311-EEB-005

EMD to EEB Bridge Contract

Release 7.23 Archive Inventory Management (AIM) Database Design and Schema Specifications for the EMD to EEB Bridge Contract

April 2010

Raytheon Company
Riverdale, Maryland

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Release 7.23 AIM Inventory Database Design and Schema Specifications for the EMD to EEB Bridge Contract

April 2010

Prepared Under Contract NNG09HP00C
CDRL Item # 023

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Preface

This document is a formal contract deliverable. It requires Government review and approval within 45 business days. Changes to this document will be made by document change notice (DCN) or by complete revision.

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Revision History

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311-EEB-005	Original	April 2010	10-0127

This document describes the data design and database specification for the Archive Inventory Management subsystem. It is one of several documents comprising the detailed database design specifications for each of the EEB subsystems.

The subsystem database design specifications for the as delivered system include:

311-EEB-001 Release 7.23 INGEST (INS) Subsystem Database Design and Schema Specifications for the EMD to EEB Bridge Contract

311-EEB-002 Release 7.23 Order Manager (OMS) Database Design and Schema Specifications for the EMD to EEB Bridge Contract

311-EEB-003 Release 7.23 Spatial Subscription Server (SSS) Database Design and Schema Specifications for the EMD to EEB Bridge Contract

311-EEB-004 Release 7.23 Data Pool Database (DPL) Design and Schema Specifications for the EMD to EEB Bridge Contract

311-EEB-005 Release 7.23 Archive Inventory Management (AIM) Database Design and Schema Specifications for the EMD to EEB Bridge Contract

Entity Relationship Diagrams (ERDs) presented in this document have been exported directly from tools and some cases contain too much detail to be easily readable within hard copy page constraints. The reader is encouraged to view these drawings on-line using the Portable Document Format (PDF) electronic copy available via the ECS Data Handling System (EDHS) on the world-wide web at http://edhs1.gsfc.nasa.gov.

Abstract

This document outlines Release 7.23 “as-built” database design and database schema of the AIM Inventory database including the physical layout of the database and initial installation parameters.

Keywords: data**,** database, design, configuration, database installation, scripts, security, data model, data dictionary, replication, performance tuning, SQL server, database security, replication, database scripts

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Appendix A. Science Data Server ERDs

Abbreviations and Acronyms

1. Introduction

1.1 Identification

This AIM Inventory Database Design and Database Schema Specification document, Contract Data Requirement List (CDRL) Item 23, whose requirements are specified in under the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) TO EEB Bridge Contract, Contract NNG09HP00C.

1.2 Scope

The AIM Inventory Database Design and Database Schema Specification document describes the data design and database specifications to support the data requirements of Release 7.23.

1.3 Purpose

The purpose of the AIM Inventory Database Design and Database Schema Specification document is to support the maintenance of AIM Inventory data and databases throughout the life cycle of ECS. This document communicates the database implementation in sufficient detail to support ongoing configuration management.

1.4 Audience

This document is intended to be used by ECS maintenance and operations staff. The document is organized as follows:

Section 1 provides information regarding the identification, scope, purpose and audience of this document.

Section 2 provides a listing of the related documents, which were used as a source of information for this document.

Section 3 contains the AIM Inventory data design which is the database tables, triggers, stored procedures, and flat file usage.

Section 4 provides a description of database performance and tuning features such as indexes, caches, and segments.

Section 5 provides a description of the database security infrastructure used and list of the users, groups, and permissions available upon initial installation.

Section 6 provides a description of database and database related scripts used for installation, de-installation, backup/recovery, and other miscellaneous functions.

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2. Related Documents

2.1 Applicable Documents

The following documents, including Internet links, are referenced in this document, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this volume.

305-EEB-001	Release 7.23 Segment Design Specifications for the EMD to EEB Bridge Contract
920-TDN-009	DAAC Hardware Database Mapping/NSIDC
920-TDE-009	DAAC Hardware Database Mapping/EDC
920-TDL-009	DAAC Hardware Database Mapping/LARC
920-TDN-010	DAAC Database Configuration/NSIDC
920-TDE-010	DAAC Database Configuration/EDC
920-TDL-010	DAAC Database Configuration/LARC
920-TDN-011	DAAC Sybase Log Mapping/NSIDC
920-TDE-011	DAAC Sybase Log Mapping/EDC
920-TDL-011	DAAC Sybase Log Mapping/LARC
922-TDN-013	Disk Partitions/NSIDC
922-TDL-013	Disk Partitions/LARC

These documents are maintained as part of the EEB baseline and available on the World Wide Web at the URL: http://cmdm.east.hitc.com/baseline. Please note that this is a partial mirror site in that some items are not available (they are identified) since this is OPEN to all. This site may also be reached through the EDHS homepage. Scroll page to the connections line and click on the EEB Baseline Information System link.

2.2 Information Documents

The following documents, although not directly applicable, amplify or clarify the information presented in this document. These documents are not binding on this document.

609-EEB-001	Release 7.23 Operations Tools Manual for the EMD to EEB Bridge Contract
611-EEB-001	Release 7.23 Mission Operation Procedures for the EMD to EEB Bridge Contract

These documents are accessible via the EDHS homepage.

3. Data Design

3.1 Database Overview

The AIM Inventory database implements the large majority of the persistent data requirements for the AIM Inventory subsystem. The database is designed in such a manner as to satisfy business policy while maintaining data integrity and consistency. Database tables are implemented using the Sybase Relational Database Management system (DBMS). All components of the AIM Inventory database are described in the sections that follow in sufficient detail to support maintenance needs.

3.1.1 Physical Data Model Entity Relationship Diagram

The Entity Relationship Diagram (ERD) presents a schematic depiction of the AIM Inventory physical data model. The ERDs presented here for the AIM Inventory database were produced using the PowerDesigner Data Architect Computer Aided Software Engineering (CASE) tool. ERDs represent the relationship between entities or database tables. On ERDs, tables are represented as shown in Figure 3-1.

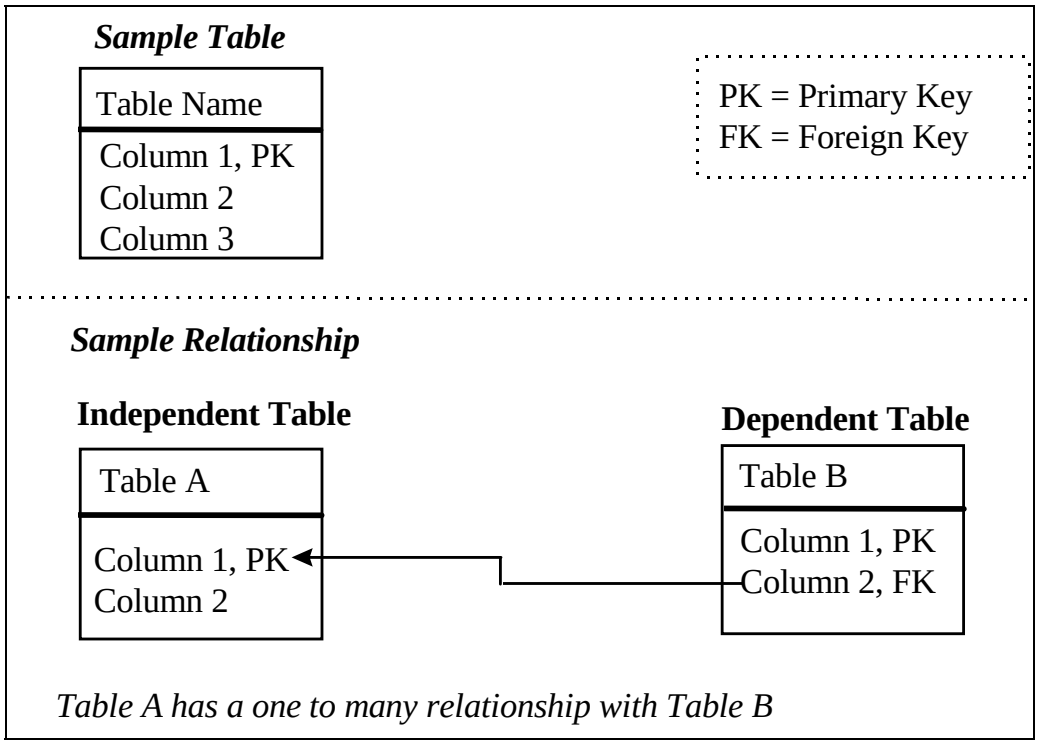

Figure 3-1. ERD Key

Data in the AIM Inventory database fall into categories:

1. Metadata (Md) – information used to describe the contents of Earth Science Data Collections housed in the AIM Inventory. Including:
2. Delivered Algorithm Package metadata – descriptive information about the science algorithm software components used to generate or produce the contents of an Earth Science Data Collection.
3. Collection metadata – information describing all data elements comprising an Earth Science Data Collection.
4. Granule metadata – information describing a select data element in an Earth Science Data Collection.
5. Spatial metadata – information describing the locations pertinent to an Earth Science Data Collection and/or comprising data elements.
6. Temporal metadata – information describing the time periods pertinent to an Earth Science Data Collection and/or comprising data elements.
7. SQS Data – Information used by the Spatial Query Server COTS product to provide spatial query functionality.
8. System Management Data – Information used by the AIM Inventory to manage its functionality and operations.

ERDs for each of these data categories are found in Appendix A.

3.1.2 Tables

Table 3-1 provides a listing of each database table in the AIM Inventory database. A brief definition and column list for each database table follows. The Column List indicates the column name, the column code used in Sybase, if the column is part of the primary key for the table. That is if the columns can be used alone or in combination with other primary key columns to uniquely identify a single row in the table. The column list also indicates whether the column is a mandatory attribute that must be included in every row.

Table 3-1. DataTable List (1 of 3)

Data Table Name	Data Category
ApplicationLocks	System Management Data
DsDeDictionaryAttribute	System Management Data
DsDeDictionaryContent	System Management Data
DsDeDictionaryRule	System Management Data
DsDeECSKeywordValids	System Management Data
DsGeESDTConfiguredType	System Management Data
DsMdAcvuTmp	Granule Metadata
DsMdAdditionalAttributes	Collection and Granule Metadata
DsMdBmgtAuditStats	Bmgt Data
DsMdBmgtBBR	Bmgt Data
DsMdBmgtConfig	Bmgt Data
DsMdBmgtCycleEvents	Bmgt Data
DsMdBmgtCycleQAEvents	Bmgt Data
DsMdBmgtEchoErrorPolicy	Bmgt Data
DsMdBmgtGroupConfig	Bmgt Data
DsMdBmgtIngestRptStats	Bmgt Data
DsMdBmgtInputGrans	Bmgt Data
DsMdBmgtLock	Bmgt Data
DsMdBmgtMETG	Bmgt Data
DsMdBmgtPkgCycles	Bmgt Data
DsMdBmgtReExportQueue	Bmgt Data
DsMdBmgtWrkCollections	Bmgt Data
DsMdBmgtWrkGranules	Bmgt Data
DsMdBmgtWrkGroups	Bmgt Data
DsMdBrowse	Granule Metadata
DsMdBrowseFileStorage	Granule Metadata
DsMdBrowseGranuleXref	Granule Metadata
DsMdBrowseLock	Granule Metadata
DsMdChecksumOrigins	System Management Data
DsMdChecksumTypes	System Management Data
DsMdCollectionAddnlAttribsXref	Collection Metadata
DsMdCollections	Collection Metadata
DsMdDAP	Delivered Algorithm Package Metadata
DsMdDAPFileStorage	Delivered Algorithm Package Metadata
DsMdDeletedGranules	System Management Data
DsMdDAR	Granule Metadata
DsMdFileStorage	Granule Metadata
DsMdGeometryValidation	System Management Data

Table 3-1. DataTable List (2 of 3)

Data Table Name	Data Category
DsMdGranuleRestriction	Granule Metadata
DsMdGranules	Granule Metadata
DsMdGrBoundingRectangle	Granule Metadata
DsMdGrCircle	Granule Metadata
DsMdGrEventDomain	Granule Metadata
DsMdGrEventHistory	Granule Metadata
DsMdGrGPolygon	Granule Metadata
DsMdGrQaUpdateHistory	Granule Metadata
DsMdGrPoint	Granule Metadata
DsMdIdentifier	System Management Data
DsMdMisrAttributes	Granule Metadata
DsMdMisrBrowseGranuleXref	Granule Metadata
DsMdMisrCamera	Granule Metadata
DsMdMisrMutex	System Management Data
DsMdMisrProcessingCriteria	System Management Data
DsMdNextAvailableID	System Management Data
DsMdOrbitCalculatedSpatial	Granule Metadata
DsMdOrbitPolygons	Granule Metadata
DsMdPendingDeleteXMLFile	Granule Deletion
DsMdPGEGroup	Delivered Algorithm Package Metadata
DsMdPlatInstrCode	Data Orginator Metadata
DsMdProcessingHistory	Granule Metadata
DsMdProcessHistFileStorage	Granule Metadata
DsMdQaGranule	Granule Metadata
DsMdQaGranuleFileStorage	Granule Metadata
DsMdQaGranuleXref	Granule Metadata
DsMdRestrictionFlag	Granule Metadata
DsMdScienceLock	System Management Data
DsMdStagingTable	System Management Data
DsMdXMLFile	Granule Metadata
DsMdXMLPath	Granule Metadata
DsMgBulkData	Online Archive Migration
DsMgError	Online Archive Migration
DsMgFilePath	Online Archive Migration
DsMgFileState	Online Archive Migration
DsMgGranuleState	Online Archive Migration
DsMgMediaState	Online Archive Migration
DsMgStatistic	Online Archive Migration

Table 3-1. DataTable List (3 of 3)

Data Table Name	Data Category
DsQAMUTFatalErrors	QA Update Utility
DsQAMUTParameterNames	QA Update Utility
DsQAMUTRequest_ESDT	QA Update Utility
DsQAMUTRequest_GranuleUR	QA Update Utility
DsQAMUTRequest_LGID	QA Update Utility
DsQAMUTRequestDetail	QA Update Utility
DsQAMUTRequestDetailTmp	QA Update Utility
DsQAMUTESDTSite	QA Update Utility
EcDbDatabaseVersions	Database Versioning
DsStPendingDelete	Granule Deletion
DsStVolumeGroup	Granule Location
DsMdUnDeletedGranules	System Management Data
EMSArch	EMS
EMSArchUpdData	EMS
EMSArchData	EMS
EMSdbid	EMS
EMSShortNameTemp	EMS
Mutex	System Management Data

Table 3-2 provides a mechanism to coordinate applications by registering them in the database. A combination of spid and kpid are considered unique to a run of a given process, so if the pair exists in sysprocesses, then the application is considered active. If the pair is no longer in sysprocesses, the application is assumed to be completed and its lock is no longer valid.

Table 3-2. ApplicationLocks

Column Name	Code	Type	PK	Mandatory
spid	SPID	smallint	Yes	Yes
kpid	KPID	int	Yes	Yes
lockname	LOCKNAME	varchar(64)	Yes	Yes
application	APPLICATION	varchar(128)	Yes	Yes
starttime	STARTTIME	datetime	No	Yes
endtime	ENDTIME	datetime	No	No

Table 3-3 maintains the system level data dictionary and provides a mechanism for processing validation rules (only used while Science Data Server is still running).

Table 3-3. DsDeDictionaryAttribute

Column Name	Code	Type	PK	Mandatory
attributeID	attributeID	numeric(16)	Yes	Yes
contentID	contentID	numeric(16)	No	Yes
qualifiedAttrName	qualifiedAttrName	varchar(255)	No	Yes
type	type	varchar(15)	No	No
length	length	int	No	No
seqNum	seqNum	int	No	No
seqType	seqType	int	No	No
operator	operator	varchar(255)	No	No
optionalIndicator	optionalIndicator	tinyint	No	No
maxOccurances	maxOccurances	smallint	No	No
glType	glType	char(10)	No	No
psaIndicator	psaIndicator	tinyint	No	No

Table 3-4 maintains the system level metadata for the data dictionary. It facilitates the data dictionary level processing (only used while Science Data Server is still running).

Table 3-4. DsDeDictionaryContent

Column Name	Code	Type	PK	Mandatory
containerIndicator	CONTAINERINDICATOR	tinyint	No	No
contentID	CONTENTID	numeric(16)	Yes	Yes
numAttribs	NUMATTRIBS	smallint	No	No
numLevels	NUMLEVELS	smallint	No	No
numMultiples	NUMMULTIPLES	smallint	No	No
optionalIndicator	OPTIONALINDICATOR	tinyint	No	No
qualifiedGroupName	QUALIFIEDGROUPNAME	varchar(255)	No	Yes
skips	SKIPS	tinyint	No	No

Table 3-5 maintains the system level data dictionary and provides a mechanism for storing validation rules for each attribute (only used while Science Data Server is still running.)

Table 3-5. DsDeDictionaryRule

Column Name	Code	Type	PK	Mandatory
attributeID	ATTRIBUTEID	numeric(16)	Yes	Yes
sequenceNo	SEQUENCENO	int	Yes	Yes
ruleText	RULETEXT	varchar(255)	No	Yes

Table 3-6 maintains the stores the validation rules for the hierarchical relationship among the ECS Keyword stack. Each row in this table corresponds to a valid combination of the values in the ECS attributes: ECSDisciplineKeyword, ECSTopicKeyword, ECSTermKeyword, ECSVariableKeyword, ECSParameterKeyword.

Table 3-6. DsDeECSKeywordValids

Column Name	Code	Type	PK	Mandatory
disciplineKeyword	DISCIPLINEKEYWORD	varchar(80)	No	Yes
disciplineKeywordId	DISCIPLINEKEYWORDID	numeric(16)	Yes	Yes
parameterKeyword	PARAMETERKEYWORD	varchar(80)	No	No
termKeyword	TERMKEYWORD	varchar(80)	No	Yes
topicKeyword	TOPICKEYWORD	varchar(80)	No	Yes
variableKeyword	VARIABLEKEYWORD	varchar(80)	No	No

Table 3-7 maintains the ESDT level installation data, one row per ESDT Version.

Table 3-7. DsGeESDTConfiguredType

Column Name	Code	Type	PK	Mandatory
configuredName	CONFIGUREDNAME	varchar(20)	Yes	Yes
versionID	VERSIONID	tinyint	Yes	Yes
description	DESCRIPTION	varchar(255)	No	No
descriptorFileNameBase	DESCRIPTORFILENAMEBASE	varchar(80)	No	No
dllFileName	DLLFILENAME	varchar(80)	No	No
spatialSearchType	SPATIALSEARCHTYPE	varchar(40)	No	Yes
esdtState	ESDTSTATE	varchar(32)	No	Yes
dataFormat	DATAFORMAT	varchar(32)	No	No
lastUpdate	LASTUPDATE	datetime	No	No
platformInstrumentCode	PLATFORMINSTRUMENTCODE	tinyint	No	No

Table 3-8 stores granule files info for current ACVU run.

Table 3-8. DsMdAcvuTmp (1 of 2)

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
fileName	fileName	varchar(80)	Yes	Yes
granuleType	granuleType	char(2)	Yes	Yes
filePath	filePath	varchar(80)	No	Yes

Table 3-8. DsMdAcvuTmp (2 of 2)

Column Name	Code	Type	PK	Mandatory
mediaId	MEDIAID	varchar(32)	No	Yes
blockLocation	BLOCKLOCATION	numeric(16)	No	Yes
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes

Table 3-9 identifies the product specific attributes (i.e. attributes used to describe the unique characteristics of the collection which extend beyond those defined in this model).

Table 3-9. DsMdAdditionalAttributes

Column Name	Code	Type	PK	Mandatory
AdditionalAttributeDataType	ADDITIONALATTRIBUTEDATATYPE	char(10)	No	Yes
AdditionalAttributeDescription	ADDITIONALATTRIBUTEDESCRIPTION	varchar(255)	No	Yes
AdditionalAttributeName	ADDITIONALATTRIBUTENAME	varchar(40)	No	Yes
attributeId	ATTRIBUTEID	int identity	Yes	Yes
MeasurementResolution	MEASUREMENTRESOLUTION	varchar(30)	No	No
ParameterRangeBegin	PARAMETERRANGEBEGIN	varchar(40)	No	No
ParameterRangeEnd	PARAMETERRANGEEND	varchar(40)	No	No
ParameterUnitsOfMeasure	PARAMETERUNITSOFMEASURE	varchar(20)	No	No
ParameterValueAccuracy	PARAMETERVALUEACCURACY	varchar(30)	No	No
ValueAccuracyExplanation	VALUEACCURACYEXPLANATION	varchar(255)	No	No

Table 3-10 DsMdBmgtAuditStats stores audit trail statistics for each BMGT package by productType and groupName.

Table 3-10. DsMdBmgtAuditStats

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
groupName	groupName	varchar(12)	Yes	Yes
productType	productType	char(1)	Yes	Yes
status	status	varchar(22)	No	Yes
statusDetail	statusDetail	varchar(255)	No	No
numInserts	numInserts	int	No	Yes
numUpdates	numUpdates	int	No	Yes
numDeletes	numDeletes	int	No	Yes
numSkipped	numSkipped	int	No	Yes

Table 3-11 DsMdBmgtBBR stores browse granule dbIDs processed by each BMGT manual cycle.

Table 3-11. DsMdBmgtBBR

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	Yes	Yes
cycleId	cycleId	numeric(16)	Yes	Yes

Table 3-12 DsMdBmgtConfig stores global configuration parameters for BMGT.

Table 3-12. DsMdBmgtConfig

Column Name	Code	Type	PK	Mandatory
ConfigID	ConfigID	numeric(16) identity	No	Yes
ParameterName	ParameterName	varchar(50)	Yes	Yes
ParameterType	ParameterType	char(1)	No	Yes
ParameterDescription	ParameterDescription	varchar(255)	No	No
IntValue	IntValue	int	No	No
CharValue	CharValue	varchar(255)	No	No
DynamicFlag	DynamicFlag	char(1)	No	Yes

Table 3-13 DsMdBmgtCycleEvents stores browse granules, science granules, collections and valids events processed by each BMGT automatic cycle.

Table 3-13. DsMdBmgtCycleEvents

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
eventKey	eventKey	numeric(16)	Yes	Yes
dbID	dbID	numeric(16)	Yes	Yes
eventTime	eventTime	datetime	Yes	Yes
eventType	eventType	char(10)	Yes	Yes
browseId	browseId	numeric(16)	Yes	Yes
ShortName	ShortName	char(8)	No	No
VersionID	VersionID	tinyint	No	No
internalFileName	internalFileName	varchar(80)	No	No

Table 3-14 DsMdBmgtCycleQAEvents stores QA update events for each BMGT automatic cycle.

Table 3-14. DsMdBmgtCycleQAEvents

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
dbID	dbID	ID	Yes	Yes
eventTime	eventTime	datetime	Yes	Yes
ParameterName	ParameterName	varchar(80)	Yes	Yes
QAPercentMissingData	QAPercentMissingData	int	No	No
QAPercentOutOfBoundsData	QAPercentOutOfBoundsData	Int	No	No
QAPercentInterpolatedData	QAPercentInterpolatedData	Int	No	No
QAPercentCloudCover	QAPercentCloudCover	Int	No	No
AutomaticQualityFlag	AutomaticQualityFlag	varchar(64)	No	No
AutomaticQualityFlagExplan	AutomaticQualityFlagExplan	varchar(255)	No	No
OperationalQualityFlag	OperationalQualityFlag	varchar(20)	No	No
OperationalQualityFlagExplan	OperationalQualityFlagExplan	varchar(255)	No	No
ScienceQualityFlag	ScienceQualityFlag	varchar(25)	No	No
ScienceQualityFlagExplan	ScienceQualityFlagExplan	varchar(255)	No	No

Table 3-15 DsMdBmgtEchoErrorPolicy stores the policy that will be used by BMGT to handle the errors reported on the Ingest Summary Report.

Table 3-15. DsMdBmgtEchoErrorPolicy

Column Name	Code	Type	PK	Mandatory
errorType	ERRORTYPE	varchar(30)	Yes	Yes
errorCode	ERRORCODE	varchar(60)	Yes	Yes
errorDescription	ERRORDESCRIPTION	varchar(255)	No	Yes
BMGTResponse	BMGTRESPONSE	varchar(60)	No	Yes

Table 3-16 DsMdBmgtGroupConfig stores BMGT group configuration file information prior to its last cycle.

Table 3-16. DsMdBmgtGroupConfig

Column Name	Code	Type	PK	Mandatory
ShortName	ShortName	char(8)	Yes	Yes
VersionID	VersionID	Tinyint	Yes	Yes
groupName	groupName	varchar(12)	No	Yes
granuleExportFlag	granuleExportFlag	char(1)	No	Yes
collectionExportFlag	collectionExportFlag	char(1)	No	Yes
lastUpdateVerified	lastUpdateVerified	datetime	No	Yes
maxNumGrans	maxNumGrans	int	No	No
numVerified	numVerified	int	No	Yes
totalGrans	totalGrans	int	No	Yes

Table 3-17 DsMdBmgtIngestRptStats stores Ingest summary report browse, granule, and collection statistics for each BMGT cycle.

Table 3-17. DsMdBmgtIngestRptStats

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
statisticsType	statisticsType	char(1)	Yes	Yes
numInserts	numInserts	int	No	Yes
numUpdates	numUpdates	int	No	Yes
numDeletes	numDeletes	int	No	Yes
numRejects	numRejects	int	No	Yes
numErrorIgnored	numErrorIgnored	int	No	Yes
numErrorReExported	numErrorReExported	int	No	Yes
numErrorNotHandled	numErrorNotHandled	int	No	Yes
numReplaced	numReplaced	int	No	Yes

Table 3-18 DsMdBmgtInputGrans stores a list of user requested granules.

Table 3-18. DsMdBmgtInputGrans

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	Yes	Yes
ShortName	ShortName	char(8)	No	No
VersionID	VersionID	tinyint	No	No

Table 3-19 DsMdBmgtLock stores information about which BMGT automatic cycle is currently running.

Table 3-19. DsMdBmgtLock

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	No	Yes
lockName	lockName	varchar(10)	Yes	Yes
exportType	exportType	varchar(10)	No	Yes

Table 3-20 DsMdBmgtMETG stores science granule information processed by the BMGT METG product in both automatic and manual runs.

Table 3-20. DsMdBmgtMETG

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	Yes	Yes
cycleId	cycleId	numeric(16)	Yes	Yes
eventType	eventType	char(10)	Yes	Yes

Table 3-21 DsMdBmgtPkgCycles stores information about all BMGT packages.

Table 3-21. DsMdBmgtPkgCycles

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16) identity	Yes	Yes
packageId	packageId	int	No	Yes
startDateTime	startDateTime	datetime	No	No
endDateTime	endDateTime	datetime	No	No
exportType	exportType	varchar(10)	No	Yes
currentExportStatus	currentExportStatus	varchar(30)	No	Yes
internalStatus	internalStatus	char(1)	No	No
exclusiveFlag	exclusiveFlag	char(1)	No	Yes
deleteFlag	deleteFlag	char(1)	No	Yes
lastUpdate	lastUpdate	datetime	No	Yes
ecsIngestFlag	ecsIngestFlag	char(1)	No	Yes
echoIngestFlag	echoIngestFlag	char(1)	No	Yes
packageDirectoryName	packageDirectoryName	varchar(255)	No	No
daacPackageIdentifier	daacPackageIdentifier	varchar(40)	No	No
productsRequired	productsRequired	varchar(8)	No	No
productGenStartTime	productGenStartTime	datetime	No	No
productGenStopTime	productGenStopTime	datetime	No	No
exportStartTime	exportStartTime	datetime	No	No
exportStopTime	exportStopTime	datetime	No	No
reportReceivedTime	reportReceivedTime	datetime	No	No
reportFileName	reportFileName	varchar(80)	No	No
exportRetryEmailSent	exportRetryEmailSent	char(1)	No	Yes
exportDelayEmailSent	exportDelayEmailSent	char(1)	No	Yes
reportDelayEmailSent	reportDelayEmailSent	char(1)	No	Yes
retryCount	retryCount	int	No	Yes
echoProcessTime	echoProcessTime	datetime	No	No
numBrowseFileXrefed	numBrowseFileXrefed	int	No	Yes
totalNumBrowseFiles	totalNumBrowseFiles	int	No	Yes

Table 3-22 DsMdBmgtReExportQueue stores science and browse granules that BMGT needs to re-export to ECHO.

Table 3-22. DsMdBmgtReExportQueue

Column Name	Code	Type	PK	Mandatory
queueId	QUEUEID	numeric(16)	Yes	Yes
dbID	DBID	ID	No	Yes
ShortName	SHORTNAME	char(8)	No	Yes
VersionID	VERSIONID	tinyint	No	Yes
granuleType	GRANULETYPE	char(2)	No	Yes
cycleId	CYCLEID	numeric(16)	No	Yes
origCycleId	ORIGCYCLEID	numeric(16)	No	Yes
echoError	ECHOERROR	varchar(40)	No	Yes
action	ACTION	varchar(3)	No	Yes

Table 3-23 DsMdBmgtWrkCollections stores ESDTs from a user input file or the command line for each BMGT manual run.

Table 3-23. DsMdBmgtWrkCollections

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
ShortName	ShortName	char(8)	Yes	Yes
VersionID	VersionID	tinyint	Yes	Yes

Table 3-24 DsMdBmgtWrkGranules stores both science granule and browse granule information from a user input file or the command line for each BMGT manual run.

Table 3-24. DsMdBmgtWrkGranules

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	Yes	Yes
cycleId	cycleId	numeric(16)	Yes	Yes
ShortName	ShortName	char(8)	No	No
VersionID	VersionID	tinyint	No	No

Table 3-25 DsMdBmgtWrkGroups stores BMGT group configuration file information for each BMGT cycle.

Table 3-25. DsMdBmgtWrkGroups

Column Name	Code	Type	PK	Mandatory
cycleId	cycleId	numeric(16)	Yes	Yes
ShortName	ShortName	char(8)	Yes	Yes
VersionID	VersionID	tinyint	Yes	Yes
groupName	groupName	varchar(12)	Yes	Yes
granuleExportFlag	granuleExportFlag	char(1)	No	Yes
collectionExportFlag	collectionExportFlag	char(1)	No	Yes
oldGranuleExportFlag	oldGranuleExportFlag	char(1)	No	Yes
oldCollectionExportFlag	oldCollectionExportFlag	char(1)	No	Yes

Table 3-26 DsMdBrowse contains the description and size of a Browse product. The logical pointer to the actual Browse product instance is also included in this class. Its association with the collection indicates that it can apply to a collection as a whole while its association with a granule indicates that browse products may also occur one or more per granule.

Table 3-26. DsMdBrowse

Column Name	Code	Type	PK	Mandatory
BrowseDescription	BROWSEDESCRIPTION	varchar(255)	No	No
BrowsePointer	BROWSEPOINTER	varchar(255)	No	No
BrowseProductionDateTime	BROWSEPRODUCTIONDATETIME	datetime	No	No
BrowseSize	BROWSESIZE	float	No	No
dbID	DBID	numeric(16)	Yes	Yes
deleteEffectiveDate	DELETEEFFECTIVEDATE	smalldatetime	No	No
insertTime	INSERTTIME	datetime	No	Yes
lastUpdate	LASTUPDATE	DsTMdModDate	No	No
subType	SUBTYPE	varchar(30)	No	No

Table 3-27 DsMdBrowseFileStorage contains the file storage details for Browse products

Table 3-27. DsMdBrowseFileStorage (1 of 2)

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
internalFileName	internalFileName	varchar(80)	Yes	Yes
filePath	filePath	varchar(80)	No	No

Table 3-27. DsMdBrowseFileStorage (2 of 2)

Column Name	Code	Type	PK	Mandatory
userDataFile	userDataFile	varchar(255)	No	No
fileSize	fileSize	int	No	No
ChecksumValue	Checksum	varchar(128)	No	No
ChecksumTypeID	ChecksumTypeID	tinyint	No	No
ChecksumOriginID	ChecksumOriginID	tinyint	No	No
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes
ChecksumLastVerified	CHECKSUMLASTVERIFIED	datetime	No	No

Table 3-28 DsMdBrowseGranuleXref contains the cross-reference between browse and granule.

Table 3-28. DsMdBrowseGranuleXref

Column Name	Code	Type	PK	Mandatory
browseId	BROWSEID	numeric(16)	Yes	Yes
granuleId	GRANULEID	numeric(16)	Yes	Yes

Table 3-29 DsMdBrowseLock facilitates the single threading Browse Granule inserts.

Table 3-29. DsMdBrowseLock

Column Name	Code	Type	PK	Mandatory
myLock	myLock	int	Yes	Yes

Table 3-30 DsMdCollectionAddnlAttribsXref contains the cross-reference between collections and additional attributes.

Table 3-30. DsMdCollectionAddnlAttribsXref

Column Name	Code	Type	PK	Mandatory
attributeId	ATTRIBUTEID	int	Yes	Yes
collectionId	COLLECTIONID	numeric(16)	Yes	Yes

Table 3-31 DsMdCollections contains a brief description of all collections, and also includes the short and long names and the version of the collection.

Table 3-31. DsMdCollections

Column Name	Code	Type	PK	Mandatory
AccessConstraints	ACCESSCONSTRAINTS	varchar(255)	No	No
ArchiveCenter	ARCHIVECENTER	varchar(20)	No	Yes
CitationForExternalPublication	CITATIONFOREXTERNALPUBLICATION	varchar(255)	No	No
CollectionDescription	COLLECTIONDESCRIPTION	varchar(255)	No	Yes
CollectionState	COLLECTIONSTATE	char(10)	No	No
dbID	DBID	numeric(16) identity	Yes	Yes
insertTime	INSERTTIME	DsTMdModDate	No	Yes
lastUpdate	LASTUPDATE	datetime	No	No
LongName	LONGNAME	varchar(80)	No	Yes
MaintenanceUpdateFrequency	MAINTENANCEUPDATEFREQUENCY	varchar(80)	No	Yes
primaryCollectionFlag	PRIMARYCOLLECTIONFLAG	char(1)	No	No
ProcessingCenter	PROCESSINGCENTER	varchar(20)	No	No
ProcessingLevelDescription	PROCESSINGLEVELDESCRIPTION	varchar(80)	No	No
ProcessingLevelID	PROCESSINGLEVELID	char(6)	No	No
RevisionDate	REVISIONDATE	datetime	No	No
ShortName	SHORTNAME	char(8)	No	Yes
subType	SUBTYPE	varchar(30)	No	Yes
SuggestedUsage1	SUGGESTEDUSAGE1	varchar(255)	No	No
SuggestedUsage2	SUGGESTEDUSAGE2	varchar(245)	No	No
type	TYPE	varchar(30)	No	Yes
VersionDescription	VERSIONDESCRIPTION	varchar(255)	No	Yes
VersionID	VERSIONID	tinyint	No	Yes

Table 3-32 DsMdDAP provides metadata for Delivered Algorithm Packages.

Table 3-32. DsMdDAP (1 of 2)

Column Name	Code	Type	PK	Mandatory
DAPID	DAPID	varchar(12)	No	Yes
DAPInsertDate	DAPINSERTDATE	datetime	No	Yes
dbID	DBID	numeric(16)	Yes	Yes
insertTime	INSERTTIME	datetime	No	Yes

Table 3-32. DsMdDAP (2 of 2)

Column Name	Code	Type	PK	Mandatory
deleteEffectiveDate	DELETEEFFECTIVE DATE	smalldatetime	No	No
lastUpdate	LASTUPDATE	DsTMdModDate	No	No

Table 3-33 DsMdDAPFileStorage contains the file storage details for the Delivered Algorithm Package.

Table 3-33. DsMdDAPFileStorage

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
internalFileName	internalFileName	varchar(80)	Yes	Yes
filePath	filePath	varchar(80)	No	No
userDataFile	userDataFile	varchar(255)	No	No
fileSize	fileSize	int	No	No
ChecksumValue	Checksum	varchar(128)	No	No
ChecksumTypeID	ChecksumTypeID	tinyint	No	No
ChecksumOriginID	ChecksumOriginID	tinyint	No	No
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes
ChecksumLastVerified	CHECKSUMLASTVERIFIED	datetime	No	No

Table 3-34 DsMdDAR stores all DAR identifiers per granule.

Table 3-34. DsMdDAR

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
DAR_ID	DAR_ID	int	Yes	Yes

Table 3-35 DsMdDeletedGranules holds the information of the granules that have been requested to be marked as deleted or DFAed.

Table 3-35. DsMdDeletedGranules (1 of 2)

Column Name	Code	Type	PK	Mandatory
BeginningDateTime	BEGINNINGDATETIME	datetime	No	No
DFAFlag	DFAFLAG	tinyint	No	No

Table 3-35. DsMdDeletedGranules (2 of 2)

Column Name	Code	Type	PK	Mandatory
GranuleID	GRANULEID	numeric(16)	Yes	Yes
insertTime	INSERTTIME	datetime	No	No
ShortName	SHORTNAME	char(8)	No	Yes
Status	STATUS	tinyint	No	No
transactionTime	TRANSACTIONTIME	datetime	No	No
VersionID	VERSIONID	tinyint	No	Yes

Table 3-36 DsMdFileStorage contains the file storage details for science granules.

Table 3-36. DsMdFileStorage

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
internalFileName	internalFileName	varchar(80)	Yes	Yes
filePath	filePath	varchar(80)	No	No
userDataFile	userDataFile	varchar(255)	No	No
fileSize	fileSize	int	No	No
deleteEffectiveDate	deleteEffectiveDate	smalldatetime	No	No
ChecksumValue	Checksum2	varchar(128)	No	No
ChecksumTypeID	ChecksumTypeID	tinyint	No	No
ChecksumOriginID	ChecksumOriginID	tinyint	No	No
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes
ChecksumLastVerified	CHECKSUMLASTVERIFIED	datetime	No	No

Table 3-37 DsMdGeometryValidation is used to validate the spatial geometry of granules.

Table 3-37. DsMdGeometryValidation

Column Name	Code	Type	PK	Mandatory
id	id	int	Yes	Yes
GPolygonContainer	GPolygonContainer	gpolygon	No	Yes

Table 3-38 DsMdGranuleRestriction stores a list of granules that are restricted at ECHO and/or to be published in DPL.

Table 3-38. DsMdGranuleRestriction

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
RestrictionFlag	RestrictionFlag	tinyint	No	Yes
UnpublishFlag	UnpublishFlag	char(1)	No	Yes
LastUpdate	LastUpdate	datetime	No	Yes

Table 3-39 DsMdGranules provides the core attributes for all science granules associated with ESDTs. It also includes the range date and time attributes for each granule.

Table 3-39. DsMdGranules

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	Yes	Yes
VersionID	VersionID	tinyint	No	Yes
primaryCollectionId	primaryCollectionId	numeric(16)	No	Yes
ShortName	ShortName	char(8)	No	Yes
processingHistoryId	processingHistoryId	numeric(16)	No	No
processingHistoryTypeCode	processingHistoryTypeCode	int	No	No
SizeMBECSDataGranule	SizeMBECSDataGranule	float	No	No
PGEVersion	PGEVersion	char(10)	No	No
ReprocessingActual	ReprocessingActual	varchar(20)	No	No
ReprocessingPlanned	ReprocessingPlanned	varchar(45)	No	No
RangeBeginningDate	RangeBeginningDate	datetime	No	No
RangeBeginningTime	RangeBeginningTime	DsTMdTime	No	No
RangeEndingDate	RangeEndingDate	Datetime	No	No
RangeEndingTime	RangeEndingTime	DsTMdTime	No	No
CalendarDate	CalendarDate	datetime	No	No
TimeOfDay	TimeOfDay	DsTMdTime	No	No
lastUpdate	lastUpdate	DsTMdModDate	No	No
BeginningDateTime	BeginningDateTime	datetime	No	No
EndingDateTime	EndingDateTime	datetime	No	No
insertTime	insertTime	datetime	No	Yes
LocalGranuleID	LocalGranuleID	varchar(80)	No	No
DayNightFlag	DayNightFlag	char(5)	No	No
ProductionDateTime	ProductionDateTime	datetime	No	No
LocalVersionID	LocalVersionID	varchar(60)	No	No
deleteEffectiveDate	deleteEffectiveDate	smalldatetime	No	No
DeleteFromArchive	DeleteFromArchive	char(1)	No	No
RadiometricDBVersion	RadiometricDBVersion	varchar(255)	No	No
GeometricDBVersion	GeometricDBVersion	varchar(255)	No	No

Table 3-40 DsMdGrBoundingRectangle contains area coverage as an LL_BOX for a granule.

Table 3-40. DsMdGrBoundingRectangle

Column Name	Code	Type	PK	Mandatory
BoundingRectangle	BOUNDINGRECTANGLE	llbox	No	Yes
granuleId	GRANULEID	numeric(16)	Yes	Yes
primaryCollectionId	PRIMARYCOLLECTIONID	numeric(16)	No	No

Table 3-41 DsMdGrCircle identifies the characteristics required to specify the area coverage for a granule as a circle consisting of latitude center, longitude center, radius units, and radius value.

Table 3-41. DsMdGrCircle

Column Name	Code	Type	PK	Mandatory
BoundingCircle	BOUNDINGCIRCLE	circle	No	Yes
granuleId	GRANULEID	numeric(16)	Yes	Yes
RadiusUnits	RADIUSUNITS	char(10)	No	No
primaryCollectionId	PRIMARYCOLLECTIONID	numeric(16)	No	No

Table 3-42 DsMdGrPoint identifies the characteristics required to specify the area coverage for a collection as a single point expressed by latitude and longitude.

Table 3-42. DsMdGrPoint

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
PointLocation	POINTLOCATION	point	No	Yes
primaryCollectionId	PRIMARYCOLLECTIONID	numeric(16)	No	No

Table 3-43 DsMdIdentifier contains the next available system generated unique identifier. There is a separate row in this table to generate identifiers for the DsMdAnalysisSource, DsMdCampaign, DsDeDictionaryAttribute, DsMdAdditionalAttributes and DsMdPlanarCoordinateSystems tables. There is also another row used to generate identifiers for DsMdCollections and DsMdGranules tables.

Each row in this table is padded out to the 2K page size to minimize locking contention on a per row basis.

Table 3-43. DsMdIdentifier

Column Name	Code	Type	PK	Mandatory
identifierObjectType	IDENTIFIEROBJECTTYPE	char(30)	Yes	Yes
identifierPad1	IDENTIFIERPAD1	char(255)	No	Yes
identifierPad2	IDENTIFIERPAD2	char(255)	No	Yes
identifierPad3	IDENTIFIERPAD3	char(255)	No	Yes
identifierPad4	IDENTIFIERPAD4	char(255)	No	Yes
identifierPad5	IDENTIFIERPAD5	char(255)	No	Yes
identifierPad6	IDENTIFIERPAD6	char(255)	No	Yes
identifierPad7	IDENTIFIERPAD7	char(255)	No	Yes
identifierType	IDENTIFIERTYPE	char(30)	Yes	Yes
lastIdentifier	LASTIDENTIFIER	numeric(16)	No	Yes
lastIntIdentifier	LASTINTIDENTIFIER	int	No	Yes
lastSmallIntIdentifier	LASTSMALLINTIDENTIFIER	smallint	No	Yes

Table 3-44 DsMdMisrAttributes stores orbitNumber, pathNo, and productVersion information for MISR science and browse granules.

Table 3-44. DsMdMisrAttributes

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
orbitNumber	orbitNumber	int	No	No
pathNo	pathNo	smallint	No	No
productVersion	productVersion	int	No	No
type	type	char(1)	No	Yes

Table 3-45 DsMdMisrBrowseGranuleXref stores MISR science granules to MISR browse granules linkage information.

Table 3-45. DsMdMisrBrowseGranuleXref

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
browseId	browseId	numeric(16)	No	Yes

Table 3-46 DsMdMisrCamera stores cameraId information for MISR granules.

Table 3-46. DsMdMisrCamera

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
cameraId	cameraId	varchar(20)	Yes	Yes

Table 3-47 DsMdMisrMutex stores mutex lock information for MISR science and browse granules.

Table 3-47. DsMdMisrMutex

Column Name	Code	Type	PK	Mandatory
myLock	myLock	int	Yes	Yes

Table 3-48 DsMdMisrProcessingCriteria stores configured MISR science and browse ESDTs that will be processed by IIU, NDPIU, and BMGT.

Table 3-48. DsMdMisrProcessingCriteria

Column Name	Code	Type	PK	Mandatory
ShortName	ShortName	char(8)	Yes	Yes
VersionID	VersionID	tinyint	Yes	Yes
type	type	char(1)	No	Yes

Table 3-49 DsMdNextAvailableID stores next available packageId that will be used by BMGT.

Table 3-49. DsMdNextAvailableID

Column Name	Code	Type	PK	Mandatory
IntKeyName	IntKeyName	varchar(30)	Yes	Yes
IntKeyValue	IntKeyValue	int	No	Yes

Table 3-50 DsMdOrbitCalculatedSpatial is used to store the MISR orbit granule data for a platform and instrument combination for the orbit calculated spatial domain.

Table 3-50. DsMdOrbitCalculatedSpatial

Column Name	Code	Type	PK	Mandatory
EndBlock	ENDBLOCK	smallint	No	Yes
granuleId	GRANULEID	numeric(16)	Yes	Yes
PathNo	PATHNO	smallint	Yes	Yes
platInstCode	PLATINSTCODE	tinyint	Yes	Yes
StartBlock	STARTBLOCK	smallint	Yes	Yes

Table 3-51 DsMdOrbitPolygons contains a series of orbit polygons for a platform and instrument combination.

Table 3-51. DsMdOrbitPolygons

Column Name	Code	Type	PK	Mandatory
Orbit	ORBIT	polygon	No	Yes
PathNo	PATHNO	smallint	Yes	Yes
platInstCode	PLATINSTCODE	tinyint	Yes	Yes
SequenceNo	SEQUENCENO	smallint	Yes	Yes

Table 3-52 DsMdPendingDeleteXMLFile stores the XML Files to be deleted by the Granule Deletion utility.

Table 3-52. DsMdPendingDeleteXMLFile

Column Name	Code	Type	PK	Mandatory
GranuleId	GranuleId	numeric(16)	Yes	Yes
Stage	Stage	varchar(50)	No	No
Status	Status	varchar(24)	No	No
FileName	FileName	varchar(200)	No	Yes
FilePath	FilePath	varchar(255)	No	Yes
InsertTime	InsertTime	datetime	No	No

Table 3-53 DsMdPGEGroup contains the delivered algorithm package PGE group information.

Table 3-53. DsMdPGEGroup

Column Name	Code	Type	PK	Mandatory
dapDBId	DAPDBID	numeric(16)	Yes	Yes
DAPPGEName	DAPPGENAME	varchar(20)	Yes	Yes
DAPPGEVersion	DAPPGEVERSION	char(10)	Yes	Yes
DAPSWVersion	DAPSWVERSION	varchar(12)	Yes	Yes

Table 3-54 DsMdPlatInstrCode contains resolution information for platform and instrument combination.

Table 3-54. DsMdPlatInstrCode

Column Name	Code	Type	PK	Mandatory
instrumentName	INSTRUMENTNAME	varchar(80)	No	Yes
platformInstrumentCode	PLATFORMINSTRUMENTCODE	tinyint	Yes	Yes
platformShortName	PLATFORMSHORTNAME	varchar(20)	No	Yes

Table 3-55 DsMdProcessHistFileStorage contains the file storage details on each processing history granule that is related to science granules in the database.

Table 3-55. DsMdProcessHistFileStorage

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
internalFileName	internalFileName	varchar(80)	Yes	Yes
filePath	filePath	varchar(80)	No	No
userDataFile	userDataFile	varchar(255)	No	No
fileSize	fileSize	int	No	No
ChecksumValue	Checksum	varchar(128)	No	No
ChecksumTypeID	ChecksumTypeID	tinyint	No	No
ChecksumOriginID	ChecksumOriginID	tinyint	No	No
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes
ChecksumLastVerified	CHECKSUMLASTVERIFIED	datetime	No	No

Table 3-56 DsMdProcessingHistory contains a logical pointer to the processing history which provides information about the processing of science granules in the database. This includes the input products and granules used to generate the product.

Table 3-56. DsMdProcessingHistory

Column Name	Code	Type	PK	Mandatory
dbID	DBID	numeric(16)	Yes	Yes
deleteEffectiveDate	DELETEEFFECTIVEDATE	smalldatetime	No	No
insertTime	INSERTTIME	datetime	No	Yes
lastUpdate	LASTUPDATE	DsTMdModDate	No	No
ProductionHistoryPointer	PROCESSINGHISTORYPOINTER	varchar(255)	No	No
subType	SUBTYPE	varchar(30)	No	No

Table 3-57 DsMdQaGranule specifies the logical pointer to the QA granule. This table contains material for a separate file or files containing user specified QA information about the granule.

Table 3-57. DsMdQaGranule

Column Name	Code	Type	PK	Mandatory
dbID	DBID	numeric(16)	Yes	Yes
deleteEffectiveDate	DELETEEFFECTIVE DATE	smalldatetime	No	No
insertTime	INSERTTIME	datetime	No	Yes
lastUpdate	LASTUPDATE	DsTMdModDate	No	No
QAGranulePointer	QAGRANULEPOINTE R	varchar(255)	No	No
subType	SUBTYPE	varchar(30)	No	No

Table 3-58 DsMdQaGranuleFileStorage contains the file storage details about user-specified QA information about granules.

Table 3-58. DsMdQaGranuleFileStorage

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	ID	Yes	Yes
internalFileName	internalFileName	varchar(80)	Yes	Yes
filePath	filePath	varchar(80)	No	No
userDataFile	userDataFile	varchar(255)	No	No
fileSize	fileSize	int	No	No
ChecksumValue	Checksum	varchar(128)	No	No
ChecksumTypeID	ChecksumTypeID	tinyint	No	No
ChecksumOriginID	ChecksumOriginID	tinyint	No	No
ChecksumVerificationStatus	ChecksumStatus	char(1)	No	Yes
ChecksumLastVerified	CHECKSUMLASTVERIFIED	datetime	No	No

Table 3-59 DsMdQaGranuleXref contains cross reference information about QA and granules.

Table 3-59. DsMdQaGranuleXref

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
qaId	QAID	numeric(16)	Yes	Yes

Table 3-60 DsMdRestrictionFlag defines the restriction codes.

Table 3-60. DsMdRestrictionFlag

Column Name	Code	Type	PK	Mandatory
RestrictionFlag	RestrictionFlag	tinyint	Yes	Yes
Description	Description	varchar(255)	No	Yes
LastUpdate	LastUpdate	datetime	No	Yes

Table 3-61 DsMdScienceLock facilitates single threading of Science Granule inserts.

Table 3-61. DsMdScienceLock

Column Name	Code	Type	PK	Mandatory
myLock	myLock	int	Yes	Yes

Table 3-62 DsMdStagingTable is used to store the information of the deleted/DFAed granules.

Table 3-62. DsMdStagingTable

Column Name	Code	Type	PK	Mandatory
insertTime	INSERTTIME	datetime	No	No
internalFileName	INTERNALFILENAME	varchar(80)	Yes	Yes
ShortName	SHORTNAME	char(8)	No	Yes
VersionID	VERSIONID	tinyint	No	Yes
DFAFlag	DFAFLAG	tinyint	No	No
dbID	DBID	numeric(16)	Yes	Yes
BeginningDateTime	BEGINNINGDATETIME	datetime	No	No

Table 3-63 EcDbDatabaseVersions identifies the current version of the AIM Inventory Database.

Table 3-63. EcDbDatabaseVersions (1 of 2)

Column Name	Code	Type	PK	Mandatory
EcDbComments	ECDBCOMMENTS	varchar(255)	No	No
EcDbCurrentVersionFlag	ECDBCURRENTVERSIONFLAG	char(1)	No	No
EcDbDatabaseName	ECDBDATABASENAME	varchar(255)	No	No
EcDbDropDescription	ECDBDROPDESCRIPTION	varchar(255)	No	No
EcDbDropInstallDate	ECDBDROPINSTALLDATE	datetime	No	No

Table 3-63. EcDbDatabaseVersions (2 of 2)

Column Name	Code	Type	PK	Mandatory
EcDbDropVersion	ECDBDROPVERSION	char(64)	Yes	Yes
EcDbSchemaVersionId	ECDBSCHEMAVERSIONID	smallint	Yes	Yes
EcDbSybaseServer	ECDBSYBASESERVER	varchar(255)	No	No
EcDbSybaseVersion	ECDBSYBASEVERSION	varchar(255)	No	No
EcDbUpdateProcess	ECDBUPDATEPROCESS	varchar(255)	No	No

Table 3-64 DsQAMUTESDTSite allows the system to determine which science site can update the QA flags of which ESDT.

Table 3-64. DsQAMUTESDTSite

Column Name	Code	Type	PK	Mandatory
ShortName	SHORTNAME	char(8)	Yes	Yes
Site	SITE	varchar(25)	Yes	Yes

Table 3-65 DsMdChecksumOrigins contains a list of the known providers of checksum information.

Table 3-65. DsMdChecksumOrigins

Column Name	Code	Type	PK	Mandatory
ChecksumOriginID	CHECKSUMORIGINID	tinyint	Yes	Yes
ChecksumOrigin	CHECKSUMORIGIN	varchar(64)	No	Yes

Table 3-66 DsMdChecksumTypes contains a list of the checksum algorithms supported by ECS.

Table 3-66. DsMdChecksumTypes

Column Name	Code	Type	PK	Mandatory
ChecksumTypeID	CHECKSUMTYPEID	tinyint	Yes	Yes
ChecksumType	CHECKSUMTYPE	varchar(64)	No	Yes

Table 3-67 DsMdGrEventDomain is prepopulated with a fixed number of update events.

Table 3-67. DsMdGrEventDomain

Column Name	Code	Type	PK	Mandatory
eventId	EVENTID	smallint	Yes	Yes
eventName	EVENTNAME	varchar(50)	No	Yes

Table 3-68 DsMdGrEventHistory keeps history on the time a particular event happened on a particular science granule, browse granule, and collection.

Table 3-68. DsMdGrEventHistory

Column Name	Code	Type	PK	Mandatory
eventKey	eventKey	numeric(16) identity	Yes	Yes
dbID	dbID	numeric(16)	No	Yes
eventTime	eventTime	datetime	No	Yes
eventId	eventId	smallint	No	Yes
eventType	eventType	char(10)	No	No
browseId	browseId	numeric(16)	No	No
ShortName	ShortName	char(8)	No	No
VersionID	VersionID	tinyint	No	No
internalFileName	internalFileName	varchar(80)	No	No

Table 3-69 DsMdGrGPolygon identifies the characteristics required to specify the area coverage for a collection as a polygon consisting of multiple points expressed by latitude and longitude values in clockwise order.

Table 3-69. DsMdGrGPolygon

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
GPolygonContainer	GPolygonContainer	Gpolygon	No	Yes
primaryCollectionId	primaryCollectionId	numeric(16)	No	No

Table 3-70 DsMdGrQaUpdateHistory keeps a record of the measured parameter values temporarily during the QA update. BMGT uses it to transfer the data to the appropriate BMGT table.

Table 3-70. DsMdGrQaUpdateHistory

Column Name	Code	Type	PK	Mandatory
dbID	dbID	ID	Yes	Yes
eventTime	eventTime	datetime	Yes	Yes
ParameterName	ParameterName	varchar(80)	Yes	Yes
QAPercentMissingData	QAPercentMissingData	int	No	No
QAPercentOutOfBoundsData	QAPercentOutOfBoundsData	Int	No	No
QAPercentInterpolatedData	QAPercentInterpolatedData	Int	No	No
QAPercentCloudCover	QAPercentCloudCover	Int	No	No
AutomaticQualityFlag	AutomaticQualityFlag	varchar(64)	No	No
AutomaticQualityFlagExplan	AutomaticQualityFlagExplan	varchar(255)	No	No
OperationalQualityFlag	OperationalQualityFlag	varchar(20)	No	No
OperationalQualityFlagExplan	OperationalQualityFlagExplan	varchar(255)	No	No
ScienceQualityFlag	ScienceQualityFlag	varchar(25)	No	No
ScienceQualityFlagExplan	ScienceQualityFlagExplan	varchar(255)	No	No

Table 3-71 DsMdUnDeletedGranules contains all the granules that qualify for undelete during the run of AIM Inventory Granule Deletion Utility.

Table 3-71. DsMdUnDeletedGranules

Column Name	Code	Type	PK	Mandatory
transactionTime	TRANSATIONTIME	datetime	No	No
GranuleID	GRANULEID	numeric(16)	Yes	Yes
Status	STATUS	tinyint	No	No
ShortName	SHORTNAME	char(8)	No	Yes
VersionID	VERSIONID	tinyint	No	Yes
insertTime	INSERTTIME	datetime	No	No
DFAFlag	DFAFLAG	tinyint	No	No

Table 3-72 DsMdXMLFile stores the pathids and filenames for all XML files.

Table 3-72. DsMdXMLFile (1 of 2)

Column Name	Code	Type	PK	Mandatory
granuleId	granuleId	numeric(16)	Yes	Yes
pathId	pathId	numeric(16)	No	Yes

Table 3-72. DsMdXMLFile (2 of 2)

Column Name	Code	Type	PK	Mandatory
xmlFileName	xmlFileName	varchar(40)	No	Yes
checksum	Checksum	varchar(32)	No	No
checksumTypeId	checksumTypeId	tinyint	No	No
checksumTime	checksumTime	datetime	No	No
fileSize	fileSize	int	No	No
checkXMLStatus	checkXMLStatus	char(1)	No	Yes
lastSuccessfulXMLCheck	lastSuccessfulXMLCheck	datetime	No	Yes

Table 3-73 DsMdXMLPath stores the pathnames for each pathid listed in DsMdXMLFile

Table 3-73. DsMdXMLPath

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16) identity	Yes	Yes
path	path	varchar(255)	No	Yes

Table 3-74 DsMgBulkData is used to receive bcp data, which in turn is used to update certain information in DsMgFileState.

Table 3-74. DsMgBulkData

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
FileName	FILENAME	varchar(80)	Yes	Yes
PathId	PathId	numeric(5)	No	No
MediaId	MediaId	varchar(12)	No	No
IndexNumber	IndexNumber	numeric(16)	No	No
MigrateFlag	MigrateFlag	char(1)	No	No
BackupFlag	BackupFlag	char(1)	No	No
processId	processId	numeric(16)	No	No

Table 3-75 DsMgError is used to record information about error conditions encountered during online archive migration.

Table 3-75. DsMgError (1 of 2)

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes

Table 3-75. DsMgError (2 of 2)

Column Name	Code	Type	PK	Mandatory
FileName	FILENAME	varchar(80)	No	No
ErrorCode	ERRORCODE	char(12)	No	Yes
ErrorMsg	ERRORMSG	varchar(255)	No	Yes
ErrorTime	ERRORTIME	datetime	No	No

Table 3-76 DsMgFilePath is used to store directory path information for the files in DsMgFileState.

Table 3-76. DsMgFilePath

Column Name	Code	Type	PK	Mandatory
PathId	PATHID	numeric(16)	Yes	Yes
Path	PATH	varchar(255)	No	Yes

Table 3-77 DsMgFileState is used to store information about files needed for online archive migration and to track the progress of the migration.

Table 3-77. DsMgFileState

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
FileName	FILENAME	varchar(80)	Yes	Yes
State	STATE	char(1)	No	Yes
MediaId	MEDIAID	varchar(12)	No	No
IndexNumber	INDEXNUMBER	numeric(16)	No	No
MigrateFlag	MIGRATEFLAG	char(1)	No	Yes
PathId	PATHID	numeric(16)	No	No
BackupFlag	BACKUPFLAG	char(1)	No	Yes
Size	SIZE	int	No	Yes

Table 3-78 DsMgGranuleState is used to store information about granules needed for online archive migration and to track the progress of the migration.

Table 3-78. DsMgGranuleState (1 of 2)

Column Name	Code	Type	PK	Mandatory
granuleId	GRANULEID	numeric(16)	Yes	Yes
State	STATE	char(1)	No	Yes
InsertFlag	INSERTFLAG	char(1)	No	Yes

Table 3-78. DsMgGranuleState (2 of 2)

Column Name	Code	Type	PK	Mandatory
Priority	PRIORITY	tinyint	No	No
QueueId	QUEUEID	numeric(16)	No	Yes
granuleType	GRANULETYPE	char(2)	No	Yes
lastUpdate	lastUpdate	Datetime	No	No

Table 3-79 DsMgMediaState is used to store information about tapes that will be used during online archive migration.

Table 3-79. DsMgMediaState

Column Name	Code	Type	PK	Mandatory
MediaId	MEDIAID	varchar(12)	Yes	Yes
State	STATE	char(1)	No	Yes
Volume	VOLUME	numeric(16)	No	No
Class	CLASS	varchar(36)	No	Yes
DrivePool	DRIVEPOOL	varchar(36)	No	Yes
Priority	PRIORITY	tinyint	No	Yes

Table 3-80 DsMgStatistic is used to store statistics gathered during online archive migration.

Table 3-80. DsMgStatistic

Column Name	Code	Type	PK	Mandatory
Name	NAME	varchar(32)	Yes	Yes
Value	VALUE	float	No	Yes
LastUpdate	LASTUPDATE	datetime	No	Yes

Table 3-81 DsQAMUTFatalErrors stores rows that were moved from the DsQAMUTRequestDetail table because they had fatal errors in processing.

Table 3-81. DsQAMUTFatalErrors (1 of 2)

Column Name	Code	Type	PK	Mandatory
SequenceNo	SequenceNo	numeric(9)	No	Yes
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
dbID	dbID	numeric(16)	No	Yes
LGID	LGID	varchar(80)	No	No
ParameterName	ParameterName	varchar(40)	No	Yes

Table 3-81. DsQAMUTFatalErrors (2 of 2)

Column Name	Code	Type	PK	Mandatory
FlagName	FlagName	varchar(11)	No	Yes
NewQualityFlag	NewQualityFlag	varchar(25)	No	Yes
NewQualityFlagExplan	NewQualityFlagExplan	varchar(255)	No	No
XmlFilePathArchive	XmlFilePathArchive	varchar(255)	No	Yes
XmlFileNameArchive	XmlFileNameArchive	varchar(255)	No	Yes
timeOfFailure	timeOfFailure	datetime	No	No

Table 3-82 DsQAMUTParameterNames stores several ParameterNames per dbID when the ParameterName column in the DsQAMUTRequestDetail table is set to 'ALL'.

Table 3-82. DsQAMUTParameterNames

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	No	Yes
ParameterName	ParameterName	varchar(40)	No	Yes

Table 3-83 DsQAMUTRequestDetail is the main table used during processing of the QA updates.

Table 3-83. DsQAMUTRequestDetail

Column Name	Code	Type	PK	Mandatory
SequenceNo	SequenceNo	numeric(9) identity	No	Yes
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
dbID	dbID	numeric(16)	No	Yes
LGID	LGID	varchar(80)	No	No
ParameterName	ParameterName	varchar(40)	No	Yes
FlagName	FlagName	varchar(11)	No	Yes
NewQualityFlag	NewQualityFlag	varchar(25)	No	Yes
NewQualityFlagExplan	NewQualityFlagExplan	varchar(255)	No	No
XmlFilePathArchive	XmlFilePathArchive	varchar(255)	No	Yes
XmlFileNameArchive	XmlFileNameArchive	varchar(255)	No	Yes
statusFlag	statusFlag	char(1)	No	No
timeOfFailure	timeOfFailure	datetime	No	No
InvestigateFlag	InvestigateFlag	char(1)	No	No

Table 3-84 DsQAMUTRequestDetailTmp is a work table used to populate DsQAMUTRequestDetail.

Table 3-84. DsQAMUTRequestDetailTmp

Column Name	Code	Type	PK	Mandatory
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
dbID	dbID	numeric(16)	No	Yes
LGID	LGID	varchar(80)	No	No
ParameterName	ParameterName	varchar(80)	No	Yes
FlagName	FlagName	varchar(11)	No	Yes
NewQualityFlag	NewQualityFlag	varchar(25)	No	Yes
NewQualityFlagExplan	NewQualityFlagExplan	varchar(255)	No	No

Table 3-85 DsQAMUTRequest_ESDT is an input table based on the temporal range for the collection.

Table 3-85. DsQAMUTRequest_ESDT

Column Name	Code	Type	PK	Mandatory
SequenceNo	SequenceNo	numeric(9) identity	No	Yes
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
BeginningDateTime	BeginningDateTime	datetime	No	Yes
EndingDateTime	EndingDateTime	datetime	No	Yes
ParameterName	ParameterName	varchar(80)	No	Yes
QualityFlag	QualityFlag	varchar(25)	No	Yes
QualityFlagExplan	QualityFlagExplan	varchar(255)	No	No

Table 3-86 DsQAMUTRequest_GranuleUR is an input table based on the individual granule ids.

Table 3-86. DsQAMUTRequest_GranuleUR

Column Name	Code	Type	PK	Mandatory
SequenceNo	SequenceNo	numeric(9) identity	No	Yes
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
dbID	dbID	numeric(16)	No	Yes
ParameterName	ParameterName	varchar(80)	No	Yes
QualityFlag	QualityFlag	varchar(25)	No	Yes
QualityFlagExplan	QualityFlagExplan	varchar(255)	No	No

Table 3-87 DsQAMUTRequest_LGID is an input table based on the local granule ids.

Table 3-87. DsQAMUTRequest_LGID

Column Name	Code	Type	PK	Mandatory
SequenceNo	SequenceNo	numeric(9) identity	No	Yes
ShortName	ShortName	char(8)	No	Yes
VersionID	VersionID	tinyint	No	Yes
LGID	LGID	varchar(80)	No	Yes
ParameterName	ParameterName	varchar(80)	No	Yes
QualityFlag	QualityFlag	varchar(25)	No	Yes
QualityFlagExplan	QualityFlagExplan	varchar(255)	No	No

Table 3-88 DsStPendingDelete is used for batch deletion of files from the archive.

Table 3-88. DsStPendingDelete

Column Name	Code	Type	PK	Mandatory
VersionedDataType	VersionedDataType	datatype	Yes	Yes
Stage	Stage	stage	No	No
Status	Status	nvarchar(12)	No	No
ErrorCode	ErrorCode	errorcode	No	No
FileName	FileName	filename	Yes	Yes
VolumeGroupId	VolumeGroupId	identityid	No	No
ServerId	ServerId	serverid	No	No
InsertTime	InsertTime	datetime	No	No
CreationTime	CreationTime	datetime	No	No
BeginningDateTime	BeginningDateTime	datetime	No	No
ReprocessingFlag	ReprocessingFlag	char(1)	No	No

Table 3-89 DsStVolumeGroup stores information for each Volume Group.

Table 3-89. DsStVolumeGroup

Column Name	Code	Type	PK	Mandatory
VolumeGroupId	VolumeGroupId	numeric(5) identity	Yes	Yes
VersionedDataType	VersionedDataType	datatype	No	Yes
VolumeGroupPath	VolumeGroupPath	path	No	Yes
VolumeStartDate	VolumeStartDate	datetime	No	Yes
VolumeEndDate	VolumeEndDate	datetime	No	No
SelectionDate	SelectionDate	datetime	No	No
ArchiveID	ArchiveID	numeric(9)	No	No

Table 3-90 EMSArch is an EMS use only table used to process EMS archive information.

Table 3-90. EMSArch

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	No	No
ShortName	ShortName	varchar(8)	No	No
sizeDataGranule	sizeDataGranule	float	No	No
totalFiles	totalFiles	int	No	No
insertTime	insertTime	varchar(18)	No	No
BeginningDateTime	BeginningDateTime	varchar(18)	No	No
EndingDateTime	EndingDateTime	varchar(18)	No	No
ProductionDateTime	ProductionDateTime	varchar(18)	No	No
LocalGranuleID	LocalGranuleID	varchar(80)	No	No
VersionID	VersionID	tinyint	No	No
DeleteFromArchive	DeleteFromArchive	char(1)	No	No
deleteEffectiveDate	deleteEffectiveDate	varchar(18)	No	No
lastUpdate	lastUpdate	varchar(18)	No	No

Table 3-91 EMSArchData is an EMS use only table used to process EMS archive information.

Table 3-91. EMSArchData

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	No	No
ShortName	ShortName	varchar(8)	No	No
sizeDataGranule	sizeDataGranule	float	No	No
totalFiles	totalFiles	int	No	No
insertTime	insertTime	varchar(18)	No	No
BeginningDateTime	BeginningDateTime	varchar(18)	No	No
EndingDateTime	EndingDateTime	varchar(18)	No	No
ProductionDateTime	ProductionDateTime	varchar(18)	No	No
LocalGranuleID	LocalGranuleID	varchar(80)	No	No
VersionID	VersionID	tinyint	No	No
DeleteFromArchive	DeleteFromArchive	char(1)	No	No
deleteEffectiveDate	deleteEffectiveDate	varchar(18)	No	No
lastUpdate	lastUpdate	varchar(18)	No	No

Table 3-92 EMSArchUpdData is an EMS use only table used to process EMS archive information.

Table 3-92. EMSArchUpdData

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	No	No
ShortName	ShortName	varchar(8)	No	No
sizeDataGranule	sizeDataGranule	float	No	No
totalFiles	totalFiles	int	No	No
insertTime	insertTime	varchar(18)	No	No
BeginningDateTime	BeginningDateTime	varchar(18)	No	No
EndingDateTime	EndingDateTime	varchar(18)	No	No
ProductionDateTime	ProductionDateTime	varchar(18)	No	No
LocalGranuleID	LocalGranuleID	varchar(80)	No	No
VersionID	VersionID	tinyint	No	No
DeleteFromArchive	DeleteFromArchive	char(1)	No	No
deleteEffectiveDate	deleteEffectiveDate	varchar(18)	No	No
lastUpdate	lastUpdate	varchar(18)	No	No

Table 3-93 EMSShortNameTemp stores the EMS related temporary data for Esdts.

Table 3-93. EMSShortNameTemp

Column Name	Code	Type	PK	Mandatory
ShortName	ShortName	char(8)	No	Yes
LongName	LongName	varchar(80)	No	No
Missions	Missions	varchar(500)	No	No
Instruments	Instruments	varchar(500)	No	No
TopicKeywords	TopicKeywords	varchar(500)	No	No
Provider	Provider	varchar(50)	No	No
fileName	fileName	varchar(80)	No	No
DplOnly	DplOnly	char(1)	No	No

Table 3-94 EMSdbid is an EMS use only table used to process EMS archive information.

Table 3-94. EMSdbid (1 of 2)

Column Name	Code	Type	PK	Mandatory
dbID	dbID	numeric(16)	No	No
subType	subType	varchar(30)	No	No
insertTime	insertTime	datetime	No	No
lastUpdate	lastUpdate	datetime	No	No
FileCount	FileCount	int	No	No
BrowseSize	BrowseSize	float	No	No

Table 3-94. EMSdbid (2 of 2)

Column Name	Code	Type	PK	Mandatory
BrowseProductionDateTime	BrowseProductionDateTime	datetime	No	No
internalFileName	internalFileName	varchar(80)	No	No
BeginningDateTime	BeginningDateTime	datetime	No	No
EndingDateTime	EndingDateTime	datetime	No	No

Table 3-95 Mutex is used by stored procedure RegisterApplication to facilitate single-threading of application registrations.

Table 3-95. Mutex

Column Name	Code	Type	PK	Mandatory
mutex	mutex	tinyint	Yes	Yes

3.1.3 Columns

Brief definitions of each of the columns present in the database tables defined above are contained in Table 3-96. Many of the columns in the AIM Inventory database have a set of approved data values that are checked against during data validation.

Table 3-96. Column Descriptions (1 of 31)

Column Name	Table	Description
AccessConstraints	DsMdCollections	Refer to technical paper 420-EMD-001
action	DsMdBmgtReExportQueue	Whether it's insert or delete
AdditionalAttributeDataType	DsMdAdditionalAttributes	Refer to technical paper 420-EMD-001
AdditionalAttributeDescription	DsMdAdditionalAttributes	Refer to technical paper 420-EMD-001
AdditionalAttributeName	DsMdAdditionalAttributes	Refer to technical paper 420-EMD-001
application	ApplicationLocks	The name of the application that is holding the lock
ArchiveCenter	DsMdCollections	Refer to technical paper 420-EMD-001
ArchiveID	DsStVolumeGroup	Unique identifier for archive host in Ingest database InArchive table.

Table 3-96. Column Descriptions (2 of 31)

Column Name	Table	Description
attributeID	DsDeDictionaryAttribute DsDeDictionaryRule	The unique ID which identifies a dictionary attribute used to validate a metadata attribute during ESDT insertion.
attributeId	DsMsAdditionalAttributes DsMdCollectionAddnlAttribsXref	The unique ID which identifies an additional attribute (product specific attribute supplied by a data provider).
AutomaticQualityFlag	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	Automatic Quality value for the granule
AutomaticQualityFlagExplan	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	Explanation for how to figure out the automatic quality value.
BackupFlag	DsMgFileState DsMgBulkData	Indicates whether or not this file has been restored from a backup copy of the file. 'Y' for restored from backup, otherwise 'N'.
BeginningDateTime	DsMdGranules DsMdStagingTable DsMdDeletedGranules EMSArch EMSArchData EMSArchUpdData DsStPendingDelete DsQAMUTRequest_ESDT EMSdbid	The attribute within AIM Inventory that allows both the SingleDateTime (TimeofDay) and RangeDateTime(RangeBeginningDate) to be efficiently indexed and searched.
blockLocation	DsMdAcvuTmp	Granule file block location information
BMGTResponse	DsMdBmgtEchoErrorPolicy	How BMGT should respond to this error.
BoundingCircle	DsmdGrCircle	The geographic extent of circular region included in granule or collection.
BoundingRectangle	DsMdGrBoundingRectangle	The geographic extent of rectangular region included in granule or collection.
BrowseDescription	DsMdBrowse	Refer to technical paper 420-EMD-001
browseId	DsMdGrEventHistory DsMdBmgtCycleEvents DsMdBrowseGranuleXref DsMdMisrBrowseGranuleXref	The unique ID which identifies the browse.

Table 3-96. Column Descriptions (3 of 31)

Column Name	Table	Description
BrowsePointer	DsMdBrowse	Refer to technical paper 420-EMD-001
BrowseProductionDateTime	DsMdBrowse EMSdbid	Refer to technical paper 420-EMD-001
BrowseSize	DsMdBrowse EMSdbid	Refer to technical paper 420-EMD-001
CalendarDate	DsMdGranules	Refer to technical paper 420-EMD-001
cameraId	DsMdMisrCamera	Camera Identifier for MISR granules
CharValue	DsMdBmgtConfig	String value for BMGT global configuration parameters
ChecksumValue	DsMdFileStorage DsMdProcessHistFileStorage DsMdBrowseFileStorage DsMdQaGranuleFileStorage DsMdDAPFileStorage	Holds a string containing the checksum value of the associated file.
ChecksumLastVerified	DsMdFileStorage DsMdProcessHistFileStorage DsMdBrowseFileStorage DsMdQaGranuleFileStorage DsMdDAPFileStorage	The last time Checksum was calculated or successfully verified.
checksum	DsMdXMLFile	This column is not used by the system. It will always have a value of 0.
checksumTime	DsMdXMLFile	Time of checksum calculation
ChecksumType	DsMdChecksumTypes	This string contains the name of an ECS-supported checksum algorithm.
checksumTypeId	DsMdXMLFile	This contains a foreign key to the DsMdChecksumType table. It is used to identify the checksum algorithm used to calculate the checksum value.
ChecksumTypeID	DsMdFileStorage DsMdChecksumTypes	Foreign key to the DsMdChecksumTypes table. Associates a checksum algorithm with the file.
ChecksumOrigin	DsMdChecksumOrigins	This string contains the name of a valid ECS checksum provider.

Table 3-96. Column Descriptions (4 of 31)

Column Name	Table	Description
ChecksumOriginID	DsMdFileStorage DsMdChecksumOrigins	Foreign key to the DsMdChecksumOrigins table. Identifies where the checksum value was obtained.
ChecksumVerificationStatus	DsMdAcvuTmp	The checksum verification status. Valid values: N: checksum not calculated or checksum calculated but not verified P: checksum verification passed F: checksum verification failed
checkXMLStatus	DsMdXMLFile	One of: N = Not Checked P = Passed F = Failed
CitationForExternalPublication	DsMdCollections	Refer to technical paper 420-EMD-001
Class	DsMgMediaState	The name of the policy class to which this media belongs.
CollectionDescription	DsMdCollections	Refer to technical paper 420-EMD-001
collectionExportFlag	DsMdBmgtGroupConfig DsMdBmgtWrkGroups	Indicates whether or not this ESDT is enabled for collection export to ECHO Valid values: Y or N
collectionId	DsMdCollectionAddnlAttribsXref	The unique ID which identifies the collection.
CollectionState	DsMdCollections	Refer to technical paper 420-EMD-001
ConfigID	DsMdBmgtConfig	Unique identifier for BMGT global configuration parameters
configuredName	DsGeESDTConfiguredType	The name identifying an installable object within the AIM Inventory. This is usually the ShortName of an ESDT.
containerIndicator	DsDeDictionaryContent	Indicates whether the qualified group name in the same table is a container group. A container group is a meta data attribute that contains other groups or attributes.

Table 3-96. Column Descriptions (5 of 31)

Column Name	Table	Description
contentID	DsDeDictionaryContent DsDeDictionaryAttribute	The unique ID which identifies the dictionary content.
CreationTime	DsStPendingDelete	Records the time the record was written to the DsStPendingDelete table. It indicates when the granule was "physically" deleted.
currentExportStatus	DsMdBmgtPkgCycles	Current status for BMGT packages. Valid values: NEW, STARTED, PRODUCT_GENERATED, PRODUCT_GENERATE_FAILED, PACKAGE_GENERATED, PACKAGE_GENERATE_FAILED, TRANSFERRING, WAITING_TO_RETRANSMIT, EXPORTED, CANCELLING, CANCELED, COMPLETE, COMPLETE_WITH_ERRORS, SKIPPED, PACKAGE_RETRANSMIT, PRODUCT_REGENERATE
cycleId	DsMdBmgtWrkGroups DsMdBmgtCycleQAEvents DsMdBmgtPkgCycles DsMdBmgtWrkCollections DsMdBmgtBBR DsMdBmgtMETG DsMdBmgtWrkGranules DsMdBmgtIngestRptStats DsMdBmgtAuditStats DsMdBmgtLock DsMdBmgtCycleEvents	Unique identifier for BMGT packages
daacPackageIdentifier	DsMdBmgtPkgCycles	An optional string value that may be provided by the DAACs. This value will be used in generating some of the package filenames.
dapDBId	DsMdPGEGroup	One of the columns in the unique identifier for the DsMdPGEGroup table.

Table 3-96. Column Descriptions (6 of 31)

Column Name	Table	Description
DAPID	DsMdDAP	The unique identifier for the DsMdDAP table.
DAPInsertDate	DsMdDAP	The insert date given to AIM Inventory by the data provider for the Delivered Algorithm Package (DsMdDAP) table.
DAPPGEName	DsMdPGEGroup	Refer to definition of PGEName in technical paper 420-EMD-001
DAPPGEVersion	DsMdPGEGroup	Refer to definition of PGEVersion in technical paper 420-EMD-001
DAPSWVersion	DsMdPGEGroup	Refer to definition of SWVersion in technical paper 420-EMD-001
DAR_ID	DsMdDAR	Identifies the Data Access Request ID associated with the granule.
dataFormat	DsGeESDTConfiguredType	Identifiies the file format used for granules of the ESDT. This value is used to create a file extension (if necessary) for the data file during Ingest.
DayNightFlag	DsMdGranules	Refer to technical paper 420-EMD-001

Table 3-96. Column Descriptions (7 of 31)

Column Name	Table	Description
dbID	DsQAMUTFatalErrors DsQAMUTRequestDetail DsQAMUTRequest_GranuleUR DsMdXMLPath EMSArchUpdData EMSArch DsMdBmgtWrkGranules EMSdbid DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents DsMdStagingTable DsQAMUTRequestDetailTmp DsMdDAP DsMdBmgtCycleQAEvents DsMdCollections DsMdBrowse DsMdGranules DsMdProcessingHistory DsMdBmgtMETG DsQAMUTParameterNames DsMdBmgtCycleEvents DsMdGrEventHistory EMSArchData DsMdQaGranule DsMdBmgtBBR DsMdBmgtInputGrans	The unique ID which identifies a database tuple.

Table 3-96. Column Descriptions (8 of 31)

Column Name	Table	Description
deleteEffectiveDate	DsMdDAP DsMdBrowse DsMdFileStorage DsMdGranules DsMdProcessingHistory DsMdQaGranule EMSArch EMSArchData EMSArchUpdData	Date on which the entry may be deleted.
deleteFlag	DsMdBmgtPkgCycles	Indicates whether this is an insert or delete run for a BMGT manual cycle. Valid values: Y: delete run N: insert run
DeleteFromArchive	DsMdGranules EMSArch EMSArchData EMSArchUpdData	Granules deleted from the archives. 'Y ' =Scheduled for deletion, 'N' = Not scheduled for deletion, 'H' = Hidden, 'G' = Never delete
Description	DsMdRestrictionFlag	The description for RestrictionFlag
description	DsGeESDTConfiguredType	The ESDT description
descriptorFileNameBase	DsGeESDTConfiguredType	The ESDT descriptor file name.
DFAFlag	DsMdDeletedGranules DsMdStagingTable DsMdUnDeletedGranule	DeleteFromArchive indicator flag.
disciplineKeyword	DsDeECSKeywordValids	The specific attribute valid value corresponding to the ECSDisciplineKeyword attribute for a given ECS keyword stack entry.
disciplineKeywordId	DsDeECSKeywordValids	The unique identifier for a discipline keyword.
dllFileName	DsGeESDTConfiguredType	The file name of the ESDT's dynamic link library file.
DplOnly	EMSShortNameTemp	Indicates whether the Short Name is DPL only
DrivePool	DsMgMediaState	The name of the drive pool used to access this media.
DynamicFlag	DsMdBmgtConfig	Indicates whether or not this BMGT global configuration parameter should show up on the BMGT GUI

Table 3-96. Column Descriptions (9 of 31)

Column Name	Table	Description
EcDbComments	EcDbDatabaseVersions	Notes or comments on the database version level.
EcDbCurrentVersionFlag	EcDbDatabaseVersions	Flag indicating if this row represents the current database version entry.
EcDbDatabaseName	EcDbDatabaseVersions	The name of the database for which this database version level is applied.
EcDbDropDescription	EcDbDatabaseVersions	The official name of the ECS software drop for this database version level.
EcDbDropInstallDate	EcDbDatabaseVersions	The date and time that the database version level was installed.
EcDbDropVersion	EcDbDatabaseVersions	The official description of the ECS software drop for this database version level.
EcDbSchemaVersionId	EcDbDatabaseVersions	The subsystem-specific identifier for this database schema version.
EcDbSybaseServer	EcDbDatabaseVersions	The name of the baseline Sybase SQL server controlling this database.
EcDbSybaseVersion	EcDbDatabaseVersions	The software release version of the Sybase SQL server in place when this database version level was initially installed.
EcDbUpdateProcess	EcDbDatabaseVersions	The installation method by which this database version level was installed.
echoError	DsMdBmgtReExportQueue	Error reported on Ingest Summary Report
echoIngestFlag	DsMdBmgtPkgCycles	Indicates whether or not this export package is being exported for ingest into ECHO. Valid values: 'Y' or 'N'.
echoProcessTime	DsMdBmgtPkgCycles	The date that the job started in ECHO. This is normally when the input files were first detected by ECHO and the job was queued for processing by the ECHO system.

Table 3-96. Column Descriptions (10 of 31)

Column Name	Table	Description
ecsIngestFlag	DsMdBmgtPkgCycles	Indicates whether or not this export package is being ingested into the ECS system. Valid values: 'Y' or 'N'.
EndBlock	DsMdOrbitCalculatedSpatial	The value of the EndingPolygonNumber, the SP_ICE_GLAS_EndBlock, or the SP_AM_MISR_EndBlock PSA.
endDateTime	DsMdBmgtPkgCycles	The end datetime range for BMGT cycles
EndingDateTime	DsMdGranules EMSArch EMSArchData EMSArchUpdData EMSdbid DsQAMUTRequest_ESDT	The attribute within AIM Inventory that allows both the SingleDateTime (TimeofDay) and RangeDateTime (RangeEndingDate) to be efficiently indexed and searched.
endtime	ApplicationLocks	The time the lock was released
errorCode	DsMdBmgtEchoErrorPolicy	Error code defined in ticket BE_7F_01 to be used by BMGT as part of ECHO error handle policy
ErrorCode	DsMgError	Error reported on Ingest Summary Report
ErrorCode	DsStPendingDelete	Records the unix error code if a file cannot be deleted.
errorDescription	DsMdBmgtEchoErrorPolicy	Description for this error
ErrorMsg	DsMgError	The error message associated with this granule.
ErrorTime	DsMgError	The date and time when the error was logged.
errorType	DsMdBmgtEchoErrorPolicy	Indicates the category of the error
esdtState	DsGeESDTConfiguredType	The current state of the ESDT.
eventId	DsMdGrEventDomain DsMdGrEventHistory	The unique identifier of an event.
eventKey	DsMdBmgtCycleEvents DsMdGrEventHistory	Identity column (surrogate key).
eventName	DsMdGrEventDomain	The name of an event for which a subscription may be made.

Table 3-96. Column Descriptions (11 of 31)

Column Name	Table	Description
eventTime	DsMdGrEventHistory DsMdBmgtCycleEvents DsMdBmgtCycleQAEvents DsMdGrQaUpdateHistory	The datetime of an event
eventType	DsMdBmgtCycleEvents DsMdGrEventHistory DsMdBmgtMETG	The type of event that happened
exclusiveFlag	DsMdBmgtPkgCycles	Used to indicate whether or not this export operation is exclusive – i.e. it will prevent the execution of another automatic or manual export operation.
exportDelayEmailSent	DsMdBmgtPkgCycles	This is used to indicate whether a warning email has been sent indicating that the export of a package has not begun within a configured time interval after starting generation of the package.
exportRetryEmailSent	DsMdBmgtPkgCycles	This is used to indicate whether a warning email has been sent indicating that the export of a package has failed and been retried a configured number of times. Note that the export server will continue to attempt delivery of the package, even if this email has been sent.
exportStartTime	DsMdBmgtPkgCycles	The time at which the export server started transmitting the package to ECHO. If the package is not being exported, this will never be set.

Table 3-96. Column Descriptions (12 of 31)

Column Name	Table	Description
exportStopTime	DsMdBmgtPkgCycles	The time at which the export server completed transmitting the package to ECHO. If the package is not being exported, this will never be set.
exportType	DsMdBmgtPkgCycles DsMdBmgtLock	Indicates the type of BMGT cycle
FileCount	EMSdbid	The File Count associated with the granule
fileName	EMSShortNameTemp	The file name for a science, metadata or browse file
FileName	DsMdPendingDeleteXMLFile DsStPendingDelete	Indicates the internal name of a file in the XML Archive or Granule Archive (respectively) to be deleted.
FileName	DsMgBulkData	The name of the file.
FilePath	DsMdPendingDeleteXMLFile	Indicates the directory where the XML file to be deleted is located.
filePath	DsMdFileStorage DsMdDAPFileStorage DsMdBrowseFileStorage DsMdProcessHistFileStorage DsMdQaGranuleFileStorage	The file path name of a granule's file stored within the archive.
fileSize	DsMdFileStorage DsMdDAPFileStorage DsMdBrowseFileStorage DsMdProcessHistFileStorage DsMdQaGranuleFileStorage DsMdXMLFile	The size in bytes of a granule's file stored within the archive.
FlagName	DsQAMUTRequestDetail DsQAMUTFatalErrors DsQAMUTRequestDetailTmp	Records the name of the QA Flag (Operational or Science) that is being processed / updated by the QA Update Utility.
GeometricDBVersion	DsMdGranules	The version number of the Geometric Database used in ASTER Level 1 processing

Table 3-96. Column Descriptions (13 of 31)

Column Name	Table	Description
glType	DsDeDictionaryAttribute	The internal ECS GlParameter Data Classname. Values: GlDateP, GlLongP, GlTimeP, GlPointP, GlCircleP, GlDoubleP, GlStringP, GlGPolygonP, GlRectangleP.
GPolygonContainer	DsMdGrGPolygon	The column name of type Gpolygon within the DsMdGrGPolygon table.
granuleExportFlag	DsMdBmgtGroupConfig DsMdBmgtWrkGroups	Indicates whether or not this ESDT is enabled for granule export to ECHO
granuleId	DsMdXMLFile DsMdGrGPolygon DsMdQaGranuleFileStorage DsMdMisrBrowseGranuleXref DsMdProcessHistFileStorage DsMdBrowseFileStorage DsMdQaGranuleXref DsMdDAPFileStorage DsMdGrCircle DsMdGrPoint DsMdMisrCamera DsMdBrowseGranuleXref DsMdDAR DsMdGrBoundingRectangle DsMdMisrAttributes DsMdFileStorage DsMdOrbitCalculatedSpatial DsMgGranuleState DsMgError DsMgFileState DsMgBulkData DsMdGranuleRestriction	The unique ID which identifies the granule.
GranuleId	DsMdPendingDeleteXMLFile	The foreign key (dbID) of the granule to be deleted.
GranuleID	DsMdDeletedGranules DsMdUnDeletedGranules	The unique ID which identifies the granule

Table 3-96. Column Descriptions (14 of 31)

Column Name	Table	Description
granuleType	DsMdAcvuTmp DsMdBmgtReExportQueue	Indicates what kind of granule it is
groupName	DsMdBmgtGroupConfig DsMdBmgtWrkGroups DsMdBmgtAuditStats	Indicates which BMGT group this ESDT belongs to.
id	DsMdGeometryValidation	Not really used. It just creates a column other than the spatial column in the table.
identifierObjectType	DsMdIdentifier	The name or type of the AIM Inventory database object for which the DsMdIdentifier row exists.
identifierPad1	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierPad2	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierPad3	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierPad4	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierPad5	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.

Table 3-96. Column Descriptions (15 of 31)

Column Name	Table	Description
identifierPad6	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierPad7	DsMdIdentifier	One of seven columns (identifierPad1 through identifierPad7) of type char(255) used to pad each row in the DsMdIdentifier table to the 2K page size.
identifierType	DsMdIdentifier	The data type of the identifier for which the DsMdIdentifier row exists.
IndexNumber	DsMgFileState DsMgBulkData	A numeric value representing the position of the file on tape.
InsertFlag	DsMgGranuleState	Indicates whether or not the granule needs to be inserted into the Data Pool. 'Y'=insert into DPL, 'N'= do not insert.
insertTime	DsMdDAP DsMdBrowse EMSArchData DsMdStagingTable EMSArch DsMdUnDeletedGranules DsMdCollections EMSArchUpdData DsMdDeletedGranules EMSdbid DsMdGranules DsMdProcessingHistory DsMdQaGranule	The time of original insertion.
InsertTime	DsMdPendingDeleteXMLFile DsStPendingDelete	Records the time the granule was inserted into the ECS. It is used to determine the "Volume Group" where the file is stored.
instrumentName	DsMdPlatInstrCode	The InstrumentShortName used to determine platform/instrument specific Orbit Polygon.

Table 3-96. Column Descriptions (16 of 31)

Column Name	Table	Description
Instruments	EMSShortNameTemp	An integrated collection of hardware containing one or more sensors and associated controls designed to produce data on an environment. For a multiinstrument product from one mission, list all instruments separated by a comma (,). If the product is a combined product from multi-missions involving multiple instruments, a group of the instruments from each mission should be separated by a semi-colon (;).
internalFileName	DsMdDAPFileStorage EMSdbid DsMdQaGranuleFileStorage DsMdBrowseFileStorage DsMdBmgtCycleEvents DsMdFileStorage DsMdStagingTable DsMdGrEventHistory DsMdProcessHistFileStorage	The ECS generated internal file name for granule files within the archive.
internalStatus	DsMdBmgtPkgCycles	It is used to store an internal state for a BMGT cycle. Valid values: A: Active G: Generated P: Packaged E: Exported C: Clean D: Done
IntKeyName	DsMdNextAvailableID	The name of the column whose next available value is stored in IntKeyValue.
IntKeyValue	DsMdNextAvailableID	Next available integer key value
IntValue	DsMdBmgtConfig	Integer value for BMGT global config parameters
InvestigateFlag	DsQAMUTRequestDetail	Used to indicate a granule within a QA request failed two times. Once the value is set to “Y”, the granule is no longer processed in future runs. Valid values are just “Y” and null.
kpid	ApplicationLocks	The kpid of the process holding the lock

Table 3-96. Column Descriptions (17 of 31)

Column Name	Table	Description
lastIdentifier	DsMdIdentifier	The next available unique identifier available of type ID for a specific IdentifierObjectType.
lastIntIdentifier	DsMdIdentifier	The next available unique identifier available of type integer for a specific IdentifierObjectType.
lastSmallIntIdentifier	DsMdIdentifier	The next available unique identifier available of type smallint for a specific IdentifierObjectType.
lastSuccessfulXMLCheck	lastSuccessfulXMLCheck	The date and time of the last successful XML Check (last time checkXMLStatus was set to 'P')
LastUpdate	DsMgStatistic DsMdGranuleRestriction DsMdRestrictionFlag	The time of the last update.
lastUpdate	EMSArchUpdData DsMdGranules DsMdProcessingHistory EMSdbid DsMdBrowse DsGeESDTConfiguredType DsMdDAP DsMdCollections DsMdQaGranule DsMdBmgtPkgCycles EMSArchData EMSArch DsMgGranuleState	The time of the last update.
lastUpdateVerified	DsMdBmgtGroupConfig	Granule's lastUpdate verified for this ESDT in the last incremental BMGT verification
length	DsDeDictionaryAttribute	The maximum character length (digits) of a attribute. Used in attribute valids processing.
LGID	DsQAMUTFatalErrors DsQAMUTRequestDetailTmp DsQAMUTRequest_LGID DsQAMUTRequestDetail	Stores the Local Granule ID of the granule being processed.

Table 3-96. Column Descriptions (18 of 31)

Column Name	Table	Description
LocalGranuleID	DsMdGranules EMSArch EMSArchData EMSArchUpdData	Data provider-supplied identifier for a granule that ECS ingests and is required to capture.
LocalVersionID	DsMdGranules	Local version identifier for PGE defined granule versions.
lockname	ApplicationLocks	The string identifying the lock
lockName	DsMdBmgtLock	The exportType of BMGT cycle that is currently being processed by the auto preprocessor.
LongName	DsMdCollections EMSShortNameTemp	Refer to technical paper 420-EMD-001
MaintenanceUpdateFrequency	DsMdCollections	Refer to technical paper 420-EMD-001
maxNumGrans	DsMdBmgtGroupConfig	Maximum number of granules can be verified in BMGT incremental verification for this ESDT.
maxOccurances	DsDeDictionaryAttribute	Reserved for future use.
MeasurementResolution	DsMdAdditionalAttributes	Refer to definition of ParameterMeasurementresolution in technical paper 420-EMD-001
MediaId	DsMgFileState DsMgMediaState DsMgBulkData	The name of the media on which the file is stored.
mediaId	DsMdAcvuTmp	Indicates the tape mediaId
MigrateFlag	DsMgFileState DsMgBulkData	Indicates whether this file needs to be migrated to the LTO library. ‘Y’ = migrate, ‘N’ = do not migrate.
Missions	EMSShortNameTemp	Related missions, Aqua, Aura, etc.
mutex	Mutex	Provides a column to allow multiple processes to coordinate access to resources. Each attempts to modify the column before entering a critical section of code.
myLock	DsMdMisrMutex DsMdBrowseLock DsMdScienceLock	Integer value of the lock in the Mutex table

Table 3-96. Column Descriptions (19 of 31)

Column Name	Table	Description
Name	DsMgStatistic	The unique name of the statistic.
NewQualityFlag	DsQAMUTRequestDetailTmp DsQAMUTRequestDetail DsQAMUTFatalErrors	Stores the new value for the Science Quality or Operational Quality flag.
NewQualityFlagExplan	DsQAMUTFatalErrors DsQAMUTRequestDetailTmp DsQAMUTRequestDetail	Stores the new value for the Science Quality Explanation or Operational Quality flag Explanation.
numAttribs	DsDeDictionaryContent	The number of attributes within a specific GlParameter group name in the DsDeDictionaryContent table.
numBrowseFileXrefed	DsMdBmgtPkgCycles	Number of browse files have been transferred to ECHO
numDeletes	DsMdBmgtAuditStats DsMdBmgtIngestRptStats	Number of deleted granules or collections
numErrorIgnored	DsMdBmgtIngestRptStats	Number of errors reported on Ingest Summary Report that are ignored according to BMGT ECHO error policy
numErrorNotHandled	DsMdBmgtIngestRptStats	Number of errors reported on Ingest Summary Report that are not handled according to BMGT ECHO error policy
numErrorReExported	DsMdBmgtIngestRptStats	Number of errors reported on Ingest Summary Report that are re-exported according to BMGT ECHO error policy
numInserts	DsMdBmgtIngestRptStats DsMdBmgtAuditStats	Number of inserted granules or collections
numLevels	DsDeDictionaryContent	The number of levels within a specific DsDeDictionaryContent qualifiedGroupName.
numMultiples	DsDeDictionaryContent	This column is not implemented within the AIM Inventory implementation.
numRejects	DsMdBmgtIngestRptStats	Number of rejected granules or collections
numReplaced	DsMdBmgtIngestRptStats	Number of granules have been updated by ECHO in verification package
numSkipped	DsMdBmgtAuditStats	Number of skipped granules or collections

Table 3-96. Column Descriptions (20 of 31)

Column Name	Table	Description
numVerified	DsMdBmgtGroupConfig	Number of granules in the ESDT that has been verified via BMGT incremental verification.
numUpdates	DsMdBmgtAuditStats DsMdBmgtIngestRptStats	Number of updated granules or collections
oldCollectionExportFlag	DsMdBmgtWrkGroups	Indicates whether or not this ESDT is enabled for collection export in a previous BMGT cycle.
oldGranuleExportFlag	DsMdBmgtWrkGroups	Indicates whether or not this ESDT is enabled for granule export in a previous BMGT cycle.
OperationalQualityFlag	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	Operational quality flag value for a measured parameter.
OperationalQualityFlagExplan	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	Explanation for the operational quality flag.
operator	DsDeDictionaryAttribute	The type of attribute validation operation to be applied when checking input attribute checking. Values are NONE, Range, Match, and Expression.
optionalIndicator	DsDeDictionaryAttribute DsDeDictionaryContent	Used to indicate whether an specific qualifiedGroupName or qualifiedAttrName is optional or not. Optional = 0, required = 1.
Orbit	DsMdOrbitPolygons	The specific orbit number of a Orbit Polygon.
orbitNumber	orbitNumber	orbitNumber for MISR granules
origCycleId	DsMdBmgtReExportQueue	Indicates the cycleId in DsMdBmgtPkgCycles for the granule that has the error
packageDirectoryName	DsMdBmgtPkgCycles	The directory into which all package files will be placed. This is a complete path name.
packageId	DsMdBmgtPkgCycles	Assigned sequence number for BMGT packages.
ParameterDescription	DsMdBmgtConfig	The description of BMGT global configuration parameters
parameterKeyword	DsDeECSKeywordValids	Refer to technical paper 420-EMD-001
parameterName	DsMdBmgtCycleQAEvents	The name of parameters in QA update

Table 3-96. Column Descriptions (21 of 31)

Column Name	Table	Description
ParameterName	DsQAMUTParameterNames DsQAMUTRequest_LGID DsQAMUTRequest_ESDT DsQAMUTRequestDetailTmp DsQAMUTFatalErrors DsMdBmgtConfig DsMdGrQaUpdateHistory DsQAMUTRequest_GranuleUR DsQAMUTRequestDetail	The name of the parameter.
ParameterRangeBegin	DsMdAdditionalAttributes	This attribute provides the minimum value of a parameter over whole collection
ParameterRangeEnd	DsMdAdditionalAttributes	This attribute provides the maximum value of a parameter over whole collection.
ParameterType	DsMdBmgtConfig	Indicates whether this parameter should have a string value or integer value.
ParameterUnitsOfMeasure	DsMdAdditionalAttributes	Refer to definition of ParameterUnitsofMeasurement in technical paper 420-EMD-001
ParameterValueAccuracy	DsMdAdditionalAttributes	Refer to technical paper 420-EMD-001
Path	DsMgFilePath	The full directory name for a group of files.
path	DsMdXMLPath	Stores the fully qualified directory path where a set of granule XML files are stored.
PathId	DsMgFilePath DsMgFileState DsMgBulkData	A numeric ID corresponding to a path name.
pathId	DsMdXMLFile	A numeric code to identify a specific XML directory.
PathNo	DsMdOrbitCalculatedSpatial DsMdOrbitPolygons	Identifies a satellite ground track. For more information refer to technical paper 160-TP-014-001
pathNo	DsMdMisrAttributes	Identifies a satellite ground track. For more information refer to technical paper 160-TP-014-001

Table 3-96. Column Descriptions (22 of 31)

Column Name	Table	Description
PGEVersion	DsMdGranules	Refer to technical paper 420-EMD-001
platformInstrumentCode	DsMdPlatInstrCode DsGeESDTConfiguredType	An artificially derived unique identifier in the DsMdPlatInstrCode table.
platformShortName	DsMdPlatInstrCode	Refer to technical paper 420-EMD-001
platInstCode	DsMdOrbitCalculatedSpatial DsMdOrbitPolygons	The ID of an entry in the DsMdPlatInstrCode table applicable to an orbit polygon.
PointLocation	DsMdGrPoint	(Latitude, Longitude) location.
primaryCollectionFlag	DsMdCollections	A flag indicating whether this is a single type collection.
primaryCollectionId	DsMdGranules DsMdGrBoundingRectangle DsMdGrCircle DsMdGrGPolygon DsMdGrPoint	The collectionId of the primary collection for a group of granules.
Priority	DsMgGranuleState DsMgMediaState	Used to prioritize data within a specific media.
processId	DsMgBulkData	The pid of the process which imported the data.
ProcessingCenter	DsMdCollections	Refer to technical paper 420-EMD-001
processingHistoryId	DsMdGranules	The column used to associate a specific Processing History granule with a specific Science Granule.
processingHistoryTypeCode	DsMdGranules	Determines whether a granule has an associated Processing History granule.
ProcessingLevelDescription	DsMdCollections	Refer to technical paper 420-EMD-001
ProcessingLevelID	DsMdCollections	Refer to technical paper 420-EMD-001
productGenStartTime	DsMdBmgtPkgCycles	The start time for the generation of a specific BMGT product
productGenStopTime	DsMdBmgtPkgCycles	The completion time for the generation of a specific BMGT product

Table 3-96. Column Descriptions (23 of 31)

Column Name	Table	Description
ProductionDateTime	DsMdGranules EMSArch EMSArchData EMSArchUpdData	Refer to technical paper 420-EMD-001
ProductionHistoryPointer	DsMdProcessingHistory	Refer to technical paper 420-EMD-001
productsRequired	DsMdBmgtPkgCycles	This indicates which products should be generated. It is a string that contains a number of characters. Each character indicates a product should be generated, as follows; G (METG), C (METC), U (METU), V (METV), B (BBR), L (BulkURL), H (VISIBILITY).
productType	DsMdBmgtAuditStats	Indicates the type of BMGT product. Valid values: G (METG), C (METC), U (METU), V (METV), B (BBR), L (BulkURL), H (VISIBILITY).
productVersion	DsMdMisrAttributes	Product version of MISR granules
Provider	EMSShortNameTemp	The provider of the data
psaIndicator	DsDeDictionaryAttribute	Flag indicating if an attribute is a Product Specific Attribute.
qaId	DsMdQaGranuleXref	A unique ID for QA.
QAGranulePointer	DsMdQaGranule	Refer to technical paper 420-EMD-001
QAPercentMissingData	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	The quality percentage for missing data.
QAPercentOutOfBoundsData	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	The quality percentage for out of bounds data.
QAPercentInterpolatedData	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	The quality percentage for interpolated data.
QAPercentCloudCover	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	The quality percentage for cloud cover.
qualifiedAttrName	DsDeDictionaryAttribute	The fully qualified ECS attribute name, including all of the GlParameter list components.

Table 3-96. Column Descriptions (24 of 31)

Column Name	Table	Description
qualifiedGroupName	DsDeDictionaryContent	The fully qualified ECS metadata group name, including all of the GlParameter list components.
QualityFlag	DsQAMUTRequest_LGID DsQAMUTRequest_ESDT DsQAMUTRequest_GranuleUR	Stores the value of the flag to be updated within a QA Update Utility request.
QualityFlagExplan	DsQAMUTRequest_ESDT DsQAMUTRequest_GranuleUR DsQAMUTRequest_LGID	Stores the value of the quality flag explanation to be updated within a QA Update Utility request.
QueueId	DsMgGranuleState	The ID of the Action Driver request used to insert this granule into DataPool.
queueId	DsMdBmgtReExportQueue	The row identifier for granules in DsMdBmgtReExportQueue table
RadiometricDBVersion	DsMdGranules	The version identifier of the Radiometric Database used during ASTER Level 1 processing
RadiusUnits	DsMdGrCircle	Refer to technical paper 420-EMD-001
RangeBeginningDate	DsMdGranules	Refer to technical paper 420-EMD-001
RangeBeginningTime	DsMdGranules	Refer to technical paper 420-EMD-001
RangeEndingDate	DsMdGranules	Refer to technical paper 420-EMD-001
RangeEndingTime	DsMdGranules	Refer to technical paper 420-EMD-001
reportDelayEmailSent	DsMdBmgtPkgCycles	This is used to indicate whether or not a warning email has been send indicating that an ingest summary report has not been received from ECHO within a configurable time interval after successful completion of package export. Valid values: Y or N

Table 3-96. Column Descriptions (25 of 31)

Column Name	Table	Description
reportFileName	DsMdBmgtPkgCycles	The filename of the ingest summary report. Note that this is just the file name. The directory path is configurable. If the DAACs change the configuration of the directory, it is assumed that they will also move all current ingest summary reports to the new location. If the package is not being exported, this will never be set.
reportReceivedTime	DsMdBmgtPkgCycles	The time at which an ingest summary report was received from ECHO. If the package is not being exported, this will never be set.
ReprocessingActual	DsMdGranules	Refer to technical paper 420-EMD-001
ReprocessingFlag	DsStPendingDelete	Used to indicate the granule will be in the Reprocessing Volume Group associated with the ESDT during the associated time range.
ReprocessingPlanned	DsMdGranules	Refer to technical paper 420-EMD-001
RestrictionFlag	DsMdGranuleRestriction DsMdRestrictionFlag	It indicates the restriction level at ECHO. Valid values are between 1 and 255.
retryCount	DsMdBmgtPkgCycles	The number of attempts to export the package to ECHO.
RevisionDate	DsMdCollections	Represents the date and possibly the time that this directory entry was created or the latest date and time of its modification or update.
ruleText	DsDeDictionaryRule	The actual attribute valid value used in conjunction with a given operator to validate the value of an input attribute value. Example: DayNightFlag - Match(D), where D is the ruleText.

Table 3-96. Column Descriptions (26 of 31)

Column Name	Table	Description
ScienceQualityFlag	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	ScienceQuality Flag for a measured parameter.
ScienceQualityFlagExplan	DsMdGrQaUpdateHistory DsMdBmgtCycleQAEvents	Explanation of the Science Quality Flag.
SelectionDate	DsStVolumeGroup	Indicates the time that separates reprocessed granules from forward processed granules. This allows the Volume Group to be set up for reprocessed granules or forwarded processing of granules.
seqNum	DsDeDictionaryAttribute	The sequence number of the dictionary attribute.
SequenceNo	DsQAMUTRequest_ESDT DsQAMUTRequest_GranuleUR DsQAMUTFatalErrors DsQAMUTRequestDetail DsQAMUTRequest_LGID DsMdOrbitPolygons	The sequence of the polygon for an orbit granule.
sequenceNo	DsDeDictionaryRule	The sequence of this attribute rule relative to other rules for that attribute.
ServerId	DsStPendingDelete	No longer used.
seqType	DsDeDictionaryAttribute	The type of sequence.

Table 3-96. Column Descriptions (27 of 31)

Column Name	Table	Description
ShortName	DsMdBmgtWrkCollections EMSArch DsMdBmgtWrkGranules EMSShortNameTemp DsQAMUTRequest_LGID EMSArchUpdData DsMdBmgtGroupConfig DsQAMUTRequest_ESDT DsQAMUTRequest_GranuleUR DsQAMUTRequestDetail DsMdStagingTable DsQAMUTESDTSite DsQAMUTRequestDetailTmp DsMdGranules DsMdMisrProcessingCriteria DsMdBmgtWrkGroups DsMdBmgtCycleEvents EMSArchData DsMdGrEventHistory DsQAMUTFatalErrors DsMdDeletedGranules DsMdUnDeletedGranules DsMdCollections DsMdBmgtInputGrans	Refer to technical paper 420-EMD-001
Site	DsQAMUTESDTSite	The site of science team that does the QA update.
Size	DsMgFileState	The size of the file.
sizeDataGranule	EMSArch EMSArchData EMSArchUpdData	Size of the data granule
SizeMBECSDataGranule	DsMdGranules	Refer to technical paper 420-EMD-001
skips	DsDeDictionaryContent	This column is reserved for future functionality.
spatialSearchType	DsGeESDTConfiguredType	Spatial representation of a granule. One of: Orbit Point GPolygon Rectangle NotSupported Unknown

Table 3-96. Column Descriptions (28 of 31)

Column Name	Table	Description
spid	ApplicationLocks	The spid of the process holding the lock
Stage	DsStPendingDelete DsMdPendingDeleteXMLFile	Indicates the stage of processing for the deletion of the file.
State	DsMgFileState	The current state of the processing of the granule or file. Values: N= New, L=Located, S=Staged, X=Checksummed, and C=Complete
State	DsMgGranuleState	The current state of the processing of the granule or file. Values: N=New, R=Ready (files staged), W=pending DPL insert, I=Inserted into DPL, P=needs publishing, C=Complete, and E=Error.
State	DsMgMediaState	The current state of the processing of the granule or file. Values: N=New, A=Available, U=Unavailable, and C=Complete.
StartBlock	DsMdOrbitCalculatedSpatial	The value of the StartingPolygonNumber, the SP_ICE_GLAS_StartBlock or the SP_AM_MISR_StartBlock PSA.
startDateTime	DsMdBmgtPkgCycles	The start time and date for a cycle.
starttime	ApplicationLocks	The time the lock was placed
statisticsType	DsMdBmgtIngestRptStats	Indicates the statistics are for browse, granule, or collection for each cycle. Valid values: G: granule B: browse C: collection
status	DsMdBmgtAuditStats	The status of BMGT products for each cycle
Status	DsMdDeletedGranules DsMdUnDeletedGranules DsStPendingDelete DsMdPendingDeleteXMLFile	The status of delete/undelete granule.

Table 3-96. Column Descriptions (29 of 31)

Column Name	Table	Description
statusDetail	DsMdBmgtAuditStats	Status description for BMGT products
statusFlag	DsQAMUTRequestDetail	The processing status of an individual QA update for a granule. Valid values are: 'P' (processing) 'X' (failed XML Archive update) 'C' (failed in copy of XML to DPL) 'D' (failed in DPL DB update)
subType	DsMdBrowse DsMdCollections DsMdProcessingHistory DsMdQaGranule EMSdbid	The internally created column used to hold the ShortName.
SuggestedUsage1	DsMdCollections	Refer to definition of SuggestedUsage in technical paper 420-EMD-001
SuggestedUsage2	DsMdCollections	Refer to definition of SuggestedUsage in technical paper 420-EMD-001
termKeyword	DsDeECSKeywordValids	The column used to check the ECSKeyword stack hierarchy that corresponds to the ECSTermKeyword column.
TimeOfDay	DsMdGranules	Refer to technical paper 420-EMD-001
timeOfFailure	DsQAMUTRequestDetail DsQAMUTFatalErrors	Indicates the last time the failure of a specific QA update occurred.
topicKeyword	DsDeECSKeywordValids	The column used to validate the ECSKeyword stack hierachy corresponding to the ECSKeywordTopic attribute.
TopicKeywords	EMSShortNameTemp	Keyword that describes the ShortName science area.
totalFiles	EMSArch EMSArchData EMSArchUpdData	Total number of files
totalGrans	DsMdBmgtGroupConfig	Total number of granules in this ESDT.
totalNumBrowseFiles	DsMdBmgtPkgCycles	Total number of browse files in BMGT each cycle

Table 3-96. Column Descriptions (30 of 31)

Column Name	Table	Description
transactionTime	DsMdDeletedGranules DsMdUnDeletedGranules	Defines a transaction. Each request is a transaction which can involve multiple granules to be marked deleted/DFAed.
type	DsMdMisrAttributes DsMdMisrProcessingCriteria DsMdCollections DsDeDictionaryAttribute	The encoded value used to depict the basetype of a particular ESDT. Example SC corresponds to Science.
UnpublishFlag	DsMdGranuleRestriction	Valid values are: Y – it indicates that this granules can not be published in DPL N - it indicates that this granules can be published in DPL
userDataFile	DsMdFileStorage DsMdDAPFileStorage DsMdBrowseFileStorage DsMdProcessHistFileStorage DsMdQaGranuleFileStorage	The name of a granule's file in the archive.
Value	DsMgStatistic	The current value of the statistic.
ValueAccuracyExplanation	DsMdAdditionalAttributes	Refer to definition of ParameterValueAccuracy in technical paper 420-EMD-001
variableKeyword	DsDeECSKeywordValids	The column used to validate the ECSKeyword stack hierarchy that corresponds to the ECSVariableKeyword attribute.
VersionDescription	DsMdCollections	Refer to technical paper 420-EMD-001
VersionedDataType	DsStPendingDelete DsStVolumeGroup	<ShortName>.<VersionId> Refer to technical paper 420-EMD-001

Table 3-96. Column Descriptions (31 of 31)

Column Name	Table	Description
VersionID	DsQAMUTRequest_LGID DsMdBmgtWrkGranules DsMdGranules DsMdCollections DsMdBmgtGroupConfig DsQAMUTFatalErrors DsQAMUTRequestDetailTmp EMSArch DsMdDeletedGranules DsQAMUTRequest_GranuleUR DsMdUnDeletedGranules DsQAMUTRequestDetail DsMdMisrProcessingCriteria DsMdBmgtCycleEvents DsQAMUTRequest_ESDT EMSArchUpdData EMSArchData DsMdBmgtWrkGroups DsMdBmgtWrkCollections DsMdStagingTable DsMdGrEventHistory DsMdBmgtInputGrans	Refer to technical paper 420-EMD-001
versionID	DsGeESTDConfiguredType	Refer to technical paper 420-EMD-001
Volume	DsMgMediaState	The volume of data that is to be staged.
VolumeEndDate	DsStVolumeGroup	The last time a granule was inserted into VolumeGroup / directory. A null value indicates the directory is currently active (still receiving ingested data)
VolumeGroupId	DsStVolumeGroup DsStPendingDelete	A numeric identifier for a volume group
VolumeGroupPath	DsStVolumeGroup	The fully qualified path of the Volume Group / directory.
VolumeStartDate	DsStVolumeGroup	The date and time the Volume Group was created.
xmlFileName	DsMdXMLFile	The name of the XML metadata file within the XML Archive
XmlFileNameArchive	DsQAMUTFatalErrors DsQAMUTRequestDetail	The name of the XML metadata file within the XML Archive
XmlFilePathArchive	DsQAMUTRequestDetail DsQAMUTFatalErrors	The fully qualified directory path within the XML Archive for the associated XML File.

3.1.4 Rules

Sybase supports the definitions of rules. Rules provide a means for enforcing domain constraints on a given column. Multiple rules may be defined for a given column. Multiple rules are not always uniquely named. All rules defined in Sybase for the AIM Inventory database are described herein.

Rule	Description
RuleQaStatusFlag	@x IN ('P','X','C','D','U','S','F')

3.1.5 Defaults

Defaults are used to supply a value for a column when one is not defined at insert time. All defaults defined in Sybase in the AIM Inventory database are described herein.

3.1.6 Views

Sybase allows the definition of views as a means of limiting an application or users access to data in a table or tables. Views create a logical table from columns found in one or more tables. There are no views defined in the AIM Inventory database.

3.1.7 Integrity Constraints

Sybase allows the enforcement of referential integrity via the use of declarative integrity constraints. Integrity constraints allow the SQL server to enforce primary and foreign key integrity checks without automatically without requiring programming. Sybase 11 is only ANSI-92 compliant, however, therefore its constraints support "restrict-only" operations. This means that a row can not be deleted or updated if there are rows in other tables having a foreign key dependency on that row. Cascade delete and update operations can not be performed if a declarative constraint has been used. All declarative integrity constraints defined in the AIM Inventory database are described herein.

3.1.7.1 Dependencies on Table: DsDeDictionaryAttribute

Referenced by	Primary Key	Foreign Key
DsDeDictionaryRule	attributeID	attributeID

3.1.7.2 Dependencies on Table: DsMdAdditionalAttributes

Referenced by	Primary Key	Foreign Key
DsMdCollectionAddnlAttribsXref	attributeId	attributeId

3.1.7.3 Dependencies on Table: DsMdBmgtPkgCycles

Referenced by	Primary Key	Foreign Key
DsMdBmgtAuditStats	cycleId	cycleId
DsMdBmgtBBR	cycleId	cycleId
DsMdBmgtIngestRptStats	cycleId	cycleId
DsMdBmgtMETG	cycleId	cycleId
DsMdBmgtWrkCollections	cycleId	cycleId
DsMdBmgtWrkGranules	cycleId	cycleId
DsMdBmgtWrkGroups	cycleId	cycleId

3.1.7.4 Dependencies on Table: DsMdBrowse

Referenced by	Primary Key	Foreign Key
DsMdBrowseGranuleXref	dbID	browseId
DsMdBrowseFileStorage	dbID	granuleId

3.1.7.5 Dependencies on Table: DsMdCollections

Referenced by	Primary Key	Foreign Key
DsMdCollectionAddnlAttribsXref	dbID	collectionId

3.1.7.6 Dependencies on Table: DsMdDAP

Referenced by	Primary Key	Foreign Key
DsMdDAPFileStorage	dbID	granuleId
DsMdPGEGroup	dbID	dapDBId

3.1.7.7 Dependencies on Table: DsMdGranules

Referenced by	Primary Key	Foreign Key
DsMdBrowseGranuleXref	dbID	granuleId
DsMdDAR	dbID	granuleId
DsMdFileStorage	dbID	granuleId
DsMdOrbitCalculatedSpatial	dbID	granuleId
DsMdQaGranuleXref	dbID	granuleId
DsMdXMLFile	dbID	granuleId
DsMdMisrAttributes	dbID	granuleId
DsMdGranuleRestriction	dbID	granuleId
DsMdMisrCamera	dbID	granuleId

3.1.7.8 Dependencies on Table: DsMdMisrAttributes

Referenced by	Primary Key	Foreign Key
DsMdMisrBrowseGranuleXref	granuleId	browseId
DsMdMisrBrowseGranuleXref	granuleId	granuleId

3.1.7.9 Dependencies on Table: DsMdPlatInstrCode

Referenced by	Primary Key	Foreign Key
DsMdOrbitPolygons	platformInstrumentCode	platInstCode

3.1.7.10 Dependencies on Table: DsMdProcessingHistory

Referenced by	Primary Key	Foreign Key
DsMdGranules	dbID	processingHistoryId
DsMdProcessHistFileStorage	dbID	granuleId

3.1.7.11 Dependencies on Table: DsDeDictionaryContent

Referenced by	Primary Key	Foreign Key
DsDeDictionaryAttribute	contentID	contentID

3.1.7.12 Dependencies on Table: DsMdQaGranule

Referenced by	Primary Key	Foreign Key
DsMdQaGranuleXref	dbID	qaId
DsMdQaGranuleFileStorage	dbID	granuleId

3.1.7.13 Dependencies on Table: DsMdGrEventDomain

Referenced by	Primary Key	Foreign Key
DsMdGrEventHistory	eventId	eventId

3.1.7.14 Dependencies on Table: DsMdXMLPath

Referenced by	Primary Key	Foreign Key
DsMdXMLFile	dbID	pathId

3.1.7.15 Dependencies on Table: DsMgFilePathx

Referenced by	Primary Key	Foreign Key
DsMgFileState	PathId	PathId

3.1.7.16 Dependencies on Table: DsMgGranuleState

Referenced by	Primary Key	Foreign Key
DsMgFileState	granuleId	granuleId

3.1.7.17 Dependencies on Table: DsMgMediaState

Referenced by	Primary Key	Foreign Key
DsMgFileState	MediaId	MediaId

3.1.8 Triggers

Sybase supports the enforcement of business policy via the use of triggers. A trigger is best defined as set of activities or checks that should be performed automatically when ever a row is inserted, updated, or deleted from a given table. Sybase allows the definition of one insert, update, and delete trigger per table. A listing of each the triggers in the AIM Inventory database is given here.

Trigger List

Table	Trigger
DsDeECSKeywordValids	TrigInsECSKeywordValids
DsMdMisrBrowseGranuleXref	TrigInsMisrBrowseGranuleXref
DsMdOrbitCalculatedSpatial	TrigUpdOrbitCalculatedSpatial
DsMdQaGranule	TrigUpdQaGranule
DsMdBrowseGranuleXref	TrigDelBrowseGranuleXref
DsDeDictionaryAttribute	TrigDelDictionaryAttribute
DsGeESDTConfiguredType	TrigDelESDTConfiguredType
DsMdCollections	TrigInsCollections
DsDeDictionaryAttribute	TrigInsDictionaryAttribute
DsMdOrbitCalculatedSpatial	TrigInsOrbitCalculatedSpatial
DsMdBrowse	TrigUpdBrowse
DsDeDictionaryAttribute	TrigUpdDictionaryAttribute
DsDeDictionaryRule	TrigDelDictionaryRule
DsDeECSKeywordValids	TrigDelECSKeywordValids
DsMdGranules	TrigDelGranules
EcDbDatabaseVersions	TrigInsEcDbDatabaseVersions
DsMdGranules	TrigInsGranules
DsMdCollections	TrigUpdCollections
DsMdDAP	TrigUpdDAP
DsGeESDTConfiguredType	TrigUpdESDTConfiguredType
DsMdMisrAttributes	TrigUpdMisrAttributes
DsMdMisrCamera	TrigUpdMisrCamera
DsMdProcessingHistory	TrigUpdProcessingHistory
DsMdCollections	TrigDelCollections
DsMdBrowseGranuleXref	TrigInsBrowseGranuleXref
DsDeDictionaryRule	TrigInsDictionaryRule
DsMdBrowseGranuleXref	TrigUpdBrowseGranuleXref
DsMdFileStorage	TrigUpdFileStorage
DsMdMisrBrowseGranuleXref	TrigUpdMisrBrowseGranuleXref
DsMdQaGranuleXref	TrigUpdQaGranuleXref
DsMgGranuleState	TrigUpdMgGranuleState
DsMdGranules	TrigUpdGranules

3.1.9 Stored Procedures

Sybase also includes support for business policy via the use of stored procedures. Stored procedures are typically used to capture a set of activities or checks that will be performed on the database repeatedly to enforce business policy and maintain data integrity. Stored procedures are parsed and compiled SQL code that reside in the database and may be called by name by an application, trigger or another stored procedure. A listing of each the stored procedures in the AIM Inventory database follows.

Procedure Name
DsStGetPrimaryVG
DsStGetVGArchiveID
DsStVGHistorySelect
InsertDAP
InsertMetadataFile
InsertPHGranule
InsertPHXref
InsertPSA
InsertSSSEventDef
InsertSSSPSADef
sp_thresholdaction
DeleteESDT
DsStGetVGForDataType
GetESDTState
InsertDAPGranule
IsNosePSAValid
ProcCheckGranuleStatus
ProcConvertLagTime
ProcDeleteBrowseGranuleXref
ProcDeleteDAR
ProcDeletePhysicalFileStorage
ProcDeletePolygon
ProcDeleteQaGranuleXref
ProcGetDFALogicalDeleteCounts
ProcGetStagingGranules
DsStVGReplaceForwardProcessing
DsStVGUpdate
InsertPGEGroup
InsertSSSEventAttrXref
ProcGetUniqueID

(Cont'd)

Procedure Name
ProcPhysicalDeleteDAP
VerifyParamRange
DsStVGInsert
logdump
logwarning
datawarning
CheckESDTInvalidSearchType
ProcGetDBID
CheckESDTDeletable
CheckPSAInvalidType
DeleteMisrAttributeXref
DeleteSSSEventAttrXref
GetFailedESDTList
InsertBrowseGranule
InsertQAXref
ProcDeleteCircle
ProcInsertChecksumInternalFile
ProcPhysicalDeleteBrowse
ProcUpdLglDelBrowseMetadata
ProcUpdLglDelDAP
ProcUpdLglDelQaGranule
ProcProcessBRDFALogicalDelete
ProcProcessDPDFALogicalDelete
ProcProcessQADFALogicalDelete
DsStVGSelectWithSort
DsStPDInsertComplete
GetESDTList
GetESDTSpatialSearchType
GetSpatialSearchType
InsertDAPPGE
InsertESDT
InsertQAGranule
ProcDeleteBoundingRectangle
ProcDeleteOrbitCalcSpatial
ProcGetBrowseGranuleXref
ProcLockDeletedGranules
ProcPopulatePendingDeleteXML
ProcProcessSCDFA
ProcUpdLglDelProcHistory
RegisterApplication

(Cont'd)

Procedure Name
GetPSAType
GetScienceGeoidsForBrowseId
InsertDAPFileStorage
InsertDAR_ID
InsertScienceFile
ProcGetXmlFilePathByEcsId
ProcPhysicalDeleteLock
ProcPhysicalDeletePH
ProcPhysicalDeleteQA
ProcUnlockDeletedGranules
ProcUpdLglDelGranuleMetadata
ProcGetLeftoverXMLFile
UnRegisterApplication
_ConvertTime
_CheckDsTMdTime
ProcPhysicalDeleteFmStaging
ProcDeletePoint
ProcGetBatchXMLFile
ProcProcessDPLogicalUnDelete
ProcBmgtGetBBRByMETGList
ProcBmgtGetShortName
ProcBmgtGetValidsByEvents
ProcBmgtValidateBrowseInfo
ProcMgUpdateChecksumStatus
ProcMgBulkPopulate
ProcMgGetPathId
ProcMgGetFilesForChecksum
ProcBmgtGetReExportQueue
InsertBrowseXref
ProcInsertOrbitCalcSpatial
ProcPhysicalDeleteGranules
ProcCleanupXMLFiles
UpdateESDTState
ProcProcessAssociateLDDetail
ProcProcessAssociateLUnDelete
ProcQAUU_GetXmlFilePaths
ProcQAUU_LockAllGranules
EMSProcGetMetaDataExtract
ProcGetNextIntKey
ProcBmgtUpdCycle

(Cont'd)

Procedure Name
ProcBmgtGetBrowseGroups
ProcBmgtGetCollsByEvents
ProcBmgtInitiateCycle
ProcBmgtInsMETG
ProcBmgtInsWrkGrans
UpdateESDT
ProcProcessPHDFALogicalDelete
ProcProcessSCDFALogicalDelete
ProcClientGranuleDelete
ProcProcessSCUnDFA
ProcProcessPHLogicalUnDelete
ProcProcessAssociateLDelete
ProcProcessAssociateLUnDDetail
ProcBmgtGetDictionaryAttr
ProcQAUU_CheckESDT_GranuleUR
ProcQAUU_DelRequestDetail
ProcQAUU_DeleteIneligible
ProcQAUU_GetAllDbIDs
ProcQAUU_GetAllRows_ESDT
ProcQAUU_GetGranCount
ProcQAUU_GetMinMax_BcpESDT
ProcProcessSCLogicalDelete
ProcUnDeleteAssociatedGranules
ProcQAUU_CheckESDT_ESDT
ProcQAUU_CheckESDT_LGID
ProcQAUU_DelReqDetFailures
ProcQAUU_LockSomeGranules
ProcQAUU_UpdateDplLastUpdate
ProcQAUU_UpdateForBmgt
EMSProcPrepareArchExtract
ProcBmgtCheckManualRun
ProcBmgtGetBBRBrDelsByList
ProcBmgtGetBRLinkByList
ProcBmgtGetGranDelByList
ProcBmgtGetQaByEvents
ProcBmgtInsWrkCollections
ProcMgGetGranulesForInsert
InsertScienceGranule
ProcProcessBRLogicalUnDelete
ProcClientGranuleUndelete

(Cont'd)

Procedure Name
ProcDeleteAssociatedGranules
ProcCleanUnDeletedGranules
ProcQAUU_DelUpdatedParamNames
ProcQAUU_GetRequestDetail
ProcQAUU_InsertRequestDetail
ProcQAUU_MoveFatalErrors
ProcQAUU_UpdateInvLastUpdate
ProcQAUUGetUniqueESDTSites
EMSProcArchUpdExtract
ProcBmgtGetAutoCollGroups
ProcBmgtCheckSkipIngestRpts
ProcBmgtGetBRLinkByEvents
ProcProcessSCLogicalUnDelete
ProcProcessSCUnDFALUnDelete
ProcProcessQALogicalUnDelete
ProcCleanGrEventHistory
ProcCleanGrParamUpdHistory
ProcBmgtGetKeywordValids
ProcQAUU_GetAllRows_GranuleUR
ProcQAUU_GetAllRows_LGID
ProcQAUU_GetInvalid_LGID
ProcQAUU_GetInvalid_GranuleUR
ProcQAUU_GetInvalid_ESDT
ProcQAUU_GetMinMax_BcpGranUR
ProcQAUU_GetMinMax_BcpLGID
ProcQAUU_GetMinMax_ReqDetail
ProcQAUU_UnlockGranules
ProcQAUU_InsReqDetTmpESDT
ProcQAUU_InsReqDetTmpLGID
ProcQAUU_InsReqDetTmpGrUR
ProcQAUU_InsUpdatedParamNames
ProcQAUU_UpdNewQualFlagExplan
ProcQAUU_RmDupConfLGID
ProcQAUU_RmDupConfGrUR
ProcQAUU_RmDupConfESDT
ProcQAUU_RmStaleGranulesLocks
ProcBmgtGetAutoGranGroups
ProcBmgtDelLock
ProcBmgtGetBBRByEvents
ProcBmgtGetManCollGroups

(Cont'd)

Procedure Name
ProcBmgtGetCollsByList
ProcBmgtGetIngestRptStats
ProcBmgtGetStalledPackages
ProcQAUU_UpdateInvestigateFlag
ProcQAUU_UpdReqDetStatus
EMSProcArchExtract
ProcBmgtCleanCycleByDays
ProcBmgtCreateCycle
ProcBmgtGetAuditStats
ProcBmgtGetBBRScDelsByList
ProcBmgtGetBBRByList
ProcBmgtGetBrowseArchives
ProcBmgtGetGransByEvents
ProcBmgtGetGransByList
ProcBmgtGetLateSummaryReports
ProcBmgtGetTemporalExtent
ProcBmgtGetVisibilityByEvents
ProcBmgtInsAutoWrkGroup
ProcBmgtInsBBR
ProcBmgtGetConfigParams
ProcBmgtGetCycle
ProcBmgtGetManGranGroups
ProcBmgtGetNextCycle
ProcBmgtGetNextPkg
ProcBmgtGetValids
ProcBmgtGetVisibilityByList
ProcBmgtInsWrkGroup
ProcBmgtInsLock
ProcBmgtResetAuditStats
ProcBmgtUpdAuditStats
ProcBmgtCreateRegenPkg
ProcBmgtRejectBrowseEvents
ProcBmgtGetCollDelsByList
ProcBmgtInsGRUPDATE
ProcBmgtGetLastUpdateForGroup
ProcBmgtInsAuditStats
ProcBmgtInsEvents
ProcBmgtInsWrkGranByCollDate
ProcBmgtInsWrkGranByColls
ProcBmgtUpdConfig

(Cont'd)

Procedure Name
ProcBmgtCreateSyncPkg
ProcBmgtCheckHistoricRequest
ProcBmgtCheckIngestedPkgCycles
UpdateMisrBrowseGranuleXref
ProcGetMisrProcessingType
ProcBmgtGetMISBRFileInfo
ProcXRUUpdateGranule
ProcXRUUnlockGranule
ProcBmgtGetMETUGroups
ProcMgGetFileChecksum
ProcMgInsertActionQueue
ProcBmgtInsIngestRptStats
ProcBmgtRejectGranEvents
ProcBmgtGetFailedPkgs
ProcBmgtGetBMGTStatus
InsertMisrAttributeXref
ProcIsGranXmlReplaceable
GetCollectionIDBySubType
ProcMgGetFilesForMigration
ProcMgUpdateFileState
ProcMgUpdateGranuleState
ProcGetXMLFileInfoByGranId
ProcBmgtGetEchoErrorPolicy
ProcBmgtGetReExportQueueStats
ProcGetFileChecksumForGranId
ProcGetFileChecksumInfo
ProcInsertACVUTmp
ProcCheckECSKeywordValids
ProcMgGetDpadCurrentLoad
ProcMgGetFilesForMedia
ProcMgGetMedia
ProcMgGetVolumeGroups
ProcMgInsertError
ProcMgInsertFileChecksum
ProcMgSetStatistic
ProcUpdateCheckXMLInfoByBatch
ProcBmgtGetECSStateFordbID
ProcBmgtInsReExportQueue
ProcBmgtInsWrkGranForReExport
ProcDeleteACVUTmp

(Cont'd)

Procedure Name
ProcMgGetDrivePools
ProcGetACVUInfo
ProcBmgtSetCycleId
ProcBmgtGetGroupName
ProcBmgtRejectCollEvents
ProcXRULockGranule
ProcBmgtGetAutoBrowseGroups
GetCollectionIDList
ProcMgInsertMedia
ProcMgUpdateFile
ProcMgUpdateMediaState
ProcGetXMLFileInfoByESDT
ProcBmgtDelReExportQueueBydbID
ProcGetAllACVUInfo
ProcGetNotVerifiedACVUInfo
ProcMgGetMediaForPool
ProcMgRemoveStats
ProcUpdateFileChecksum
ProcUpdateACVUChecksum
ProcBmgtGetISRStats
ProcBmgtGetGroupConfig
ProcBmgtUpdGroupConfig
ProcBmgtGetGransForVerShort
ProcBmgtGetBBRForVerShort
ProcBmgtInsWrkGranIncremental
ProcBmgtDelReExportQueue
ProcBmgtGetEsdtVerStats
ProcBmgtGetGroupVerStats
ProcBmgtGetSystemVerStats
ProcBmgtGetCountsForVerLong

4. Performance and Tuning Factors

4.1 Indexes

An index provides a means of locating a row in a database table based on the value of a specific column(s), without having to scan all data in the table. When properly implemented, indexes can significantly decrease the time it takes to retrieve data, thereby increasing performance. Sybase allows the definition of two types of indexes, clustered and non-clustered.

In a clustered index, the rows in a database table are physically stored in sequence-determined by the index. Clustered indexes are particularly useful, when the data is frequently retrieved in sequential order. Only one clustered index may be defined per table.

Non-clustered indexes differ from their clustered counterpart, in that, data is not physically stored in sorted order—newly added rows are stored at the end of the related database table.

A key of the types of indexes found in the AIM Inventory database is provided in Table 4-1 Index Type Key. A list a description of each of the defined indexes is given in Table 4-2 Index List.

Table 4-1. Index Type Key

Index Type Key	Description
PK	Primary Key
FK	Foreign Key
U	Unique - Only one for the column code combination
C	Clustered or non-clustered index

Table 4-2. Index List (1 of 4)

Table Name	Index Name	PK	U	C
ApplicationLocks	PK_APPLICATIONLOCKS	Yes	Yes	Yes
DsDeDictionaryAttribute	PK_DSDEDICTIONARYATTRIBUTE	Yes	Yes	Yes
DsDeDictionaryAttribute	xDsDeDictionaryAttribute	No	Yes	No
DsDeDictionaryContent	PK_DSDEDICTIONARYCONTENT	Yes	Yes	Yes
DsDeDictionaryContent	xDsDeDictionaryContent	No	Yes	No
DsDeDictionaryRule	PK_DSDBDICTIONARYRULE	Yes	Yes	Yes
DsDeECSKeywordValids	PK_DSDEECSKEYWORDVALIDS	Yes	Yes	Yes
DsGeESDTConfiguredType	PK_DSGEESDTCONFIGUREDTYPE	Yes	Yes	Yes
DsMdAcvuTmp	idx_acvutmpstatus	No	No	No
DsMdAcvuTmp	pk_acvutmp	Yes	Yes	Yes
DsMdAdditionalAttributes	PK_DSMDADDITIONALATTRIBUTES	Yes	Yes	Yes
DsMdAdditionalAttributes	xDsMdAdditionalAttributes	No	Yes	No
DsMdBmgtAuditStats	pk_AuditStats	Yes	Yes	Yes
DsMdBmgtBBR	pk_bbrcycleiddbid	Yes	Yes	Yes
DsMdBmgtConfig	DsMdBmgtConfig	No	No	No
DsMdBmgtConfig	pk_bmgtconfig	Yes	Yes	No
DsMdBmgtCycleEvents	DsMdBmgtCycleEvents	No	No	No
DsMdBmgtCycleEvents	idx_cycleeventsdbid	No	No	No
DsMdBmgtCycleEvents	pk_cycleeventsclustered	Yes	Yes	No
DsMdBmgtCycleQAEvents	pk_qaeventciddbidtimepname	Yes	Yes	Yes
DsMdBmgtEchoErrorPolicy	pk_bmgtechoerrorpolicy	Yes	Yes	Yes
DsMdBmgtGroupConfig	pk_groupconfigsnamevid	Yes	Yes	Yes
DsMdBmgtIngestRptStats	pk_IngestRptStats	Yes	Yes	Yes
DsMdBmgtLock	pk_lock	Yes	Yes	Yes
DsMdBmgtMETG	pk_metgciddbideventtype	Yes	Yes	Yes
DsMdBmgtPkgCycles	DsMdBmgtPkgCycles	No	No	No
DsMdBmgtPkgCycles	idx_cyclecurrentexportstatus	No	No	No
DsMdBmgtPkgCycles	idx_cyclepackageid	No	No	No
DsMdBmgtPkgCycles	pk_bmgtcycles	Yes	Yes	No
DsMdBmgtReExportQueue	idx_reexportqueueciddbid	No	No	No
DsMdBmgtReExportQueue	idx_reexportqueuecidsnvi	No	No	No
DsMdBmgtReExportQueue	pk_reexportqueue	Yes	Yes	Yes
DsMdBmgtWrkCollections	pk_wrkcollectioncidsnamevid	Yes	Yes	Yes
DsMdBmgtWrkGranules	pk_wrkgrancycleiddbid	Yes	Yes	Yes
DsMdBmgtWrkGroups	pk_wrkgroupcidgnamsnvid	Yes	Yes	Yes
DsMdBrowse	PK_DSMDBROWSE	Yes	Yes	Yes
DsMdBrowse	xDsMdBrowseDate	No	No	No
DsMdBrowse	xDsMdBrowseinsertTimedbID	No	No	No
DsMdBrowseFileStorage	PK_DSMDBROWSEFILESTORAGE	Yes	Yes	Yes
DsMdBrowseFileStorage	xDsMdBrowseFileStorage	No	No	No
DsMdBrowseGranuleXref	DsMdBrowseGranuleXref	No	No	No
DsMdBrowseGranuleXref	PK_DSMDBROWSEGRANULEXREF	Yes	Yes	No
DsMdBrowseGranuleXref	xDsMdBrowseGranuleXref	No	No	No
DsMdBrowseLock	PK_DSMDBROWSSCIENCELOCK	Yes	Yes	Yes
DsMdChecksumOrigins	PK_DSMDCHECKSUMORIGINS	Yes	Yes	Yes
DsMdChecksumTypes	PK_DSMDCHECKSUMTYPES	Yes	Yes	Yes

Table 4-2. Index List (2 of 4)

Table Name	Index Name	PK	U	C
DsMdCollectionAddnlAttribsXref	PK_DSMDCOLLECTIONADDNLATTRIBSX	Yes	Yes	Yes
DsMdCollectionAddnlAttribsXref	xDsMdCollectionAddnlAttribsXrf	No	No	No
DsMdCollections	PK_DSMDCOLLECTIONS	Yes	Yes	Yes
DsMdCollections	xDsMdCollectionsSnVid	No	Yes	No
DsMdCollections	xDsMdCollectionssubType	No	Yes	No
DsMdDAP	PK_DSMDDAP	Yes	Yes	Yes
DsMdDAP	xDsMdDAPDEDate	No	No	No
DsMdDAPFileStorage	PK_DSMDDAPFILESTORAGE	Yes	Yes	Yes
DsMdDAPFileStorage	xDsMdDAPFileStorage	No	No	No
DsMdDAR	PK_DSMDDAR	Yes	Yes	Yes
DsMdDeletedGranules	PK_DSMDDELETEDGRANULES	Yes	Yes	Yes
DsMdDeletedGranules	xDsMdDeletedGranulesSNmVid	No	No	No
DsMdDeletedGranules	xDsMdDeletedGranulestTime	No	No	No
DsMdFileStorage	DsMdFileStorage	No	No	No
DsMdFileStorage	PK_DSMDFILESTORAGE	Yes	Yes	No
DsMdFileStorage	xDsMdFileStorageUserDataFile	No	No	No
DsMdFileStorage	xDsMdFileStorageintFileName	No	No	No
DsMdGeometryGPolygonContainer	DsMdGeometryGPolygonCont_ind1	No	Yes	Yes
DsMdGeometryValidation	PK_DSMDGEOMETRYVALIDATION	Yes	Yes	No
DsMdGeometryValidation	xDsMdGeometryValidation	No	No	Yes
DsMdGrBoundingRectangle	PK_DSMDGRBOUNDINGRECTANGLE	Yes	Yes	No
DsMdGrBoundingRectangle	xDsMdGrBoundingRectangle	No	Yes	Yes
DsMdGrCircle	PK_DSMDGRCIRCLE	Yes	Yes	No
DsMdGrCircle	xDsMdGrCircle	No	Yes	Yes
DsMdGrEventDomain	PK_DSMDGREVENTDOMAIN	Yes	Yes	Yes
DsMdGrEventHistory	DsMdGrEventHistory	No	No	No
DsMdGrEventHistory	pk_evthistory	Yes	Yes	No
DsMdGrEventHistory	xDsMdGrEventHistoryDBID	No	No	No
DsMdGrEventHistory	xDsMdGrEventHistoryIdTime	No	No	No
DsMdGrEventHistory	xDsMdGrEventHistoryTimeIdDBID	No	No	No
DsMdGrGPolygGPolygonContainer	DsMdGrGPolygGPolygonCont_ind1	No	Yes	Yes
DsMdGrGPolygon	PK_DSMDGRGPOLYGON	Yes	Yes	No
DsMdGrGPolygon	xDsMdGrPolygon	No	Yes	Yes
DsMdGrParamUpdHistory	xDsMdGrParamUpdHistory	No	No	Yes
DsMdGrParamUpdHistory	xDsMdGrParamUpdHistoryunique	No	Yes	No
DsMdGrPoint	PK_DSMDGRPOINT	Yes	Yes	No
DsMdGrPoint	xDsMdGrPoint	No	Yes	Yes
DsMdGranules	PK_DSMDGRANULES	Yes	Yes	No
DsMdGranules	xDsMdGranulesDate	No	No	No
DsMdGranules	xDsMdGranulesInsertTime	No	No	No
DsMdGranules	xDsMdGranulesLGID	No	No	No
DsMdGranules	xDsMdGranulesPHID	No	No	No
DsMdGranules	xDsMdGranulesSNmVidET	No	No	Yes
DsMdIdentifier	PK_DSMDIDENTIFIER	Yes	Yes	Yes
DsMdMisrAttributes	idx_misrorbitno	No	No	No
DsMdMisrAttributes	pk_misrattributes	Yes	Yes	Yes
DsMdMisrBrowseGranuleXref	idx_misrbrowsegranxrefbid	No	No	No

Table 4-2. Index List (3 of 4)

Table Name	Index Name	PK	U	C
DsMdMisrBrowseGranuleXref	pk_misrbrowsegranxref	Yes	Yes	Yes
DsMdMisrCamera	pk_misrcamera	Yes	Yes	Yes
DsMdMisrMutex	pk_misrmutaxlock	Yes	Yes	Yes
DsMdMisrProcessingCriteria	pk_misrprocesscriteria	Yes	Yes	Yes
DsMdNextAvailableID	pk_nextid	Yes	Yes	Yes
DsMdOrbitCalculatedSpatial	PK_DSMDORBITCALCULATEDSPATIAL	Yes	Yes	No
DsMdOrbitCalculatedSpatial	xDsMdOrbitCalculatedSpatial	No	No	Yes
DsMdOrbitPolygons	PK_DSMDORBITPOLYGONS	Yes	Yes	No
DsMdOrbitPolygons	xDsMdOrbitPolygons	No	Yes	Yes
DsMdOrbitPolygons__Orbit	DsMdOrbitPolygons__Orbit_ind1	No	Yes	Yes
DsMdPGEGroup	PK_DSMDPGEGROUP	Yes	Yes	Yes
DsMdPendingDeleteXMLFile	PK_DSMDPENDINGDELETEXMLFILE	Yes	Yes	Yes
DsMdPlatInstrCode	PK_DSMDPLATINSTRCODE	Yes	Yes	Yes
DsMdProcessHistFileStorage	PK_DSMDPROCESSHISTFILESTORAGE	Yes	Yes	Yes
DsMdProcessHistFileStorage	xDsMdProcessHistFileStorage	No	No	No
DsMdProcessingHistory	PK_DSMDPROCESSINGHISTORY	Yes	Yes	Yes
DsMdProcessingHistory	xDsMdProcessingHistoryDate	No	No	No
DsMdQaGranule	PK_DSMDQAGRANULE	Yes	Yes	Yes
DsMdQaGranule	xDsMdGranuleDate	No	No	No
DsMdQaGranuleFileStorage	PK_DSMDQAGRANULEFILESTORAGE	Yes	Yes	Yes
DsMdQaGranuleFileStorage	xDsMdQaGranuleFileStorage	No	No	No
DsMdQaGranuleXref	PK_DSMDQAGRANULEXREF	Yes	Yes	Yes
DsMdQaGranuleXref	xDsMdQaGranuleXref	No	No	No
DsMdScienceLock	PK_DSMDSCIENCELOCK	Yes	Yes	Yes
DsMdStagingTable	xDsMdStagingTableIFN	No	Yes	Yes
DsMdStagingTable	xDsMdStagingTableSnm	No	No	No
DsMdUnDeletedGranules	PK_DSMDUNDELETEDGRANULES	Yes	Yes	Yes
DsMdUnDeletedGranules	xDsMdDeletedGranulestTime	No	No	No
DsMdXMLFile	PK_DSMDXMLFILE	Yes	Yes	Yes
DsMdXMLFile	xDsMdXMLFilePathId	No	No	No
DsMdXMLPath	AK_DSMDXMLPATH	No	Yes	No
DsMdXMLPath	PK_DSMDXMLPATH	Yes	Yes	Yes
DsMgBulkData	PK_DSMGBULKDATA	Yes	Yes	Yes
DsMgBulkData	xDsMgBulkDataProcessIdIdx	No	No	No
DsMgError	pk_mgerror	Yes	Yes	Yes
DsMgFilePath	pk_mgfilepath	Yes	Yes	Yes
DsMgFilePath	xDsMgFilePathPathIdx	No	No	No
DsMgFileState	pk_mgfilestate	Yes	Yes	Yes
DsMgFileState	xDsMgFileStateFileNameIdx	No	No	No
DsMgFileState	xDsMgFileStateMgFlagIdx	No	No	No
DsMgFileState	xDsMgFileStateStateIdx	No	No	No
DsMgGranuleState	pk_mggranulestate	Yes	Yes	Yes
DsMgGranuleState	xDsMgGranuleStateInsFlagIdx	No	No	No
DsMgGranuleState	xDsMgGranuleStateStateIdx	No	No	No
DsMgMediaState	pk_mgmediastate	Yes	Yes	Yes
DsMgMediaState	xDsMgMediaStateMgDrvPoolIdx	No	No	No

Table 4-2. Index List (4 of 4)

Table Name	Index Name	PK	U	C
DsMgMediaState	xDsMgMediaStateStateIdx	No	No	No
DsMgStatistic	pk_mgstatistic	Yes	Yes	Yes
DsQAMUTESDTSite	PK_DSQAMUTESDTSITE	Yes	Yes	Yes
DsQAMUTFatalErrors	DsQAMUTFatalErrors	No	No	No
DsQAMUTParameterNames	xDsQAMUTParameterNames	No	Yes	Yes
DsQAMUTRequestDetail	xDsQAMUTReqDetaildbid	No	No	No
DsQAMUTRequestDetail	xDsQAMUTRequestDetail	No	Yes	Yes
DsQAMUTRequestDetailTmp	xDsQAMUTRequestDetailTmp	No	Yes	Yes
DsQAMUTRequest_ESDT	xDsQAMUTRequestESDT	No	Yes	Yes
DsQAMUTRequest_GranuleUR	xDsQAMUTRequestUR	No	Yes	Yes
DsQAMUTRequest_LGID	xDsQAMUTRequestLGID	No	Yes	Yes
DsStPendingDelete	PK_DSSTPENDINGDELETE	Yes	Yes	Yes
DsStPendingDelete	sk_dsstpdstage	No	No	No
DsStVolumeGroup	PK_DSSTVOLUMEGROUP	Yes	Yes	Yes
EMSArch	extract_idx3	No	No	Yes
EMSArchData	extract_idx2	No	No	Yes
EMSArchUpdData	extract_idx	No	No	Yes
EMSShortNameTemp	EMSShortNameTemp	No	No	No
EMSdbid	EMSdbid_idx	No	No	Yes
EcDbDatabaseVersions	PK_ECDBVERSIONS	Yes	Yes	Yes
Mutex	PK_MUTEX	Yes	Yes	Yes

4.2 Segments

Sybase supports the declaration of segments. A segment is a named pointer to a storage device(s). Segments are used to physically allocate a database object to a particular storage device. Segments defined for the AIM Inventory and all other subsystem databases are described in Table 4-3.

Table 4-3. Segment Descriptions

Segment	Description
default	Default data segment used if no other segment specified in the create statement.
logsegment	SYSLOGS, Transaction Logs
systemsegment	System tables and indexes.

4.3 Caches

A cache is a block of memory that is used by Sybase to retain and manage pages that are currently being processed. By default, each database contains three caches:

Data cache – retains most recently accessed data and index pages

Procedure cache – retains most recently accessed stored procedure pages

User transaction log cache – transaction log pages that have not yet been written to disk for each user

The size of each of these default caches is a configurable item which must be managed on a per DAAC basis. These caches may be increased or decreased by the DAAC DBA as needed.

The data cache can be further subdivided into named caches. A named cache is a block of memory that is named and used by the DBMS to store data pages for select tables and/or indexes. Assigning a database table to a named cache causes accessed pages to be loaded into memory and retained. The named cache does not need to be allocated to accommodate the entire database table since the DBMS manages the cache according to use. Named caches greatly increase performance by eliminating the time associated for disk input and output (I/O). There are no named caches that are currently defined for the AIM Inventory database. Named caches may be defined as the memory usage of the AIM Inventory database becomes more well-known. As named caches are defined this portion of the document will be updated.

5. Database Security

5.1 Initial Users

The database security discussed within this section is bounded to the security implementation within the Sybase SQL Server DBMS. A Sybase general approach to security is adopted as illustrated in Figure 5-1.

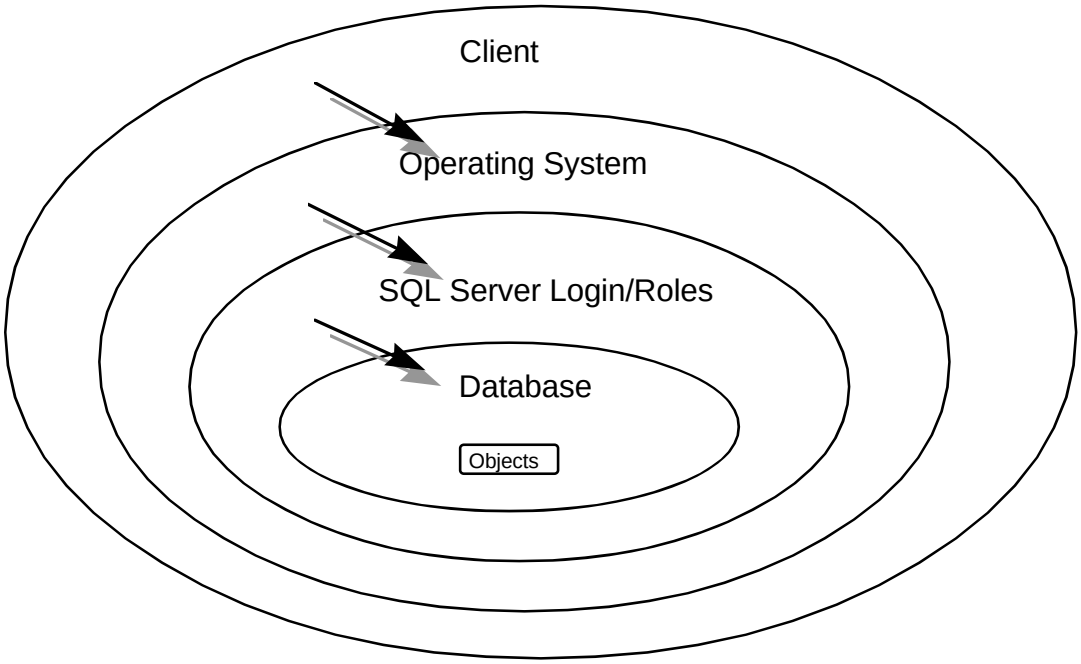

Figure 5-1. Sybase General Approach to SQL Server Security[1]

The client (user) requires a SQL Server login to access the DBMS. The login is assigned to a user with certain related permissions for gaining access to particular objects (e.g., database tables, views, commands) within the database. The System Administrator may grant or revoke objects permissions for a login individually or based on defined groups or roles.

Groups are a means of logically associating users with similar data access needs. Once a group has been defined, object and command permissions can be granted to that group. A user who is a member of a group inherits all of the permissions granted to that group. The DAACs should define database groups to support the database security requirements of their individual DAACs.

[1] Reference Sybase Student Guide: *Advanced SQL Server Administration*.

Security for local DAAC users should be controlled by assigning each user to the appropriate group.

Roles were introduced in Sybase to allow a structured means for granting users the permissions needed to perform standard database administration activities and also provide a means for easily identifying such users. There are six pre-defined roles that may be assigned to a user. A definition of each of these roles follows, as well as a description of the types of activities that may be performed by each role.

System Administrator (*sa_role*): This role is used to grant a specific user permissions needed to perform standard system administrator duties including:

- installing SQL server and specific SQL server modules
- managing the allocation of physical storage
- tuning configuration parameters
- creating databases

Site Security Officer (*sso_role*): This role is used to grant a specific user the permissions needed to maintain SQL server security including:

- adding server logins
- administrating passwords
- managing the audit system
- granting users all roles except the *sa_role*

Operator (*oper_role*): This role is used to grant a specific user the permissions needed to perform standard functions for the database including:

- dumping transactions and databases
- loading transactions and databases

Navigator (*navigator_role*): This role is used to grant a specific user the permissions needed to manage the navigation server.

Replication (*replication_role*): This role is used to grant a specific user the permissions needed to manage the replication server.

Sybase Technical Support (sybase_ts_role): This role is used to grant a specific user the permissions needed to execute database consistency checker (dbcc), a Sybase supplied utility supporting commands that are normally outside of the realm of routine system administrator activities.

The DAACs should review these roles and assign them to the appropriate login and/or groups.

6. Scripts

Sub-directories that support the creation of the AIM Inventory database are found in the ClearCase /ecs/formal/DSS/AIM/database directory. The directories have the following structure:

procs	=	stored procedures
sql	=	table and initial data definitions
triggers	=	trigger definitions
data	=	important schema data inputs
views	=	view definitions
scripts	=	build, migration, and other scripts
patches	=	database patches

6.1 Installation Scripts

Scripts used to support installation of the AIM Inventory database are listed in Table 6-1. These scripts are found in the directory /ecs/formal/DSS/AIM/database/scripts.

Table 6-1. Installation Scripts

Script File	Description
EcDsAmDbBuild	Create a new initialized AIM Inventory database.
EcDsAmDbPatch	Upgrade an existing AIM Inventory database to the next valid database version level.
EcDsAmDbUser	Create AIM Inventory related database users
EcDsAmDbLogin	Create AIM Inventory related server logins

6.2 Miscellaneous Scripts

Miscellaneous scripts applicable to the AIM Inventory Subsystem database are listed in Table 6-2.

Table 6-2. Miscellaneous Scripts

Script	Description
EcDsAmDbUpdStatCmd.ksh	Installs the 'update statistics' commands for the AIM Inventory database into the dba database.
EcDsAmDbPatch	Apply patch to the AIM Inventory database.
EcDsAmDbMigration.pl	Migrates the SDSRV database to the AIM Inventory database.
EcDsAmDbMigration_prerun.ksh	Drops AIM Inventory database indices prior to migration.
EcDsAmDbMigration_postrun1.ksh	Adds AIM Inventory database indices after migration.
EcDsAmDbMigration_postrun2.ksh	Adds AIM Inventory database indices after migration.

Appendix A. Entity Relationship Diagrams

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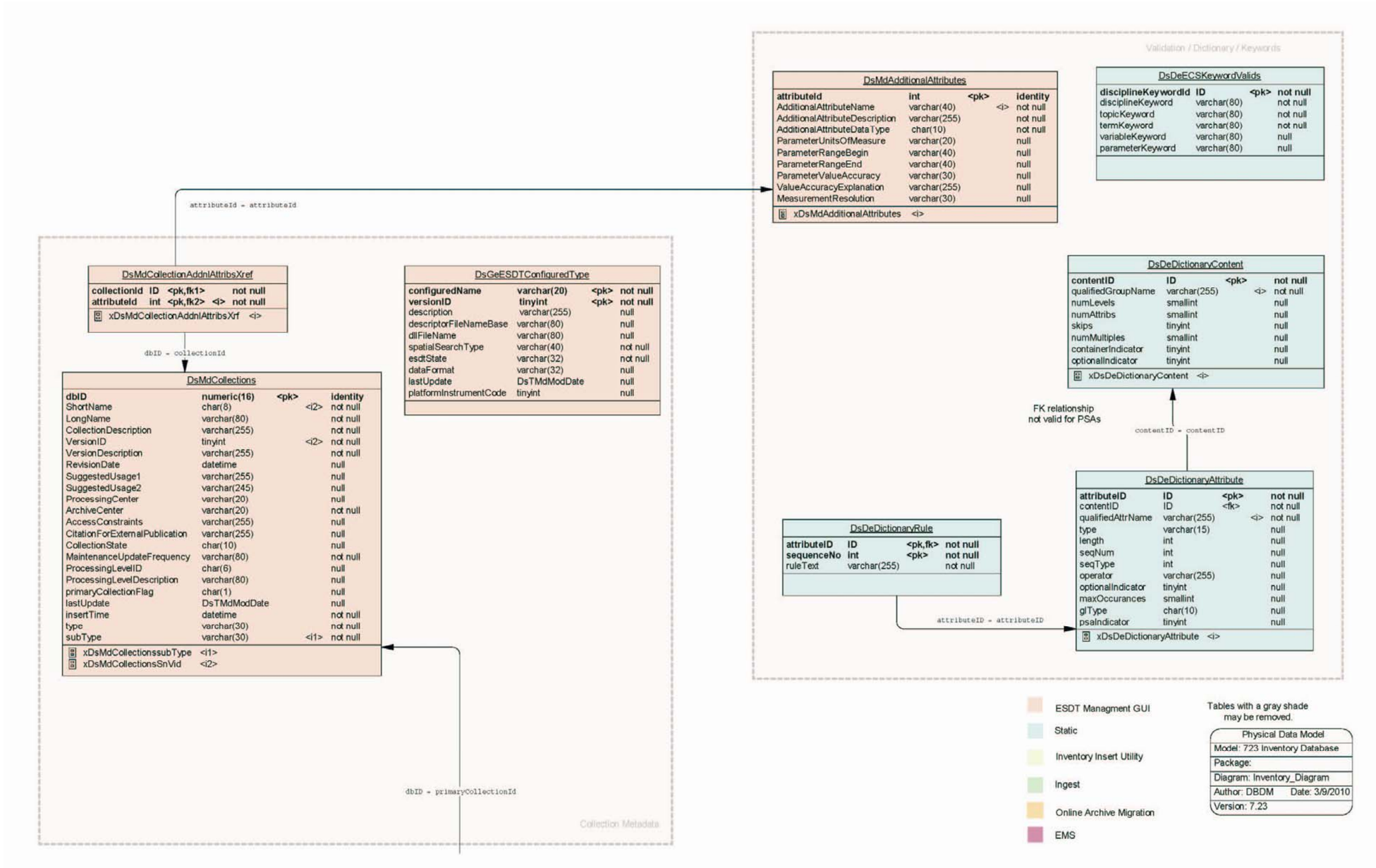

Figure A-1. EcInDb Entity Relationship Diagram (1 of 6)

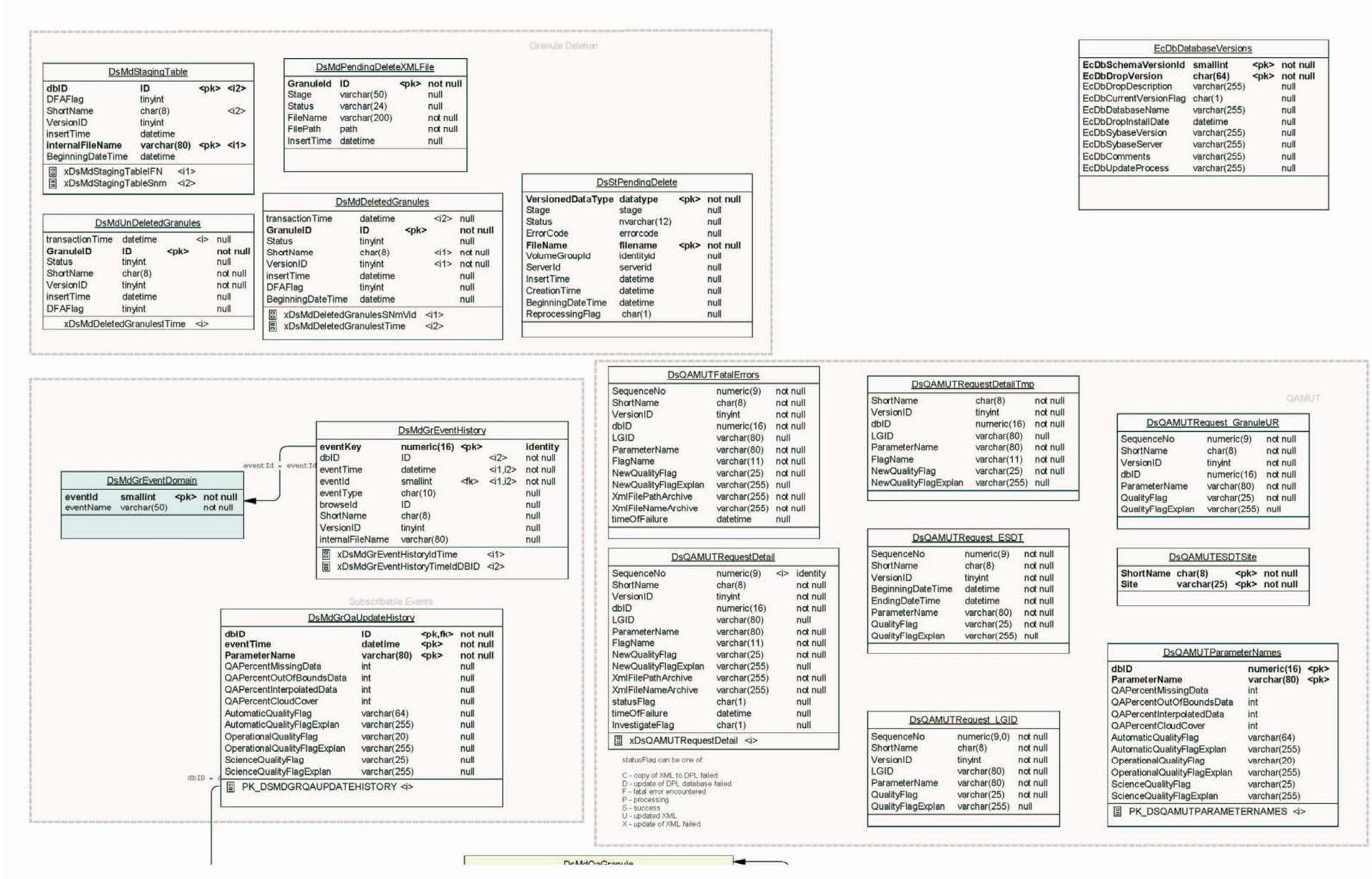

Figure A-1. EcInDb Entity Relationship Diagram (2 of 6)

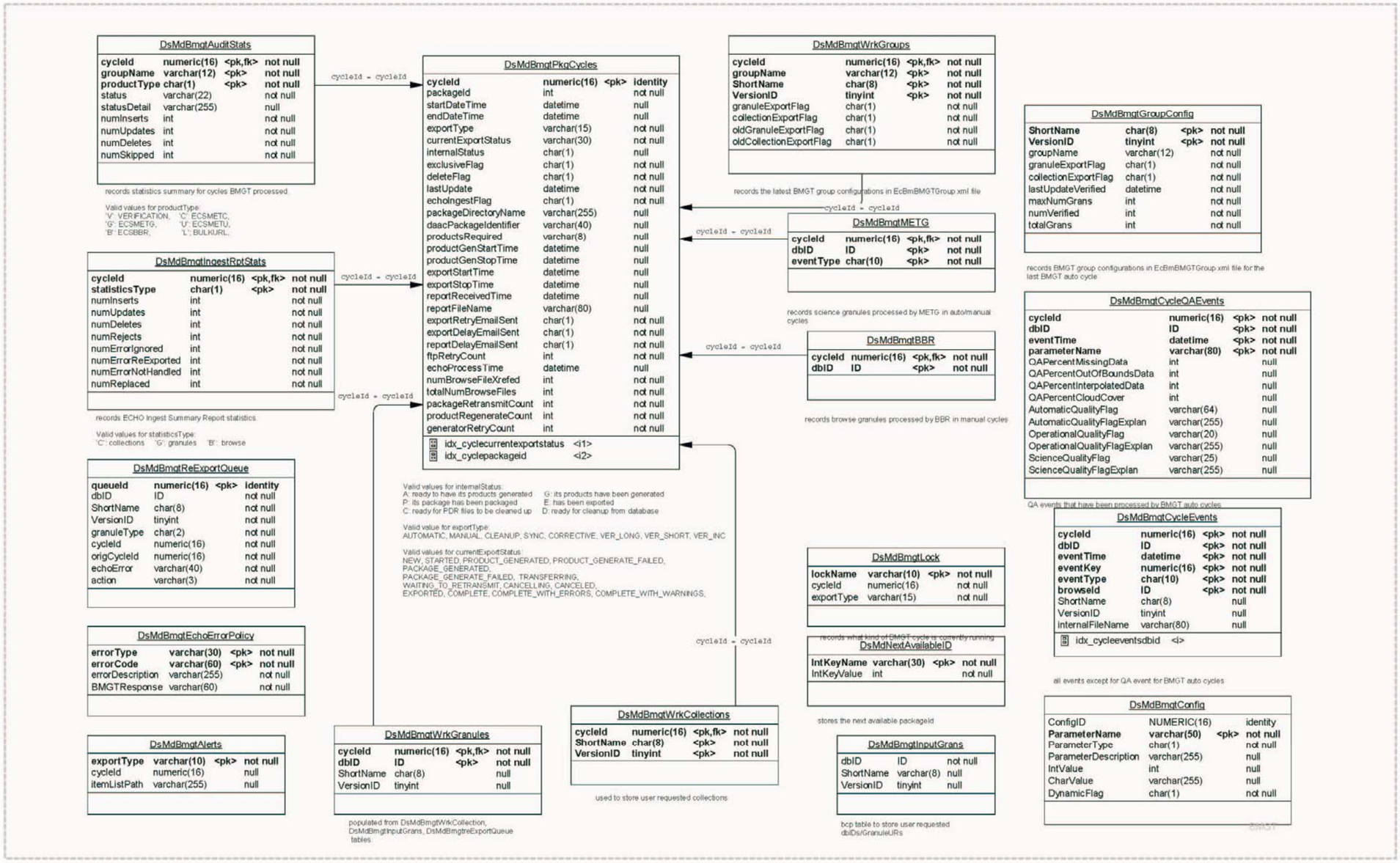

Figure A-1. EcInDb Entity Relationship Diagram (3 of 6)

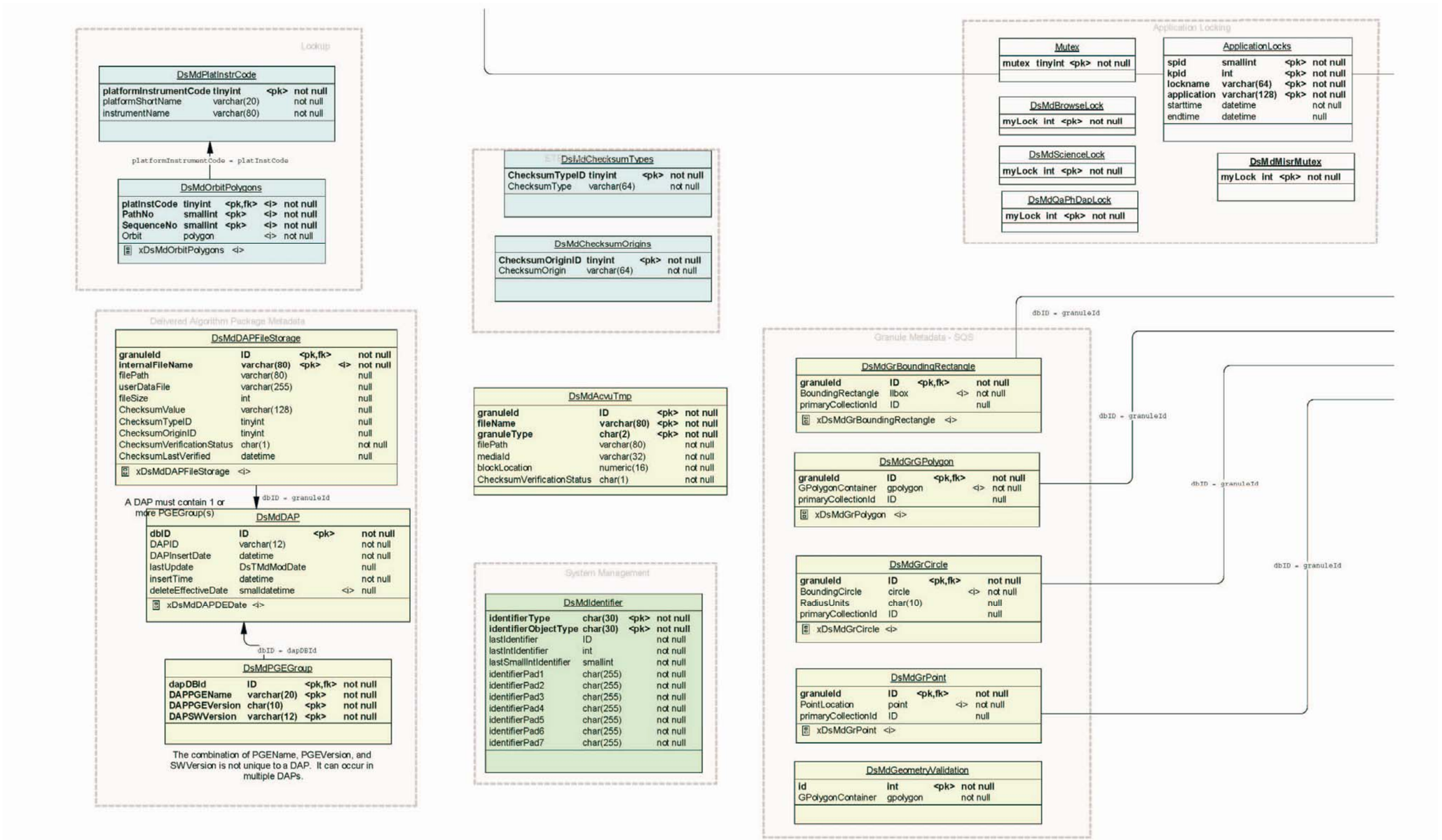

Figure A-1. EcInDb Entity Relationship Diagram (4 of 6)

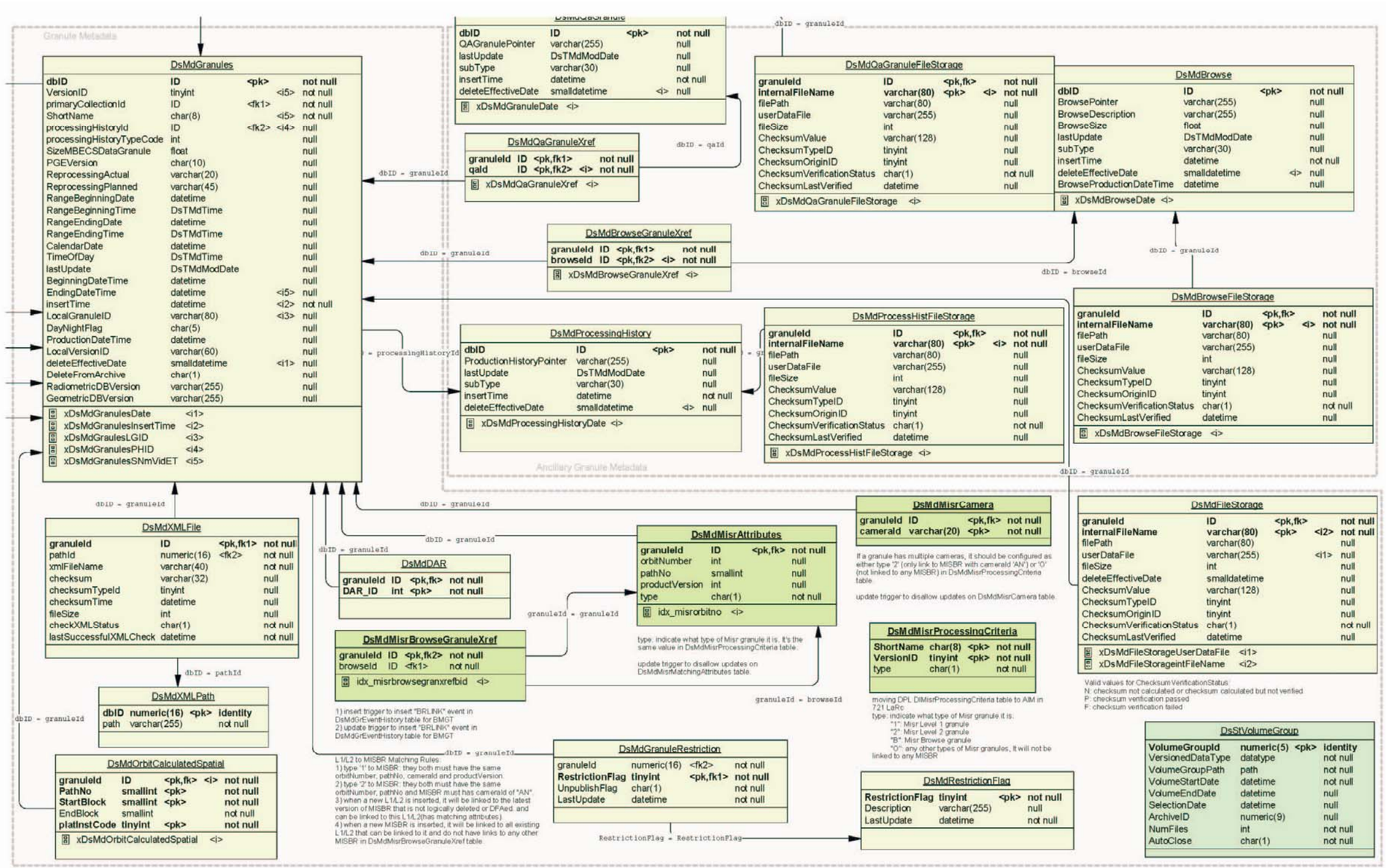

Figure A-1. EcInDb Entity Relationship Diagram (5 of 6)

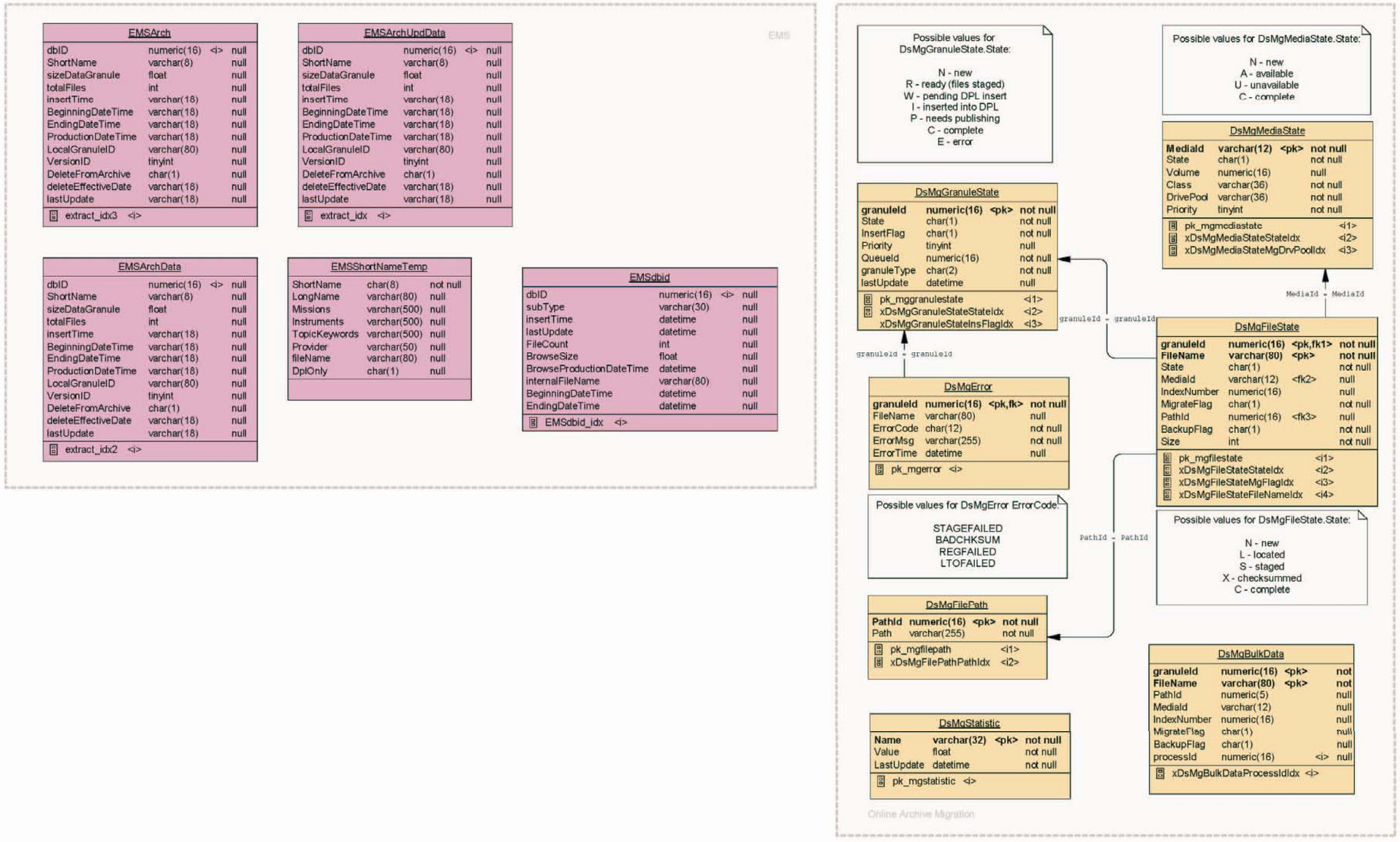

Figure A-1. EcInDb Entity Relationship Diagram (6 of 6)

Abbreviations and Acronyms

ADSRV	Advertising Service CSCI
AIM	Archive Inventory Management
ANSI	American National Standards Institute
CASE	Computer Aided Software Engineering
CD	contractual delivery 214-001
CDRL	contract data requirements list
CDS	cell directory service
CI	configuration item
COTS	commercial off-the-shelf (hardware or software)
CSCI	computer software configuration item
CSDT	Computer Science Data Type
CSMS	Communications and Systems Management Segment (ECS)
CSS	Communications Subsystem
DAAC	Distributed Active Archive Center
DBMS	Database Management System
DDICT	Data Dictionary CSCI
DDIST	Data Distribution Services CSCI
DDN	Data Delivery Notice
DID	data item description
DM	Data Management
DMS	Data Management Subsystem
DP	Data Provider
DPS	Data Processing Subsystem
DSS	Data Server Subsystem
ECS	EOSDIS Core System
EDC	EROS Data Center
EDHS	ECS Data Handling System
EDOS	EOS Data and Operations System
EOS	Earth Observing System
EOSDIS	Earth Observing System Data and Information System
EROS	Earth Resources Observation System
ESDIS	Earth Science Data and Information System (GSFC)
ESDT	Earth science data types

FK	Foreign Key
FTP	File Transfer Protocol
GSFC	Goddard Space Flight Center
GUI	graphic user interface
HTML	Hypertext Markup Language
HTTP	Hypertext Transport Protocol
HWCI	Hardware Configuration Item
ICD	interface control document
ID	identification
INGEST	Ingest Services CSCI
IOS	Interoperability Subsystem
IP	Internet Protocol
ISS	Internetworking Subsystem
IV&V	independent verification and validation
LaRC	Langley Research Center (DAAC)
MCF	Metadata Configuration File
MSFC	Marshall Space Flight Center
MSS	Management Support Subsystem
OLA	Online Archive
PDPS	Planning and Data Processing Subsystem
PK	Primary Key
PLANG	Production Planning CSCI
PLS	Planning Subsystem
RPC	Remote Procedure Call
STMGT	Storage Management Software CSCI
SUBSRV	Subscription Server
UR	Universal Reference
WWW	World-Wide Web