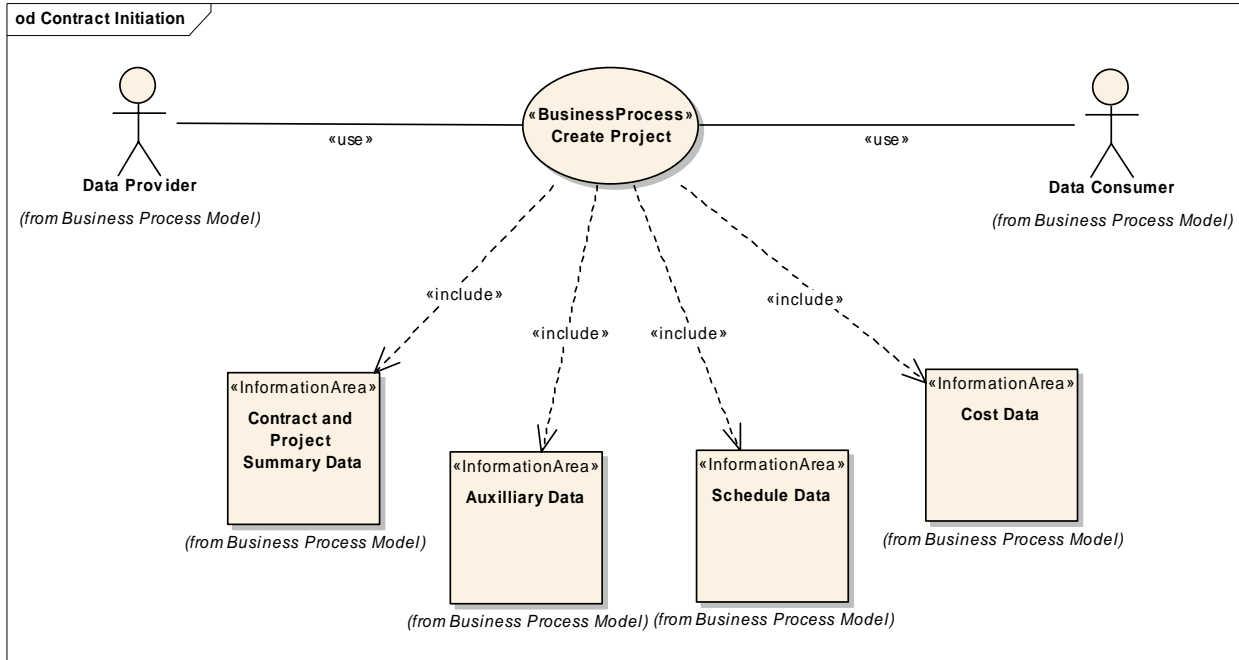
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281 **5.1.2. Project Initiation Business Use Case**

282 This use case applies once a contract has been awarded and authorization to proceed has been given by
 283 the end client.

284 **5.1.2.1. Create Project**

285



286
287

Business Process Use Case	
Name	Create Project
Use Case ID Number	PSCPM-PI-1
Description	<p>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.</p> <p>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).</p> <p>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.</p>
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider sends desired data subset to participating party. 2. Party receiving the data acknowledges receipt of the data subset submission. 3. Party receiving the data validates the content of the data submission. <p>Example 1: The client sends the contract work breakdown structure</p>

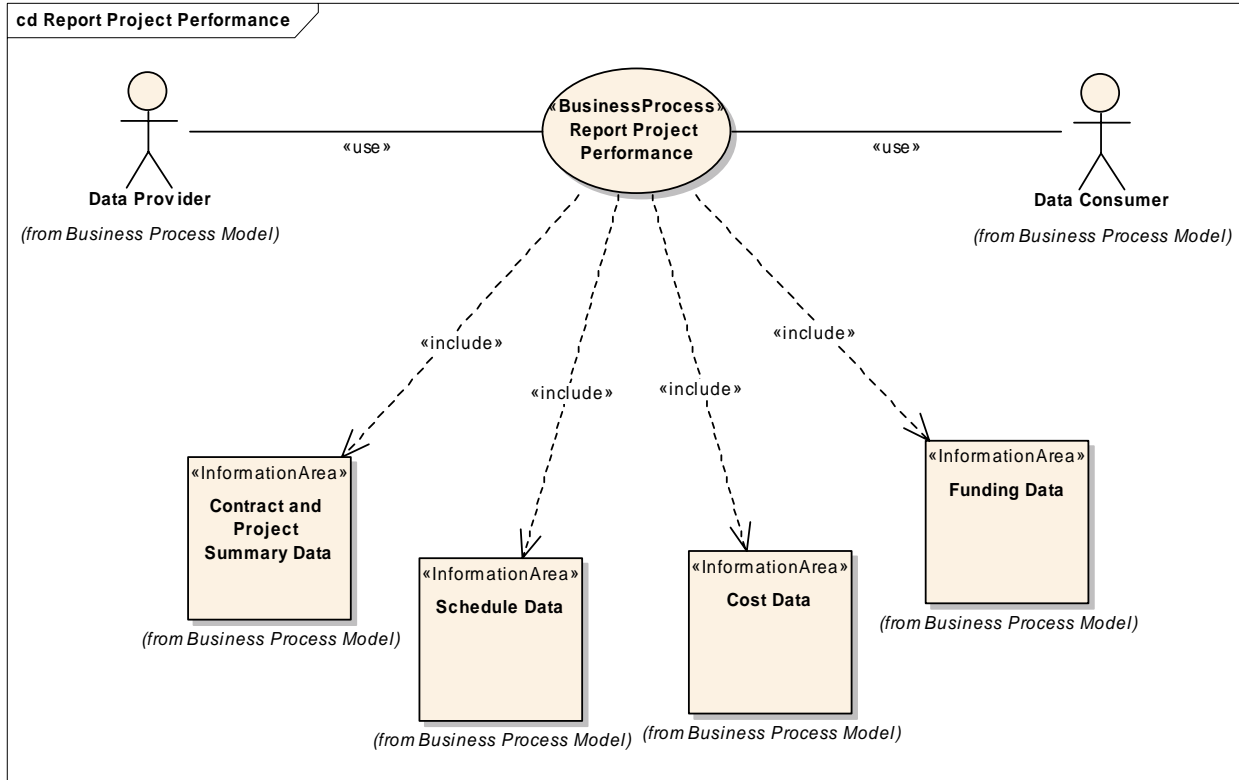
	<p>and contractual milestones with dates to the contractor.</p> <p>Example 2: Contractor sends a preliminary project work breakdown structure or contractual milestones with dates to a supplier for initial project planning and scheduling.</p> <p>Example 3: Supplier sends preliminary schedule data or time phased budget data to the contractor for incorporation into their environment.</p>
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 style="list-style-type: none"> • Summary contract data • Auxiliary data <ul style="list-style-type: none"> ○ Reporting structure data (work breakdown structure, milestone hierarchy) ○ Single level reporting structures used for selecting and sorting data ○ Calendars (cost reporting and schedule) ○ Variance thresholds • Network schedule data (work tasks, milestones, relationships) • Network schedule data with resource assignments (resource amounts assigned to activities) • Period based cost data (budget)

289 **5.1.3. Project Reporting Business Use Cases**

290 These use cases apply once work begins on the project and the entity performing the work periodically
 291 assesses their work progress over the life of the project. The intent is to provide management visibility to
 292 all project stakeholders into what is currently going on with the project and how well the project is
 293 performing to the original schedule and cost plan (the baseline).

294 **5.1.3.1. Report Project Performance**

295 This is the most typical data exchange that occurs throughout the life of the project – collecting and
 296 providing current reporting period schedule status and cost performance data to another project
 297 stakeholder.
 298



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300

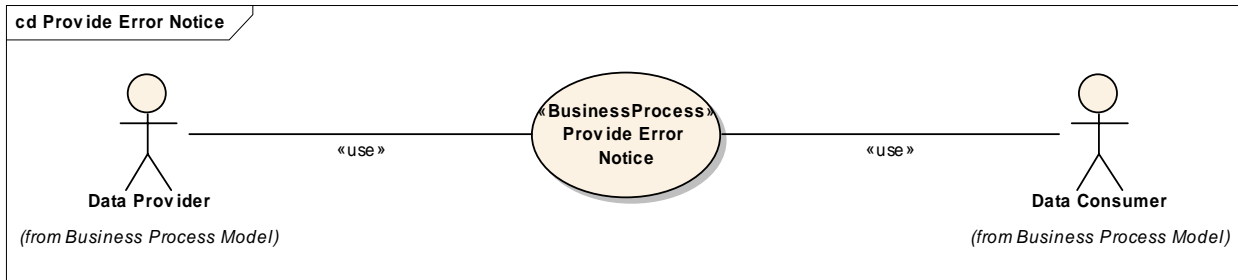
Business Process Use Case	
Name	Report Project Performance
Use Case ID Number	PSCPM-PR-1
Description	<p>A supplier, contractor, or program manager sends current reporting period project schedule status and cost performance data or funding data to an external client on a periodic basis. Or, a contractor, program manager, or government agency sends current reporting period project schedule status and cost performance data to internal management on a periodic basis.</p> <p>This is a data transmission of a complete report set or subsets for the current reporting period.</p> <p>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</p>

	must be made available.
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider collects status and performance data. 2. Data provider sends data to the data consumer. 3. Data consumer acknowledges receipt of data submission. 4. Data consumer validates the content of the data submission. <p>Example 1: Supplier sends current reporting period actual costs and earned value costs along with milestone status dates to the contractor.</p> <p>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.</p> <p><u>Alternate Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider collects status/performance data subset. 2. Data provider sends data subset to the data consumer. 3. Data consumer acknowledges receipt of data submission. 4. Optional. Data consumer validates the content of the data submission. 5. Steps 1 to 3 are repeated until a complete data set has been sent. A data set is considered complete when: <ol style="list-style-type: none"> a. All required parts have been received, or b. A prearranged deadline has passed, or c. An explicit completion notice has been received by the data consumer. 6. Data consumer validates the content of the complete data submission. <p>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.</p>
Expected Outcome	<ol style="list-style-type: none"> a. Contractor receives supplier data for use in their environment. b. End client receives data for use in their environment. c. Internal 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 style="list-style-type: none"> • Summary contract data as applicable (include updates as a result of any change orders since the last performance report) • Network schedule data (work tasks, milestones, relationships) • 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 style="list-style-type: none"> ○ Budget (contractor baseline changes) ○ Estimate (contractor equivalent heads - staffing) ○ Actual (supplier – as an alternative to cum/at complete data) ○ Earned value (supplier – as an alternative to cum/at complete data) • Funding data

301

302 **5.1.3.2. Provide Error Notice**

303



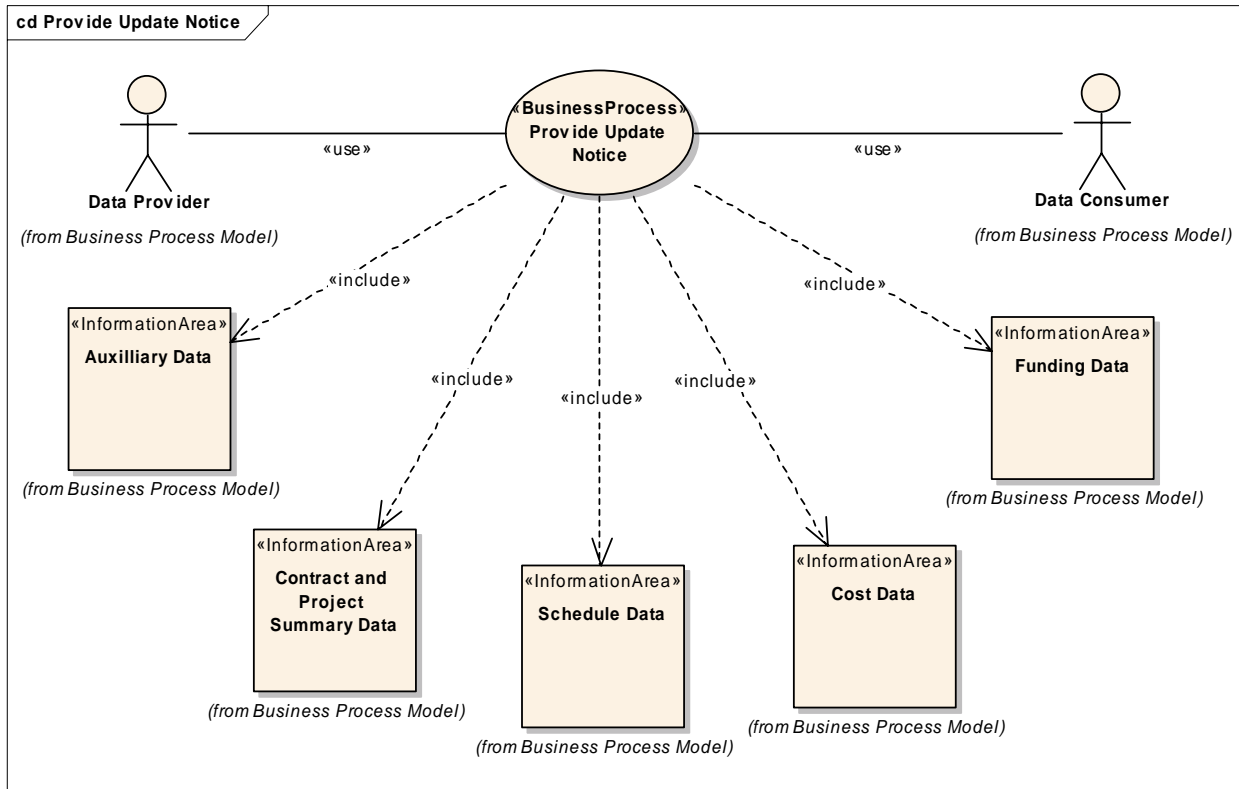
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Business Process Use Case	
Name	Provide Error Notice
Use Case ID Number	PSCPM-PR-2
Description	<p>The data consumer discovers an error in the data sent by a data provider. The data consumer sends an error notice to the data provider identifying the data in error.</p> <p>This is a data transmission that identifies what data is in error from a previous transmission. The purpose is to initiate a correction transmission from the data provider.</p> <p>The content of the error message is a basic report identifying errors.</p>
Initiating Actor	The data consumer
Participating Actor	The data provider
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data consumer process rejects data content. 2. Data consumer identifies the data content causing the error. 3. Data consumer sends an error notice identifying items in error to the data provider. 4. Data provider acknowledges receipt of error notice. <p>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.</p>
Expected Outcome	Data provider responds with a Provide Update Notice (PSCPM-PR-3) to the data consumer to correct the items in error.
Exception	N/A
Business Process Data Categories	Acknowledgements

306

307
308

5.1.3.3. Provide Update Notice



309
310

Business Process Use Case	
Name	Provide Update Notice
Use Case ID Number	PSCPM-PR-3
Description	<p>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.</p> <p>This is a data transmission of selected data. It may be a data subset or a smaller (identifiable) chunk of data.</p>
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. 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. <p>Example 1: Supplier sends corrected data based on an error notice previously sent from their client. The new data replaces the data in error.</p> <p>Example 2: Contactor notices that they included the wrong set of cost data for small subset of the work breakdown structure cost</p>

	<p>performance report they provided to their client. They send an update notice to the client that replaces the incorrect data with the correct data.</p> <p>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.</p>
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.

311

312 5.1.4. Project Modification Business Use Cases

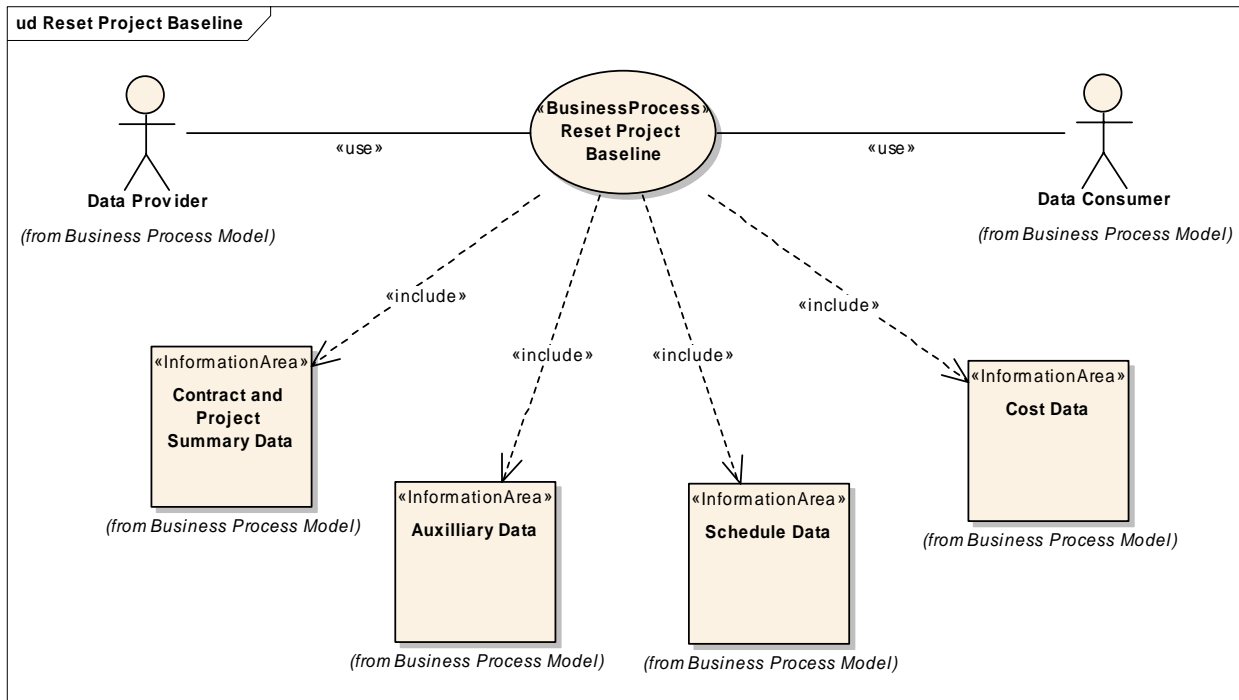
313 These use cases apply when schedule or cost plan changes need to be exchanged between the various
 314 project stakeholders.

315
 316 These can be extensive changes as a result of a contract change. These types of changes require client
 317 approval and require creating a revised schedule and cost baseline. Typical examples include a change
 318 in the scope of work or an unrecoverable schedule or cost condition that requires replanning the
 319 remaining work.

320
 321 Project modification can also be more routine changes that have no impact on the baseline plan; the
 322 project participants simply need to exchange updated schedule and cost plan details for the remaining
 323 work on the project.

324 5.1.4.1. Reset Project Baseline

325

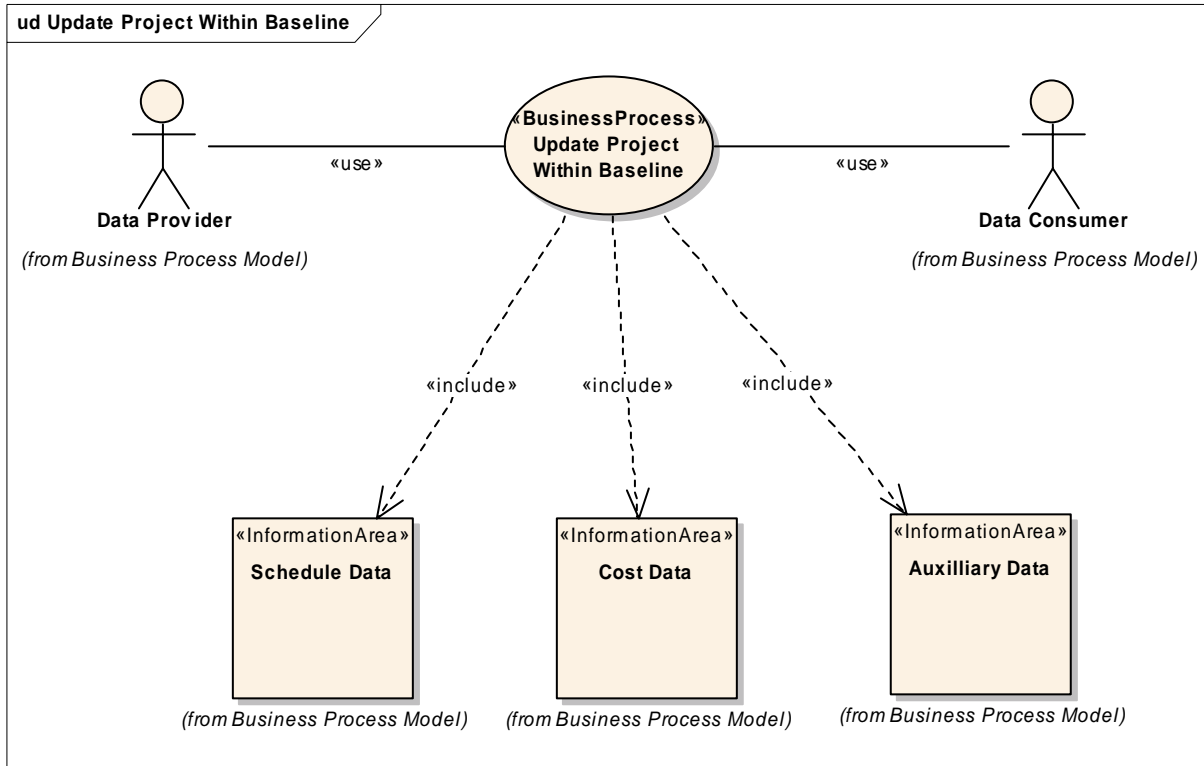


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Business Process Use Case	
Name	Reset Project Baseline
Use Case ID Number	PSCPM-PM-1
Description	<p>The participants in a change order action exchange applicable data (all parties can send and receive data) when authorization to reset a project schedule and cost baseline has been given by the client.</p> <p>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 the project has an unrecoverable schedule or cost condition.</p> <p>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.</p>
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider sends desired data subset to participating party. 2. Party receiving the data acknowledges receipt of data subset submission. 3. Party receiving the data validates the content of the data submission. <p>Example 1: The program office sends change order specifics (such as summary contract cost data) to the contractor.</p> <p>Example 2: Contractor sends updated contractual milestone dates to a supplier based on a revised baseline plan.</p> <p>Example 3: Supplier sends updated schedule data or time phased budget data to the contractor for incorporation into their environment.</p>
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 style="list-style-type: none"> • Summary contract data including change order data • Auxiliary data <ul style="list-style-type: none"> ○ Reporting structure data (work breakdown structure, milestone hierarchy) • Network schedule data (work tasks, milestones, relationships) • Network schedule data with resource assignments (resource amounts assigned to activities) • Period based cost data (budget, estimate to complete)

329
330

5.1.4.2. Update Project Within Baseline



331
332

Business Process Use Case	
Name	Update Project Within Baseline
Use Case ID Number	PSCPM-PM-2
Description	<p>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).</p> <p>This is a data transmission of selected data subsets during the execution phase of a project.</p> <p>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.</p>
Initiating Actor	The data provider
Participating Actor	The data consumer
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider sends desired data subset to participating party. 2. Party receiving the data acknowledges receipt of data subset submission. 3. Party receiving the data validates the content of the data submission.

	<p>Example 1: Contractor sends updated product delivery dates (schedule milestones) to a supplier.</p> <p>Example 2: Supplier sends updated estimate to complete cost data to the contractor for incorporation into their environment.</p>
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 style="list-style-type: none"> • Network schedule data (work tasks, milestones, relationships) • Network schedule data with resource assignments (resource 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 style="list-style-type: none"> ○ Variance Thresholds

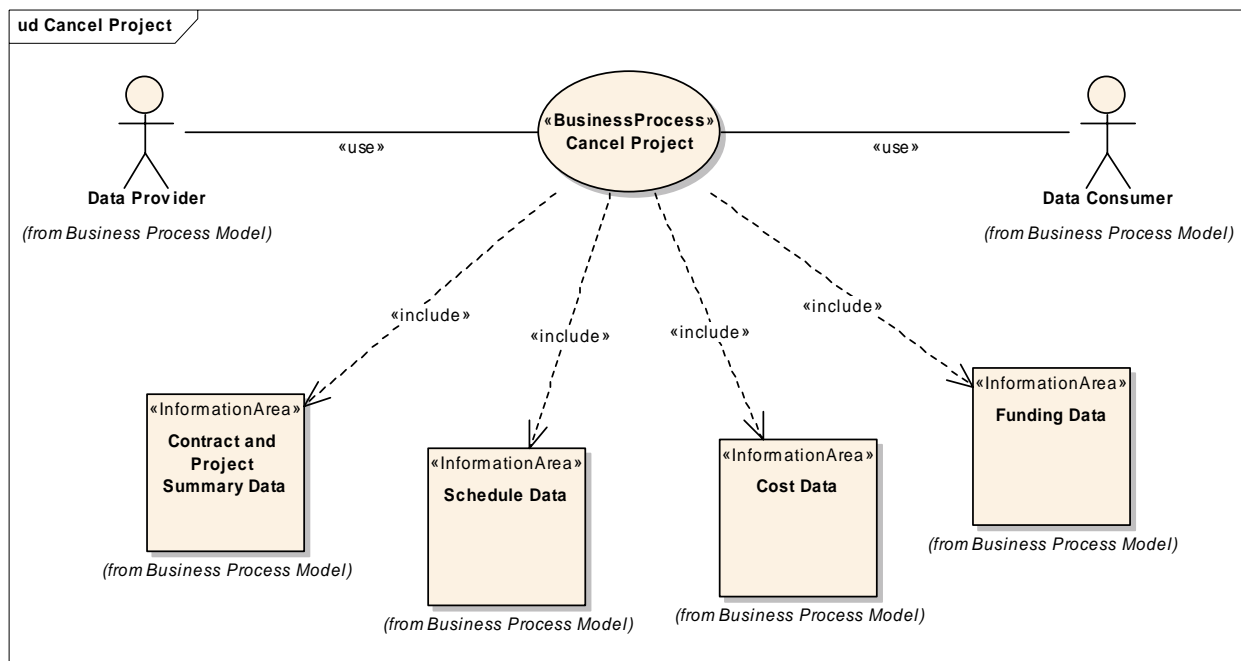
333

334 5.1.5. Project Close Out Business Use Cases

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

337 5.1.5.1. Cancel Project

338



339
340

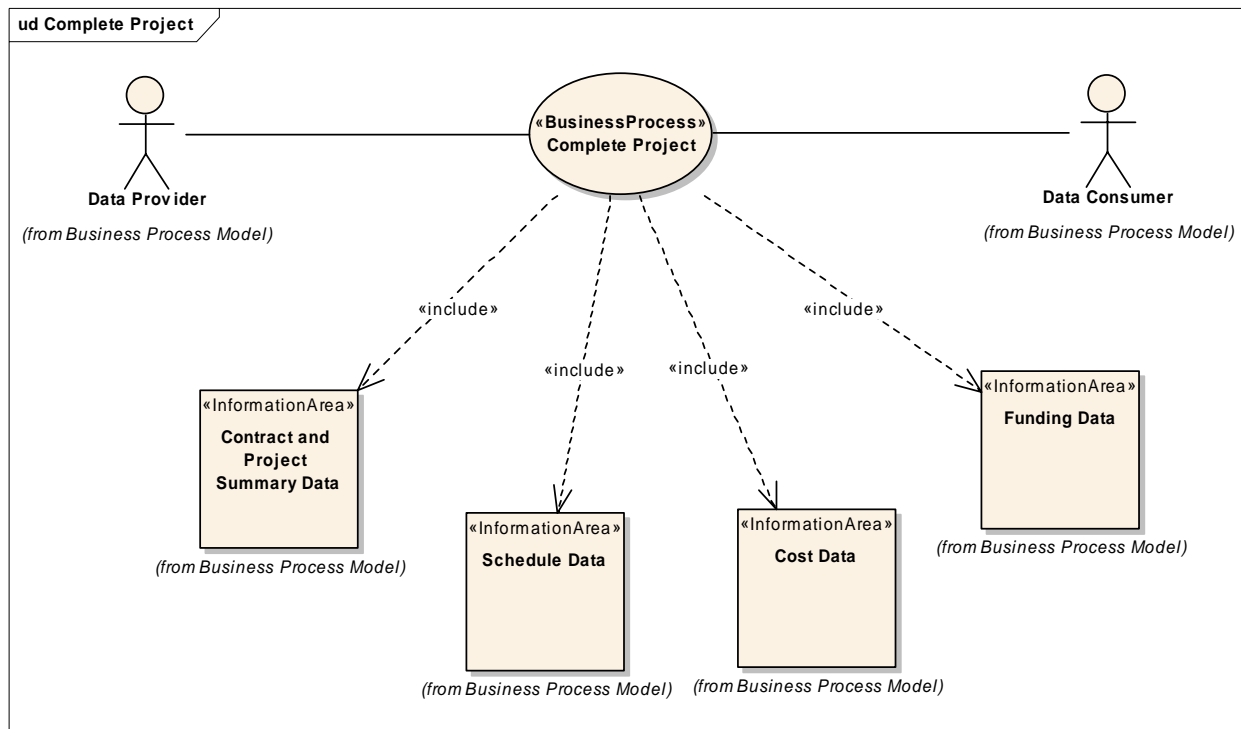
Business Process Use Case	
Name	Cancel Project
Use Case ID Number	PSCPM-PC-1
Description	The participants in a project exchange data once a cancellation notice has been given to stop work.

	<p>This is a data transmission of selected data subsets.</p> <p>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.</p>
Initiating Actor	The data consumer
Participating Actor	The data provider
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider sends required data subset to data consumer. 2. Data consumer acknowledges receipt of data subset submission. 3. Data consumer validates the content of the data submission.
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 style="list-style-type: none"> • Summary contract data • Network schedule data (final deliverables) • Final period based cost data (actual) • Funding data (required for contract close out to determine what funds have been expended so far and amount of cancellation obligations)

341

342 5.1.5.2. Complete Project

343



344

345

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

Description	<p>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).</p> <p>This is a data transmission of selected data subsets.</p> <p>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.</p>
Initiating Actor	The data consumer
Participating Actor	The data provider
Event Flow	<p><u>Main Scenario</u></p> <ol style="list-style-type: none"> 1. Data provider sends required data subset to data consumer. 2. Data consumer acknowledges receipt of data subset submission. 3. Data consumer validates the content of the data submission.
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 style="list-style-type: none"> • Summary contract data • Final network schedule data (work tasks, milestones, relationships) • Final period based cost data (actual) • Funding data

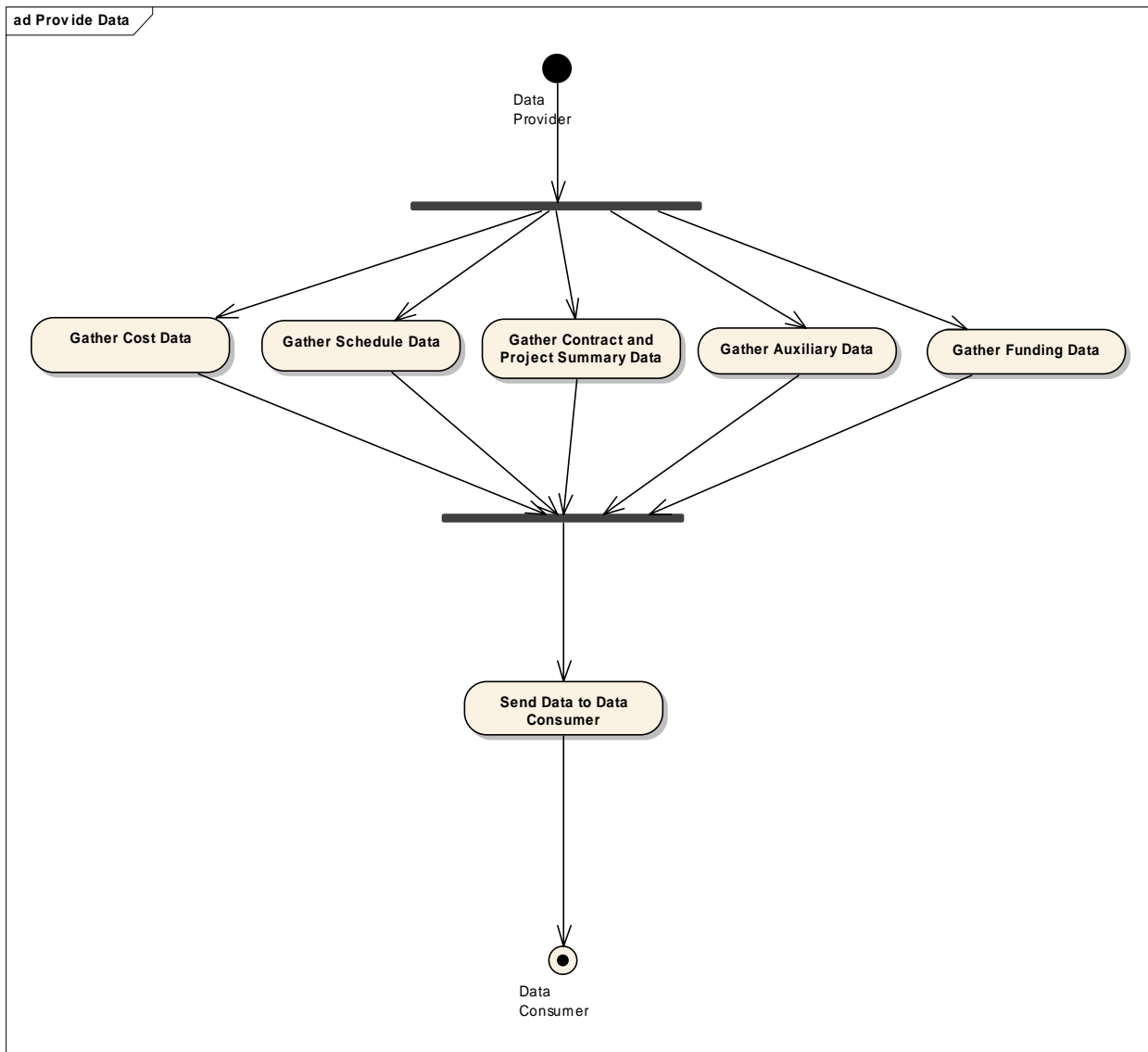
346

347 **5.2. Business Information Flow Definition**

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

351 **5.2.1. Provide Data**

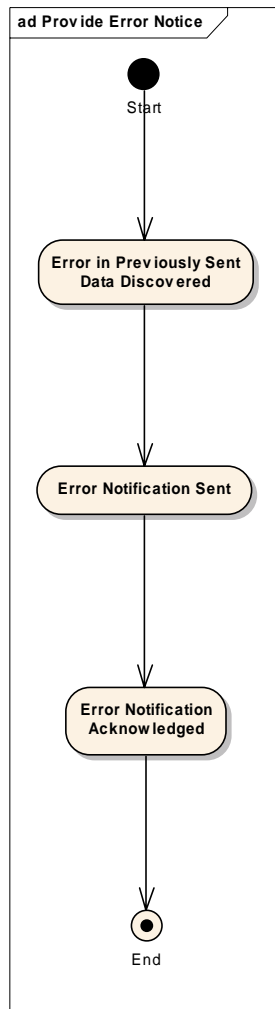
352 This activity diagram illustrates the data flow for the Create Project, Report Project Performance, Reset
353 Project Baseline, Update Project Within Baseline, Cancel Project, and Complete Project use cases. In
354 these instances, the data provider gathers and then sends the applicable data they need to provide to the
355 data consumer.
356



357
358

359 **5.2.2. Provide Error Notice**

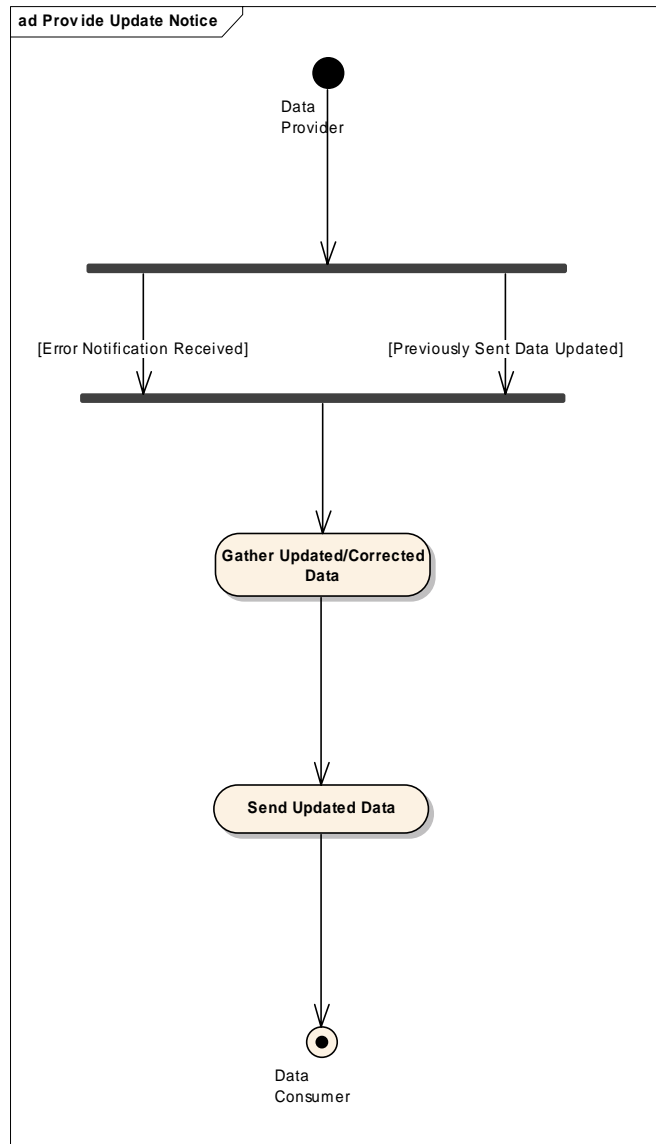
360 This activity diagram illustrates the data flow for the Provide Error Notice use case. This is the process
361 that occurs when a data consumer identifies an error in data sent by a data provider.
362



363
364

365 **5.2.3. Provide Update Notice**

366 This activity diagram illustrates the data flow for the Provide Update Notice use case. This is the process
367 that occurs when a data provider provides updated data in response to an error notice from a data
368 consumer. This process can also occur when a data provider needs to update data previously sent such
369 as for the Report Project Performance use case where the data provider is sending project status
370 information on a periodic basis to the data consumer.
371



372
373

374 **5.3. Business Information Model Definition**

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

- 377
- 378 • Schedule Data (Section 5.3.2);
 - 379
 - 380 • Cost Data (Section 5.3.3);
 - 381
 - 382 • Contract and Project Summary Data (Section 5.3.4);
 - 383
 - 384 • Funding Data (Section 5.3.5);
 - 385
 - 386 • Auxiliary Data (Section 5.3.6);
 - 387
 - 388 • Acknowledgements (Section 5.3.7).
 - 389

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

394 **5.3.1. List of Entities**

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

397

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

401

402 The majority of the entities are new items. Existing entities used as is from TBG17 are noted with an “*”.
 403 Modified existing entities are noted with a “#”.
 404

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 [#]	<p>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.</p> <p>Note that this entity automatically includes a number of subordinate entities such as party and postal address.</p>
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*	<p>The purpose is to provide information about the various pairs of dates for reporting calendar periods, work tasks, and other entities. Typical date pairs include:</p> <ul style="list-style-type: none"> • Early start and finish dates • Late start and finish dates • Actual start and finish dates • Baseline start and finish dates • Estimated start and finish dates • Reporting period start and end dates <p>It can also be used to provide information about various duration details such as an original duration for a work task.</p> <p>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.</p>
PM_ Project. Details#	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	<p>The purpose is to provide details related to work tasks and milestones in a schedule.</p> <p>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.</p> <p>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</p>

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.

405

406 **5.3.2. Schedule Data**

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

410
411 The core of the network schedule data exchange is the work task and milestone details (PM_Task). The
412 relationships between tasks and milestones (PM_Task_Relationship) provide information about the
413 interdependencies; this is used to determine the sequence of work. The resource assignment provides
414 information about which resource is doing the work or is required to do the work (PM_Resource
415 Assignment) and an amount (PM_Cost) such as number of labor hours, a direct cost, or number of
416 material units which can be distributed over time (PM_Reporting_Period).

417
418 Relationship and resource assignment details may or may not be included based on the needs of a given
419 project or the intent of a given data exchange.

420
421 Information related to the task details include:

- 422
- 423 • A single project reference (an identifier) which relates to a single contract reference (an
424 identifier);
- 425
- 426 • A single schedule calendar reference;
- 427
- 428 • Start and finish dates as well as duration details (PM_Period);
- 429
- 430 • User attributes;
- 431
- 432 • Reporting node details (can be one or many) which relates to a named reporting structure.
- 433

434 **Use Case Scenarios**

435
436 Example 1. Create Project or Reset Project Baseline use case. Contractor sends contractual milestones
437 with target complete dates to a supplier. This data exchange includes PM_Task detail (the milestones)
438 and applicable dates (PM_Period).

439
440 Example 2. Create Project or Reset Project Baseline use case. Supplier sends their preliminary network
441 schedule to their customer. This data exchange includes PM_Task information (work tasks and milestone
442 information) and PM_Task_Relationship information.

443
444 Example 3. Create Project or Reset Project Baseline use case. Contractor sends their complete
445 baseline network schedule to their customer. This data exchange includes PM_Task information (work
446 tasks and milestone information), PM_Task_Relationship information, and PM_Resource Assignment
447 information.

448
449 Example 4. Report Project Performance or Update Project Within Baseline use case. Supplier or
450 contractor sends milestone status information to their customer. This data exchange includes PM_Task
451 detail (the milestones) and applicable dates (PM_Period).

452

453 **5.3.3. Cost Data**

454 Cost data includes the cost information for the project whether at the detail level or summarized to any
455 intermediate or summary level using one or more reporting structure such as the work breakdown
456 structure. This cost data can be time phased by accounting calendar reporting periods or summarized for
457 the current reporting period (current period, cumulative to date, and at complete).

- 459
460 This cost data exchange is based on a given reporting structure such as a work breakdown structure
461 (PM_Reporting Structure). This data exchange includes:
462
- 463 • A single project reference (an identifier) which relates to a single contract reference (an identifier).
464
 - 465 • The various reporting nodes and node associations for the reporting structure. These reporting
466 nodes or elements can be at a single level within the reporting structure hierarchy or many levels.
467 For each reporting node, related information includes:
468
 - 469 ○ Cost details (CV_Cost) by cost type (budget, actual, earned value, estimate) and value
470 type (hours, direct cost, equivalent heads, units, indirect costs, total cost) by reporting
471 period (PM_Reporting Period) with or without resource detail (PM_Resource);
472
 - 473 ○ Variance analysis narrative.
474

475 Use Case Scenarios

476
477 Example 1. Report Project Performance use case. Contractor sends current reporting period cost
478 performance information at level 3 of the project work breakdown structure. Information includes the
479 reporting structure node and cost details (budget, actual, earned value, and estimate total costs) based
480 on summary reporting calendar time frames (current period, cumulative to date, at complete). As an
481 option, the contractor includes contract and project summary data (see Section 5.3.4) as a courtesy to
482 their customer.
483

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

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

495 Example 4. Create Project or Update Project Within Baseline use case. Supplier sends time phased
496 budget or estimate cost information at level 5 of the project work breakdown structure with a cross
497 reference to an organization. Information includes the reporting structure node association references
498 (WBS and OBS) and cost resource details (resource specific budget or estimate hours and direct costs)
499 based on accounting calendar reporting periods (weeks or months).
500

- 554 • Accrued expenditures;
- 555
- 556 • Open commitments;
- 557
- 558 • Actual costs to date;
- 559
- 560 • Forecast of billings.
- 561

562 Additional contract information is included (PM_Contract) to identify the funding source (a project can be
563 funded by multiple entities) and allows the ability to include remarks.

564 **Use Case Scenario**

565
566 Example. Report Project Performance use case. Contractor sends current reporting period funding
567 information at level 3 of the project work breakdown structure. Information includes the reporting
568 structure node and funding details based on reporting calendar time frames (cumulative to date and
569 future monthly/quarterly or other time frames agreed to with the customer).
570
571

572 **5.3.6. Auxiliary Data**

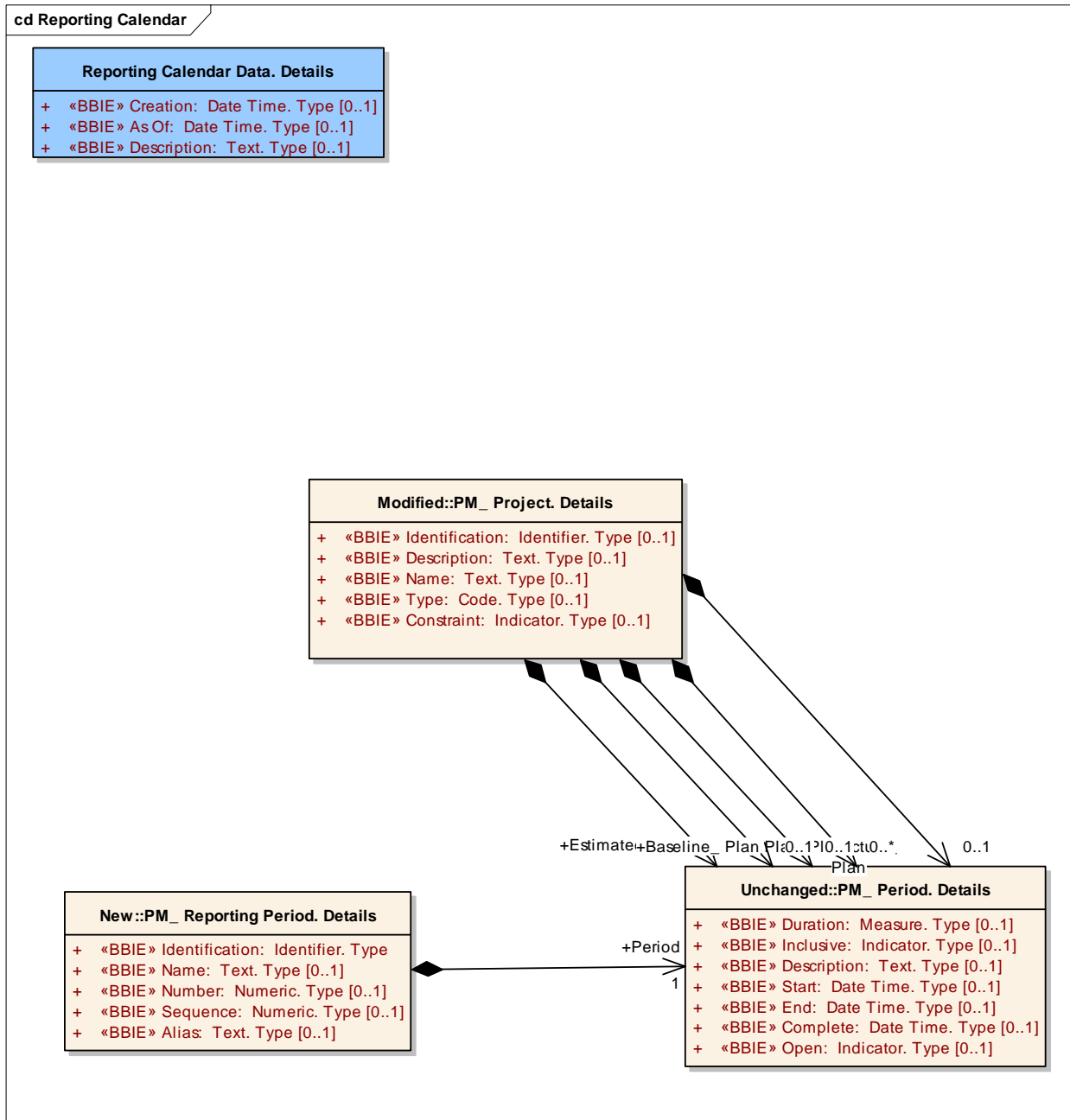
573 Auxiliary data includes related calendars, structures, and other details needed to organize the work as
574 well as to sort, select, and summarize the data for reporting purposes. The data can also be combined
575 with other information areas as needed to provide the necessary reference details for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

576 The named targeted data exchanges include:

- 577
- 578
- 579 • Reporting calendar used for cost details;
- 580
- 581 • Schedule calendar;
- 582
- 583 • Reporting structure;
- 584
- 585 • Resources;
- 586
- 587 • Variance thresholds.
- 588

589
590

5.3.6.1. Reporting Calendar



591
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599

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

Use Case Scenarios

600
601
602

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

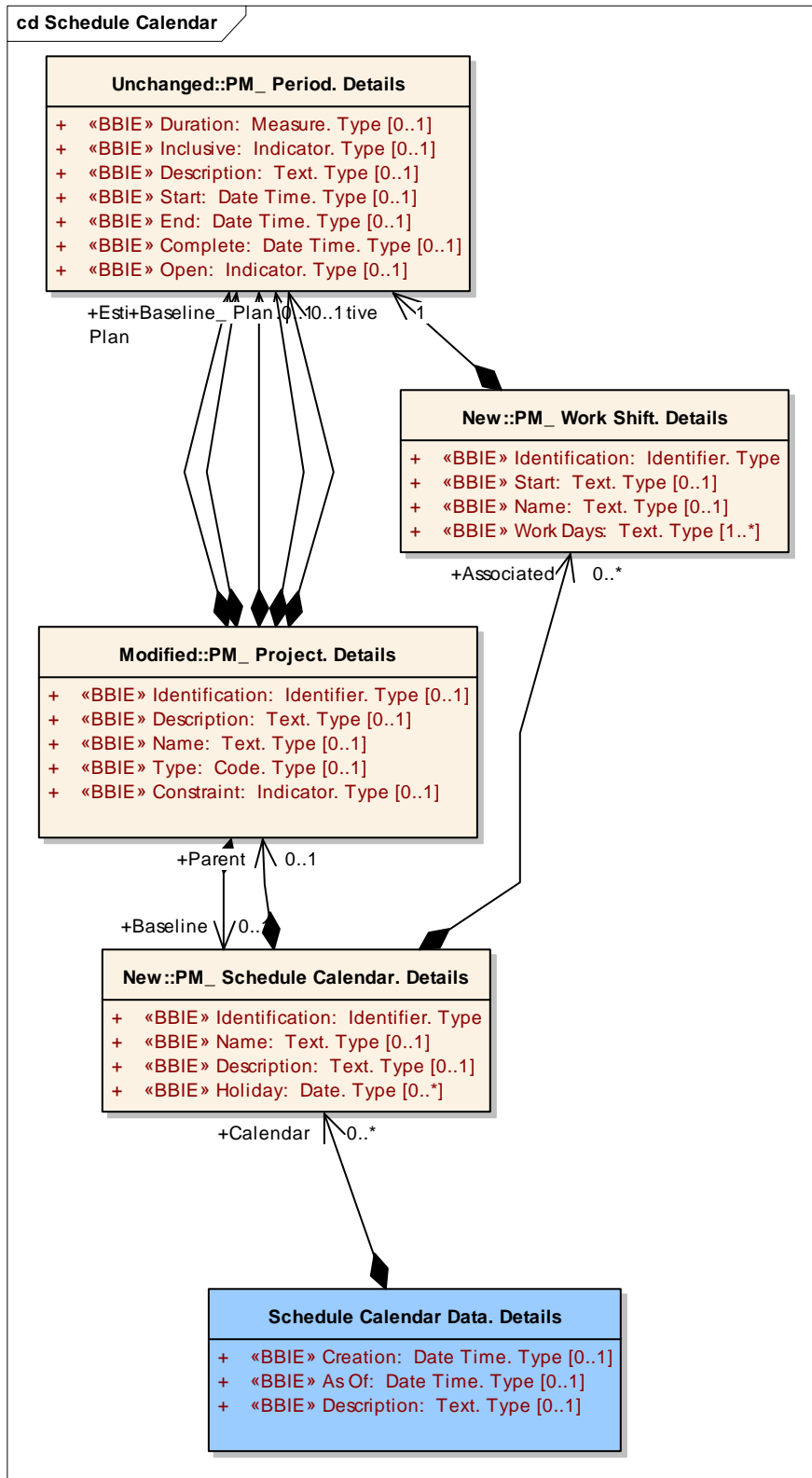
603

604

605

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.

606 5.3.6.2. Schedule Calendar
 607



608
 609

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

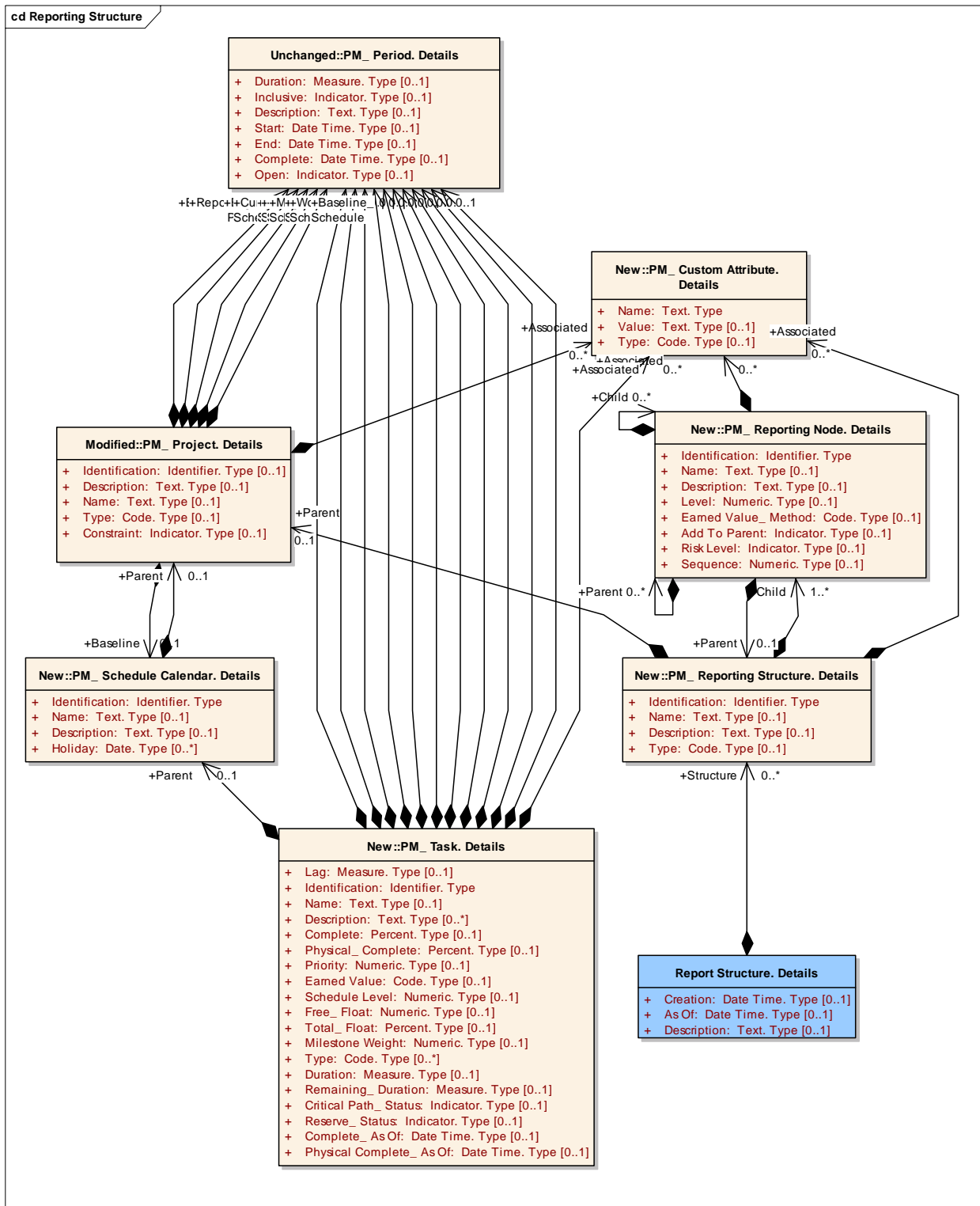
612

613 **Use Case Scenario**

614

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

618 5.3.6.3. Reporting Structure
 619



620 This data exchange allows the ability to send details about a given reporting structure such as a work
 621 breakdown structure, organization breakdown structure, or milestone hierarchy structure.
 622
 623
 624

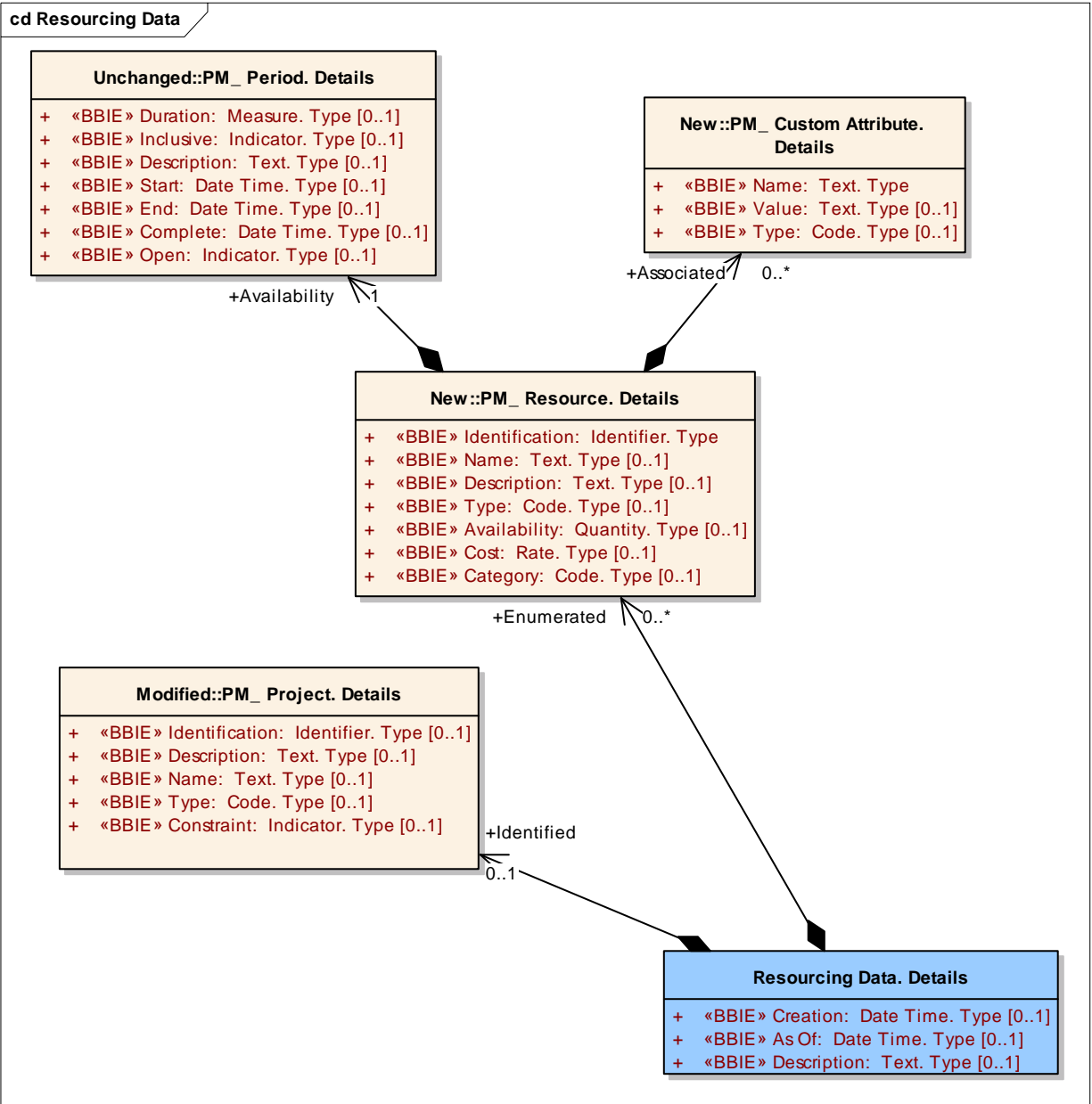
625 Note that this entity can also be used to send details about a single level reporting structure used to
 626 organize, sort, and select data such as by phase, location, supplier, and so forth.

627
 628 **Use Case Scenario**

629
 630 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data
 631 provider sends reporting structure information to a data consumer for reference or for use in their
 632 software tools.

634 **5.3.6.4. Resources**

635



636
 637

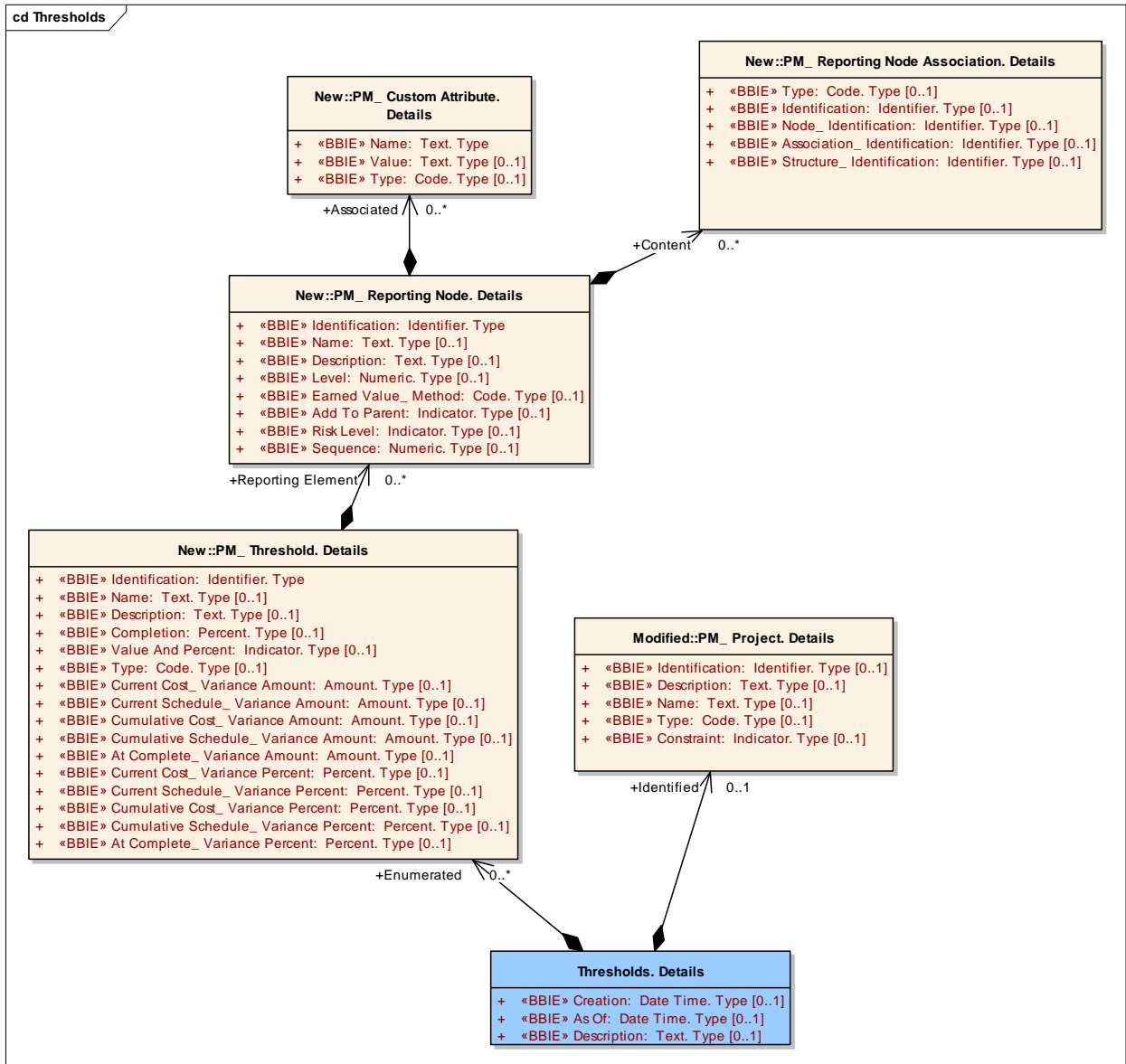
638 This data exchange allows the ability to send details about available resources that will be used to
 639 perform work on a given project. This detail is the source list used for the work task resource

640 assignments (network schedule with resource assignments data exchange). Availability time frames can
 641 also be included (PM_Period) with the resource detail as needed.

642
 643 **Use Case Scenario**

644
 645 Example. Create Project, Reset Project Baseline, or Update Project Within Baseline use case. Data
 646 provider sends resource information to a data consumer for reference or for use in their software tools.
 647

648 **5.3.6.5. Variance Thresholds**
 649



650
 651
 652 This data exchange allows the ability to send details about the variance thresholds used for cost and
 653 variance analysis useful for exception reporting (work elements that exceed the thresholds allow
 654 management to identify and address project problem areas). The thresholds apply to a given reporting
 655 node within a reporting structure, typically the work breakdown structure. This allows the ability to tailor

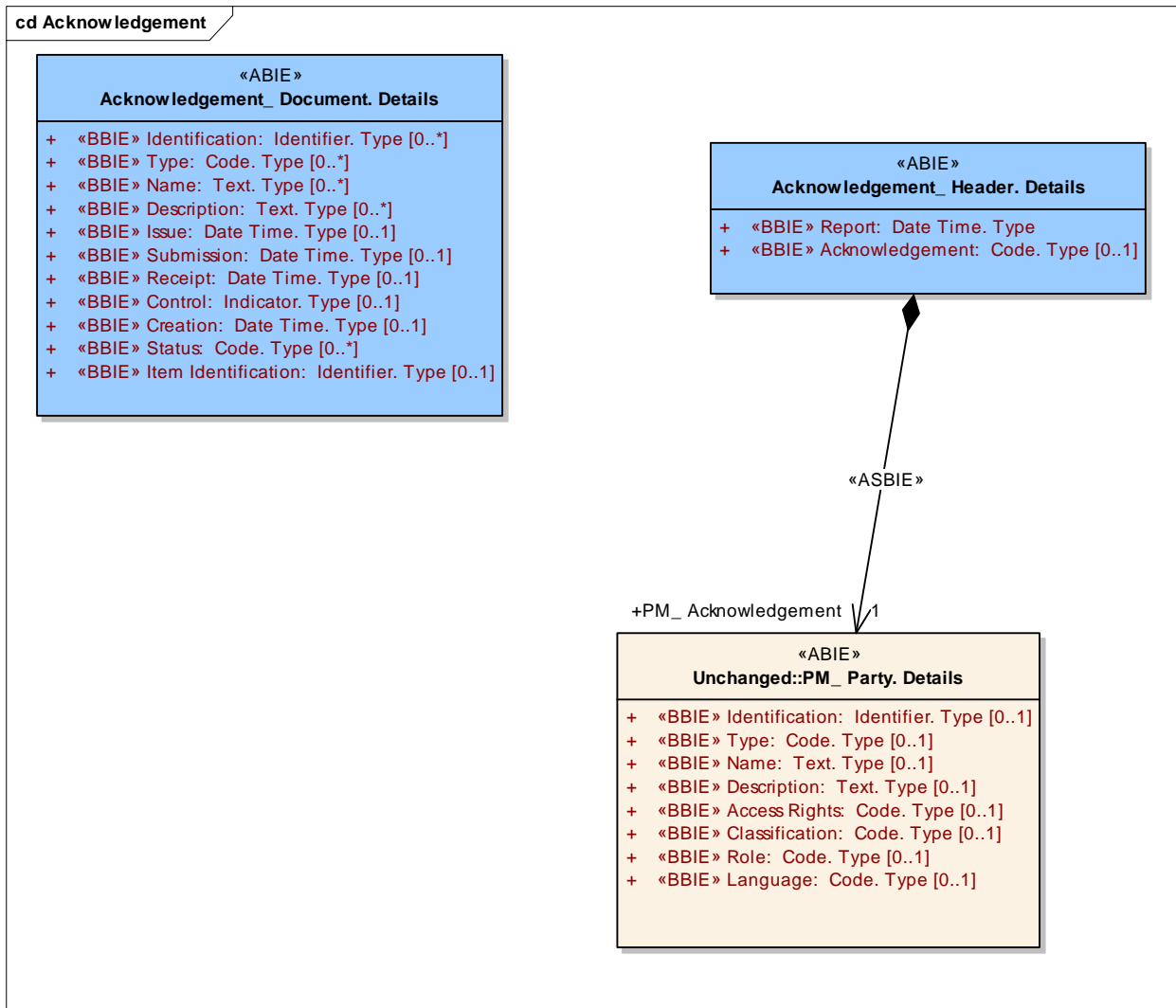
656 the thresholds based on the scope of work (high risk versus low risk work). The boundaries can change
 657 over the duration of the project (PM_Period details).

658
 659 **Use Case Scenario**
 660

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

665 **5.3.7. Acknowledgements**

666 This data exchange provides the means to send acknowledgment information to a data provider.
 667



668
 669 **Use Case Scenario**

670 Example. Provide Error Notice use case. Data consumer sends an error notice to the data provider.
 671
 672
 673

674 **5.4. Business Rules**

675 The business rules for this data exchange are common to other business data exchanges. It is
 676 anticipated that the data exchanges will occur in batch and/or interactive modes.

677
 678 Standard data transmission and access requirements such as security and system level
 679 acknowledgements will be required. This is outside the scope of this document.

680
 681 It is anticipated that digital signatures will be also be part of this data exchange. This is a typical
 682 requirement for reporting project performance and funding status.

683

684 **5.5. Definition of Terms**

685

686 **Project Management Terms**

687

688 The source for the definition of common project management terms is the American National Standards
 689 Institute/Electronic Industries Alliance (ANSI/EIA) Standard for Earned Value Management Systems (EIA-
 690 748-A) published by the Electronic Industries Alliance, Technology Strategy & Standards Department,
 691 2500 Wilson Boulevard, Arlington, VA 22201, USA.

692

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 COMPLETION	The current estimated total cost for program authorized work. It 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 DATE	The date on which a scheduled milestone or task is currently expected 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 how the program will be accomplished. Network schedules are the basis for critical path analysis, a method for identification and assessment of schedule priorities and impacts.
ORGANIZATION STRUCTURE	The hierarchical arrangement for the management organization for a program, graphically depicting the reporting relationships. The organizational structure will be by work team, function, or whatever organization units are used by the company.
OTHER DIRECT COSTS	Usually the remaining direct costs, other than labor and materiel, like 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 MEASUREMENT BASELINE	The total time-phased budget plan against which program 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 ORGANIZATION	The organization unit that applies resources to accomplish assigned 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	The 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 ORGANIZATION	The organizational unit responsible for accomplishment of assigned 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 STRUCTURE	A product-oriented division of program tasks depicting the breakdown of work scope for work authorization, tracking, and reporting purposes.
WORK BREAKDOWN STRUCTURE DICTIONARY	A listing of work breakdown structure elements with a description of 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.

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