

IPMDAR Contract Performance Dataset

Version 1.0

File Format Specification

March 12, 2020

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1 Overview

This document is intended as a technical reference for computer programmers implementing software to support the exchange of data composing the IPMDAR Contract Performance Dataset.

2 Data Model

Data in an IPMDAR Contract Performance Dataset are modeled as a collection of tables related by primary and foreign key constraints.

2.1 Data Model Conventions

2.1.1 Tables

A table has a collection of fields and a collection of records. Each field has a name and a primitive data type. Each record has a collection of field values. Each field value must be consistent with the data type of the corresponding field. Records have an implicit sequence.

2.1.2 Nullable Fields

Records may omit values for fields that are nullable but must include values for fields that are not nullable. Unless otherwise noted, omitted field values may be interpreted as null, undefined, or “not applicable”. All of these interpretations are considered equivalent.

2.1.3 Key Constraints

A primary key constraint defines a collection of fields for a table such that the corresponding field values uniquely identify each record. No two records may have the same collection of corresponding field values.

A foreign key constraint defines a correspondence between a field in one table and a field in another table such that the field value for each record in the former must match the field value for some record in the latter.

2.1.4 Enumerations

Enumerations are implicit lookup tables available for use with foreign key constraints.

2.1.5 Singletons

Singletons are tables with exactly one record.

2.1.6 Strings

Strings are sequences of text characters defined by the Unicode standard.

The following control characters are prohibited in all string values: (U+0000–U+0008), (U+000B–U+000C), (U+000E–U+001F), (U+007F). String values used as ID's are further limited to a character set representing common printable characters (U+0020–U+007E).

Most string values must have normalized whitespace. A string value with normalized whitespace cannot begin or end with whitespace characters, cannot contain any whitespace characters other than the space character (U+0020), and cannot contain any sequence of two or more contiguous space characters.

Normalized whitespace is not required for string values used for remarks or other expository text.

Comparison of string values for the purpose of verifying key constraints is not case sensitive.

Empty string values are interpreted as equivalent to null values for fields with a string data type. Records must include non-empty string values for string fields that cannot be null.

2.1.7 WBS/OBS Hierarchical Structure

The hierarchical structure of the WBS and OBS is determined based on the level and sequence of the elements reported. Specifically, elements must be sorted in a manner consistent with a depth-first search of the element hierarchy, such that the parent element of a given element must be the nearest preceding element with a reported level less than that of the given element. Each element that succeeds another must have a level that is no more than 1 greater than the level of the preceding element. The minimum level is 1.

2.2 Tables

2.2.1 DatasetConfiguration

Table	DatasetConfiguration		
Entity	DatasetConfiguration		
Fields	Name	Data Type	Nullable
	NonAdd_OH	Boolean	No
	NonAdd_COM	Boolean	No
	NonAdd_GA	Boolean	No
	ToDate_TimePhased	Boolean	No
	Detail_HasDirectValues	Boolean	No
	Detail_HasIndirectValues	Boolean	No
	BCWS_ToDate_ByWorkPackage	Boolean	No
	BCWS_ToDate_HasElementOfCostValues	Boolean	No
	BCWP_ToDate_ByWorkPackage	Boolean	No
	BCWP_ToDate_HasElementOfCostValues	Boolean	No
	ACWP_ToDate_ByWorkPackage	Boolean	No
	ACWP_ToDate_HasElementOfCostValues	Boolean	No
	BCWS_ToComplete_ByWorkPackage	Boolean	No
	BCWS_ToComplete_HasElementOfCostValues	Boolean	No
	EST_ToComplete_ByWorkPackage	Boolean	No
	EST_ToComplete_HasElementOfCostValues	Boolean	No
Primary Key	[N/A]		
Foreign Keys	[N/A]		
Use Constraints	DatasetConfiguration is a singleton.		

2.2.2 DatasetMetadata

Table	DatasetMetadata		
Entity	DatasetMetadata		
Fields	Name	Data Type	Nullable
	SecurityMarking	String	No
	DistributionStatement	Text	Yes
	ReportingPeriodID	Integer	No
	ContractorName	String	Yes
	ContractorIDCodeTypeID	StringID	Yes
	ContractorIDCode	String	Conditional
	ContractorAddress_Street	Text	Yes
	ContractorAddress_City	String	Yes
	ContractorAddress_State	String	Yes
	ContractorAddress_Country	String	Yes
	ContractorAddress_ZipCode	String	Yes
	PointOfContactName	String	Yes
	PointOfContactTitle	String	Yes
	PointOfContactTelephone	String	Yes
	PointOfContactEmail	String	Yes
	ContractName	String	Yes
	ContractNumber	String	Yes
	ContractType	String	Yes
	ContractTaskOrEffortName	String	Yes
ProgramName	String	Yes	
ProgramPhase	String	Yes	
EVMSAccepted	Boolean	Yes	
EVMSAcceptanceDate	Date	Conditional	
Primary Key	[N/A]		
Foreign Keys	ReportingPeriodID: ReportingPeriod(ID) ContractorIDCodeTypeID: ContractorIDCodeTypeEnum(ID)		
Use Constraints	DatasetMetadata is a singleton. ContractorIDCode must be null unless ContractorIDCodeTypeID is not null. EVMSAcceptanceDate must be null unless EVMSAccepted has a value of True.		

2.2.3 SourceSoftwareMetadata

Table	SourceSoftwareMetadata		
Entity	SourceSoftwareMetadata		
Fields	Name	Data Type	Nullable
	Data_SoftwareName	String	Yes
	Data_SoftwareVersion	String	Yes
	Data_SoftwareCompanyName	String	Yes
	Data_SoftwareComments	Text	Yes
	Export_SoftwareName	String	Yes
	Export_SoftwareVersion	String	Yes
	Export_SoftwareCompanyName	String	Yes
	Export_SoftwareComments	Text	Yes
Primary Key	[N/A]		
Foreign Keys	[N/A]		
Use Constraints	SourceSoftwareMetadata is a singleton.		

2.2.4 ContractData

Table	ContractData		
Entity	ContractData		
Fields	Name	Data Type	Nullable
	Quantity_Development	Decimal	Yes
	Quantity_LRIP	Decimal	Yes
	Quantity_Production	Decimal	Yes
	Quantity_Sustainment	Decimal	Yes
	NegotiatedContractCost	Decimal	Yes
	AuthorizedUnpricedWork	Decimal	Yes
	TargetFee	Decimal	Yes
	TargetPrice	Decimal	Yes
	EstimatedPrice	Decimal	Yes
	ContractCeiling	Decimal	Yes
	EstimatedContractCeiling	Decimal	Yes
	OriginalNegotiatedContractCost	Decimal	Yes
	ManagementEAC_BestCase	Decimal	Yes
	ManagementEAC_WorstCase	Decimal	Yes
	ManagementEAC_MostLikely	Decimal	Yes
	ContractBudgetBase	Decimal	Yes
	TotalAllocatedBudget	Decimal	Yes
	ContractStartDate	Date	Yes
	ContractDefinitizationDate	Date	Yes
BaselineCompletionDate	Date	Yes	
ContractCompletionDate	Date	Yes	
ForecastCompletionDate	Date	Yes	
LastOTBDate	Date	Yes	
Primary Key	[N/A]		
Foreign Keys	[N/A]		
Use Constraints	ContractData is a singleton.		

2.2.5 SummaryPerformance

Table	SummaryPerformance		
Entity	SummaryPerformanceRecord		
Fields	Name	Data Type	Nullable
	SummaryElementID	StringID	No
	BCWS_CumulativeToDate_Dollars	Decimal	Yes
	BCWP_CumulativeToDate_Dollars	Decimal	Yes
	ACWP_CumulativeToDate_Dollars	Decimal	Yes
	ReprogSVA_Dollars	Decimal	Yes
	ReprogCVA_Dollars	Decimal	Yes
	ReprogBA_Dollars	Decimal	Yes
	BAC_Dollars	Decimal	Yes
	EAC_Dollars	Decimal	Yes
	BCWS_CumulativeToDate_Hours	Decimal	Yes
	BCWP_CumulativeToDate_Hours	Decimal	Yes
	ACWP_CumulativeToDate_Hours	Decimal	Yes
	ReprogSVA_Hours	Decimal	Yes
	ReprogCVA_Hours	Decimal	Yes
	ReprogBA_Hours	Decimal	Yes
BAC_Hours	Decimal	Yes	
EAC_Hours	Decimal	Yes	
Primary Key	SummaryElementID		
Foreign Keys	SummaryElementID: SummaryElementEnum(ID)		
Use Constraints	Hours fields must be null unless the value of SummaryElementID is PMB.		

2.2.6 CustomSummaryPerformance

Table	CustomSummaryPerformance		
Entity	CustomSummaryPerformanceRecord		
Fields	Name	Data Type	Nullable
	ID	StringID	No
	Name	String	No
	BCWS_CumulativeToDate_Dollars	Decimal	Yes
	BCWP_CumulativeToDate_Dollars	Decimal	Yes
	ACWP_CumulativeToDate_Dollars	Decimal	Yes
	ReprogSVA_Dollars	Decimal	Yes
	ReprogCVA_Dollars	Decimal	Yes
	ReprogBA_Dollars	Decimal	Yes
	BAC_Dollars	Decimal	Yes
	EAC_Dollars	Decimal	Yes
	BCWS_CumulativeToDate_Hours	Decimal	Yes
	BCWP_CumulativeToDate_Hours	Decimal	Yes
	ACWP_CumulativeToDate_Hours	Decimal	Yes
	ReprogSVA_Hours	Decimal	Yes
	ReprogCVA_Hours	Decimal	Yes
	ReprogBA_Hours	Decimal	Yes
BAC_Hours	Decimal	Yes	
EAC_Hours	Decimal	Yes	
Primary Key	ID		
Foreign Keys	[N/A]		
Use Constraints			

2.2.7 SummaryIndirectPerformance_ToDate

Table	SummaryIndirectPerformance_ToDate		
Entity	SummaryIndirectPerformance_ToDate		
Fields	Name	Data Type	Nullable
	SummaryIndirectElementID	StringID	No
	ReportingPeriodID	Integer	Conditional
	BCWS_Dollars	Decimal	Yes
	BCWP_Dollars	Decimal	Yes
	ACWP_Dollars	Decimal	Yes
Primary Key	SummaryIndirectElementID, ReportingPeriodID		
Foreign Keys	SummaryIndirectElementID: SummaryIndirectElementEnum(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on field values reported in DatasetConfiguration as follows:</p> <p style="text-align: center;">If ToDate_TimePhased has a value of true, ReportingPeriodID must not be null; otherwise, ReportingPeriodID must be null.</p> <p>If not null, ReportingPeriodID must have a value that is less than or equal to the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.8 SummaryIndirectPerformance_ToComplete

Table	SummaryIndirectPerformance_ToComplete		
Entity	SummaryIndirectPerformance_ToComplete		
Fields	Name	Data Type	Nullable
	SummaryIndirectElementID	StringID	No
	ReportingPeriodID	Integer	No
	BCWS_Dollars	Decimal	Yes
	EST_Dollars	Decimal	Yes
Primary Key	SummaryIndirectElementID, ReportingPeriodID		
Foreign Keys	SummaryIndirectElementID: SummaryIndirectElementEnum(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	ReportingPeriodID must have a value that is greater than the value of ReportingPeriodID in DatasetMetadata.		

2.2.9 Subcontractors

Table	Subcontractors		
Entity	Subcontractor		
Fields	Name	Data Type	Nullable
	ID	StringID	No
	Name	String	No
Primary Key	ID		
Foreign Keys	[N/A]		
Use Constraints			

2.2.10 WBS

Table	WBS		
Entity	WBSElement		
Fields	Name	Data Type	Nullable
	Level	Integer	No
	ID	StringID	No
	Name	String	No
	ParentID	StringID	Conditional
Primary Key	ID		
Foreign Keys	ParentID: WBSElement(ID)		
Use Constraints	<p>Order of records is significant. In particular, hierarchical structure is determined based on level and sequence of records. See above.</p> <p>The first record must have Level equal to 1. All other records must have Level greater than 1.</p> <p>The first record must have a null ParentID. All other records must have a ParentID equal to the ID of the parent record determined by the hierarchical structure.</p>		

2.2.11 OBS

Table	OBS		
Entity	OBSElement		
Fields	Name	Data Type	Nullable
	Level	Integer	No
	ID	StringID	No
	Name	String	No
	SubcontractorID	StringID	Yes
	ParentID	StringID	Conditional
Primary Key	ID		
Foreign Keys	SubcontractorID: Subcontractor(ID) ParentID: OBSElement(ID)		
Use Constraints	<p>Order of records is significant. In particular, hierarchical structure is determined based on level and sequence of records. See above.</p> <p>The first record must have Level equal to 1. All other records must have Level greater than 1.</p> <p>The first record must have a null ParentID. All other records must have a ParentID equal to the ID of the parent record determined by the hierarchical structure.</p>		

2.2.12 ControlAccounts

Table	ControlAccounts		
Entity	ControlAccount		
Fields	Name	Data Type	Nullable
	IsSummaryLevelPlanningPackage	Boolean	Yes
	ID	StringID	No
	Name	String	No
	BaselineStartDate	Date	Yes
	BaselineEndDate	Date	Yes
	ForecastStartDate	Date	Yes
	ForecastEndDate	Date	Yes
	ActualStartDate	Date	Yes
	ActualEndDate	Date	Yes
	ManagerName	String	Yes
	WBSElementID	StringID	No
OBSElementID	StringID	No	
Primary Key	ID		
Foreign Keys	WBSElementID: WBSElement(ID) OBSElementID: OBSElement(ID)		
Use Constraints	WBSElementID and OBSElementID must each refer to an element with no child elements (i.e. a terminal or leaf node in the respective hierarchical structure). If omitted, the IsSummaryLevelPlanningPackage field has a default value of False.		

2.2.13 ControlAccountCustomFieldDefinitions

Table	ControlAccountCustomFieldDefinitions		
Entity	ControlAccountCustomFieldDefinition		
Fields	Name	Data Type	Nullable
	CustomFieldID	StringID	No
	Name	String	No
	Comments	Text	Yes
Primary Key	CustomFieldID		
Foreign Keys	CustomFieldID: CustomFieldEnum(ID)		
Use Constraints			

2.2.14 ControlAccountCustomFieldValues

Table	ControlAccountCustomFieldValues		
Entity	ControlAccountCustomFieldValue		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	No
	CustomFieldID	StringID	No
	Value	String	No
Primary Key	ControlAccountID, CustomFieldID		
Foreign Keys	ControlAccountID: ControlAccount(ID) CustomFieldID: ControlAccountCustomFieldDefinition(CustomFieldID)		
Use Constraints			

2.2.15 WorkPackages

Table	WorkPackages		
Entity	WorkPackage		
Fields	Name	Data Type	Nullable
	IsPlanningPackage	Boolean	Yes
	ID	StringID	No
	Name	String	No
	BaselineStartDate	Date	Yes
	BaselineEndDate	Date	Yes
	ForecastStartDate	Date	Yes
	ForecastEndDate	Date	Yes
	ActualStartDate	Date	Yes
	ActualEndDate	Date	Yes
	EarnedValueTechniqueID	StringID	Yes
	OtherEarnedValueTechnique	String	Conditional
ControlAccountID	StringID	No	
Primary Key	ID		
Foreign Keys	EarnedValueTechniqueID: EarnedValueTechniqueEnum(ID) ControlAccountID: ControlAccount(ID)		
Use Constraints	If omitted, the IsPlanningPackage field has a default value of False. OtherEarnedValueTechnique must be null unless EarnedValueTechniqueID has a value of OTHER_DISCRETE or FIXED_X_Y.		

2.2.16 WorkPackageCustomFieldDefinitions

Table	WorkPackageCustomFieldDefinitions		
Entity	WorkPackageCustomFieldDefinition		
Fields	Name	Data Type	Nullable
	CustomFieldID	StringID	No
	Name Comments	String Text	No Yes
Primary Key	CustomFieldID		
Foreign Keys	CustomFieldID: CustomFieldEnum(ID)		
Use Constraints			

2.2.17 WorkPackageCustomFieldValues

Table	WorkPackageCustomFieldValues		
Entity	WorkPackageCustomFieldValue		
Fields	Name	Data Type	Nullable
	WorkPackageID	StringID	No
	CustomFieldID Value	StringID String	No No
Primary Key	WorkPackageID, CustomFieldID		
Foreign Keys	WorkPackageID: WorkPackage(ID) CustomFieldID: WorkPackageCustomFieldDefinition(CustomFieldID)		
Use Constraints			

2.2.18 ReportingCalendar

Table	ReportingCalendar		
Entity	ReportingPeriod		
Fields	Name	Data Type	Nullable
	ID	Integer	No
	StartDate	Date	No
	EndDate	Date	No
	WorkingHours	Integer	No
Primary Key	ID		
Foreign Keys	[N/A]		
Use Constraints	Order of records is significant. Records must have contiguous, sequential ID values starting at 1 (i.e. 1, 2, 3, etc.). StartDate must be 1 day later than EndDate of the previous record, if any, and on or before EndDate of the current record. WorkHours must be greater than or equal to 0.		

2.2.19 BCWS_ToDate

Table	BCWS_ToDate		
Entity	BCWS_ToDate		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	Conditional
	WorkPackageID	StringID	Conditional
	ReportingPeriodID	Integer	Conditional
	Value_Dollars	Decimal	No
	Value_Dollars_Direct	Decimal	Conditional
	Value_Dollars_LAB	Decimal	Conditional
	Value_Dollars_LAB_Direct	Decimal	Conditional
	Value_Dollars_MAT	Decimal	Conditional
	Value_Dollars_MAT_Direct	Decimal	Conditional
	Value_Dollars_ODC	Decimal	Conditional
	Value_Dollars_ODC_Direct	Decimal	Conditional
	Value_Dollars_SUB	Decimal	Conditional
	Value_Dollars_SUB_Direct	Decimal	Conditional
	Value_Dollars_OH	Decimal	Conditional
	Value_Dollars_COM	Decimal	Conditional
	Value_Dollars_GA	Decimal	Conditional
Value_Hours	Decimal	No	
Primary Key	ControlAccountID, WorkPackageID, ReportingPeriodID		
Foreign Keys	ControlAccountID: ControlAccount(ID) WorkPackageID: WorkPackage(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on DatasetConfiguration as follows:</p> <p>If ToDate_TimePhased has a value of true, ReportingPeriodID must not be null; otherwise, ReportingPeriodID must be null.</p> <p>If BCWS_ToDate_ByWorkPackage has a value of true, WorkPackageID must not be null and ControlAccountID must be null; otherwise, ControlAccountID must not be null and WorkPackageID must be null.</p> <p>If Detail_HasDirectValues has a value of true, Value_Dollars_Direct must not be null; otherwise, the Value_Dollars_Direct must be null.</p> <p>If BCWS_ToDate_HasElementOfCostValues has a value of true, each of Value_Dollars_LAB, Value_Dollars_MAT, Value_Dollars_ODC, Value_Dollars_SUB must not be null; otherwise, each must be null.</p> <p>If BCWS_ToDate_HasElementOfCostValues and Detail_HasDirectValues each have a value of true, each of Value_Dollars_LAB_Direct, Value_Dollars_MAT_Direct, Value_Dollars_ODC_Direct, Value_Dollars_SUB_Direct must not be null; otherwise, each must be null.</p> <p>If Detail_HasIndirectValues has a value of true, each of Value_Dollars_OH, Value_Dollars_COM, Value_Dollars_GA must not be null; otherwise, each must be null.</p> <p>If not null, ReportingPeriodID must have a value that is less than or equal to the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.20 BCWP_ToDate

Table	BCWP_ToDate		
Entity	BCWP_ToDate		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	Conditional
	WorkPackageID	StringID	Conditional
	ReportingPeriodID	Integer	Conditional
	Value_Dollars	Decimal	No
	Value_Dollars_Direct	Decimal	Conditional
	Value_Dollars_LAB	Decimal	Conditional
	Value_Dollars_LAB_Direct	Decimal	Conditional
	Value_Dollars_MAT	Decimal	Conditional
	Value_Dollars_MAT_Direct	Decimal	Conditional
	Value_Dollars_ODC	Decimal	Conditional
	Value_Dollars_ODC_Direct	Decimal	Conditional
	Value_Dollars_SUB	Decimal	Conditional
	Value_Dollars_SUB_Direct	Decimal	Conditional
	Value_Dollars_OH	Decimal	Conditional
	Value_Dollars_COM	Decimal	Conditional
	Value_Dollars_GA	Decimal	Conditional
Value_Hours	Decimal	No	
Primary Key	ControlAccountID, WorkPackageID, ReportingPeriodID		
Foreign Keys	ControlAccountID: ControlAccount(ID) WorkPackageID: WorkPackage(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on DatasetConfiguration as follows:</p> <p>If ToDate_TimePhased has a value of true, ReportingPeriodID must not be null; otherwise, ReportingPeriodID must be null.</p> <p>If BCWP_ToDate_ByWorkPackage has a value of true, WorkPackageID must not be null and ControlAccountID must be null; otherwise, ControlAccountID must not be null and WorkPackageID must be null.</p> <p>If Detail_HasDirectValues has a value of true, Value_Dollars_Direct must not be null; otherwise, the Value_Dollars_Direct must be null.</p> <p>If BCWP_ToDate_HasElementOfCostValues has a value of true, each of Value_Dollars_LAB, Value_Dollars_MAT, Value_Dollars_ODC, Value_Dollars_SUB must not be null; otherwise, each must be null.</p> <p>If BCWP_ToDate_HasElementOfCostValues and Detail_HasDirectValues each have a value of true, each of Value_Dollars_LAB_Direct, Value_Dollars_MAT_Direct, Value_Dollars_ODC_Direct, Value_Dollars_SUB_Direct must not be null; otherwise, each must be null.</p> <p>If Detail_HasIndirectValues has a value of true, each of Value_Dollars_OH, Value_Dollars_COM, Value_Dollars_GA must not be null; otherwise, each must be null.</p> <p>If not null, ReportingPeriodID must have a value that is less than or equal to the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.21 ACWP_ToDate

Table	ACWP_ToDate		
Entity	ACWP_ToDate		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	Conditional
	WorkPackageID	StringID	Conditional
	ReportingPeriodID	Integer	Conditional
	Value_Dollars	Decimal	No
	Value_Dollars_Direct	Decimal	Conditional
	Value_Dollars_LAB	Decimal	Conditional
	Value_Dollars_LAB_Direct	Decimal	Conditional
	Value_Dollars_MAT	Decimal	Conditional
	Value_Dollars_MAT_Direct	Decimal	Conditional
	Value_Dollars_ODC	Decimal	Conditional
	Value_Dollars_ODC_Direct	Decimal	Conditional
	Value_Dollars_SUB	Decimal	Conditional
	Value_Dollars_SUB_Direct	Decimal	Conditional
	Value_Dollars_OH	Decimal	Conditional
	Value_Dollars_COM	Decimal	Conditional
	Value_Dollars_GA	Decimal	Conditional
Value_Hours	Decimal	No	
Primary Key	ControlAccountID, WorkPackageID, ReportingPeriodID		
Foreign Keys	ControlAccountID: ControlAccount(ID) WorkPackageID: WorkPackage(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on DatasetConfiguration as follows:</p> <p>If ToDate_TimePhased has a value of true, ReportingPeriodID must not be null; otherwise, ReportingPeriodID must be null.</p> <p>If ACWP_ToDate_ByWorkPackage has a value of true, WorkPackageID must not be null and ControlAccountID must be null; otherwise, ControlAccountID must not be null and WorkPackageID must be null.</p> <p>If Detail_HasDirectValues has a value of true, Value_Dollars_Direct must not be null; otherwise, the Value_Dollars_Direct must be null.</p> <p>If ACWP_ToDate_HasElementOfCostValues has a value of true, each of Value_Dollars_LAB, Value_Dollars_MAT, Value_Dollars_ODC, Value_Dollars_SUB must not be null; otherwise, each must be null.</p> <p>If ACWP_ToDate_HasElementOfCostValues and Detail_HasDirectValues each have a value of true, each of Value_Dollars_LAB_Direct, Value_Dollars_MAT_Direct, Value_Dollars_ODC_Direct, Value_Dollars_SUB_Direct must not be null; otherwise, each must be null.</p> <p>If Detail_HasIndirectValues has a value of true, each of Value_Dollars_OH, Value_Dollars_COM, Value_Dollars_GA must not be null; otherwise, each must be null.</p> <p>If not null, ReportingPeriodID must have a value that is less than or equal to the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.22 BCWS_ToComplete

Table	BCWS_ToComplete		
Entity	BCWS_ToComplete		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	Conditional
	WorkPackageID	StringID	Conditional
	ReportingPeriodID	Integer	No
	Value_Dollars	Decimal	No
	Value_Dollars_Direct	Decimal	Conditional
	Value_Dollars_LAB	Decimal	Conditional
	Value_Dollars_LAB_Direct	Decimal	Conditional
	Value_Dollars_MAT	Decimal	Conditional
	Value_Dollars_MAT_Direct	Decimal	Conditional
	Value_Dollars_ODC	Decimal	Conditional
	Value_Dollars_ODC_Direct	Decimal	Conditional
	Value_Dollars_SUB	Decimal	Conditional
	Value_Dollars_SUB_Direct	Decimal	Conditional
	Value_Dollars_OH	Decimal	Conditional
	Value_Dollars_COM	Decimal	Conditional
	Value_Dollars_GA	Decimal	Conditional
Value_Hours	Decimal	No	
Primary Key	ControlAccountID, WorkPackageID, ReportingPeriodID		
Foreign Keys	ControlAccountID: ControlAccount(ID) WorkPackageID: WorkPackage(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on DatasetConfiguration as follows:</p> <p>If BCWS_ToComplete_ByWorkPackage has a value of true, WorkPackageID must not be null and ControlAccountID must be null; otherwise, ControlAccountID must not be null and WorkPackageID must be null.</p> <p>If Detail_HasDirectValues has a value of true, Value_Dollars_Direct must not be null; otherwise, the Value_Dollars_Direct must be null.</p> <p>If BCWS_ToComplete_HasElementOfCostValues has a value of true, each of Value_Dollars_LAB, Value_Dollars_MAT, Value_Dollars_ODC, Value_Dollars_SUB must not be null; otherwise, each must be null.</p> <p>If BCWS_ToComplete_HasElementOfCostValues and Detail_HasDirectValues each have a value of true, each of Value_Dollars_LAB_Direct, Value_Dollars_MAT_Direct, Value_Dollars_ODC_Direct, Value_Dollars_SUB_Direct must not be null; otherwise, each must be null.</p> <p>If Detail_HasIndirectValues has a value of true, each of Value_Dollars_OH, Value_Dollars_COM, Value_Dollars_GA must not be null; otherwise, each must be null.</p> <p>ReportingPeriodID must have a value that is greater than the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.23 EST_ToComplete

Table	EST_ToComplete		
Entity	EST_ToComplete		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	Conditional
	WorkPackageID	StringID	Conditional
	ReportingPeriodID	Integer	No
	Value_Dollars	Decimal	No
	Value_Dollars_Direct	Decimal	Conditional
	Value_Dollars_LAB	Decimal	Conditional
	Value_Dollars_LAB_Direct	Decimal	Conditional
	Value_Dollars_MAT	Decimal	Conditional
	Value_Dollars_MAT_Direct	Decimal	Conditional
	Value_Dollars_ODC	Decimal	Conditional
	Value_Dollars_ODC_Direct	Decimal	Conditional
	Value_Dollars_SUB	Decimal	Conditional
	Value_Dollars_SUB_Direct	Decimal	Conditional
	Value_Dollars_OH	Decimal	Conditional
	Value_Dollars_COM	Decimal	Conditional
	Value_Dollars_GA	Decimal	Conditional
Value_Hours	Decimal	No	
Primary Key	ControlAccountID, WorkPackageID, ReportingPeriodID		
Foreign Keys	ControlAccountID: ControlAccount(ID) WorkPackageID: WorkPackage(ID) ReportingPeriodID: ReportingPeriod(ID)		
Use Constraints	<p>Constraints for this table depend on DatasetConfiguration as follows:</p> <p>If EST_ToComplete_ByWorkPackage has a value of true, WorkPackageID must not be null and ControlAccountID must be null; otherwise, ControlAccountID must not be null and WorkPackageID must be null.</p> <p>If Detail_HasDirectValues has a value of true, Value_Dollars_Direct must not be null; otherwise, the Value_Dollars_Direct must be null.</p> <p>If EST_ToComplete_HasElementOfCostValues has a value of true, each of Value_Dollars_LAB, Value_Dollars_MAT, Value_Dollars_ODC, Value_Dollars_SUB must not be null; otherwise, each must be null.</p> <p>If EST_ToComplete_HasElementOfCostValues and Detail_HasDirectValues each have a value of true, each of Value_Dollars_LAB_Direct, Value_Dollars_MAT_Direct, Value_Dollars_ODC_Direct, Value_Dollars_SUB_Direct must not be null; otherwise, each must be null.</p> <p>If Detail_HasIndirectValues has a value of true, each of Value_Dollars_OH, Value_Dollars_COM, Value_Dollars_GA must not be null; otherwise, each must be null.</p> <p>ReportingPeriodID must have a value that is greater than the value of ReportingPeriodID in DatasetMetadata.</p>		

2.2.24 ReprogrammingAdjustments

Table	ReprogrammingAdjustments		
Entity	ReprogrammingAdjustmentRecord		
Fields	Name	Data Type	Nullable
	ControlAccountID	StringID	No
	ReprogSVA_Dollars	Decimal	Yes
	ReprogCVA_Dollars	Decimal	Yes
	ReprogBA_Dollars	Decimal	Yes
	ReprogSVA_Hours	Decimal	Yes
	ReprogCVA_Hours	Decimal	Yes
	ReprogBA_Hours	Decimal	Yes
Primary Key	ControlAccountID		
Foreign Keys	ControlAccountID: ControlAccount(ID)		
Use Constraints			

2.3 Primitive Data Types

Primitive Data Types	
Boolean	Values of two-valued logic (i.e. “true” and “false”).
Date	Year, month, and day, without reference to the time of day or a specific time zone.
Decimal	Number that can be represented with decimal digits, with possible integral and/or fractional component.
Integer	Number that can be represented with decimal digits, with no fractional component.
String	A sequence of Unicode characters, with normalized whitespace.
StringID	A sequence of Unicode characters, with normalized whitespace and limited character set.
Text	A sequence of Unicode characters intended for remarks or other expository text.

2.4 Enumerations

2.4.1 ContractorIDCodeTypeEnum

Enumeration	ContractorIDCodeTypeEnum	
Values	ID	Name
	DUNS	DUNS
	DUNS_PLUS_4	DUNS+4
	CAGE	CAGE
Use Constraints		

2.4.2 SummaryElementEnum

Enumeration	SummaryElementEnum	
Values	ID	Name
	OH	Overhead
	COM	Cost of Money
	GA	General & Administrative
	UB	Undistributed Budget
	PMB	Performance Measurement Baseline
	MR	Management Reserve
Use Constraints		

2.4.3 SummaryIndirectElementEnum

Enumeration	SummaryIndirectElementEnum	
Values	ID	Name
	OH	Overhead
	COM	Cost of Money
	GA	General & Administrative
Use Constraints		

2.4.4 EarnedValueTechniqueEnum

Enumeration	EarnedValueTechniqueEnum	
Values	ID	Name
	APPORTIONED_EFFORT	Apportioned Effort
	LEVEL_OF_EFFORT	Level of Effort
	MILESTONE	Milestone
	FIXED_0_100	0/100
	FIXED_100_0	100/0
	FIXED_X_Y	X/Y
	PERCENT_COMPLETE	Percent Complete
	STANDARDS	Standards
	UNITS	Units
OTHER_DISCRETE	Other Discrete	
Use Constraints		

2.4.5 CustomFieldEnum

Enumeration	CustomFieldEnum	
Values	ID	Name
	FIELD_01	Field 01
	FIELD_02	Field 02
	FIELD_03	Field 03
	FIELD_04	Field 04
	FIELD_05	Field 05
	FIELD_06	Field 06
	FIELD_07	Field 07
	FIELD_08	Field 08
	FIELD_09	Field 09
FIELD_10	Field 10	
Use Constraints		

3 File Format

The file format for an IPMDAR Contract Performance Dataset is a ZIP file containing multiple text file entries. One text file entry conveys type and version information. All other text file entries convey data represented in JSON. Each JSON file entry corresponds to a single data table.

3.1 File Conventions

Text file entries must be encoded in UTF-8. Compressed file entries must be compressed using the DEFLATE compression method. File entries must not be encrypted.

The file entry for a table may be omitted if the table has no records. The file entry for a singleton may be omitted if all its fields are null. The file entry for type/version information must always be included.

3.2 File Contents

ZIP File Entries		
	Name	Table
	FileType.txt	[N/A]
	DatasetConfiguration.json	DatasetConfiguration
	DatasetMetadata.json	DatasetMetadata
	SourceSoftwareMetadata.json	SourceSoftwareMetadata
	ContractData.json	ContractData
	SummaryPerformance.json	SummaryPerformance
	CustomSummaryPerformance.json	CustomSummaryPerformance
	SummaryIndirectPerformance_ToDate.json	SummaryIndirectPerformance_ToDate
	SummaryIndirectPerformance_ToComplete.json	SummaryIndirectPerformance_ToComplete
	Subcontractors.json	Subcontractors
	WBS.json	WBS
	OBS.json	OBS
	ControlAccounts.json	ControlAccounts
	ControlAccountCustomFieldDefinitions.json	ControlAccountCustomFieldDefinitions
	ControlAccountCustomFieldValues.json	ControlAccountCustomFieldValues
	WorkPackages.json	WorkPackages
	WorkPackageCustomFieldDefinitions.json	WorkPackageCustomFieldDefinitions
	WorkPackageCustomFieldValues.json	WorkPackageCustomFieldValues
	ReportingCalendar.json	ReportingCalendar
	BCWS_ToDate.json	BCWS_ToDate
	BCWP_ToDate.json	BCWP_ToDate
	ACWP_ToDate.json	ACWP_ToDate
	BCWS_ToComplete.json	BCWS_ToComplete
	EST_ToComplete.json	EST_ToComplete
	ReprogrammingAdjustments.json	ReprogrammingAdjustments

3.3 File Type/Version

The 'FileType.txt' file entry specifies the type and version of the IPMDAR Contract Performance Dataset file. This file entry must contain the following exact text string (excluding quotation marks):

"IPMDAR_CONTRACT_PERFORMANCE_DATASET/1.0".

4 Representation in JSON

4.1 JSON Conventions

Each table is represented in JSON as an array of objects. Singletons are an exception. They are represented directly as a single object. Objects correspond to records, and the sequence of objects in JSON represents the implicit sequence of records in the table.

Each record is represented in JSON as an object with name/value pairs corresponding to field values. The name of each pair must exactly match the name of the corresponding field, and the value of each pair must follow the conventions below for representing the corresponding primitive data type in JSON. Names must be unique within the scope of each object and each name must correspond to a field defined for the table.

Objects must include name/value pairs for fields that are not null, and these pairs must not have a JSON value of null or an empty JSON string value. Conversely, objects may or may not include name/value pairs for fields that are null. If included, these pairs must have a JSON value of null or an empty JSON string value. Only pairs for fields with a primitive data type of String, StringID, or Text may have an empty JSON string value.

Primitive data types are represented as follows:

Representation of Primitive Data Types	
Boolean	JSON value of true or false.
Date	JSON string encoding a valid date, without time component or time zone, formatted as follows: "yyyy-mm-dd" (e.g. "2016-01-31").
Decimal	JSON number.
Integer	JSON number with fractional component equal to zero.
String	JSON string, with normalized whitespace.
StringID	JSON string, with normalized whitespace and limited character set.
Text	JSON string.

4.2 JSON Schema Sample

Schema	WBS.json
	<pre>{ "\$schema": "http://json-schema.org/draft-04/schema#", "type": "array", "items": { "type": "object", "properties": { "Level": {"type": "number"}, "ID": {"type": "string"}, "Name": {"type": "string"}, "ParentID": {"type": ["string", "null"]} }, "required": ["Level", "ID", "Name"] } }</pre>

4.3 JSON Data Sample

Data	WBS.json
<pre>[{ "Level": 1, "ID": "1.0", "Name": "Total" }, { "Level": 2, "ID": "1.1", "Name": "Subsystem 1.1", "ParentID": "1.0" }, { "Level": 2, "ID": "1.2", "Name": "Subsystem 1.2", "ParentID": "1.0" }]</pre>	

5 References

JSON - The JSON Data Interchange Format, ECMA-404. 2013.

JSON Schema - json-schema.org

Unicode - The Unicode Standard, Version 9.0. 2016.

UTF-8 - "UTF-8 encoding scheme," The Unicode Standard, Version 9.0, §3.10 D95. 2016.

ZIP File Format - .ZIP File Format Specification, Version 6.3.4. 2014.