

311-EMD-013

# **EOSDIS Maintenance and Development Project**

## **Release 7 Data Pool Database Design and Schema Specifications for the EMD Project**

Revision 02

July 2006

Raytheon Company  
Upper Marlboro, Maryland

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**Release 7**  
**Data Pool Database Design and Schema**  
**Specifications for the EMD Project**

Revision 02

July 2006

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# Preface

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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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This document describes the data design and database specification for the Subscription Server subsystem. It is one of eleven documents comprising the detailed database design specifications for each of the ECS subsystems.

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

- 311-EMD-001 Release 7 Data Management (DM) Subsystem Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-002 Release 7 Ingest Subsystem Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-003 Release 7 Planning and Data Processing Subsystem (PDPS) Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-004 Release 7 Science Data Server (SDSRV) Subsystem Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-005 Release 7 Storage Management (STMGT) Subsystem Database Design and Database Schema Specifications for the ECS Project

- 311-EMD-006 Release 7 Subscription Server (SUBSRV) Subsystem Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-007 Release 7 Management Support Subsystem (MSS) Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-008 Release 7 Configuration Registry Subsystem (CONFIG) Database Design and Database Schema Specifications for the ECS Project
- 311-EMD-009 Release 7 PDS Subsystem Database Design and Database Schema Specification
- 311-EMD-010 Release 7 Name Server Subsystem Database Design and Database Schema Specification
- 311-EMD-011 Release 7 Order Manager Server Database Design and Database Schema Specification
- 311-EMD-012 Release 7 Spatial Subscription Server Database Design and Database Schema Specification
- 311-EMD-013 Release 7 Data Pool Database Design and Database Schema Specification

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

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This document outlines Release 7 “as-built” database design and database schema of the Data Pool 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. Entity Relationship Diagram**

### **Abbreviations and Acronyms**

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# 1. Introduction

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## 1.1 Purpose and Scope

The purpose of Data Pool Database Design and Database Schema Specification document is to describe the database design and schema specifications implemented to support the data requirements of Release 7 Data Pool CSCI.

## 1.2 Document Organization

Section 3 provides a detailed description of all objects used in the DataPool database including all object types with detailed definitions where appropriate.

Section 4 describes the performance strategies used within the DataPool database including indexes, segments and any defined caches used for memory optimization.

Section 5 describes the security measures used within the DataPool database. This includes strategies used at the user, group, object, server and role levels.

Section 6 describes custom utilities that provide means of installing and backing up the DataPool database including fault recovery mechanisms.

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## 2. Related Documents

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### 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-EMD-001	Release 7 Segment Design Specification for the EMD Project
920-TDG-009	DAAC Hardware Database Mapping/GSFC
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-TDS-009	DAAC Hardware Database Mapping/SMC
920-TDG-010	DAAC Database Configuration/GSFC
920-TDN-010	DAAC Database Configuration/NSIDC
920-TDE-010	DAAC Database Configuration/EDC
920-TDL-010	DAAC Database Configuration/LARC
920-TDS-010	DAAC Database Configuration/SMC
920-TDG-011	DAAC Sybase Log Mapping/GSFC
920-TDN-011	DAAC Sybase Log Mapping/NSIDC
920-TDE-011	DAAC Sybase Log Mapping/EDC
920-TDL-011	DAAC Sybase Log Mapping/LARC
920-TDS-011	DAAC Sybase Log Mapping/SMC
922-TDG-013	Disk Partitions/GSFC
922-TDN-013	Disk Partitions/NSIDC
922-TDE-013	Disk Partitions/EDC
922-TDL-013	Disk Partitions/LARC
922-TDS-013	Disk Partitions/SMC

These documents are maintained as part of the EMD 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 EMD 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.

313-EMD-001	Release 7 Internal ICD for the EMD Project
609-EMD-001	Release 7 Operations Tools Manual for the EMD Project
611-EMD-001	Release 7 Mission Operation Procedures for the EMD Project

# 3. Data Design

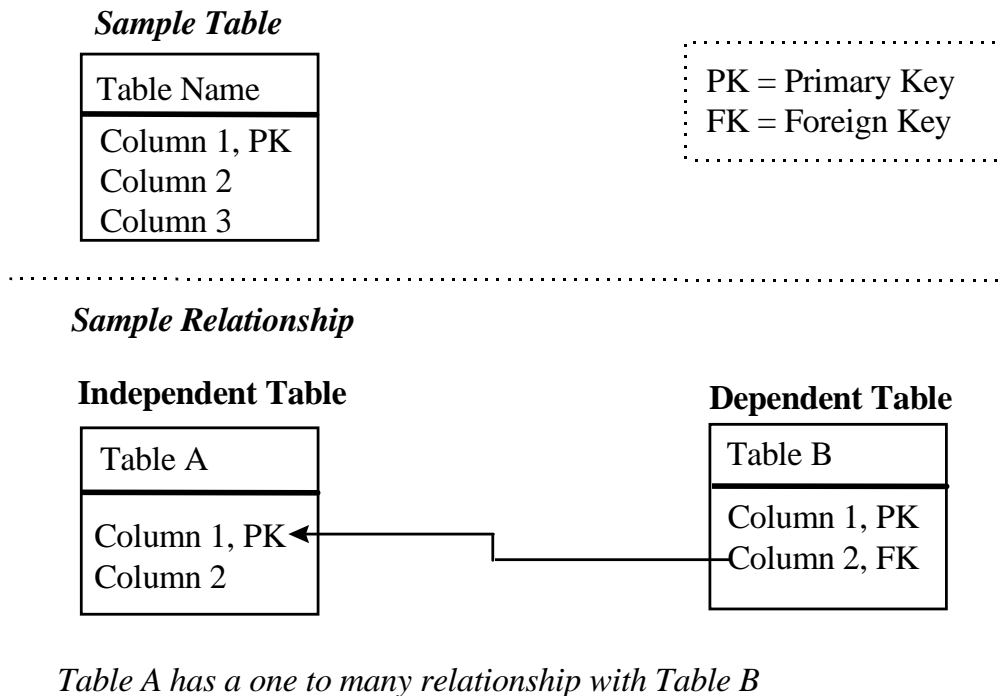
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## 3.1 Database Overview

The Data Pool database implements the large majority of the persistent data requirements for the Data Pool 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 (RDBMS). All components of the Data Pool database are described in the sections which 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 Data Pool physical data model. The ERDs presented here for the Data Pool database were produced using the Power Designor Data Architect Computer Aided Software Engineering (CASE) tool. ERDs represent the relationship between entities or database tables. On ERDs, tables are represented by rectangles and relationships are represented as arrow (see Figure 3-1).



**Figure 3-1. ERD Key**

### 3.1.2 Tables

A listing of each the tables in the Data Pool database is given here. A brief definition of each of these tables follows including a listing of the columns comprising the tables in Table 3-1. The column list indicates 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. Data Tables Listing (1 of 3)**

Table Name
DIAccessRollup
DIActiveInsertProcesses
DIagingConfig
DIBoundingRectangle
DIBrowse
DIBrowseFile
DICartOrder
DICartOrderItem
DICartOrderItemBand
DIcloudCoverSource
DICollectionGroup
DICollections
DICompressionAlgorithms
DIConfig
DIDimensionDayNight
DIDimensionGroupESDT
DIDimensionMP
DIDimensionMPScienceQAXref
DIDimensionPolygonXref
DIDimensionScienceQA
DIDimensionSpatialT6All
DIDimensionTemporal
DIDimensionTimeOfDay
DIECSIdsToInsert
DIESDTCurrentDensityMap
DIFactDayNight
DIFactGroupESDT
DIFactQA
DIFactTemporalRange
DIFactTimeOfDay

**Table 3-1. Data Tables Listing (2 of 3)**

Table Name
DIFile
DIFilesToBeDeleted
DIFileSystems
DIFtpAccessLog
DIGPolygon
DIGranuleAccess
DIGranuleBrowseXref
DIGranuleExpirationPriority
DIGranuleHdfObjectsXref
DIGranuleOWS
DIGranules
DIGranuleSubscription
DIGranuleThemeXref
DIGranuleTiles
DIGrCloudCover
DIHdf4thDimensions
DIHdfBands
DIHdfObjects
DIHEGExceptionCollXref
DIHEGExceptions
DIHEGLookup
DIHEGOptionCollXref
DIHEGOptionLabel
DIHEGOptions
DIIdentifier
DIInsertActionQueue
DIMeasuredParameter
DIMisrProcessingCriteria
DINOSELookup
DIOMSGranules
DIOrbitCalculatedSpatial
DIOrbitPolygons
DIOWSDeletedGranules
DIPlatInstrCode
DIProcAttributes
DIQAUpdFlagTemp
DIQAUpdTempBcp
DIRecoveryParameters
DIStatESDT

**Table 3-1. Data Tables Listing (3 of 3)**

Table Name
DIStatGroupESDT
DIStatTheme
DITempGrans
DITempPhantoms
DIThemes
DIUpdGranulesTemp
DIWebAccessLog
DIXMLFilesToInsert
EcDbDatabaseVersions

Table 3-2 identifies the current version level of the Data Pool database.

**Table 3-2. EcDbDatabaseVersions**

Column Name	Data Type	PK Column	Mandatory Column
EcDbSchemaVersionId	smallint	Yes	Yes
EcDbDropVersion	char(64)	Yes	Yes
EcDbDropDescription	varchar(255)	No	No
EcDbCurrentVersionFlag	char(1)	No	No
EcDbDatabaseName	varchar(255)	No	No
EcDbDropInstallDate	datetime	No	No
EcDbSybaseVersion	varchar(255)	No	No
EcDbSybaseServer	varchar(255)	No	No
EcDbComments	varchar(255)	No	No
EcDbUpdateProcess	varchar(255)	No	No

Table 3-3 The DICollectionGroup table contains information about Data Pool collection groups. Collection groups are based on the ECS Bulk Metadata Generation Tool collection groups, and represent groupings of ECS collections by instrument and mission (e.g. MOAT).

**Table 3-3. DICollectionGroup**

Column Name	Data Type	PK Column	Mandatory Column
groupId	char(12)	Yes	Yes
displayName	char(12)	No	Yes
CollGrpDescription	varchar(255)	No	No
ecsFlag	char(1)	No	Yes
insertTime	datetime	No	No
lastUpdate	datetime	No	No
orderOnlyGrpDirName	varchar(40)	No	No



Table 3-4 The DICollections table contains information about Data Pool collections. It includes the short name and version of the collection and flags to determine whether data from the collection may be stored in the Data Pool.

**Table 3-4. DICollections**

Column Name	Data Type	PK Column	Mandatory Column
collectionId	ID	Yes	Yes
ShortName	char(8)	No	Yes
VersionId	tinyint	No	Yes
CollectionDescription	varchar(255)	No	No
groupId	char(12)	No	Yes
spatialSearchType	varchar(40)	No	Yes
exclusionSCFlag	char(1)	No	Yes
insertEnabledFlag	char(1)	No	Yes
convertEnabledFlag	char(1)	No	Yes
bulkExportedFlag	char(1)	No	Yes
insertTime	datetime	No	No
lastUpdate	datetime	No	No
qualitySummary	varchar(255)	No	No
fileSystemLabel	char(10)	No	No
compAlgorithmLabel	char(10)	No	No
moveFlag	char(1)	No	Yes
cloudSourceId	ID	No	No
global	char(1)	No	Yes
dayNight	char(1)	No	Yes
twentyFourHr	char(1)	No	Yes
gridLevel	tinyint	No	Yes
orderOnlySNDirName	varchar(40)	No	No
orderOnlyFSLabel	char(10)	No	No
replacementOn	char(1)	No	Yes

Table 3-5 The DIThemes table contains information about Data Pool themes. It includes the theme name and flags to determine whether granules associated with the theme may be stored in the Data Pool and whether the theme is allowed for web drill down.

**Table 3-5. DIThemes**

Column Name	Data Type	PK Column	Mandatory Column
themeld	ID	Yes	Yes
name	varchar(40)	No	Yes
themeDescription	varchar(255)	No	No
insertEnabledFlag	char(1)	No	Yes
webVisibleFlag	char(1)	No	Yes
preConvertEnabledFlag	char(1)	No	No
serviceRequested	char(1)	No	No
insertTime	datetime	No	No
lastUpdate	datetime	No	No

Table 3-6 The DIGranuleThemeXref table contains cross-reference information between Data Pool science granules and their associated themes.

**Table 3-6. DIGranuleThemeXref**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
themeld	ID	Yes	Yes

Table 3-7 The DIGranuleSubscription table provides a cross-reference that relates each granule in the Data Pool to the list of subscriptions that caused its insertion.

**Table 3-7. DIGranuleSubscription**

Column Name	Data Type	PK Column	Mandatory Column
subId	int	Yes	Yes
dbId	ID	Yes	Yes

Table 3-8 The DIGranules table is the central table of the Data Pool database. It contains the core attributes for all science granules in the Data Pool. It also includes the range date and time attributes for each granule.

**Table 3-8. DIGranules**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
externalId	varchar(80)	No	No
ecslId	ID	No	No
collectionId	ID	No	Yes
ShortName	char(8)	No	Yes
VersionId	tinyint	No	Yes
RangeBeginningDate	datetime	No	No
RangeBeginningTime	varchar(20)	No	No
RangeEndingDate	datetime	No	No
RangeEndingTime	varchar(20)	No	No
DayNightFlag	char(5)	No	No
sizeMB	float	No	No
ecslInsertTime	datetime	No	No
insertTime	datetime	No	No
lastUpdate	datetime	No	No
isOrderOnly	char(1)	No	No

Table 3-9 The DIGranuleExpirationPriority table contains the expiration date and retention priority for each granule in Data Pool.

**Table 3-9. DIGranuleExpirationPriority**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
expirationDate	datetime	No	Yes
retentionPriority	int	No	Yes

Table 3-10 The DIMeasuredParameter table contains one row for each measured parameter associated with a granule in the Data Pool. All data in this table are copied from the DsMdMeasureParameter table in the ECS SDSRV database.

**Table 3-10. DIMeasuredParameter**

<b>Column Name</b>	<b>Data Type</b>	<b>PK Column</b>	<b>Mandatory Column</b>
granuleId	ID	Yes	Yes
ParameterName	varchar(40)	Yes	Yes
ScienceQualityFlag	varchar(25)	No	No
OperationalQualityFlag	varchar(20)	No	No
AutomaticQualityFlag	varchar(64)	No	No
ScienceQualityFlagExplan	varchar(255)	No	No
OperationalQualityFlagExplan	varchar(255)	No	No
AutomaticQualityFlagExplan	varchar(255)	No	No
QAPercentMissingData	int	No	No
QAPercentOutOfBoundsData	int	No	No
QAPercentInterpolatedData	int	No	No
QAPercentCloudCover	int	No	No

Table 3-11 The DIBrowse table contains information about Browse granules in the Data Pool.

**Table 3-11. DIBrowse**

<b>Column Name</b>	<b>Data Type</b>	<b>PK Column</b>	<b>Mandatory Column</b>
browseId	ID	Yes	Yes
externalId	varchar(80)	No	No
ecsId	ID	No	No
BrowseDescription	varchar(255)	No	No
ecsInsertTime	datetime	No	No
insertTime	datetime	No	No
lastUpdate	datetime	No	No
isOrderOnly	char(1)	No	No

Table 3-12 The DIBrowseFile table contains information about Browse files in the Data Pool.

**Table 3-12. DIBrowseFile**

Column Name	Data Type	PK Column	Mandatory Column
browseId	ID	Yes	Yes
fileName	varchar(255)	Yes	Yes
directoryPath	varchar(255)	No	Yes
fileType	varchar(10)	No	No
fileSize	numeric(16,0)	No	No

Table 3-13 The DIGranuleBrowseXref table contains cross-reference information between Data Pool science granules and their associated browse granules.

**Table 3-13. DIGranuleBrowseXref**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
browseId	ID	Yes	Yes

Table 3-14 The DIFile table contains information about science files in the Data Pool.

**Table 3-14. DIFile**

Column Name	Data Type	PK Column	Mandatory Column
directoryPath	varchar(255)	Yes	Yes
fileName	varchar(255)	Yes	Yes
granuleId	ID	No	Yes
fileType	varchar(10)	No	No
fileSize	numeric(16,0)	No	No
origChksum	numeric(25,0)	No	No
compFileSize	numeric(16,0)	No	No
compAlgorithmLabel	char(10)	No	No
compChksum	numeric(25,0)	No	No
uncompChksum	numeric(25,0)	No	No
compTimeInSec	int	No	No
uncompChksumTypeid	tinyint	No	No

Table 3-15 The DIBoundingBoxRectangle table contains spatial information about granules whose spatial coverage is LLBOX.

**Table 3-15. DIBoundingBoxRectangle**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
BoundingBoxRectangle	llbox	No	Yes

Table 3-16 The DIGPolygon table contains spatial information about granules whose spatial coverage is a polygon.

**Table 3-16. DIGPolygon**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
GpolygonContainer	gpolygon	No	Yes

Table 3-17 The DIOrbitCalculatedSpatial table contains spatial information about granules with nominal orbital spatial coverage.

**Table 3-17. DIOrbitCalculatedSpatial**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
PathNo	smallint	Yes	Yes
StartBlock	smallint	Yes	Yes
EndBlock	smallint	No	Yes
platInstrCode	tinyint	Yes	Yes
misrCamerald	varchar(20)	No	No
misrOrbitNumber	int	No	No
misrProductVersion	int	No	No

Table 3-18 The DIOrbitPolygons table contains a series of orbit polygons for a platform and instrument combination. The data in this table is static and applies only to MISR data.

**Table 3-18. DIOrbitPolygons**

Column Name	Data Type	PK Column	Mandatory Column
platInstrCode	tinyint	Yes	Yes
PathNo	smallint	Yes	Yes
SequenceNo	smallint	Yes	Yes
Orbit	polygon	No	Yes

Table 3-19 The DIPlatInstrCode table contains static look up information regarding the platform and instrument names for a given platInstrCode.

**Table 3-19. DIPlatInstrCode**

Column Name	Data Type	PK Column	Mandatory Column
platInstrCode	tinyint	Yes	Yes
platformShortName	varchar(20)	No	Yes
instrumentName	varchar(80)	No	Yes

Table 3-20 The DIConfig table contains parameter names and values for all Data Pool configuration parameters which are configurable through the Data Pool Maintenance GUI.

**Table 3-20. DIConfig**

Column Name	Data Type	PK Column	Mandatory Column
parameterName	varchar(50)	Yes	Yes
parameterDescription	varchar(255)	No	No
parameterType	char(1)	No	Yes
intValue	int	No	No
charValue	varchar(255)	No	No
floatValue	float	No	No

Table 3-21 The DIFilesToBeDeleted table is used by the Data Pool Cleanup Utility as temporary storage for all granules which get deleted from the Data Pool inventory through a Data Pool clean up session.

**Table 3-21. DIFilesToBeDeleted**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	No	No
browseId	ID	No	No
fileName	varchar(255)	No	Yes
fileSize	numeric(16,0)	No	Yes
directoryPath	varchar(255)	No	No
state	tinyint	No	Yes
ecsId	ID	No	No
ShortName	char(8)	No	No
VersionId	tinyint	No	No

Table 3-22 The DITempGrans is used by the Data Pool Cleanup Utility for the temporary storage of granuleIds that are passed in through the -file parameter.

**Table 3-22. DITempGrans**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes

Table 3-23 The DITempPhantoms is used as temporary work space to store the names of phantom files. It will be populated from a flat file using the Sybase Bulk Copy Utility.

**Table 3-23. DITempPhantoms**

Column Name	Data Type	PK Column	Mandatory Column
directoryPath	varchar(255)	No	Yes
fileName	varchar(255)	No	Yes



Table 3-24 The DIProcAttributes table contains the static configuration attributes read by the Data Pool stored procedures.

**Table 3-24. DIProcAttributes**

Column Name	Data Type	PK Column	Mandatory Column
procName	varchar(30)	Yes	Yes
attributeName	varchar(30)	Yes	Yes
charValue	varchar(255)	No	No
intValue	int	No	No
floatValue	float	No	No

Table 3-25 The DIInsertActionQueue table contains Data Pool insert actions that have been queued up by the Spatial Subscription Server or by the Batch Insert Utility.

**Table 3-25. DIInsertActionQueue**

Column Name	Data Type	PK Column	Mandatory Column
insQueueId	ID	Yes	Yes
ecsId	ID	No	No
ShortName	char(8)	No	No
VersionId	tinyint	No	No
subId	int	No	No
retentionPriority	int	No	No
retentionPeriod	int	No	No
metadataOnlyFlag	char(1)	No	No
enqueueTime	datetime	No	Yes
completionTime	datetime	No	No
retryCount	int	No	No
status	varchar(20)	No	No
statusDetail	varchar(255)	No	No
inCacheFlag	char(1)	No	Yes
actionSource	char(2)	No	No
dispatchPriority	smallint	No	No
xmlFileName	varchar(255)	No	No
themeld	ID	No	No
batchLabel	varchar(16)	No	No
archiveHost	varchar(60)	No	No
tapeLabel	varchar(60)	No	No
requestId	varchar(10)	No	No
requestSuspendFlag	char(1)	No	No

Table 3-26 The DIActiveInsertProcesses table contains information on all the current active Data Pool insert processes.

**Table 3-26. DIActiveInsertProcesses**

Column Name	Data Type	PK Column	Mandatory Column
granIdentifier	varchar(255)	Yes	Yes
processId	int	No	No
parentPid	int	No	No
xmlFileName	varchar(255)	No	No
ecsId	ID	No	No
ShortName	char(8)	No	Yes
VersionId	tinyint	No	Yes
retentionPriority	int	No	No
retentionPeriod	int	No	No
metadataOnlyFlag	char(1)	No	No
startTime	datetime	No	No
lastStatusChangeTime	datetime	No	No
status	varchar(50)	No	No
inCacheFlag	char(1)	No	No
retryCount	int	No	No

Table 3-27 The DIFtpAccessLog table is a temporary table used by the Data Pool Access Statistic Utility. It contains entries for each Data Pool file access which appears in the FTP log.

**Table 3-27. DIFtpAccessLog**

Column Name	Data Type	PK Column	Mandatory Column
directoryPath	varchar(255)	No	Yes
fileName	varchar(255)	No	Yes
accessTime	datetime	No	Yes
fileSize	numeric(16,0)	No	Yes
transferTime	int	No	No
specialActionFlag	char(2)	No	No
ipAddress	char(15)	No	Yes
domainName	varchar(255)	No	No

Table 3-28 The DIWebAccessLog table is a temporary table used by the Data Pool Access Statistic Utility. It contains entries for each Data Pool file (metadata, browse) access which appears in the web log.

**Table 3-28. DIWebAccessLog**

Column Name	Data Type	PK Column	Mandatory Column
directoryPath	varchar(255)	No	Yes
fileName	varchar(255)	No	Yes
accessTime	datetime	No	Yes
ipAddress	char(15)	No	Yes
domainName	varchar(255)	No	No

Table 3-29 The DIAccessRollup table contains an entry for each Data Pool access statistic rollup.

**Table 3-29. DIAccessRollup**

Column Name	Data Type	PK Column	Mandatory Column
rollupBeginningDateTime	datetime	Yes	Yes
rollupEndingDateTime	datetime	Yes	Yes
accessType	varchar(10)	Yes	Yes

Table 3-30 The DIGranuleAccess table contains information used for running Data Pool access statistic reports.

**Table 3-30. DIGranuleAccess (1 of 2)**

Column Name	Data Type	PK Column	Mandatory Column
dbId	ID	No	Yes
accessType	varchar(10)	No	Yes
age	int	No	Yes
ecsId	ID	No	No
fileSize	numeric(16,0)	No	Yes
fileType	varchar(10)	No	No
fileName	varchar(255)	No	No
accessTime	datetime	No	Yes
transferTime	int	No	No

**Table 3-30. DIGranuleAccess (2 of 2)**

Column Name	Data Type	PK Column	Mandatory Column
specialActionFlag	char(2)	No	No
ipAddress	char(15)	No	Yes
domainName	varchar(255)	No	No

Table 3-31 The DIDimensionGroupESDT table is a static table used for web drill down. It contains information about all possible Data Pool collection groups and collections to which a Data Pool granule might belong.

**Table 3-31. DIDimensionGroupESDT**

Column Name	Data Type	PK Column	Mandatory Column
groupESDTKey	int	Yes	Yes
groupESDTType	char(1)	No	Yes
groupESDTValue	varchar(12)	No	Yes
groupESDTDescription	varchar(255)	No	No
groupKey	int	No	No

Table 3-32 The DIDimensionDayNight table is a static table used for web drill down. It contains information about all possible values of DayNightFlag for Data Pool granules might belong.

**Table 3-32. DIDimensionDayNight**

Column Name	Data Type	PK Column	Mandatory Column
dayNightKey	smallint	Yes	Yes
dayNightValue	char(1)	No	Yes
dayNightDescription	varchar(20)	No	No

Table 3-33 The DIDimensionTimeOfDay table is a static table used for web drill down. It contains a row for each time of day bin to which a Data Pool granule might belong.

**Table 3-33. DIDimensionTimeOfDay**

Column Name	Data Type	PK Column	Mandatory Column
timeOfDayKey	smallint	Yes	Yes
timeOfDayType	char(1)	No	Yes
timeOfDayBeginTime	smallint	No	Yes
timeOfDayEndTime	smallint	No	Yes
todHourKey	smallint	No	No
todFourHourKey	smallint	No	No
todHalfDayKey	smallint	No	No

Table 3-34 The DIDimensionMP table is a static table used for web drill down. It contains information about all known measured parameters.

**Table 3-34. DIDimensionMP**

Column Name	Data Type	PK Column	Mandatory Column
qaKey	int	Yes	Yes
qaValue	varchar(40)	No	No
qaDescription	varchar(255)	No	Yes

Table 3-35 The DIDimensionScienceQA table is a static table used for web drill down. It contains information about all known science QA flag values which could be present in a Data Pool granule.

**Table 3-35. DIDimensionScienceQA**

Column Name	Data Type	PK Column	Mandatory Column
qaCode	tinyint	Yes	Yes
qaValue	varchar(40)	No	Yes
qaDescription	varchar(255)	No	Yes

Table 3-36 The DIDimensionMPScienceQAXref table is a table used for web drill down. It contains unique key to indicate the combination of measured parameter and a valid science QA value.

**Table 3-36. DIDimensionMPScienceQAXref**

Column Name	Data Type	PK Column	Mandatory Column
qaKey	int	Yes	Yes
qaCode	tinyint	No	Yes
qaNameKey	int	No	Yes

Table 3-37 The DIDimensionTemporal table is a static table used for web drill down. It contains a row for each possible temporal bin (day, week, month, and year) to which a Data Pool granule might belong. NOTE: For purposes of this table, weeks are not defined as Sunday - Saturday groups of 7 days, but are instead defined as subsets of 7 day weeks wholly contained within a calendar month. For example, if a Sunday - Saturday week is July 29 - August 4, this table will store July 29-31 as one week, and August 1-4 as a different week.

**Table 3-37. DIDimensionTemporal**

Column Name	Data Type	PK Column	Mandatory Column
temporalKey	int	Yes	Yes
temporalType	char(1)	No	Yes
temporalBeginDate	datetime	No	Yes
temporalEndDate	datetime	No	Yes
weekKey	int	No	No
monthKey	int	No	No
yearKey	int	No	No

Table 3-38 The DIDimensionSpatialT6All table is a static table used for web drill down. It contains a row for each possible spatial bin to which a Data Pool granule might belong.

**Table 3-38. DIDimensionSpatialT6All**

Column Name	Data Type	PK Column	Mandatory Column
spatialKey	int	Yes	Yes
gridLevel	tinyint	No	Yes
tile	int	No	Yes
BR_Degree	gpolygon	No	Yes

Table 3-39 The DIDimensionPolygonXref table is a static table used for populating the DIESDTCurrentDensityMap table for orbit data. It contains spatial keys for each polygon with specific path and instrument.

**Table 3-39. DIDimensionPolygonXref**

Column Name	Data Type	PK Column	Mandatory Column
spatialKey	int	Yes	Yes
platInstrCode	tinyint	Yes	Yes
PathNo	smallint	Yes	Yes
SequenceNo	smallint	Yes	Yes
gridLevel	tinyint	No	No

Table 3-40 The DIFactGroupESDT table stores the relation between granules and the group/ESDT search domain, defined in DIDimensionGroupESDT.

**Table 3-40. DIFactGroupESDT**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
groupESDTKey	int	Yes	Yes

Table 3-41 The DIFactDayNight stores the relation between granules and the DayNight search domain, defined in DIDimensionDayNight.

**Table 3-41. DIFactDayNight**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
dayNightKey	smallint	Yes	Yes

Table 3-42 The DIFactTimeOfDay table stores the relation between granules and the TimeOfDay search domain, defined in DIDimensionTimeOfDay.

**Table 3-42. DIFactTimeOfDay**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
timeOfDayKey	smallint	Yes	Yes

Table 3-43 The DIFactQA table stores the relation between granules and the QA search domain, defined in DIDimensionMPScienceQAXref.

**Table 3-43. DIFactQA**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
qaKey	int	Yes	Yes

Table 3-44 The DIFactTemporalRange table stores the relation between granules and the temporal search domain, defined in DIDimensionTemporal.

**Table 3-44. DIFactTemporalRange**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
collectionId	ID	No	Yes
minDayKey	int	No	Yes
maxDayKey	int	No	Yes
minWeekKey	int	No	Yes
maxWeekKey	int	No	Yes
minMnthKey	int	No	Yes
maxMnthKey	int	No	Yes
minYearKey	int	No	Yes
maxYearKey	int	No	Yes
sizeMB	float	No	No

Table 3-45 The DIIdentifier table contains the next available system generated unique identifier. There is a separate row in this table to generate identifiers for the DICollections, DIGranules, DIThemes, and DIBrowse tables.

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

**Table 3-45. DIIdentifier (1 of 2)**

Column Name	Data Type	PK Column	Mandatory Column
identifierType	char(30)	Yes	Yes
identifierObjectType	char(30)	Yes	Yes
lastIdentifier	ID	No	Yes
lastIntIdentifier	int	No	Yes



**Table 3-45. DIIdentifier (2 of 2)**

Column Name	Data Type	PK Column	Mandatory Column
lastSmallintIdentifier	smallint	No	Yes
identifierPad1	char(255)	No	Yes
identifierPad2	char(255)	No	Yes
identifierPad3	char(255)	No	Yes
identifierPad4	char(255)	No	Yes
identifierPad5	char(255)	No	Yes
identifierPad6	char(255)	No	Yes
identifierPad7	char(255)	No	Yes

Table 3-46 The DIUpdGranulesTemp table is temp permanent table, which will get the data from a flat file using the Sybase Bulk Copy Utility for the Update Granule Expiration utility.

**Table 3-46. DIUpdGranulesTemp**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	No	Yes
ExpirationDate	datetime	No	Yes
RetentionPriority	int	No	No

Table 3-47 The DIXMLFilesToInsert table holds Non-ECS granule data for the Batch Insert utility.

**Table 3-47. DIXMLFilesToInsert**

Column Name	Data Type	PK Column	Mandatory Column
processId	int	Yes	Yes
xmlFileName	varchar(255)	Yes	Yes
ShortName	char(8)	No	No
VersionId	tinyint	No	No

Table 3-48 The DIECSIdsToInsert table holds the granules from Science Data Server for the Batch Insert utility.

**Table 3-48. DIECSIdsToInsert**

Column Name	Data Type	PK Column	Mandatory Column
processId	int	Yes	Yes
ecsId	ID	Yes	Yes

Table 3-49 The DIHEGLookup table holds all collections that allow HEG conversion.

**Table 3-49. DIHEGLookup**

Column Name	Data Type	PK Column	Mandatory Column
ShortName	char(8)	Yes	Yes
VersionId	tinyint	Yes	Yes

Table 3-50 The DICartOrder table contains order information for HEG conversion orders that initiated through the Data Pool Web Access GUI.

**Table 3-50. DICartOrder**

Column Name	Data Type	PK Column	Mandatory Column
orderId	ID	Yes	Yes
email	varchar(255)	No	Yes
realName	varchar(255)	No	No
status	varchar(10)	No	No
timestamp	datetime	No	No
notes	varchar(255)	No	No
insertDate	datetime	No	No
archiveFlag	char(1)	No	Yes

Table 3-51 The DIOrderItem table contains order item information for HEG conversion orders that initiated through the Data Pool Web Access GUI.

**Table 3-51. DIOrderItem**

Column Name	Data Type	PK Column	Mandatory Column
itemId	ID	Yes	Yes
orderId	ID	No	Yes
inputFile	varchar(255)	No	Yes
outputProj	varchar(10)	No	No
outputFmt	varchar(10)	No	No
ul_lat	float	No	No
ul_lon	float	No	No
lr_lat	float	No	No
lr_lon	float	No	No
status	varchar(10)	No	No
errorCode	int	No	No
granuleId	ID	No	No
projParamStr	varchar(255)	No	No
subsetFlag	char(1)	No	Yes
compAlgorithmLabel	char(10)	No	No

Table 3-52 DIQAUpdFlagTemp is a temporary table to hold QA flags to be updated and their values

**Table 3-52. DIQAUpdFlagTemp**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	No	Yes
ParameterName	varchar(40)	No	Yes
xmlUpdateFlag	char(1)	No	No
qaFlagType	varchar(11)	No	No
qaValue	varchar(25)	No	No
qaExpIValue	varchar(255)	No	No

Table 3-53 The DIRecoveryParameters table contains information about the various parameters and its values to be used in Data Pool Cleanup Utility.

**Table 3-53. DIRecoveryParameters**

Column Name	Data Type	PK Column	Mandatory Column
utilityName	varchar(40)	Yes	Yes
parameterName	varchar(50)	Yes	Yes
parameterValue	varchar(255)	No	Yes

Table 3-54 QA Update utility will first load this table using Sybase Bulk Copy Utility for the final population of DIQAUpdFlagTemp table.

**Table 3-54. DIQAUpdTempBcp**

Column Name	Data Type	PK Column	Mandatory Column
ecsId	ID	No	Yes
ParameterName	varchar(40)	No	Yes
xmlUpdateFlag	char(1)	No	No
qaFlagType	varchar(11)	No	No
qaValue	varchar(25)	No	No
qaExpIValue	varchar(255)	No	No

Table 3-55 DIFileSystems contains the file system information for Data Pool staging area.

**Table 3-55. DIFileSystems**

Column Name	Data Type	PK Column	Mandatory Column
fileSystemLabel	char(10)	Yes	Yes
absoluteFileSystemPath	varchar(255)	No	Yes
filePath	varchar(255)	No	No
freeSpaceMB	int	No	Yes
availabilityFlag	char(1)	No	Yes
availabilityFlagLastUpdate	datetime	No	No
freeSpaceFlag	char(1)	No	Yes
freeSpaceFlagLastUpdate	datetime	No	No
insertTime	datetime	No	Yes

Table 3-56 DICompressionAlgorithms contains all the compression algorithms that are used by DataPool.

**Table 3-56. DICompressionAlgorithms**

Column Name	Data Type	PK Column	Mandatory Column
compAlgorithmLabel	char(10)	Yes	Yes
compCmd	varchar(255)	No	Yes
decompCmd	varchar(255)	No	No
defaultFileExtension	char(10)	No	No
activeFlag	char(1)	No	Yes
lastUpdate	datetime	No	No
insertTime	datetime	No	Yes

Table 3-57 DICloudCoverSource contains all the cloud cover source that used by DataPool.

**Table 3-57. DICloudCoverSource**

Column Name	Data Type	PK Column	Mandatory Column
cloudSourceId	ID	Yes	Yes
sourceName	varchar(40)	No	Yes
sourceDescription	varchar(255)	No	No
sourceType	char(1)	No	Yes

Table 3-58 DIGrCloudCover contains the cloud cover percentage for a granule

**Table 3-58. DIGrCloudCover**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
cloudCover	int	No	Yes

Table 3-59 DIGranuleTiles contains the list of spatial keys for a granule in HEX format.

**Table 3-59. DIGranuleTiles**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
collectionId	ID	No	Yes
insertTime	datetime	No	Yes
tiles	varbinary(800)	No	Yes
gridLevel	tinyint	No	Yes

Table 3-60 DIESDTCurrentDensityMap contains the HEX representation of a density map for a collection.

**Table 3-60. DIESDTCurrentDensityMap**

Column Name	Data Type	PK Column	Mandatory Column
collectionId	ID	Yes	Yes
lastUpdate	datetime	No	No
densityMap	image	No	Yes
lastUpdatedUtility	char(1)	No	Yes

Table 3-61 DIOMSGranules contains all the granules that are come from OMS requests. It uses between the OMS and the cleanup utility to figure out who owns the row.

**Table 3-61. DIOMSGranules**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	Yes	Yes
ecsId	ID	No	No
granuleType	char(2)	Yes	Yes
owner	char(1)	No	No
lastUpdate	datetime	No	No

Table 3-62 DICartOrderItemBand contains the band information for an order item.

**Table 3-62. DICartOrderItemBand**

Column Name	Data Type	PK Column	Mandatory Column
itemId	ID	No	Yes
objectId	ID	No	Yes
bandId	ID	No	No
bandValue	int	No	No
dimId	ID	No	No
dimValue	int	No	No

Table 3-63 DIHdfObjects contains the HDF object information

**Table 3-63. DIHdfObjects**

Column Name	Data Type	PK Column	Mandatory Column
objectId	ID	Yes	Yes
objectName	varchar(255)	No	Yes
objectType	varchar(60)	No	Yes

Table 3-64 DIHdfBands contains the HDF band information.

**Table 3-64. DIHdfBands**

Column Name	Data Type	PK Column	Mandatory Column
bandId	ID	Yes	Yes
fieldName	varchar(255)	No	Yes
bandName	varchar(255)	No	Yes
bandSize	int	No	Yes



Column Name	Data Type	PK Column	Mandatory Column
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Table 3-65 DIHdf4thDimensions contains the 4<sup>th</sup> dimension information of a HDF object.

**Table 3-65. DIHdf4thDimensions**

Column Name	Data Type	PK Column	Mandatory Column
dimId	ID	Yes	Yes
dimName	varchar(255)	No	Yes
dimSize	int	No	Yes

Table 3-66 DIGranuleHdfObjectsXref contains the band subset information for a granule

**Table 3-66. DIGranuleHdfObjectsXref**

Column Name	Data Type	PK Column	Mandatory Column
granuleId	ID	No	Yes
objectId	ID	No	Yes
bandId	ID	No	No
dimId	ID	No	No
fieldId	ID	No	No

Table 3-67 DIMisrProcessingCriteria contains the list of MISR ESDTs which uses for MISR Browse processing.

**Table 3-67. DIMisrProcessingCriteria**

Column Name	Data Type	PK Column	Mandatory Column
ShortName	char(8)	Yes	Yes
VersionId	tinyint	Yes	Yes
type	char(1)	No	Yes

Table 3-68 The DINOSELookup table holds all collections that are NOSE data type. This table uses to fill out the gridLevel for NOSE collections in DICollections.

**Table 3-68. DINOSELookup**

Column Name	Data Type	PK Column	Mandatory Column
ShortName	char(8)	Yes	Yes
VersionId	tinyint	Yes	Yes
platformShortName	varchar(20)	No	Yes
instrumentName	varchar(80)	No	Yes



Table 3-69 The DIStatGroupESDT table contains all groupESDT Key space and the total number of granules that the group or ESDT contains.

**Table 3-69. DIStatGroupESDT**

Column Name	Data Type	PK Column	Mandatory Column
groupESDTKey	int	No	Yes
number	int	No	Yes

Table 3-70 The DIStatESDT table contains all groupESDT Key space and the total number of granules that the ESDT contains.

**Table 3-70. DIStatESDT**

Column Name	Data Type	PK Column	Mandatory Column
groupESDTKey	int	No	Yes
groupESDTType	char(1)	No	Yes
number	int	No	Yes
size	float	No	Yes

Table 3-71 The DIStatTheme table contains a list of themes and the total number of granules that each theme contains.

**Table 3-71. DIStatTheme**

Column Name	Data Type	PK Column	Mandatory Column
themeld	ID	No	Yes
number	int	No	Yes

Table 3-72 The DIAgingConfig table stores the global aging policy used to describe how the dispatch priority of a granule changes over time.

**Table 3-72. DIAgingConfig**

Column Name	Data Type	PK Column	Mandatory Column
AgingConfigId	Numeric/Identity	Yes	Yes
MaxPriLevel	float	No	No
agingStep	float	No	No
ECSPriority	char(15)	No	No
IntPriority	tinyint	No	No

Table 3-73 The DIHEGOptions table stores all HEG options relate to format, projections, and subsetting.

**Table 3-73. DIHEGOptions**

Column Name	Data Type	PK Column	Mandatory Column
optionId	int	Yes	Yes
optionType	varchar(20)	No	Yes
optionName	varchar(80)	No	Yes

Table 3-74 The DIHEGOptionLabel table stores the label name for each HEG options.

**Table 3-74. DIHEGOptionLabel**

Column Name	Data Type	PK Column	Mandatory Column
optionId	int	Yes	Yes
labelName	varchar(80)	No	Yes

Table 3-75 The DIHEGOptionCollXref table stores the available static HEG options for each ESDT.

**Table 3-75. DIHEGOptionCollXref**

Column Name	Data Type	PK Column	Mandatory Column
collectionId	ID	Yes	Yes
optionId	int	Yes	Yes
required	char(1)	No	Yes

Table 3-76 The DIHEGExceptions table stores a list of HEG exceptions base on the specific option.

**Table 3-76. DIHEGExceptions**

Column Name	Data Type	PK Column	Mandatory Column
exceptionId	int	Yes	Yes
formatId	int	No	No
projectionId	int	No	No
subsetId	int	No	No
resamplingId	int	No	No
subsamplingId	int	No	No
stitchingId	int	No	No
resolutionId	int	No	No
exceptionType	char(1)	No	No
message	varchar(255)	No	No

Table 3-77 The DIHEGExceptionCollXref table stores the available exception for HEG options for each ESDT.

**Table 3-77. DIHEGExceptionCollXref**

Column Name	Data Type	PK Column	Mandatory Column
collectionId	ID	Yes	Yes
exceptionId	int	Yes	Yes

Table 3-78 The DIGranuleOWS table contains granules that are registered with OGC Web Services , OWS.

**Table 3-78. DIGranuleOWS**

Column Name	Data Type	PK Column	Mandatory Column
geoid	varchar(30)	Yes	Yes
granuleId	ID	No	Yes
serviceRequested	char(1)	No	Yes
processingState	varchar(10)	No	No
lastUpdate	datetime	No	No

Table 3-79 The DIOWSDeletedGranules table contains granules that have been deleted from the Data Pool database but are still registered with OGC Web Services, OWS.

**Table 3-79. DIOWSDeletedGranules**

<b>Column Name</b>	<b>Data Type</b>	<b>PK Column</b>	<b>Mandatory Column</b>
geoid	varchar(30)	Yes	Yes
expirationDate	datetime	No	Yes
serviceRequested	char(1)	No	Yes

### **3.1.3 Columns**

Brief definitions of each of the columns present in the database tables defined above are contained in Table 3-80.

**Table 3-80. Column Descriptions (1 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
absoluteFileSystemPath	DIFileSystems	The absolute path includes the FTP root path and the file system path.	
accessTime	DIGranuleAccess DIFtpAccessLog DIWebAccessLog	The time at which the file was accessed through FTP or Web	
accessType	DIGranuleaccess DIAccessRollup	The type of access log for this process.	FTP – any ftp access http – any web access
actionSource	DIInsertActionQueue	Indicates if the action is coming from the Spatial Subscription Server, Data Pool Batch Insert Utility or request from Order Manager. Valid values are:	B – Batch Insert S – Subscription O – OMS request
activeFlag	DICompressionAlgorithms	Flag indicates whether the compression algorithm is active.	Y – compression algorithm active (default) N – compression algorithm is not active
age	DIGranuleAccess	The difference between the time at which the file was accessed through FTP or Web and the time at which the file was inserted into Data Pool	
AgingConfigId	DI AgingConfig	Unique identifier for a aging policy	
agingStep	DI AgingConfig	Number of steps to promote the request for the aging policy.	
archiveFlag	DI CartOrder	Flag used to determine whether delete have been performed on the order	Y – Delete had performed on the order N – Delete had not performed on the order (default)
archiveHost	DIInsertActionQueue	Indicate which archive host to use for copying the file into Data Pool.	
attributeName	DIProcAttributes	The name of the attribute which is use to look up its value.	
AutomaticQualityFlag	DI MeasuredParameter	Automatic Quality value for the granule	

**Table 3-80. Column Descriptions (2 of 26)**

Column Name	Table	Column Description	Valid Values
AutomaticQualityFlag Explan	DIMeasuredParameter	Explanation for how to figure out the automatic quality value.	
availabilityFlag	DIFileSystems	Flag indicates whether the file system is available	Y – file system available (default) N – file system is unavailable
availabilityFlagLastU pdate	DIFileSystems	The last time that the availability flag updated.	
bandId	DIHdfBands DICartOrderItemBand DIGranuleHdfObjectsXref	Unique identifier for the 3 <sup>rd</sup> dimension in a field in a HDF-EOS object	
bandName	DIHdfBands	Name of the 3 <sup>rd</sup> dimension in a field	
bandSize	DIHdfBands	Size of 3 <sup>rd</sup> dimension in the field	
bandValue	DICartOrderItemBand	The value for the 3 <sup>rd</sup> dimension in a HDF-EOS object	
batchLabel	DIInsertActionQueue	Batch label that is associated with a batch insert.	
BoundingRectangle	DIBoundingRectangle	A SQS type lbox representation of the spatial area for the granule.	
BR_Degree	DI DimensionSpatialT6All	The value of the geographical location	
BrowseDescription	DIBrowse	Description of the browse granule	
browseId	DIBrowse DIBrowseFile DIGranuleBrowseXref DIFilesToBeDeleted	The unique ID which identifies the browse granule	
bulkExportedFlag	DICollections	Flag used to determine whether the collection allows for exporting metadata by the ECHO Access to Data Pool utility.	Y – export to ECHO N – do not export to ECHO (default)

**Table 3-80. Column Descriptions (3 of 26)**

Column Name	Table	Column Description	Valid Values
charValue	DIConfig DIProcAttributes	The value of the parameter which has data type of character.	
cloudCover	DIGrCloudCover	The percentage for cloud cover.	
cloudSourceId	DICollections DICloudCoverSource	ID uses to indicate which cloud cover source that the collection uses.	
CollectionDescription	DICollections	Description of ECS collection	
collectionId	DICollections DIGranules DIGranuleTiles DIESDTCurrentDensityMap DIFactTemporalRange DIHEGOptionCollXref DIHEGExceptionCollXref	Identifier for each collection	
CollGrpDescription	DICollectionGroup	Description of an ECS collection group	
compAlgorithmLabel	DICompressionAlgorithms DICollections DICartOrderItem DIFile	Label uses to indicate which compression algorithm to use.	
compChksum	DIFile	Checksum computed for compressed file	
compCmd	DICompressionAlgorithms	The command for a compression algorithm with full path.	
compFileSize	DIFile	The size of the compressed file.	
completionTime	DIInsertActionQueue	The time that the action was completed. It contains the value NULL until the action status is either DONE or FAILED.	
compTimeInSec	DIFile	Time in seconds it took to compress the file	
convertEnabledFlag	DICollections	Flag use to determine whether the collection is allowed for HEG conversion.	Y – allow HEG conversion N – do not allow HEG conversion (default)

**Table 3-80. Column Descriptions (4 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
dayNight	DICollections	Flag uses to indicate whether the collection has day night coverage.	Y – has dayNight coverage (default) N – does not have dayNight coverage
dayNightDescription	DIDimensionDayNight	Description for each dayNighValue	
DayNightFlag	DIGanules	Flag indicating whether the granule was acquired during the day, the night, or both	
dayNightKey	DIDimensionDayNight DIFactDayNight	Uniquely Identifies a condition of the day when the granule acquisition occurred.	
dayNightValue	DIDimensionDayNight	The value represented by the key.	D – Day N – Night B – Both X – Not Compatible
dbld	DIGranuleSubscription DIGranuleAccess	The unique ID which identifies the granule.	
decompCmd	DICompressionAlgorithms	The associated decompress command for the compression algorithm with full path.	
defaultFileExtension	DICompressionAlgorithms	The default file extension uses for the compressed file after the granule file compressed.	
densityMap	DIESDTCurrentDensityMap	The HEX representation of the density map	
dimId	DIHdf4thDimensions DICartOrderItemBand DIGranuleHdfObjectsXref	Unique identifier for the 4 <sup>th</sup> dimension in a field in a HDF-EOS object.	
dimName	DIHdf4thDimensions	Name of the 4 <sup>th</sup> dimension in the field	
dimSize	DIHdf4thDimensions	Size of the 4 <sup>th</sup> dimension in the field	
dimValue	DICartOrderItemBand	The value for the 4 <sup>th</sup> dimension in a HDF-EOS object.	



**Table 3-80. Column Descriptions (5 of 26)**

Column Name	Table	Column Description	Valid Values
directoryPath	DIFile DIBrowseFile DIFilesToBeDeleted DIFtpAccessLog DIWebAccessLog DITempPhantoms	Path Name of the browse granule files relative to the Data Pool root directory.	
dispatchPriority	DIInsertActionQueue	Dispatch priority for a granule in the queue.	
displayName	DICollectionGroup	Group name uses to display on Web Drill Down page.	
domainName	DIFtpAccessLog DIWebAccessLog DIGranuleAccess	Domain name of the client	
EcDbComments	EcDbDatabaseVersions	Notes or comments on the database version level.	
EcDbCurrentVersion Flag	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 drops for	
EcDbDropInstallDate	EcDbDatabaseVersions	The date and time that the database version level was installed.	
EcDbDropVersion	EcDbDatabaseVersions	The official description of the ECS software drops for this database version level.	
EcDbSchemaVersion Id	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.	

**Table 3-80. Column Descriptions (6 of 26)**

Column Name	Table	Column Description	Valid Values
EcDbUpdateProcess	EcDbDatabaseVersions	The installation method by which this database version level was installed.	
ecsFlag	DICollectionGroup	Flag used to identify whether the collection group is ECS or non-ECS.	Y – ECS N – Non-ECS
ecsId	DIActiveInsertProcesses DIGranules DIBrowse DIFilesToBeDeleted DIOMSGranules DIQUpdTempBcp DIGranuleAccess DIInsertActionQueue DIECSIdsToInsert	The ID that identifies the ECS browse granule. It matches the browse id in SDSRV database.  The unique ID which identifies the granule. It matches the dbID in the ECS Science Data Server (SDSRV) database.	
ecsInsertTime	DIGranules DIBrowse	Time when the granule was inserted into ECS	
ECSPriority	DI AgingConfig	Priority for the ECS request before gets into the DPL	
email	DI CartOrder	Email Id	
EndBlock	DIOrbitCalculatedSpatial	The ordinal number of the polygon where granule coverage ends.	
enqueueTime	DIInsertActionQueue	The time at which the action was queued.	
errorCode	DI CartOrderItem	if FAILED, error code from HEG converter	
exceptionType	DIHEGExceptions	Value to indicate the type of exception, valid values.	"W" - warning, "E" - Error
exclusionSCFlag	DI Collections	Flag used to determine whether the collection is allowed to insert Science and Metadata to Data Pool or Metadata only.	Y – Metadata only N – Science and Metadata (default)
ExpirationDate	DIUpdGranulesTemp	Expiration date for a granule.	
expirationDate	DIGranuleExpirationPriority DIOWSDeletedGranules	Date when the granule expired.	

**Table 3-80. Column Descriptions (7 of 26)**

Column Name	Table	Column Description	Valid Values
exceptionId	DIHEGExceptions DIHEGExceptionCollXref	Unique identifier for a HEG exception	
externalId	DIGranules DIBrowse	The ID which identifies the Non-ECS granule.	
fieldId	DIHdfFields DIGranuleHdfObjectsXref	Id of the field in the HDF-EOS object	
fieldName	DIHdfBands DIHdfFields	Name of the field in the HDF-EOS object	
fileName	DIFile DIBrowseFile DIFilesToBeDeleted DIFtpAccessLog DIWebAccessLog DITempPhantoms DIGranuleAccess	The file name for a science, metadata or browse file	
fileSize	DIFile DIBrowseFile DIFilesToBeDeleted DIFtpAccessLog DIGranuleAccess	The size of the browse file stored on the Data Pool disk. The size of the file in Data Pool.	
fileSystemLabel	DIFileSystems DICollections	Label uses to indicate which file system the collection belongs to.	
fileSystemPath	DIFileSystems	The file system portion of the absolute path.	
fileType	DIBrowseFile DIFile DIGranuleAccess	The type of file. The valid file type for a browse granule is BROWSE. The type of the file. The valid file types for a science granule are:	BROWSE SCIENCE METADATA
floatValue	DIConfig DIProcAttributes	The value of the parameter which has data type of float.	
formatId	DIHEGExceptions	Identifier for a HEG's format option.	
freeSpaceFlag	DIFileSystems	Flag indicates whether there's any space available in the file system.	Y – space is available on the file system N – no space is available on the file system
freeSpaceFlagLastUpdate	DIFileSystems	The last time that the free space flag updated.	

**Table 3-80. Column Descriptions (8 of 26)**

Column Name	Table	Column Description	Valid Values
freeSpaceMB	DIFileSystems	The amount of space which the Cleanup utility has to clear before resetting the freeSpaceFlag.	
geoid	DIGranuleOWS DIOWSDeletedGranules	The unique identifier of an OWS granule.	Format is "SC:shortName.versionId:dbID"
global	DICollections	Flag uses to indicate whether the collection is a global collection or it contains a very large spatial coverage.	Y – has global coverage N – do not has global coverage (default)
GpolygonContainer	DIGPolygon	A SQS type gpolygon representation of the spatial area for the granule.	
granIdentifier	DIActiveInsertProcesses	Identifier for a insert process.	

**Table 3-80. Column Descriptions (9 of 26)**

Column Name	Table	Column Description	Valid Values
granuleId	DIGranules DIGranuleOWS DIGranuleTiles DIGranuleThemeXref DIGranuleHdfObjectXref DIGranuleBrowseXref DIMeasuredParameter DIGrCloudCover DIBoundingRectangle DIGPolygon DIOrbitCalculatedSpatial DIFactGroupESDT DIFactDayNight DIFactQA DIFactTemporalRange DIFactTimeOfDay DIFile DIFilesToBeDeleted DIUpdGranulesTemp DIQAUpdFlagTemp DITempGrans DICartOrderItem DIOMSGranules DIGranuleExpirationPriority	The unique ID which identifies the granule	
granuleType	DIOMSGranules	The two characters uses to identify the type of granule	SC – science granule BR – browse granule
gridLevel	DI DimensionPolygonXref DI DimensionSpatialT6All DICollections DIGranuleTiles	Spatial grid level uses to generate the density map. The default is 6.	Valid values are between 1 and 6 (default = 6)
groupESDTDescription	DI DimensionGroupESDT	The description for the group or ESDT.	
groupESDTKey	DI DimensionGroupESDT DIFactGroupESDT DIStatESDT DIStatGroupESDT	Uniquely Identifies a group or ESDT	

**Table 3-80. Column Descriptions (10 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
groupESDTType	DIStatESDT DIDimensionGroupESDT	Identifies the type, either group or ESDT	G – Group E – ESDT
groupESDTValue	DIDimensionGroupESDT	The value for the group or ESDT. If it is an ESDT, its value is a combination of ShortName and VersionId If it is a collection group, its value is the displayName of the group.	
groupId	DICollectionGroup DICollections	ECS collection group ID	
groupKey	DIDimensionGroupESDT	If groupESDTType is G, this field contains the value NULL. Otherwise, the field contains the key of the group to which the ESDT belongs.	
identifierObjectType	DIIIdentifier	The name or type of the DPL database object for which the DIIIdentifier row exists.	
identifierPad1	DIIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIIdentifier table to the 2K page size.	
identifierPad2	DIIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIIdentifier table to the 2K page size.	
identifierPad3	DIIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIIdentifier table to the 2K page size.	
identifierPad4	DIIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIIdentifier table to the 2K page size.	

**Table 3-80. Column Descriptions (11 of 26)**

Column Name	Table	Column Description	Valid Values
identifierPad5	DIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIdentifier table to the 2K page size.	
identifierPad6	DIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIdentifier table to the 2K page size.	
identifierPad7	DIIdentifier	One of seven columns of type char(255) used to pad each row in the DIIdentifier table to the 2K page size.	
identifierType	DIIdentifier	The data type of the identifier for which the DIIdentifier row exists.	
inCacheFlag	DIInsertActionQueue DIActiveInsertProcesses	Indicates if process is handling a granule that must be read off tape or whether the granule is in AMASS cache. Valid values are:	Y – the granule is in cache (default) N – the granule is on tape
inputFile	DICartOrderItem	File in datapool archive to process	
insertDate	DICartOrder	When order was first inserted	
insertEnabledFlag	DICollections DIThemes	Flag used to determine whether granules from this collection are eligible for insertion in the Data Pool.	Y – allow Data Pool insert (default) N – do not allow Data Pool insert
insertTime	DIGranules DIBrowse DIThemes DICollections DICollectionGroup DIFileSystems DICompressionAlgorithms DIGranuleTiles	The time which the row inserted.	
insQueueId	DIInsertActionQueue	Uniquely identifies the queue entry	

**Table 3-80. Column Descriptions (12 of 26)**

Column Name	Table	Column Description	Valid Values
instrumentName	DIPlatInstrCode DINOSELookup	The name of an instrument for the platform.	
IntPriority	DIAGINGConfig	Value for each aging step.	
intValue	DIConfig DIProcAttributes	The value of the parameter which has data type of integer.	
ipAddress	DIftpAccessLog DIWebAccessLog DIGranuleAccess	IP Address of the user	
isOrderOnly	DIGranules DIBrowse	Flag indicate whether the granule is an order only granule.	Y – order only granule
itemId	DICartOrderItem DICartOrderItemBand	Unique Identifier for an item in the Cart.	
labelName	DIHEGOptionLabel	Label name for the HEG Option that uses to display on the Web Access GUI.	
lastIdentifier	DIIdentifier	The next available uniqueness identifier available of type ID for a specific IdentifierObjectType	
lastIntIdentifier	DIIdentifier	The next available uniqueness identifier available of type integer for a specific IdentifierObjectType.	
lastSmallIntIdentifier	DIIdentifier	The next available uniqueness identifier available of type smallint for a specific IdentifierObjectType.	
lastStatusChangeTime	DIActiveInsertProcesses	Time current action last changed status.	



**Table 3-80. Column Descriptions (13 of 26)**

Column Name	Table	Column Description	Valid Values
lastUpdate	DIGranules DIGranuleOWS DICollections DICollectionGroup DIBrowse DIGranules DICompressionAlgorithms DIESDTCurrentDensityMap DIThemes DIOMSGranules	The time which the row last updated.	
lastUpdatedUtility	DIESDTCurrentDensityMap	The utility that last updated the density map	C – cleanup utility D – density map utility T – transition utility
lr_lat	DIOrderItem	Lower right latitude	
lr_lon	DIOrderItem	Lower right longitude	
maxDayKey	DIFactTemporalRange	Maximum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type day.	
MaxPriLevel	DIConfig	Max Priority Level that the request promoted for the aging policy	
maxMnthKey	DIFactTemporalRange	Maximum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type month.	
maxWeekKey	DIFactTemporalRange	Maximum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type week.	
maxYearKey	DIFactTemporalRange	Maximum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type year.	
message	DIHEGExceptions	Warning or Error message for the exception	

**Table 3-80. Column Descriptions (14 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
metadataOnlyFlag	DIInsertActionQueue DIActiveInsertProcesses	The flag indicates whether the action is for inserting only a metadata file for that granule, not the granule science files. Valid values are:	Y – Insert the metadata file only N – Insert science granule files and metadata file
minDayKey	DIFactTemporalRange	Minimum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type day.	
minMnthKey	DIFactTemporalRange	Minimum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type month.	
minWeekKey	DIFactTemporRange	Minimum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type week.	
minYearKey	DIFactTemporalRange	Minimum temporal key for granule base on temporal range from DIDimensionTemporal with temporal type year.	
misrCamerald	DIOrbitCalculatedSpatial	SensorShortName for a MISR granule.	
misrOrbitNumber	DIOrbitCalculatedSpatial	Orbit number for a MISR granule.	
misrProductVersion	DIOrbitCalculatedSpatial	ProductVersion PSA for a MISR granule.	
monthKey	DIDimensionTemporal	Null if temporalType is Y or M. If temporalType is W or D, this field is used to cross reference this row to its corresponding month row in this table; i.e., this field contains the value of temporalKey for the row where temporalType is M, and this day or week is within that month.	

**Table 3-80. Column Descriptions (15 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
moveFlag	DICollections	Flag uses to indicate whether the collection is in the process of moving to a different file system.	Y – in the process of moving N – not in the process of moving (default)
name	DIThemes	The theme name.	
notes	DICartOrder	Notes from operator on status of order	
number	DIStatESDT DIStatGroupESDT DIStatTheme	The total number of granules which the collection group, collection or theme contains.	
objectId	DIHdfObjects DIGranuleHdfObjectsXref DICartOrderItemBand	Unique identifier for a HDF-EOS object	
objectName	DIHdfObjects	The name of a HDF object	
objectType	DIHdfObjects	The type of a HDF object	S – Swath G – Grid
OperationalQualityFlag	DIMeasuredParameter	Operational quality flag value for a measured parameter.	
OperationalQualityFlagExplan	DIMeasuredParameter	Explanation for the operational quality flag.	
optionId	DIHEGOptions DIHEGOptionLabel DIHEGOptionCollXref	Unique identifier for a HEG option.	
optionName	DIHEGOptions	Name of the HEG Option	
optionType	DIHEGOptions	Type of HEG Option.	Format, Projection, Subsetting, Resampling, Subsampling, Stitching, Resolution
Orbit	DIOrbitPolygons	A polygon type representation of an orbit spatial coverage.	
orderId	DICartOrder DICartOrderItem	Order id which the item belongs.	
orderOnlyFSLabel	DICollections	Order Only file system label	
orderOnlyGrpDirName	DICollectionGroup	Order only group level directory name	
orderOnlySNDirName	DICollections	Order only collection level directory name	

**Table 3-80. Column Descriptions (16 of 26)**

Column Name	Table	Column Description	Valid Values
origChksum	DIFile	Checksum that generated by EcUtCopy.	
outputFmt	DIOrderItem	Output map projection for file	
outputProj	DIOrderItem	Output format for file – hdfs/geotiff	
owner	DIOMSGranules	The owner that holds the mutex for this granule	O – indicates the granule still uses by OMS C – indicates the granule is in the process of cleaning up.
parameterDescription	DIConfig	The description of the parameter	
ParameterName	DIMeasuredParameter DIQAUpdTempBcp DIQAUpdFlagTemp	Name of a measured parameter for a granule	
parameterName	DIConfig DIRecoveryParameters	The name of the configuration parameter	
parameterType	DIConfig	The data type of the parameter. The valid values are:	I – integer C – character F – float
parameterValue	DIRecoveryParameters	The value of the parameter.	
parentPid	DIActiveInsertProcesses	The Unix pid of the parent Data Pool Action Driver (DPAD) process that created this DPIU.	
PathNo	DI DimensionPolygonXref DIOrbitPolygons DIOrbitCalculatedSpatial	Orbit number.	
platformShortName	DIPlatInstrCode DINOSELookup	The short name of a platform.	
platInstrCode	DIPlatInstrCode DIOrbitPolygons DIOrbitCalculatedSpatial DI DimensionPolygonXref	A code identifying a particular platform and instrument.	
preConvertEnabledFlag	DIThemes	A flag to indicate whether the data should be converted to GeoTiff format prior to inserting the granule into the data pool.	Y – yes (pre-convert) N – no (don't pre-convert)

**Table 3-80. Column Descriptions (17 of 26)**

Column Name	Table	Column Description	Valid Values
processId	DIActiveInsertProcesses DIECSIdsToInsert DIXMLFilesToInsert	Unix process Id for the utility.	
procName	DIProcAttributes	The name of the stored procedure	
processingState	DIGranuleOWS	The current processing state of an OWS granule.	converted, indexed, published
projParamStr	DIOrderItem	List of projection parameters.	
projectionId	DIHEGExceptions	Identifier for HEG projection	
qaCode	DIDimensionScienceQA DIDimensionMPScienceQ AXref	Uniquely Identifies a value of the Science QA flag	
qaDescription	DIDimensionMP DIDimensionScienceQA	The description for the key and the value.	
qaExpIValue	DIQAUpdFlagTemp DIQAUpdTempBcp	The value for Quality Flag Explan.	
qaFlagType	DIQAUpdFlagTemp DIQAUpdTempBcp	Either ScienceQualityFlag or OperationalQualityFlag	Valid values: ScienceQualityFlag OperationalQualityFlag
qaKey	DIDimensionMP DIDimensionMPScienceQ AXref DIFactQA	Uniquely Identifies a measured parameter or the value of the Science QA flag	
qaNameKey	DIDimensionMPScienceQ AXref	This field contains the value of qaKey for the corresponding measured parameter.	
QAPercentCloudCover	DIMeasuredParameter	The quality percentage for cloud cover.	
QAPercentInterpolatedData	DIMeasuredParameter	The quality percentage for Interpolated data.	
QAPercentMissingData	DIMeasuredParameter	The quality percentage for missing data.	
QAPercentOutOfBoundsData	DIMeasuredParameter	The quality percentage for OutOfBounds data.	
qaValue	DIDimensionMP DIQAUpdFlagTemp DIDimensionScienceQA DIQAUpdTempBcp	The value for the parameter	Actual value of ScienceQualityFlag or OperationalQualityFlag
qualitySummary	DICollections	URL that displays the quality information.	

**Table 3-80. Column Descriptions (18 of 26)**

Column Name	Table	Column Description	Valid Values
RangeBeginningDate	DIGranules	Date when the granule acquisition started	
RangeBeginningTime	DIGranules	Time when the granule acquisition started	
RangeEndingDate	DIGranules	Date when the granule acquisition ended	
RangeEndingTime	DIGranules	Time when the granule acquisition ended	
realName	DIOrder	User's real name	
replacementOn	DICollections	Flag uses to indicate whether granule replacement is allowed for the collection	"Y" – granule replacement allowed "N" – granule replacement not allowed
required	DIHEGOptionCollXref	Value indicates whether the HEG option is required.	"N" – not required, (default) "A" – absolutely required, "O" – required or
requestId	DIInsertActionQueue	Request ID from OMS.	
requestSuspendFlag	DIInsertActionQueue	Flag uses to indicate whether the request suspended.	
resolutionId	DIHEGExceptions	Identifier for HEG resolution option.	
resamplingId	DIHEGExceptions	Identifier for HEG resampling option.	
retentionPeriod	DIActiveInsertProcesses DIInsertActionQueue	The retention period associated with this subscription.	
RetentionPriority	DIUpdGranulesTemp	Retention Priority for a granule, uses to indicate how long that a granule is retained in Data Pool.	Valid values between 1 and 255
retentionPriority	DIActiveInsertProcesses DIInsertActionQueue DIGranuleExpirationPriority	Priority of the granule in the Data Pool database	Valid values between 1 and 255
retryCount	DIActiveInsertProcesses DIInsertActionQueue	Counts the number of retries for the action.	
rollupBeginningDateT ime	DIAccessRollup	The starting time at which Data Pool accesses are extracted from the ftp or web logs.	

**Table 3-80. Column Descriptions (19 of 26)**

Column Name	Table	Column Description	Valid Values
rollupEndingDateTim e	DIAccessRollup	The ending time at which Data Pool accesses are extracted from the ftp or web logs.	
ScienceQualityFlag	DIMeasuredParameter	ScienceQuality Flag for a measured parameter	
ScienceQualityFlagE xplan	DIMeasuredParameter	Explanation of the Science Quality Flag	
SequenceNo	DI Dimension Polygon Xref DI Orbit Polygons	The sequence of the polygon for a MISR orbit granule.	
serviceRequested	DI Granule OWS DI OWS Deleted Granules DI Themes	The OWS services for which a granule is registered.	M (registered with WMS), C (registered with WCS), B (registered with both WMS and WCS), null (not registered)
ShortName	DI Collections DI Granules DI Insert Action Queue DI Files To Be Deleted DI Active Insert Processes DI NOSE Lookup DI HEGL Lookup DI XML Files To Insert DI Misr Processing Criteria	ECS collection short name	
size	DI StatESDT	The total size of all granules for the collection.	
sizeMB	DI Granules DI Fact Temporal Range	The granule size in MB	
sourceDescription	DI Cloud Cover Source	The cloud cover source description	
sourceName	DI Cloud Cover Source	The name uses to identify the cloud cover source.	
sourceType	DI Cloud Cover Source	Cloud cover source type	P – PSA C – Core Metadata
spatialKey	DI Dimension Spatial T6 All DI Dimension Polygon Xref	Uniquely identifies a geographical location tile.	
spatialSearchType	DI Collections	Type of spatial search associated with the collection (e.g. Orbit, GPolygon, Rectangle)	Valid values “Orbit,” “Rectangle,” “Gpolygon,” “Point,” “Circle,” “Not Supported,” and “Unknown” (default)

**Table 3-80. Column Descriptions (20 of 26)**

<b>Column Name</b>	<b>Table</b>	<b>Column Description</b>	<b>Valid Values</b>
specialActionFlag	DIFtpAccessLog DIGranuleAccess	This flag will determine the format of the file. Valid values are	CT - Compressed & tar UT - Uncompressed & tar T - Tar _ - No action
StartBlock	DIOrbitCalculatedSpatial	The ordinal number of the polygon where granule coverage starts. It points to the polygons covering this orbit in DIOrbitPolygons.	
startTime	DIActiveInsertProcesses	Time current action was dispatched.	
state	DIFilesToBeDeleted	The status of cleaning up a granule.	0 – successfully deleted (default) 1 – not deleted
status	DIInsertActionQueue	The current status of the action.	NULL – the action was not yet processed COMPLETE – the action is done FAILED – the action is failed RETRY – the action is retried NOTINIT – the action is not initiated CANCELED – the action was canceled by the operator



**Table 3-80. Column Descriptions (21 of 26)**

Column Name	Table	Column Description	Valid Values
status	DIActiveInsertProcesses	The current status of the current process.	STARTING – process was initialized and has started to process a Data Pool insert. PROCESSING – the current process is in process LOCATING GRANULE FILES – looking for science granule files LOCATING BROWSE FILES – looking for browse granule files COPYING GRANULES FROM AMASS – copy science granules from the AMASS host GENERATING XML FILE – generating the metadata file in XML format MOVING GRANULE TO DATA POOLS – copy granule into Data Pool COPYING SDSRV INVENTORY – copy metadata from the SDSRV database

**Table 3-80. Column Descriptions (22 of 26)**

Column Name	Table	Column Description	Valid Values
status	DIActiveInsertProcesses	(The current status of the current process.)	<b>POPULATING THE DATA WAREHOUSE</b> – populating all the fact tables <b>PROCESSING BROWSE XREF</b> – generate cross-reference between science granule and browse granule <b>MOVING BROWSE TO DATA POOLS</b> – copy browse granules into Data Pool <b>COPYING BROWSE FROM AMASS</b> – copy browse granule from the AMASS host <b>EXTRACTING JPEGs</b> – extra the jpeg from the browse file <b>UPDATING BROWSE INVENTORY</b> – update the browse inventory data in Data Pool database <b>CREATING BROWSE LINKS</b> – create links for browse file

**Table 3-80. Column Descriptions (23 of 26)**

Column Name	Table	Column Description	Valid Values
status	DICartOrder	The current status of the order	<NULL>- order just entered into system ENTERED - order ready for HEG processing PROCESSED – order processed by HEG PACKAGING - order is now being packaged DONE – order complete (user notified if necessary) FAILOPER – order failed – operator should be notified FAILOPERN - order failed – operator has been notified FAILED- order is failed – cannot retry
status	DICartOrderItem	status (of individual file)	
statusDetail	DIIInsertActionQueue	Detailed explanation of the status.	
stitchingId	DIHEGExceptions	Identifier for HEG stitching	
subId	DIGranuleSubscription DIIInsertActionQueue	The ID of a subscription that caused the insertion of the granule in the Data Pool. This is a cross-reference to the Spatial Subscription Server database.	
subsamplingId	DIHEGExceptions	Identifier for HEG sub sampling	
subsetId	DIHEGExceptions	Identifier for HEG subsetting option.	
subsetFlag	DICartOrderItem	Flag uses to indicate whether the order requires subsetting.	
tapeLabel	DIIInsertActionQueue	Indicate which tape to use.	
temporalBeginDate	DIDimensionTemporal	The beginning time for the date range	
temporalEndDate	DIDimensionTemporal	The ending time for the date range	
temporalKey	DIDimensionTemporal	Uniquely Identifies a date range bin	

**Table 3-80. Column Descriptions (24 of 26)**

Column Name	Table	Column Description	Valid Values
temporalType	DI DimensionTemporal	Identifies the type of key.	D – Day W – Week M – Month Y – Year
themeDescription	DI Themes	Description of theme	
themeld	DI Themes DI GranuleThemeXref DI StatTheme DI InsertActionQueue	The unique ID that identifies a data pool theme.	
tile	DI DimensionSpatialT6All	The index for the geographical location	
tiles	DI GranuleTiles	The HEX representation of the list of spatial keys for a granule.	
timeOfDayBeginTime	DI DimensionTimeOfDay	The beginning time of the period	
timeOfDayEndTime	DI DimensionTimeOfDay	The ending time of the period	
timeOfDayKey	DI DimensionTimeOfDay DI FactTimeOfDay	Uniquely identifies periods of the day	
timeOfDayType	DI DimensionTimeOfDay	Type that is used to describe a period of the day.	1 – One hour 3 – 30 minutes 4 – Four hours D – Day H – Half day
timestamp	DI CartOrder	last update time/date	
todFourHourKey	DI DimensionTimeOfDay	Null if timeOfDayType is D, H, Or 4. If timeOfDayType is 1 or 3, this field is used to cross reference this row to its corresponding 4-hour row in this table; i.e., this field contains the value of timeOfDayKey for the row where timeOfDayType is 4, and the time range for that 4 hour row contains the time range for this row.	

**Table 3-80. Column Descriptions (25 of 26)**

Column Name	Table	Column Description	Valid Values
todHalfDayKey	DIDimensionTimeOfDay	Null if timeOfDayType is D or H. If timeOfDayType is 1, 3 or 4, this field is used to cross reference this row to its corresponding halfday row in this table; i.e., this field contains the value of timeOfDayKey for the row where timeOfDayType is H, and the time range for that half day row contains the time range for this row.	
todHourKey	DIDimensionTimeOfDay	Null if timeOfDayType is D, H, 4, or 1. If timeOfDayType is 3, this field is used to cross reference this row to its corresponding hour row in this table; i.e., this field contains the value of timeOfDayKey for the row where timeOfDayType is 1, and the time range for that hour row contains the time range for this row.	
transferTime	DIFtpAccessLog DIGranuleAccess	Total transfer time in seconds	
twentyFourHr	DICollections	Flag uses to indicate whether the collection has twenty four hours coverage.	Y – has twenty four hours coverage N – do not has twenty four hours coverage (default)
type	DIMisrProcessingCriteria	Type of MISR ESDT	B – MISR Browse 1 – MISR Level 1 2 – MISR Level 2
ul_lat	DICartOrderItem	upper left latitude	
ul_lon	DICartOrderItem	upper left longitude	
uncompChksum	DIFile	Checksum for uncompressed file, calculated on the DPL host.	

**Table 3-80. Column Descriptions (26 of 26)**

Column Name	Table	Column Description	Valid Values
uncompChksumTypeId	DIFile	Unique Identifier for the checksum type from SDSRV DsMdChecksumType table.	1= ECS 2=CKSUM
utilityName	DIRecoveryParameters	Name of the Utility	
VersionId	DICollections DIGranules DIInsertActionQueue DIFilesToBeDeleted DIActiveInsertProcesses DINOSELookup DIHEGLookup DIXMLFilesToInsert DIMisrProcessingCriteria	Version of ECS collection	
webVisibleFlag	DIThemes	Flag use to determine whether granules from this theme are eligible for web drill down in Data Pool.	Y – allow Data Pool Web Drill Down N – do not allow Data Pool Web Drill Down
weekKey	DIDimensionTemporal	Null if temporalType is Y, M, or W. If temporalType is D, this field is used to cross reference this row to its corresponding week row in this table; i.e., this field contains the value of temporalKey for the row where temporalType is W, and this day is within that week.	
xmlFileName	DIXmlFilesToInsert DIInsertActionQueue DIActiveInsertProcesses	Location of the xml file for Non-ECS granules	
xmlUpdateFlag	DIQAUpdTempBcp DIQAUpdFlagTemp	Flag uses to determine whether the XML file had updated.	Valid Values will be 'Y' or 'N'
yearKey	DIDimensionTemporal	Null if temporalType is Y. If temporalType is M, W, or D, this field is used to cross reference this row to its corresponding year row in this table; i.e., this field contains the value of temporalKey for the row where temporalType is Y, and this day, week, or month is within that year.	

### 3.1.4 Domains

Sybase supports the definition of specific data types, domains, to further limit the format of data for given column. There are no domains defined for Data Pool.Rules

Sybase supports the definitions of rules. Rules provide a means for enforcing domain constraints on a given column.

**Table 3-81. List of Rules**

Rule Name	Description
RetentionPriority	Value of retentionPriority is between 1 and 255.
ParameterType	Value for Parameter type column in DIConfig table. The valid values are "I", "C", "F".
fileType	Valid values are "SCIENCE", "METADATA", and "BROWSE".
gridLevel	Valid values are between 1 and 6.
sourceType	Valid values are "P" and "C"
exceptionType	Valid values are "W", "E"
processingState	Valid values are "converted", "indexed", "published"
serviceRequested	Valid values are M (registered with WMS), C (registered with WCS), B (registered with both WMS and WCS), null (not registered)

### 3.1.5 Defaults

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

Column Default	Default Value
spatialSearchType	Unknown
exclusionSCFlag	N
InsertEnabledFlag	Y
state	0
inCacheFlag	Y
convertEnabledFlag	N
bulkExportedFlag	N
archiveFlag	N
gridLevel	6
subId	-1
required	N
lastUpdate	getdate()

### 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 Sybase for the Data Pool 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 automatically without requiring programming. Sybase 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 DPL database are described in Tables 3-82 through 3-104.

**Table 3-82. Dependencies on Table: DICollectionGroup**

Referenced by	Primary Key	Foreign Key
DICollections	groupId	groupId

**Table 3-83. Dependencies on Table: DICollections**

Referenced by	Primary Key	Foreign Key
DIESDTCurrentDensityMap	collectionId	collectionId
DIGranules *	collectionId	collectionId
DIHEGOptionCollXref	collectionId	collectionId
DIHEGExceptionCollXref	collectionId	collectionId

\* The dependency of DIGranules on DICollections is not shown on the ERD due to space limitations. The ERDs each show a partial view of the entire system.



**Table 3-84. Dependencies on Table: DIGranules**

Referenced by	Primary Key	Foreign Key
DIGranuleExpirationPriority	granuleId	granuleId
DIGranuleBrowseXref	granuleId	granuleId
DIGranuleOWS	granuleId	granuleId
DIFile	granuleId	granuleId
DIOrbitCalculatedSpatial	granuleId	granuleId
DIGPolygon	granuleId	granuleId
DIBoundingRectangle	granuleId	granuleId
DIMeasuredParameter	granuleId	granuleId
DIGranuleTiles	granuleId	granuleId
DIFactTemporalRange	granuleId	granuleId
DIFactQA	granuleId	granuleId
DIFactTimeOfDay	granuleId	granuleId
DIFactDayNight	granuleId	granuleId
DIFactGroupESDT	granuleId	granuleId
DIGranuleThemeXref	granuleId	granuleId
DIGrCloudCover	granuleId	granuleId
DIGranuleHdfObjectsXref	granuleId	granuleId

**Table 3-85. Dependencies on Table: DIBrowse**

Referenced by	Primary Key	Foreign Key
DIGranuleBrowseXref	browseld	browseld
DIBrowseFile	browseld	browseld

**Table 3-86. Dependencies on Table: DIPlatInstrCode**

Referenced by	Primary Key	Foreign Key
DIOrbitPolygons	platInstrCode	platInstrCode

**Table 3-87. Dependencies on Table: DIDimensionSpatialT6All**

Referenced by	Primary Key	Foreign Key
DIDimensionPolygonXref	spatialKey	spatialKey

**Table 3-88. Dependencies on Table: DIDimesionTimeOfDay**

Referenced by	Primary Key	Foreign Key
DIFactTimeOfDay	timeOfDayKey	timeOfDayKey

**Table 3-89. Dependencies on Table: DIDimensionDayNight**

Referenced by	Primary Key	Foreign Key
DIFactDayNight	dayNightKey	dayNightKey

**Table 3-90. Dependencies on Table: DIDimensionGroupESDT**

Referenced by	Primary Key	Foreign Key
DIFactGroupESDT	groupESDTKey	groupESDTKey

**Table 3-91. Dependencies on Table: DIOrbitPolygons**

Referenced by	Primary Key	Foreign Key
DIDimensionPolygonXref	platInstrCode	platInstrCode
DIDimensionPolygonXref	PathNo	PathNo
DIDimensionPolygonXref	SequenceNo	SequenceNo
DIOrbitCalculatedSpatial	platInstrCode	platInstrCode
DIOrbitCalculatedSpatial	PathNo	PathNo

**Table 3-92. Dependencies on Table: DIThemes**

Referenced by	Primary Key	Foreign Key
DIGranuleThemeXref	themeld	themeld

**Table 3-93. Dependencies on Table: DICartOrder**

Referenced by	Primary Key	Foreign Key
DICartOrderItem	orderId	orderId

**Table 3-94. Dependencies on Table: DIDimensionMP**

Referenced by	Primary Key	Foreign Key
DIDimensionMPScienceQAXref	qaKey	qaNameKey

**Table 3-95. Dependencies on Table: DIDimensionScienceQA**

Referenced by	Primary Key	Foreign Key
DIDimensionMPScienceQAXref	qaCode	qaCode

**Table 3-96. Dependencies on Table: DICompressionAlgorithms**

Referenced by	Primary Key	Foreign Key
DIFile	compAlgorithmLabel	compAlgorithmLabel
DICollections	compAlgorithmLabel	compAlgorithmLabel

**Table 3-97. Dependencies on Table: DIFileSystems**

Referenced by	Primary Key	Foreign Key
DICollections	fileSystemLabel	fileSystemLabel

**Table 3-98. Dependencies on Table: DICloudCoverSource**

Referenced by	Primary Key	Foreign Key
DICollections	cloudSourceId	cloudSourceId

**Table 3-99. Dependencies on Table: DIHdfObjects**

Referenced by	Primary Key	Foreign Key
DIGranuleHdfObjectsXref	objectId	objectId
DICartOrderItemBand	objectId	objectId

**Table 3-100. Dependencies on Table: DIHdfBands**

Referenced by	Primary Key	Foreign Key
DIGranuleHdfObjectsXref	bandId	bandId
DICartOrderItemBand	bandId	bandId

Referenced by	Primary Key	Foreign Key

**Table 3-101. Dependencies on Table: DIHdf4thDimensions**

Referenced by	Primary Key	Foreign Key
DIGranuleHdfObjectsXref	dimId	dimId
DICartOrderItemBand	dimId	dimId

**Table 3-102. Dependencies on Table: DICartOrderItem**

Referenced by	Primary Key	Foreign Key
DICartOrderItemBand	itemId	itemId

**Table 3-103. Dependencies on Table: DIHEGOptions**

Referenced by	Primary Key	Foreign Key
DIHEGOptionCollXref	optionId	optionId
DIHEGOptionLabel	optionId	optionId

**Table 3-104. Dependencies on Table: DIHEGExceptions**

Referenced by	Primary Key	Foreign Key
DIHEGExceptionCollXref	exceptionId	exceptionId

### 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 by Sybase whenever a row is inserted, updated, or deleted from a given table. Sybase allows the definition of insert, update, and delete triggers for each table. Description of each the triggers in the Data Pool database is given in Table 3-105. Trigger code may vary as new drops or test executables for Release 7 are installed into the implemented database. For this reason trigger code listings are no longer included in this documentation but may be reviewed on-line using the installed database.

**Table 3-105. Trigger Listing**

Table Code	Trigger Name	Trigger Type
DIOrderItem	TrigUpdCartOrderStatus	Update
DICollectionGroup	TrigInsCollectionGroup	Insert
DICollectionGroup	TrigDelCollectionGroup	Delete
DICollectionGroup	TrigUpdCollectionGroup	Update
DICollections	TrigInsCollections	Insert
DICollections	TrigDelCollections	Delete
DICollections	TrigUpdCollections	Update
DIFileSystems	TrigUpdFileSystems	Update
DIInsertActionQueue	TrigUpdIAQ	Update
DIMeasuredParameter	TrigInsMeasuredParameter	Insert
DIMeasuredParameter	TrigUpdMeasuredParameter	Update
DIOrbitCalculatedSpatial	TrigInsOrbitCalculatedSpatial	Insert
DIOrbitCalculatedSpatial	TrigUpdOrbitCalculatedSpatial	Update

### 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 Data Pool database is given here. A brief definition of each of these stored procedures follows in Table 3-106. Stored procedure code may vary as new drops or test executables for Release 7 are installed into the implemented database. For this reason stored procedure code listings are no longer included in this documentation but may be reviewed on-line using the installed database.

**Table 3-106. Procedure Listing (1 of 21)**

Name	Description
[REDACTED]	Returns the number of OMS inserts
[REDACTED]	Returns the number of SSS inserts
ProcBackfillBrowse	This proc updates the isOrderOnly flag in DIBrowse when move the order only browse to public.
ProcBmGetOwsDplDeleted	Returns a list of OWS granules designated for cleanup.
ProcBmGetOwsIndexedGranules	Returns a list of OWS granules that have been indexed and are ready to be published in the ECHO catalogue.
ProcBmOwsMarkPublished	Updates the processing state of newly published granules.
ProcCancelInsertQueue	Updates an insert status in the DIInsertActionQueue to "CANCELLED".
ProcCheckCoveredRollups	Checks the previous rollupdatetime to determine whether the period of rollup had been done.
ProcCheckFreeSpace	Checks the availability of a file system for a collection.
ProcCopySdsrvBrowseInventory	Copies browse inventory information from SDSRV to Data Pool. Execute this procedure in chained mode.
ProcCopySdsrvGranInventory	Copies granule inventory information from SDSRV to datapool. Execute this procedure in chained mode.
ProcDeleteAssocXref	Delete all rows in DIGranuleBrowseXref table that associated with granules that are about to be deleted.
ProcDeleteBndgRectangle	Delete all granules from DIBoundingRectangle table where the granule exists in DIFilesToBeDeleted.
ProcDeleteDayNightFact	Delete from DIFactDayNight table for all granules in DIFilesToBeDeleted.
ProcDeleteFtpAccessLog	Truncate the DIFtpAccessLog table.
ProcDeleteGPolygon	Delete all granules from DIGPolygon table where the granule exists in DIFilesToBeDeleted.
ProcDeleteGranFiles	Delete all rows in DIFile where the file exists in DIFilesToBeDeleted.
ProcDeleteGroupESDTFact	Delete from DIFactGroupESDT table for all granules in DIFilesToBeDeleted.

**Table 3-106. Procedure Listing (2 of 21)**

Name	Description
ProcDeleteIAQOldActionItems	Remove completed actions whose completion time is older than DELETEDCOMPLETEACTIONSATER.
ProcDeleteMeasuredParameter	Delete all granules from DIMeasuredParameter table where the granule exists in DIFilesToBeDeleted.
ProcDeleteOrbCalcSpatial	Delete all granules from DIOrbitCalculatedSpatial table where the granule exists in DIFilesToBeDeleted.
ProcDelExpiredOWSGranules	Deletes from table DIOWSDeletedGranules.
ProcDelGranAccessByTimeRange	Delete access statistic data by a time range.
ProcDelGranAcsByTimeAndType	Delete access statistic data by a time range and the access type.
ProcDelInconsistentGranules	Checks for deleted OWS granules that were reinserted.
ProcDeleteProcess	Delete process entry from database and modify the queue based on completion status.
ProcDeleteProcessByEcsId	Delete process entry from database based on ECS ID and modify the queue based on completion status.
ProcDeleteProcessByXmlFileName	Delete process entry from database based on XML file name and modify the queue based on completion status.
ProcDeleteQAFact	Delete from DIFactQA table for all granules in DIFilesToBeDeleted.
ProcDeleteRetPriority	Delete all granules from DIGranuleExpirationPriority table where the granule exists in DIFilesToBeDeleted.
ProcDeleteSciGranules	Delete science granules that are in DIFilesToBeDeleted.
ProcDeleteSingleGranule	Delete a single granule from Data Pool database. It uses for recovery when inserted failed.
ProcDeleteTemporalFact	Delete from DIFactTemporalRange table for all granules in DIFilesToBeDeleted.
ProcDeleteTimeOfDayFact	Delete from DIFactTimeOfDay table for all granules in DIFilesToBeDeleted.
ProcDeleteWebAccessLog	Truncate DIWebAccessLog table.
ProcGetACProcessCounts	Return max number of insert processes, insert processes that require AMASS access to cache, and processes that do not require AMASS access to cache.
ProcGetACTimeLimits	Return max time in minutes operators allow a DPIU process to complete whose files are in cache. And max time in hours operators allow a DPIU process to complete whose files are not in cache.
ProcGetActionConfig	Return action configuration values of parameter
ProcGetActiveProcesses	Retrieves all rows from the DIActiveInsertProcesses table.
ProcGetAIPList	Get all active insert processes.
ProcGetAllCollGrps	Retrieve all rows from DICollectionGroup table.
ProcGetAllConfigParms	Retrieves the value of all configuration parameters from DIConfig.

**Table 3-106. Procedure Listing (3 of 21)**

Name	Description
ProcGetAllowedProcesses	Retrieves rows with parameterValue of "NumOfAllowedInsertProcesses, NumOfAllowedCacheProcesses, NumOfAllowedNonCacheProcesses, RefreshRate" from the DIConfig table.
ProcGetALLOWSThemes	Returns a list of themes associated with OWS granules.
[REDACTED]	Returns the list of collections, opt. qualified by groupId
ProcGetBrowseEcsInsertDate	Retrieves insert time from SDSRV inventory for the specified browse.
ProcGetBrowseFiles	Get files associated with a browse in DataPool inventory.
ProcGetBrowseLinks	Insert into DIFilesToBeDeleted all links from browse granules that are associated with science granules that qualify for deletion.
ProcGetBrowseToDelete	Select all browse links from DIFilesToBeDeleted.
[REDACTED]	Parses UR to determine whether this is a browse granule. Constructs browse UR in either case..
ProcGetCollectionDescription	Retrieves the collection description for a specific collection.
ProcGetCollections	Retrieves all collection from DICollections for a specific collection group.
ProcGetCollGrp	Retrieves a row from DICollectionGroup for a specific collection group.
ProcGetCollNotInDataPool	Retrieves the collections that are not yet in the Data Pool.
ProcGetDayNightKey	This procedure gathers the dayNightKey for a specific dayNight value.
ProcGetDayNightKeyMap	This procedure gathers the mapping of dayNightKey and dayNightKeyValue.
ProcGetDayNightSummary	This procedure gathers the counts of granules for each dayNightKey. All values of the dimension table are output.
[REDACTED]	Retrieves absolute file path for a science browse granule based on UR provided
ProcGetESDTSummary	This procedure gathers the counts of granules for each groupESDTKey given a groupKey
ProcGetExpiredInventory	Returns information for a list of OWS granules that have expired and have been added to DIOWSDeletedGranules.
[REDACTED]	Gets file info for a given ecs granule id
ProcGetFileVolumeGroup	Retrieve Volume Group related info' based on specified granule or browse id's insert time from STMGT database
ProcGetFreeSpace	Calculate the sum of the file sizes of all files that were successfully removed.
[REDACTED]	Retrieves absolute file paths for a browse granule from granule UR
ProcGetGeotiffByGeoid	Retrieves GeoTiff file information for an OWS granule.

**Table 3-106. Procedure Listing (4 of 21)**

Name	Description
ProcGetGranAltFile	For the specified granule id, locate input granule id from DsMdInputGranule table and get userfile for this input granuleid and append pathrow info to userfile name from SDSRV database
ProcGetGranCollGroupName	Get the collection group id for the specified collection.
ProcGetGransByLimit	Insert into DIFilesToBeDeleted all files from granules which have expired and have priority less than a given limit.
ProcGetGransByTable	Populate DIFilesToBeDeleted with info for the granules in DITempGrans. This table is pre-loaded and created via the cleanup script for Data Pool.
ProcGetGranuleId	Retrieves the granuleid associated with a science file.
ProcGetGranules	Gathers the granule data associated with the all granuleid limited by max granule count.
ProcGetGroupESDTKeyMap	This procedure gathers the mapping of groupESDTKey and groupESDTVvalue.
ProcGetGroupESDTKeys	This procedure gathers the groupESDTKey for a specific collection.
ProcGetGroupSummary	Gathers the counts of granules for each groupKey
ProcGetIAQList	Get all insert actions that have never been processed or actions that are in retry state.
ProcGetIAQNewActions	Return all insert actions queued after this input queueid.
ProcGetInsertsSuspended	Return availabilityFlag value.
ProcGetLinksToDelete	Select all browse links from DIFilesToBeDeleted.
ProcGetMaxTemporalKeys	This procedure gathers the maximum set of temporal keys given a begin date and an end date.
ProcGetMaxTimeOfDayKeys	This procedure gathers the maximum set of time of day keys given a begin time and an end time.
ProcGetMinTemporalKeys	This procedure gathers the minimum set of temporal keys given a begin date and an end date.
ProcGetMinTimeOfDayKeys	This procedure gathers the minimum set of time of day keys given a begin date and an end date.
ProcGetMonthTemporalKey	This procedure gathers the temporalKey for a specific month.
ProcGetNewInventory	Returns information for a list of OWS granules inserted within a specified time range.
ProcGetNoFreeSpace	Return NoFreeSpaceFlag value.
ProcGetNotInDataPoolDesc	Retrieves the description for a collection that has not yet been added to the Data Pool.
ProcGetOrderOnlyGranules	Returns the full directoryPath for order only granules
ProcGetOverallSummaries	This procedure gathers the overall count, size in MB, and percent of the Datapool DB.
ProcGetOWSFileAttributes	Retrieves collection information for a science file based on its pathname.



**Table 3-106. Procedure Listing (5 of 21)**

Name	Description
ProcGetProcAttributeInt	Select the integer value of a given attribute name and a store procedure name.
ProcGetQAKeys	This procedure gathers the qaKey for a specific QA parameter and it's science QA flag.
ProcGetQAParamValueKeyMap	This procedure gathers the mapping of qaKey and qaValue.
ProcGetQASummary	This procedure gathers the counts of granules for each qaKey.
ProcGetScienceAquisitionDate	Return BeginningDateTime or EndingDateTime, if the former is not present, or NULL, if both are not present for the specified granule from DsMdGranules table in SDSRV database.
ProcGetScienceGranuleFiles	Identify files associated with a science granule in SDSRV inventory.
ProcGetScienceToDelete	Select all science and metadata files that are in DIFilesToBeDeleted.
ProcGetSdsrvBrowseGranule	Retrieve associated browse granule for the specified science granule from SDSRV inventory.
ProcGetTempDayNightSummary	This procedure gathers the counts of granules for each dayNightKey given a vector of granuleIds. All values of the dimension table are output
ProcGetTempESDTSummary	This procedure gathers the counts of granules for each groupESDTKey given a vector of granuleIds and a groupKey.
ProcGetTempGranules	This procedure gathers the granule data associated with the given vector of granuleIds.
ProcGetTempGroupSummary	This procedure gathers the counts of granules for each groupKey given a vector of granuleIds.
ProcGetTemporalSummary	This procedure gathers the counts of granules for each temporalKey given a vector of granuleIds and monthKey.
ProcGetTemporalSummaryESDT	This procedure gathers the counts of granules for each temporalKey given an ESDT.
ProcGetTemporalSummaryMkey	This procedure gathers the counts of granules for each temporalKey given a month key.
ProcGetTempOverallSummaries	This procedure gathers the overall count, size in MB, and percent of the Datapool DB for a vector of granuleIds.
ProcGetTempQASummary	This procedure gathers the counts of granules for each qaKey given a vector of granuleIds.
ProcGetTempTemporalSummary	This procedure gathers the counts of granules for each temporalKey given a vector of granuleIds and monthKey.
ProcGetTempTimeOfDaySummary	This procedure gathers the counts of granules for each timeOfDayKey given a vector of granuleIds.
ProcGetTimeOfDaySummary	This procedure gathers the counts of granules for each timeOfDayKey.

**Table 3-106. Procedure Listing (6 of 21)**

Name	Description
ProcGetTotalInsertQueue	Retrieves the total inserts that have not been processed or whose status is not "FAILED", "CANCELLED", or "DONE" in the DIInsertActionQueue table.
ProcGetUnconvertedFiles	Returns a list of files enabled for pre-conversion which have not yet been converted.
ProcGetVolumeGroups	Return volume group details
ProcGranuleEligibleForInsert	Based on input params shortname, version and metadata flag, determine what is eligible for insert
ProclInsertAccessRollup	Inserts the rollupdatetime for a specific access rollup period.
ProclInsertAIP	Insert new active process details into DIActiveInsertProcesses
ProclInsertBrowseFile	Insert browse file details into DIBrowseFile; Execute this procedure in chained mode
ProclInsertCollections	Insert a row to the DICollections table.
ProclInsertCollGrp	Insert a new collection group to DICollectionGroup table.
ProclInsertDIFile	Insert granule file details into DIFile; Execute this proc in chained mode
ProclInsertFtpGranuleAccess	Inserts data into DIGranuleAccess for access type FTP.
ProclInsertGeotiffFiles	Inserts GeoTiff files for a granule into DIFile.
ProclInsertGranuleBrowseXref	Insert xrefs into DIGranuleBrowseXref
ProclInsertGranuleSubscription	Insert into DIGranuleSubscription; Execute this proc in chained mode
ProclInsertOWSGranule	Inserts a new row into DIGranuleOWS if not already present.
ProclInsertWebGranuleAccess	Inserts data into DIGranuleAccess for access type http.
ProclsBrowseFileInventoried	Check if this directory path/filename already exists in DIBrowseFile
ProclsNonCacheLimitReached	Find if # of noncache processes in DIActiveInsertProcesses reached config limit
[REDACTED]	Checks to see if order only dir info is present
ProclsScienceFileInventoried	Check if this directory path/filename already exists in DIFile
ProcRemoveDeletedBrowse	Removes all browse granules whose browse files have been deleted successfully in a previous run from DIFilesToBeDeleted.
ProcRemoveDeletedLinks	Removes all granules whose browse files have been deleted successfully in a previous run from DIFilesToBeDeleted.
ProcRemoveDeletedSci	Removes all granules whose files have been deleted successfully in a previous run from DIFilesToBeDeleted
ProcRemoveGoodDeletes	Clears all rows which have state equal to zero.
ProcResetMarkers	Clears all markers from DIRecoveryParameters used in recovery.

**Table 3-106. Procedure Listing (7 of 21)**

Name	Description
ProcResolveTemporalKey	This procedure gathers the temporalKey for a specific period range.
ProcResolveTimeOfDayKey	This procedure gathers the timeOfDayKey for a specific period range.
[REDACTED]	Inserts HDF Bands information, including fieldName
[REDACTED]	Inserts HDF Fields information
ProcSelectGrExpiration	Retrieves the SizeMB, ShortName, VersionId, expirationDate, retentionPriority for a specific granule.
[REDACTED]	Insert field and band info into a temp table
ProcTruncateTempGrans	Truncate DITempGrans table.
ProcUpdateAIPdbid	Create an image of 'old' dbld details in DIActiveInsertProcesses for the specified 'new' dbld
ProcUpdateAIPStatus	Update 'status' and 'lastStatusChangeTime' columns of the specified process to reflect different transition states during insert process
ProcUpdateBadStates	Reset the state of all rows in DIFilesToBeDeleted to 0.
ProcUpdateBrowseDIInsertTime	Update DIInsertTime for the specified browse. Execute this proc in chained mode
ProcUpdateBrowseState	Updates the state of the supplied browse file to 1.
ProcUpdateCollections	Updates the exclusionSCFlag and insertEnabledFlag for a specific collection.
ProcUpdateConfigParms	Updates all configuration parameters in DIConfig.
ProcUpdateGrExpiration	Updates the expirationDate and retentionPriority for a specific granule.
ProcDeleteTheme	Delete a specified theme from DIThemes
ProcGetAllThemes	Get a list of detailed theme information.
ProcGetGransToBeUpdated	Loads DIGransToBeUpdated temp table from the granules in DIUpdGranulesTemp table.
ProcGetGransToBeUpdatedByTheme	Load into a temporary table, DIGransToBeUpdated temp table, with a list of qualified granules associated with a given theme ID that satisfies the following condition: current expiration date is prior to a specified expiration date (or) current retention priority is less than a specified retention priority.
ProcGetInvalidInputGranules	Select all granules that are invalid for update.
ProcGetThemeByInsertEnabled	Get a list of theme information based on the value of the insertEnabledFlag.
ProcGetThemeld	Get themeld for a given theme name.
ProcGetUpdateGranulesSummary	Obtain summary information from the DIGranulesToBeUpdated temp table based on the status passed in.
ProcGetFilePath	Get xmlFileName based on the insQueueId that passed in.

**Table 3-106. Procedure Listing (8 of 21)**

Name	Description
ProcInsertTheme	Insert a theme into DIThemes.
ProcUpdateGranDlInsertTime	Update DlInsertTime for the specified granule. Execute this proc in chained mode
ProcUpdateGransExpPriority	<p>Update the granules expiration dates and priorities in the DP inventory using information stored in the DIGransToBeUpdated temp table. The steps involved are as follows:</p> <p>Perform granule update in batches using a configured batch size obtained from DIProcAttributes table.</p> <p>Set the state of the granules that have been successfully updated to success (1) in DIGransToBeUpdated table as each batch gets updated.</p> <p>Return the total number and size of granules successfully updated.</p>
ProcUpdateGranState	Update the state of the science granule to 1.
ProcUpdateLinkState	Update the state of the supplied link to 1.
ProcUpdateNonECSCollections	Update a specific Non-ECS collection.
ProcUpdateOWSGranState	Updates the processing state for a granule in table DIGranuleOWS.
ProcUpdateRefreshRate	Updates the parameter RefreshRate in DIConfig table.
ProcUpdateTheme	Updates theme information for a specified theme.
ProcUpdStateToIndexed	Updates the processing state of an OWS granule to indexed.
ProcDeleteAssocThemeXref	This procedure will remove all granule cross-references from the DIGranuleThemeXref table associated with the granules in the DIFilesToBeDeleted table.
ProcDropGransToBeUpdated	Deletes all existing granules in the DIGransToBeUpdated temp table.
ProcFindDeleteOrphanedBrowse	Insert all orphaned browse into DIFilesToBeDeleted and remove the obsolete browse from the inventory,
ProcGetAllBrowseFiles	This procedure returns a list of browse files in the DIBrowseFile table.
ProcGetAllCollections	Get a list of all collections in DP inventory.
ProcGetAssocGransToBeDeleted	This procedure obtains a list of science granules (science and metadata files) that are associated with the phantom browse granules found in DITempPhantoms table and inserts them into DIFilesToBeDeleted table.
ProcGetBatchSummary	Get a summary count of granules in the DIInsertActionQueue base on the status of Pending, Completed and Failed for all batch label.
ProcGetBrPhantomsToBeDeleted	This stored procedure puts the phantom browse granules found in DITempPhantoms table into DIFilesToBeDeleted table.

**Table 3-106. Procedure Listing (9 of 21)**

Name	Description
ProcGetCollectionsByGroupId	This procedure returns the collectionId, ShortName, VersionId for a given collection groupId.
ProcGetFilesInDBByCollGroup	Get a list of science, metadata, browse links and associated browse files for a given collection group order by directoryPath and filename.
ProcGetGransLimitByTheme	This procedure will insert into DIFilesToBeDeleted all files for granules associated with a specific theme ID which have expired and have priority less than a given limit and not associated with any other theme.
ProcGetSciPhantomsToBeDeleted	This stored procedure puts the phantom science granules found in DITempPhantoms table into DIFilesToBeDeleted table.
ProcGetThemeByWebEnabled	Get a list of theme information based on the value of the webVisibleFlag.
ProclsValidCollGroup	This procedure validates if a specified collection groupId exists in the Data Pool.
ProcRemoveThemeXref	This stored procedure removes all rows from the DIGranuleThemeXref table for a specific theme ID.
ProcTruncateFilesToBeDeleted	This procedure truncates the DIFilesToBeDeleted table.
ProcTruncateTempPhantoms	This procedure truncates the DITempPhantoms table.
ProcCartAddOrder	This procedure inserts a new order into the DICartOrder table if there is room.
ProcCartAddOrderItem	This procedure inserts a new order item into the DICartOrderItem table.
ProcCartAddOrderItemBand	This procedure inserts band information for an existing order.
ProcCartHEGGetBands	This procedure gets HEG band info for a specified itemId.
ProcCartHEGGetNewWork	This procedure allows the HEG Frontend to look for new work.
ProcCartMarkFailedItems	This procedure allows the Packager component of Webaccess cart to mark order items as failed if the link script failed for any reason.
ProcCartPkgGetNewWork	This procedure allows the Packager component of Webaccess cart to check for orders to complete.
ProcCartUpdateOrderItemStatus	This procedure updates the status field in the DICartOrderItem table.
ProcCartUpdateOrderStatus	This procedure updates the status and notes field in the DICartOrder table.
ProcCleanUpECSIds	This procedure deletes all rows in DIECSIdsToInsert containing this connection's spid (@pid).
ProcCleanUpXMLFiles	This procedure deletes all rows in DIXMLFilesToInsert containing this connection's spid (@pid).
ProcCountPhantomBrowse	This procedure returns the number of phantom browse files found.

**Table 3-106. Procedure Listing (10 of 21)**

Name	Description
ProcCountPhantoms	This procedure returns the number of phantom files found.
ProcCountPhantomsDeleted	This procedure will count the phantoms from the DIFilesToBeDeleted table.
ProcDeleteIneligibleGranuleIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert for the following reasons: Already queued in DIInsertActionQueue Marked as DFA or logically deleted in SDSRV DB Not in SDSRV DB In collection not enabled for insert
ProcGetBandsForGranule	This procedure returns a table of band information for a specified granuleId.
ProcGetGranuleFiles	This procedure retrieves file metadata based on data type.
ProcGetNonSCMetadata	This procedure retrieves metadata based on data type.
ProcGetECSCollXMLFiles	This procedure gets all XML filenames for granules ineligible for insert because they are in an ECS collection.
ProcDeleteIneligibleXMLFiles	This procedure deletes all xml files from DIXMLFilesToInsert that are ineligible for insert for the following reasons: Associated with non-existent collection Already queued in DIInsertActionQueue In collection not enabled for insert
ProcDpadDeleteProcess	This procedure deletes a DPAD process either by ECS ID or by XML file name.
ProcDpadDeleteProcessByEcsId	This procedure deletes a DPAD process by ECS ID.
ProcDpadDeleteProcessByXml	This procedure deletes a DPAD process by XML filename.
ProcGetBatchLabels	This procedure returns all unique batch label from DIInsertActionQueue.
ProcGetCollectionId	This procedure returns the collectionId from DICollections table.
ProcGetCollInsertEnabledFlag	This procedure returns the value of insertEnabledFlag from DICollections table.
ProcGetDbIdFromLocGranId	This procedure gets the dbId(s) for a local granule id.
ProcGetDeletedGranIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert because they are marked as DFA or logically deleted in SDSRV DB.
ProcGetEcsBrowseGranuleFiles	This procedure identifies files associated with a browse granule in SDSRV inventory.
ProcGetEcsBrowseInternalId	This procedure gets DPL internal browse id base on the ecsid.
ProcGetEcsGranuleId	This procedure retrieves the granuleId from the DIGranules table, based on the provided ecsid.
ProcGetEcsMissingXrefInfo	This procedure gets DPL granules are yet to be linked to this browse.

**Table 3-106. Procedure Listing (11 of 21)**

Name	Description
ProcGetEcsScienceInternalId	This procedure gets DPL internal granuleId based on the ecsid.
ProcGetEDGDatapoolInfo	This procedure retrieves all necessary URL information for a particular ecs granule id to allow the EDG to display DPL inventory information to a user.
ProcGetHEGToDelete	This procedure gets all cart orders that are qualified for deletion.
ProcGetNoCollGranIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert because their collections are not in DICollections.
ProcGetNoCollXMLFiles	This procedure gets all XML filenames for granules from DIXMLFilesToInsert that are ineligible for insert because their collections are not in DICollections.
ProcGetNoInsertGranIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert because they are in collections not enabled for insert.
ProcGetNoInsertXMLFiles	This procedure gets all XML filenames for granule from DIXMLFilesToInsert that are ineligible for insert because they are in a collection not enabled for insert.
ProcGetNonEcsBrowseFiles	This procedure gets files associated with a browse in DPL inventory.
ProcGetNonEcsBrowseInternalId	This procedure gets DPL internal browse id based on ecsid.
ProcGetNonEcsGranuleFiles	This procedure gets the filename and filetype for a non-ecs granule.
ProcGetNonEcsScienceInternalId	This procedure gets DPL internal granule id based on ecsid.
ProcGetNonExistGranIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert because they are not in SDSRV database.
ProcGetNonExistGrans	This procedure reads through the DITempGrans temporary table (built from the user input file) and reports any granules not found in the DIGranules table.
ProcGetOrderMgtConfig	This procedure gets order management operator config parameters
ProcGetPhantomBrowseDetails	This procedure gets a list of phantom browse files from DIFilesToBeDeleted.
ProcGetPhantomDetails	This procedure gets a list of phantoms from DIFilesToBeDeleted.
ProcGetQueuedGranIds	This procedure gets all ECS ids of granules from DIECSIdsToInsert that are ineligible for insert because they are already queued in DIInsertActionQueue.
ProcGetQueuedXMLFiles	This procedure gets all XML filenames for granule from DIXMLFilesToInsert that are ineligible for insert because they are already queued in DIInsertActionQueue.
ProcGetScienceFileGranuleId	

**Table 3-106. Procedure Listing (12 of 21)**

Name	Description
ProcGetScienceQAKey	This procedure returns the QA keys based on the specified parameter name and the QA flag.
ProcGetSCToBeDeleted	This procedure puts the granuleId into a temp table, which use for cleanup the DPL inventory.
ProcGetSDSRVData	This procedure loads all necessary granule data from SDSRV database DsMdGranules table into temp table for subsequent processing.
ProcGetTempThemeSummary	This procedure gets count of granules grouped for each theme category given a vector of granuleIds.
ProcGetThemeByBeginningLetter	This procedure returns the theme information based on the beginning letter of a theme.
ProcGetThemeByFilters	This procedure returns the theme information based on the filters that pass in.
ProcGetThemeData	This procedure gets the themeld and insertEnabledFlag for a theme name.
ProcGetThemeKey	This procedure returns all theme key.
ProcGetThemeKeyMap	This procedure returns the value key map for theme search.
ProcGetThemeSummary	This procedure returns granule count for each theme.
ProcGetUniqueld	This procedure returns a unique DPL internal id based on the object type.
ProcGetUniquelDOutput	This procedure returns a unique DPL internal id as part of the output parameter based on the object type.
ProcGetXMLFilePath	
ProInsertBrowse	This procedure inserts a row into DIBrowse table.
ProInsertECSActions	This procedure inserts actions for granules in DIECSIdsToInsert into DIInsertActionQueue table.
ProInsertGranules	This procedure inserts a granule into DIGranules table.
ProInsertGranuleTemp	This procedure inserts into myGranulesTable for web access.
ProInsertGrExpirationPriority	This procedure inserts a row into DIGranuleExpirationPriority table.
ProInsertMeasuredParameter	This procedure inserts a row into the DIMeasuredParameter table.
ProInsertNonECSActions	This procedure inserts actions for granules in DIXMLFilesToInsert into DIInsertActionQueue table.
ProInsertNonECSCollections	This procedure inserts a non-ecs collection into DPL.
ProInsertNonEcsGranule	This procedure inserts a row into DIGranules for non-ecs granule.
ProInsertOrbitCalSpatial	This procedure inserts a row into DIOrbitCalculatedSpatial table.
ProInsertXMLInfo	This procedure inserts info for a non-ECS XML file into the DIXMLFilesToInsert table.
ProclsCollectionEcs	This procedure gets ecsFlag value for a specified ESDT.



**Table 3-106. Procedure Listing (13 of 21)**

Name	Description
ProclsEcsBrowseInDataPool	This procedure checks whether the specified browse is present in DPL inventory.
ProclsEcsGranuleProcessing	This procedure checks whether the specified granule is present in DPL inventory.
ProclsEcsSCGranuleInDataPool	This procedure checks whether a record with the specified dbld exists in DIActiveInsertProcesses.
ProclsGranuleThemeXref	This procedure determines whether a granule theme cross-reference exists in DIGranuleThemeXref.
ProclsNonEcsBrowseInDataPool	This procedure determines whether a non-ecs browse exists in DPL.
ProclsNonEcsBrowseReady	This procedure checks whether the browse exists for the granule.
ProclsNonEcsGranuleInDataPool	This procedure determines whether a non-ecs granule exists in DPL.
ProclsNonEcsGranuleInserted	This procedure checks whether the granule exists in DIGranules.
ProcDelQaUpdates	This procedure deletes rows in QA working tables that have xmlUpdateFlag = 'Y'
ProcGetDayNightFlagKey	This procedure returns the keys for day night search.
ProcGetQa	This procedure gets QA update data from working tables for ecsld
ProcGetXmlFileName	This procedure gets the xml filename from DIFile for an ecsld
ProclsNonEcsGranuleProcessing	This procedure checks whether a record with the specified non-ecs granule exists in DIActiveInsertProcesses.
ProclsNonEcsGranuleReady	This procedure checks whether a bunch of external granuleids already in DPL when a browse arrives alone.
ProclsSciGranGlobal	Retrieves the info to if the specified science granule is a global granule or not. The client code will implement the rules for global granules determination.
ProclsThemeEnabled	This procedure checks whether insert enabled for a specified theme.
ProcMakeThemeRetroactive	This procedure associates all granules in the data pool which were previously inserted because of a subscription with theme that is now associated with that subscription.
ProcNumOfObjects	This procedure returns the tables, procedures, triggers and view count for the database.
ProcOSGetDplDeletedURL	This procedure retrieves the deleted granuleid(s) from DPL.
ProcOSGetDplURL	This procedure retrieves ftp URLs.
ProcPopulateDIQAUpdFlagTemp	This procedure will populate the DIQAUpdFlagTemp.
ProcRemoveThemeXrefForThemes	This procedure removes all rows from DIGranuleThemeXref table for a specific theme ID as long as there is an associated entry in the DIFilesToBeDeleted table.
ProcSetXmlUpdFlag	This procedure updates xmlUpdateFlag to 'Y'.

**Table 3-106. Procedure Listing (14 of 21)**

Name	Description
ProcThemeEnabledForInsert	This procedure checks whether the theme is enabled for DPL insert.
ProcUpdateDirectoryPath	
ProcUpdateHEGOrder	This procedure updates the archiveFlag for a specified ordered.
ProcUpdateIsOrderOnlyFlag	This procedure updates the value of the isOrderOnly column in DIGranules.
ProcUpdateOrderMgtConfig	This procedure updates order management operator config parameters
ProcUpdatePeriodPriority	This procedure updates the retentionPriority and expiration date based on the provided granuleId.
ProcUpdateQa	This procedure updates the DIMeasuredParameter table for the ecslid with new science & operational QA value and explanation.
ProcUpdNonEcsGranInsertTime	This procedure updates the insert time for non-ecs granules.
ProcCheckActiveInsertProcesses	This procedure retrieves the value of insertEnabledFlag for an ESDT.
ProcDeleteCloudCover	This procedure deletes from the DIGrCloudCover table for all granules in DIFilesToBeDeleted.
ProcDeleteGranuleTiles	This procedure deletes from DIGranuleTiles table for all granules in DIFilesToBeDeleted.
ProcDeleteGRHdfObjectsXref	This procedure deletes from DIGranuleHdfObjectsXref table for all granules in DIFilesToBeDeleted.
ProcDeleteOMSGranule	This procedure deletes from DIOMSGranules table for all granules in DIFilesToBeDeleted.
ProcGetCollsInDelFiles	This procedure searches through DIFilesToBeDeleted and get the distinct collection/VersionIds.
ProcGetDeletedECSGrans	This stored procedure will collect the rows from the science database which have been marked for deletion.
ProcGetFSInfoByESDT	This procedure returns the file system info for an ESDT.
ProcGetInsertEnabledFlag	This procedure retrieves the value of insertEnabledFlag for an ESDT.
ProcGetOfflineCollections	This procedure searches through the DITempGrans table and identify which collections are on file systems that are marked unavailable. ShortName and VersionId for collections with cleanup candidates are passed back.
ProcGetQaGranIds	This procedure gets granuleId and xmlUpdateFlag to load into memory.
ProcGetRecoveryParams	This procedure returns command-line and configuration parameters from an interrupted run.
ProcGetUncleanOMSGranulesInfo	This procedure removes granules and orphan browses that are still using by OMS from DIFilesToBeDeleted.

**Table 3-106. Procedure Listing (15 of 21)**

Name	Description
ProcInsertRecoveryParams	This procedure inserts a new row into DIRcoveryParameters for the cleanup utility.
ProcInsOMSGransForCleanup	This procedure inserts granules and orphaned browse that will delete by cleanup into DIOMSGranules table.
ProcRemapCollToGrp	This procedure updates all the tables to change the group mapping info with the new group.
ProcUncleanOMSGranules	This procedure removes granules and orphaned browse that are still using by OMS from DIFilesToBeDeleted.
ProcUpdateCollToGrpMapping	This procedure updates the groupId for an ESDT.
ProcUpdateRecoveryParams	This procedure updates or inserts a row in DIRcoveryParameters for the utility based upon whether or not it already exists.
ProcDeleteIAQ	This procedure deletes a row from DIInsertActionQueue for a specified actionQueueId.
ProcDeleteOMSGranules	This procedure deletes a row in DIOMSGranules for a specified granuleId.
ProcGetCloudCoverSummary	This procedure retrieves cloud cover information for all collections.
ProcGetCollectionDir	This procedure would list collection level directories
ProcGetFileInfo	This procedure retrieves file information for a specified granuleId.
ProcGetFilesInDir	This procedure will return a list of files inserted in specified period for a given directory
ProcGetFSGrpESDTMappings	This procedure returns the file system, collection group, ESDT mapping
ProcGetQualitySummary	This procedure retrieves quality summary for a collection.
ProcGetTopDirEntry	This procedure will list unique short name & version Id of files inserted on specified date.
ProcInsertOMSAction	This procedure inserts a row in DIInsertActionQueue for an OMS action.
ProcInsertOMSGranule	This procedure inserts a row in DIOMSGranules for a specified granuleId.
ProcInsNonECSOMGranule	This procedure inserts a row in DIOMSGranules for a specified granuleId.
ProcInsNonECSOMGranule	This procedure inserts a row in DIOMSGranules for a specified granuleId.
ProclsCollEmpty	This procedure checks whether the collection has any granules.
ProclsCollGrpValid	This procedure checks whether the group is valid.
ProclsCollMapToCollGrp	This procedure checks whether the specified collection maps to the specified collection group.
ProclsCollValid	This procedure checks whether the specified collection is valid.

**Table 3-106. Procedure Listing (16 of 21)**

Name	Description
ProclsEcsSCGranuleInDP	This procedure checks whether this specified granule is present in DataPool inventory.
ProclsNonECSGranuleInDP	This procedure checks whether this specified NON-ECS granule is present in DataPool inventory.
ProcPopulateOMSTmpGranfiles	This procedure populate the OMS #GRANFile for stored procedure OmInsBulkGranules in OMS database.
ProcPopulateOMSTmpGranules	This procedure populate granule information for OMS table #Granules in stored procedure OmInsBulkGranules in OMS database.
ProcCanRemoveBrowse	This procedure removes browse association for a specified granule.
ProcDeleteAssociatedBrowse	This procedure removes the browse granule for a specified granule.
ProcGetCloudCoverSourceInfo	This procedure retrieves cloud cover information for a specified ESDT.
ProcGetCollInfo	This procedure retrieves collection level information for a specified ESDT.
ProcGetESDTsAvailability	This procedure checks the availability for the list of granules.
ProcGetESDTSkipFlags	This procedure returns the skip flags for a specified ESDT.
ProcGetOrbitIntersects	This procedure gets a list of spatialKey based on a search of DIDimensionPolygonXref.
ProcGetOVDplBrowseFiles	This procedure returns the directoryPath, filename for the files associated for a specified granule.
ProcGetSpatialSummary	This procedure returns the density map for a specified ESDT.
ProcGetTempCloudCoverSummary	This procedure retrieves cloud cover information for an ESDT.
ProcGetTempSpatialSummary	This procedure returns the density map for a specified ESDT.
ProclInsertGranuleHdfObjectXref	This procedure inserts HDF information for a specified granule.
ProclInsertGranuleTiles	This procedure inserts spatial information for a granule.
ProclInsertGrCloudCover	This procedure inserts cloud cover information for a granule.
ProclsMFSONInsert	This procedure checks whether DPAD should use the Multiple File System procs.
ProclsSysLevCompOn	This procedure retrieves theparameter value of CompressOnInsert from DIConfig.
ProcSaveHdf4thDimensions	This procedure inserts the HDF 4 <sup>th</sup> dimension information into DIHdf4thDimensions table.
ProcSaveHdfBands	This procedure inserts the HDF band information into DIHdfBands.
ProcSaveHdfObjects	This procedure inserts HDF objects information.
ProcUpdateCollectionGridLevel	This procedure returns the gridLevel for a specified ESDT.

**Table 3-106. Procedure Listing (17 of 21)**

Name	Description
ProcUpdateDIStatESDT	This procedure updates the DIStatESDT table.
ProcUpdateDIStatGroupESDT	This procedure updates the DIStatGroupESDT table.
ProcUpdateDIStatTheme	This procedure updates the DIStatTheme table.
ProcUpdateFSFreeSpace	This procedure updates the freeSpaceFlag for a specified file system.
ProcGetAssociatedMisrL1	This procedure returns a lists of MISR L1 granules that can be associated to the current MISR BROWSE granule(AN).
ProcGetAssociatedMisrL2	This procedure returns a lists of MISR L2 granules that can be associated to the current MISR BROWSE granule
ProcGetDplCameraId	This procedure retrieves the misrCameraId fro DIOrbitCalculatedSpatial.
ProcGetFileSystemPath	This procedure returns the absolute file system path and groupId for a specified collection.
ProcGetMisrBrowseEsdt	This procedure returns a list of configured MISR Browse ESDTs.
ProcGetMisrL1Esdt	This procedure returns a list of configured MISR L1 ESDTs.
ProcGetMisrL2Esdt	This procedure returns a list of configured MISR L2 ESDTs.
ProcGetOVDplGranuleFiles	This procedure returns directoryPath and filename for a specified granule.
ProcGetSDSRVCheckSum	This procedure retrieves a checksum based upon internalFileName from SDSRV database.
ProcGetSdsrvL1MisrBRGranule	This procedure returns a list of SDSRV granules that have the same WRSpaht, OrbitNumber, and cameraId as the current granule.
ProcGetSdsrvL2MisrBRGranule	This procedure returns a list of SDSRV granules that have the same WRSpaht, OrbitNumber, and cameraId as the current granule and associate to the MISR L2 granule.
ProcGetUserFileName	This procedure returns LocalGranuleID as userFileName if LocalGranuleId exists for the specified granule; otherwise, returns the userDataFile from DsMdFileStorage in SDSRV database.
ProcInsertGranuleBrowseXref	This procedure inserts MISR and MISR Browse granule association.
ProcInsertMisrBrowse	This procedure inserts the MISR browse metadata into DIBrowse.
ProclsDoubleInsertNeeded	This procedure verifies whether a double insert is needed for a specified collection.
ProclsGrReplacementNeeded	This procedure checks whether granule replacement is needed.
ProclsLevel1ProcessingOn	This procedure verifies whether MISR L1 ESDT processing is on.
ProclsLevel2ProcessingOn	This procedure verifies whether MISR L2 ESDT processing is on.
ProclsMisrProcessingOn	This procedure verifies whether MISR processing is on.

**Table 3-106. Procedure Listing (18 of 21)**

Name	Description
ProcRemoveActiveInsertProcess	This procedure removes a row from DIActiveInsertProcesses for a specified ecslid.
ProcDeactivateCompAlgorithm	This procedure deactivates a compression algorithm.
ProcDeleteBackfilledOMSInfo	This procedure removes all OMS information from the tables that are backfilled because it is an order only granule.
ProcDeleteCloudCoverSource	This procedure deletes a specified cloud cover source.
ProcDeleteSingleBrowse	This procedure deletes a browse.
ProcGetAllCloudSource	This procedure retrieves a list of cloud cover source information.
ProcGetAssociatedCollections	This procedure returns all collections for compression algorithms.
ProcGetChecksumByFile	This procedure returns the checksumType and checksumValue for a specified file from the SDSRV database.
ProcGetCloudSourceId	This procedure returns the cloudSourceId for a specified sourceName, sourceType.
ProcGetCompAlgorithms	This procedure returns all compression algorithms.
ProcGetDplGranuleXmlFile	This procedure returns the directoryPath and the xml filename for a specified granule.
ProcGetESDTSummaries	This procedure returns the total granule count and granule size for a specified ESDT.
ProcGetFileSystemLabels	This procedure returns a list of file system labels.
ProcGetFileSystemsInfo	This procedure returns all file systems information.
ProcGetInsertQueueByFilters	This procedure returns the insert queue information based on the filters.
ProcInsertCloudCoverSource	This procedure inserts a row into DICloudCoverSource.
ProcInsertCompAlgorithm	This procedure inserts compression algorithms.
ProcInsertFileSystem	This procedure inserts a row for a file system.
ProclsCollHasCloudCoverGrans	This procedure checks whether there are any granules that have cloud cover information for a specified ESDT.
ProclsOMSGranule	This procedure verifies whether the specified granule is an order only granule.
ProcPopulateMeasuredParams	This procedure inserts the missing measured parameter information for order only granule.
ProcSetDisplayAIPChunkSize	This procedure updates the parameter value for DisplayAIPChunkSize parameter in DIConfig.
ProcSwitchToTapeProcess	This procedure updates the inCacheFlag when a granule is not in cache.
ProcUnflagOMSGranule	This procedure resets the isOrderOnly flag to null.
ProcUpdateCloudCoverSource	This procedure updates the specified cloud cover source.
ProcUpdateCompAlgorithm	This procedure updates the specified compression algorithms.
ProcUpdateFileSystem	This procedure updates a file system.

**Table 3-106. Procedure Listing (19 of 21)**

Name	Description
ProcClearMoveFlag	This procedure resets the move flag in DICollections table.
ProcCopySdsrvApInventory	This procedure copys the AP granule information from SDSRV.
ProcCopySdsrvDapInventory	This procedure copys the DAP granule information from SDSRV.
ProcCopySdsrvInventory	This procedure calls another copy inventory proc base on the granule type.
ProcCopySdsrvPhInventory	This procedure copys the PH granule information from SDSRV.
ProcCopySdsrvQaInventory	This procedure copys the QA granule information from SDSRV.
ProcCopySdsrvSsapInventory	This procedure copys the SSAP granule information from SDSRV.
ProcCountPhantomBrowse	This procedure returns the number of phantom files found.
ProcCountPhantoms	This procedure returns the number of phantom browse files found.
ProcDeleteOrderGranule	This procedure removes Datapool inventory for order-only granule.
ProcDelRecoveryParams	This procedure deletes rows from DIRecoveryParameters bases on the parameter.
ProcGetAcquisitionDate	This procedure retrieves the acquisition date.
ProcGetAgingConfigInfo	This procedure retrieves the aging configuration information from DIAgingConfig.
ProcGetApGranuleFiles	This procedure retrieves the datat files for an AP granule.
ProcGetApMetadata	This procedure retrieves metadata information for an AP granule and uses for generate the XML file.
ProcGetBandsForGranule	This procedure retrieves the band information for a granule.
ProcGetBrowseFileBrowseId	This procedure retrieves the browse id for a browse file.
ProcGetCartOrderItemInfo	This procedure retrieves the cart order item information.
ProcGetCollPath	This procedure retrieves the collection path.
ProcGetDapGranuleFiles	This procedure retrieved the data files for a DAP granule.
ProcGetDapMetadata	This procedure retrieves the metadata information for an DAP granule and uses for generate the XML file.
ProcGetGroupESDTKey	This procedure retrieves the group ESDT key.
ProcGetHiddenGranIds	This procedure retrieves all ecs ids in DIECSIdsToInserts that are ineligible due to DFA or logically deleted in SDSRV DB.
ProcGetNonSCAcquisitionDate	This procedure retrieves the acquisition date for a non-science granule.
ProcGetOrderedFiles	This procedure retrieves the ordered files.
ProcGetOrderOnlyCollPath	This procedure retrieves the absoluteFileSystemPath and groupId for a specified ESDT.

**Table 3-106. Procedure Listing (20 of 21)**

Name	Description
ProcGetOrderOnlyFilePath	This procedure returns the full directoryPath for an given granule.
ProcGetOrderOnlyFSInfoByESDT	This stored procedure will return the file system info for a specified ESDT.
ProcGetPhGranuleFiles	This procedure retrieves the data files for a PH granule.
ProcGetPhMetadata	This procedure retrieves the metadata information for PH granule and uses for generate the XML file.
ProcGetQaGranuleFiles	This procedure retrieves the data files for QA granule.
ProcGetQaMetadata	This procedure retrieves the metadata information for QA granule and uses for generate the XML file.
ProcGetQualitySummary	This procedure retrieves the quality summary info from DICollections table for an ESDT.
ProcGetSpatialSummary	This procedure returns the density map for a specified ESDT.
ProcGetSsapGranuleFiles	This procedure retrieves the data files for SSAP granule.
ProcGetSsapMetadata	This procedure retrieves the metadata information for SSAP granule and uses for generate the XML file.
ProcGetStatusCount	This procedure retrieves the count base on status.
ProcGetTimeOfDaySummary	This procedure retrieves the time of day summaries for a collection.
ProcInsDeletedGranByLimit	This procedure inserts the granules in the temp table base on the priority limit and expiration date.
ProcInsDeletedGranByTheme	This procedure inserts the granules in the temp table base on a theme.
ProcInsertThemeXref	This procedure inserts rows in DIGranuleThemeXref table.
ProclsDoubleInsertNeeded	
ProcSetMoveFlag	This procedure sets the move flag in DICollections table.
ProcUpdateQueueStatus	This procedure updates the status in DIInsertActionQueue.
ProcUpdateActiveProcess	This procedure updates the active process in DIActiveInsertProcesses table.
ProcUpdateAgingInfo	This procedure updates the aging configuration.
ProcUpdCollFileSys	This procedure updates the file system label for a collection.
ProcUpdOrderOnlyCollFileSys	This procedure updates the order only file System path mapping for a specified ESDT
ProcUpdOrderOnlyGrpDirName	This proc creates order only hidden collection group entries in the DPL database.
ProcUpdOrderOnlySNDirName	This proc updates the orderOnlySNDirName column in DICollections for a given ESDT. If there are granules associated with the ESDT, then update the shortname portion of the directoryPath for the granules in DIFile
ProcGetInsertQueueAll	Get queue information for all requests that have batchLabel; based upon the status of the requests.



**Table 3-106. Procedure Listing (21 of 21)**

<b>Name</b>	<b>Description</b>
ProcGetDplBrowseFiles	Returns the directorypath and filename for the files associated with the specified browse granule.
ProcGetDplGranuleFiles	Returns the directorypath and filename for the files associated with the specified granule.
ProcUpdateCollGrp	Update collection group.
Sp_thresholdaction	Action to take when crossing the threshold.
Datawarning	Prine warning message when data segment threshold is crossed.
Logdump	Prine message and dump the transaction log when log segment threshold is crossed.
Logwarning	Prine warning message when log segment threshold is crossed.

### **3.2 File Usage**

There are cases when the implementation of a persistent data requirement is better suited to a flat file than to a database table. A typical example of such data is system configuration information. System configuration information is fairly static and usually has no explicit relationship to other data in the enterprise. Another common use of files in ECS is as an interface mechanism between ECS and the external world. Files utilized in Data Pool are described herein.

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## 4. Performance and Tuning Factors

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### 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 Data Pool is provided in Table 4-1 Index Type Key. A list and 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
Sort	ASC (ascending) or DESC (descending) order

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

Table Code	Index Code	PK	FK	U	C
EcDbDatabaseVersions	EcDbDatabaseVersionsPkConstr	Yes	No	Yes	Yes
DIAccessRollup	DIAccessRollUpPkConstr	Yes	No	Yes	Yes
DIActiveInsertProcesses	DIActiveInsertProcessEcsIdx	Yes	No	Yes	Yes
DIActiveInsertProcesses	DIAIPPkConstr	Yes	No	Yes	Yes
DI AgingConfig	DI AgingConfigPkConstr	Yes	No	Yes	Yes
DIBoundingRectangle	xDIBoundingRectangle	No	No	No	Yes
DIBoundingRectangle	DIBoundingRectanglePkConstr	Yes	Yes	Yes	No
DIBrowse	DIBrowsePkConstr	Yes	No	Yes	Yes
DIBrowse	DIBrowseEcsIdx	No	No	No	No
DIBrowse	DIBrowseExternalIdx	No	No	No	No
DIBrowseFile	DIBrowseFileBrowseIdx	No	No	No	No

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

Table Code	Index Code	PK	FK	U	C
DIBrowseFile	DIBrowseFilePkConstr	Yes	Yes	Yes	Yes
DICartOrder	DICartOrderPkConstr	Yes	No	Yes	Yes
DICartOrderItem	DICartOrderItemPkConstr	Yes	No	Yes	Yes
DICartOrderItemBand	DICartOrderItemBandItemIdx	No	No	No	No
DICloudCoverSource	DICloudCoverSourcePkConstr	Yes	No	Yes	Yes
DICollectionGroup	DICollectionGroupPkConstr	Yes	No	Yes	Yes
DICollections	DICollectionPkConstr	Yes	No	Yes	Yes
DICollections	DICollShortNameVldIdx	No	No	No	No
DICompressionAlgorithms	DICompAlgorithmsPkConstr	Yes	No	Yes	Yes
DIConfig		Yes	No	Yes	Yes
DIDimensionDayNight	DIDimensionDayNightPkConstr	Yes	No	Yes	Yes
DIDimensionGroupESDT	DIDimensionGroupESDTPkConstr	Yes	No	Yes	Yes
DIDimensionGroupESDT	DIDimensionGrpESDTgrpValuIdx	No	No	No	No
DIDimensionMP	DIDimensionMPPkConstr	Yes	No	Yes	Yes
DIDimensionMP	DIDimensionMPqaKeyqaVldIdx	No	No	No	No
DIDimensionMP	DIDimensionMPqaVldIdx	No	No	No	No
DIDimensionMPScienceQA Xref	DIDimMPScienceQAXrefPkConstr	Yes	No	Yes	Yes
DIDimensionMPScienceQA Xref	DIDimMPSCQAXrefqaNameKeyIdx	No	No	No	No
DIDimensionPolygonXref	DIDimensionPolygonXrefPkConstr	No	No	Yes	No
DIDimensionScienceQA	DIDimensionScienceQAPkConstr	Yes	No	Yes	Yes
DIDimensionSpatialT6All	DIDimensionSpatialIdx	No	No	No	Yes
DIDimensionSpatialT6All	DIDimensionSpatialT6PkConstr	Yes	No	Yes	No
DIDimensionTemporal	DIDimensionTemporalPkConstr	Yes	No	Yes	Yes
DIDimensionTemporal	DIDimensionTemporalTypIdx	No	No	No	No
DIDimensionTimeOfDay	DIDimensionTimeOfDayPKConstr	Yes	No	Yes	Yes
DIECSIdsToInsert	DIECSIdsToInsertPkConstr	Yes	No	Yes	Yes
DIESDTCurrentDensityMap	DIESDTCurrentDensityMap	Yes	No	Yes	Yes
DIESDTCurrentDensityMap	DIESDTCurrDensityMapPkConstr	Yes	No	Yes	Yes
DIFactDayNight	DIFactDayNightPkConstr	Yes	No	Yes	Yes
DIFactDayNight	DIFactDayNightIdx	No	No	No	No
DIFactGroupESDT	DIFactGroupESDTPkConstr	Yes	No	Yes	Yes
DIFactGroupESDT	DIFactGroupESDTIdx	No	No	No	No
DIFactQA	DIFactQAPKConstr	Yes	No	Yes	Yes
DIFactQA	DIFactQAIdx	No	No	No	No
DIFactTemporalRange	DIFactTemporalRangePkConstr	Yes	Yes	Yes	Yes
DIFactTemporalRange	DIFactTemporalRangeColIMXDK	No	No	No	No

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

Table Code	Index Code	PK	FK	U	C
DIFactTemporalRange	DIFactTemporalRangeCollMXWK	No	No	No	No
DIFactTemporalRange	DIFactTemporalRangeCollMXMK	No	No	No	No
DIFactTimeOfDay	DIFactTimeOfDayPkConstr	Yes	No	Yes	No
DIFactTimeOfDay	DIFactTimeOfDayIdx	No	No	No	No
DIFile	DIFileDirectoryPathIdx	No	No	No	No
DIFile	DIFilePkConstr	Yes	No	Yes	Yes
DIFile	DIFileGranuleIdx	No	Yes	No	No
DIFileSystems	DIFileSystemsPkConstr	Yes	No	Yes	Yes
DIFilesToBeDeleted	DIFilesToBeDeletedDbidsIdx	No	No	No	No
DIFtpAccessLog	DIFtpAccessLogIdx	No	No	No	Yes
DIGPolygon	xDIGPolygon	No	No	No	Yes
DIGPolygon	DIGPolygonPkConstr	Yes	Yes	Yes	No
DIGrCloudCover	DIGrCloudCoverPkConstr	Yes	Yes	Yes	Yes
DIGranuleAccess	DIGranuleAccessdbldIdx	No	No	No	No
DIGranuleAccess	DIGranuleAccessAccTimeIdx	No	No	No	No
DIGranuleBrowseXref	DIGranuleBrowseXrefBrowseIdx	No	No	No	No
DIGranuleBrowseXref	DIGranuleBrowseXrefPkConstr	Yes	Yes	Yes	Yes
DIGranuleExpirationPriority	DIGranuleExpPriorityPkConstr	Yes	Yes	Yes	Yes
DIGranuleHdfObjectsXref	DIGranuleHdfObjXrefGldObjIdx	No	Yes	No	No
DIGranuleSubscription	DIGranuleSubPkConstr	Yes	No	Yes	Yes
DIGranuleThemeXref	DIGranuleThemeXrefPkConstr	Yes	Yes	Yes	Yes
DIGranuleTiles	DIGranuleTilesCollInsTimeIdx	No	No	No	Yes
DIGranuleTiles	DIGranuleTilesPkConstr	Yes	Yes	Yes	No
DIGranules	DIGranulePkConstr	Yes	No	Yes	Yes
DIGranules	DIGranulesEcsIdx	No	No	No	No
DIGranules	DIGranulesExternalIdx	No	No	No	No
DIGranules	DIGranulesCollIdx	No	Yes	No	No
DIGranules	DIGranulesEcsInsTimeIdx	No	No	No	No
DIGranuleOWS	DIGranuleOWSPkConstr	Yes	No	Yes	Yes
DIGranuleOWS	DIGranuleOWSStateUpdIdx	No	No	No	No
DIHEGExceptionCollXref	DIHEGExceptionCollXrefPkConstr	Yes	No	Yes	Yes
DIHEGExceptions	DIHEGExceptionsPkConstr	Yes	Yes	Yes	Yes
DIHEGLookup	DIHEGLookupPkConstr	Yes	No	Yes	Yes
DIHEGOptionCollXref	DIHEGOptionCollXrefPkConstr	Yes	No	Yes	Yes
DIHEGOptionLabel	DIHEGOptionLabelPkConstr	Yes	No	Yes	Yes
DIHEGOptions	DIHEGOptionsPkConstr	Yes	Yes	Yes	Yes
DIHdf4thDimensions	DIHdf4thDimensionsPkConstr	Yes	No	Yes	Yes
DIHdfBands	DIHdfBandsPkConstr	Yes	No	Yes	Yes
DIHdfObjects	DIHdfObjectsPkConstr	Yes	No	Yes	Yes

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

Table Code	Index Code	PK	FK	U	C
DIIdentifier	DIIdentifierPkConstr	Yes	No	Yes	Yes
DIInsertActionQueue	DIQAQecsIdx	No	No	No	No
DIInsertActionQueue	DIQAQxmlFileNameIdx	No	No	No	No
DIInsertActionQueue	DIInsertActionQueuePkConstr	Yes	No	Yes	Yes
DIMeasuredParameter	DIMeasuredParameterPkConstr	Yes	Yes	Yes	Yes
DIMisrProcessingCriteria	DIMisrProcessCriteriaPkConstr	Yes	No	Yes	Yes
DINOSELookup	DINOSELookupPkConstr	Yes	No	Yes	Yes
DIOMSGranules	DIOMSGranEcsIdx	No	No	No	No
DIOMSGranules	DIOMSGranulesPkConstr	Yes	No	Yes	Yes
DIOrbitCalculatedSpatial	DIOrbitCalSpatialPkConstr	Yes	No	Yes	Yes
DIOrbitPolygons	xDIOrbitPolygons	No	No	No	Yes
DIOrbitPolygons	DIOrbitPolygonsPkConstr	Yes	No	Yes	No
DIOWSDeletedGranules	DIOWSDeletedGranulesPkConstr	Yes	No	Yes	Yes
DIOWSDeletedGranules	DIOWSDeletedGranulesExpDateIdx	No	No	No	No
DIPlatInstrCode	DIplatInstrCodePkConstr	Yes	No	Yes	Yes
DIProcAttributes	PK_PROCATTRIBUTES	Yes	No	Yes	Yes
DIQAUpdFlagTemp	DIQAUpdFlagTempGranParmIdx	No	No	No	No
DIQAUpdTempBcp	DIQAUpdTempBcpEcsIdx	Np	No	No	No
DIRecoveryParameters	DIRecoveryParametersPkConstr	Yes	No	Yes	Yes
DI TempGrans	DI TempGransPkConstr	Yes	No	Yes	Yes
DI TempPhantoms	DI TempPhantomsDirFileNameIdx	No	No	No	No
DI Themes	DI ThemePkConstr	Yes	No	Yes	Yes
DI Themes	DI ThemesNameIdx	No	No	No	No
DI Themes	DI ThemesConvSvcIdx	No	No	No	No
DIUpdGranulesTemp	DIUpdGransTempGranIdx	No	No	No	No
DIWebAccessLog	DIWebAccessLogIdx	No	No	No	Yes
DIXMLFilesToInsert	DIXMLFilesToInsertPkConstr	Yes	No	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 Data Pool and all other subsystem databases are described in Table 4-3.

**Table 4-3. Segment Descriptions**

<b>Segment Name Segment</b>	<b>Description</b>
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 is 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 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 is a named cache (dp\_cache) that is currently defined for the Data Pool Subsystem database. Named caches may be defined as the memory usage of the Data Pool database becomes well known and the DAACs move into an operational environment.**

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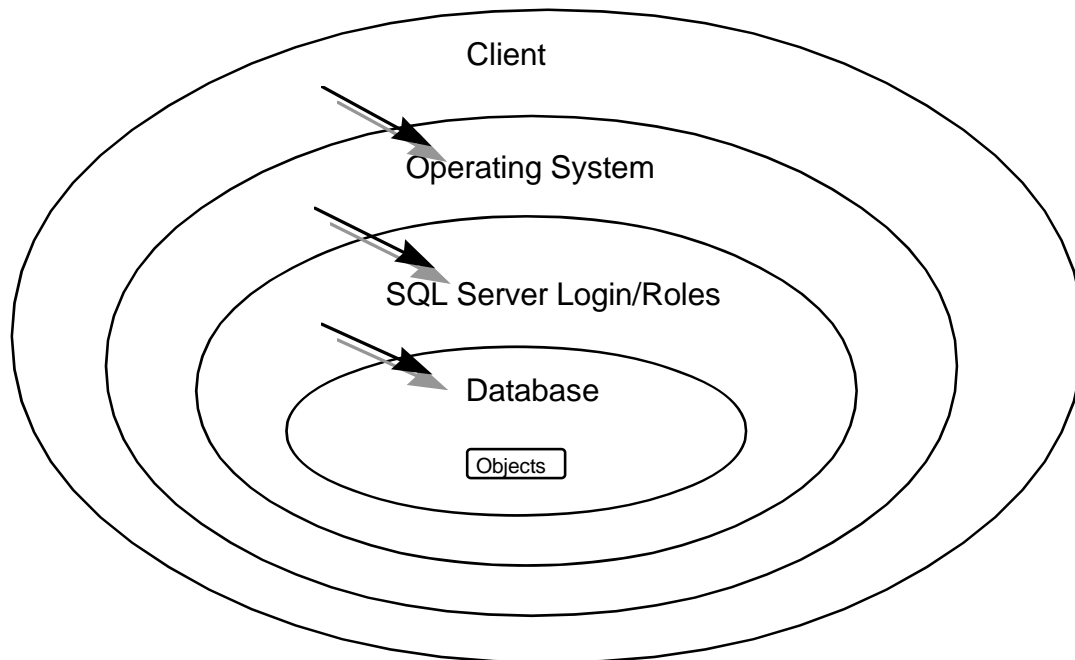


# 5. Database Security

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## 5.1 Approach

The database security discussed within this section is bounded to 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<sup>1</sup>**

## 5.2 Users

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 group or roles.

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<sup>1</sup> Reference Sybase Student Guide: *Advanced SQL Server Administration*.

## 5.3 Groups

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 member of a group inherits all of the permissions granted to that group. No groups have been initially defined in the Data Pool Subsystem “default database. The DAACs should define database groups to support the database security requirements of their individual DAACs. Assigning each user to the appropriate group should control security for local DAAC users.

## 5.4 Roles

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.

## 5.5 Login/Group Object Permissions

During initial database installation logins used by the ECS custom code were created and permissions assigned for access to the Data Pool Subsystem database. In addition, special database installation login, *dpl\_role*, was created to support database installation needs. For each login, the level of access is limited to that associated with their login, group or assigned group/role. Object Permissions are set within the installation scripts of the Data Pool Subsystem for each object and group/role.

Permissions are identified in Table 5-1. A specification of the object permissions is contained in Table 5-2.

**Table 5-1. Permission Key**

Permission	Description
A	All
S	Select
I	Insert
U	Update
D	Delete
E	Execute

**Table 5-2. Object Permissions (1 of 3)**

Group Name	Group Users	Delete	Insert	Select	Update	Execute	Object Name
datapool	All		X	X	X	X	ALL
datapool	All	X					DIGPolygon
datapool	All	X					DIBoundingRectangle
datapool	All	X					DIOrbitPolygons
nbgroup	All					X	ProcThemeEnabledForInsert
nbgroup	All					X	ProcGetUniqueldOutput
nbgroup	All					X	ProcMakeThemeRetroactive
nbgroup	All		X				DIInsertActionQuerue
nbgroup	All			X			DIAccessRollup
nbgroup	All			X			DIActiveInsertProcesses

**Table 5-2. Object Permissions (2 of 3)**

Group Name	Group Users	Delete	Insert	Select	Update	Execute	Object Name
nbggroup	All			X			DIBoundingRectangle
nbggroup	All			X			DIBrowse
nbggroup	All			X			DIBrowseFile
nbggroup	All			X			DI CartOrder
nbggroup	All			X			DI CartOrderItem
nbggroup	All			X			DI CartOrderItemBand
nbggroup	All			X			DI CloudCoverSource
nbggroup	All			X			DI CollectionGroup
nbggroup	All			X			DI Collections
nbggroup	All			X			DI CompressionAlgorithms
nbggroup	All			X			DI Config
nbggroup	All			X			DI DimensionDayNight
nbggroup	All			X			DI DimensionGroupESDT
nbggroup	All			X			DI DimensionMP
nbggroup	All			X			DI DimensionMPScienceQA Xref
nbggroup	All			X			DI DimensionPolygonXref
nbggroup	All			X			DI DimensionScienceQA
nbggroup	All			X			DI DimensionSpatialT6All
nbggroup	All			X			DI DimensionSpatialT6BR_Degree
nbggroup	All			X			DI DimensionTemporal
nbggroup	All			X			DI DimensionTimeOfDay
nbggroup	All			X			DI ESDTCurrentDensityMap
nbggroup	All			X			DI FactDayNight
nbggroup	All			X			DI FactGroupESDT
nbggroup	All			X			DI FactQA
nbggroup	All			X			DI FactTemporalRange
nbggroup	All			X			DI FactTimeOfDay
nbggroup	All			X			DI File
nbggroup	All			X			DI FileSystems
nbggroup	All			X			DI FilesToBeDeleted
nbggroup	All			X			DI FtAccessLog
nbggroup	All			X			DI GPolygon
nbggroup	All			X			DI GrCloudCover
nbggroup	All			X			DI GranuleAccess
nbggroup	All			X			DI GranuleBrowseXref
nbggroup	All			X			DI GranuleExpirationPriority
nbggroup	All			X			DI GranuleHdfObjectsXref

**Table 5-2. Object Permissions (3 of 3)**

<b>Group Name</b>	<b>Group Users</b>	<b>Delete</b>	<b>Insert</b>	<b>Select</b>	<b>Update</b>	<b>Execute</b>	<b>Object Name</b>
nbggroup	All			X			DIGranuleSubscription
nbggroup	All			X			DIGranuleTiles
nbggroup	All			X			DIGranules
nbggroup	All			X			DIHEGLookup
nbggroup	All			X			DIHdf4thDimensions
nbggroup	All			X			DIHdfBands
nbggroup	All			X			DIHdfObjects
nbggroup	All			X			DIIdentifier
nbggroup	All			X			DIInsertActionQueue
nbggroup	All			X			DIInsertActionQueue
nbggroup	All			X			DIMeasuredParameter
nbggroup	All			X			DIMisrProcessingCriteria
nbggroup	All			X			DINOSELookup
nbggroup	All			X			DIOMSGranules
nbggroup	All			X			DIOrbitCalculatedSpatial
nbggroup	All			X			DIOrbitPolygons
nbggroup	All			X			DIPlatInstrCode
nbggroup	All			X			DIProcAttributes
nbggroup	All			X			DIQAUpdFlagTemp
nbggroup	All			X			DIRecoveryParameters
nbggroup	All			X			DIThemes
nbggroup	All			X			DIUpdGranulesTemp
nbggroup	All			X			DIWebAccessLog
nbggroup	All			X			DIXMLFilesToInsert
nbggroup	All			X			EcDbDatabaseVersions

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# 6. Scripts

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## 6.1 Installation Scripts

Scripts used to support installation of the Data Pool Subsystem database are listed in Table 6-1.

**Table 6-1. Installation Scripts**

Script File	Description
EcDIDbBuild	Script uses to build the DPL database from scratch.

## 6.2 De-Installation Scripts

Scripts used to support de-installation of the Data Pool Subsystem database are listed in Table 6-2.

**Table 6-2. De-Installation Scripts**

Script File	Description
DIDbDropSchema	Script uses to delete all schema and data from database.

## 6.3 Backup and Recovery Scripts

Scripts developed to perform backup and recovery of the Data Pool Subsystem database are listed in Table 6-3. These scripts should be configured to run automatically using the Unix cron facility. It is recommended that, transaction logs dumps (incremental dumps) are performed a minimum of 3 times each day. It is recommended that database dumps (full database dumps) are performed a minimum of once each day. Backup and recovery are M&O activities. At their discretion, DAACs may modify these backup/recovery scripts or utilize backup/recovery scripts developed by their local M&O staff.

**Table 6-3. Backup and Recovery Scripts**

Script File	Description
EcCoDbSyb_DumpDb	Dumps all databases for managed by the SQL server instance.
EcCoDbSyb_DumpTran	Dumps the transaction log for all databases managed by the SQL server.

## 6.4 Miscellaneous Scripts

Miscellaneous scripts applicable to the Data Pool Subsystem database.

**Table 6-4. Miscellaneous Scripts and Input Data Files**

<b>Script</b>	<b>Description</b>
EcDdmMonitorServer	Monitors segment usage and user levels for a selected SQL server. Superseded by DbVision COTS.
EcDdmSegmentUse	Monitors segment usage. Used by EcDdmMonitorServer. Superseded by DbVision COTS.
EcDdmUserCounts	Monitors user access. Used by EcDdmMonitorServer. Superseded by DbVision COTS.
EcCoDbSyb_CkErrorLog	Checks the error log for error messages warranting DBO attention. Superseded by DbVision.
EcCoDbSyb_DbStat	Updates index statistics for each table in the selected database.
EcCoDbSyb_DboMail	Emails DBA error notification via e-mail. Used by EcCoDbSyb_DumpDb/Tran and EcCoDbSyb_CkErrorLog scripts.



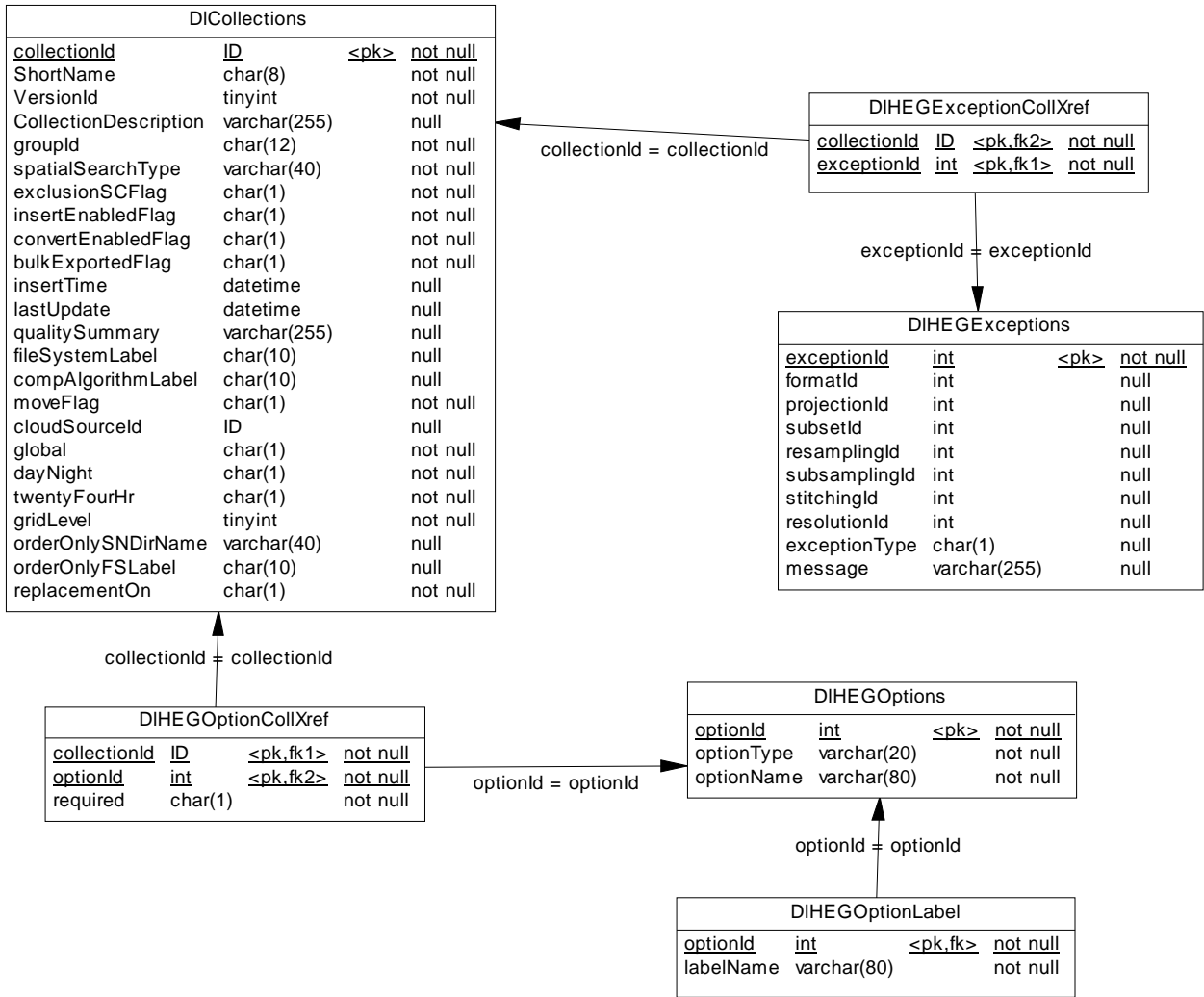
# Appendix A. Entity Relationship Diagram

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**Figure A-3. Data Pool HEG Configuration**

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# Abbreviations and Acronyms

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ADSRV	Advertising Service CSCI
ANSI	American National Standards Institute
ASC	Ascending
BCP	Bulk Copy Utility
CASE	Computer Aided Software Engineering
CD	contractual delivery 214-001
CDRL	contract data requirements list
CDS	cell directory service
CI	configuration item
CONFIG	Configuration Registry Subsystem
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
DESC	Descending
DBMS	Database Management System
DCN	Document Change Notice
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
DPAD	Data Pool Action Driver
DPIU	Data Pool Insert Utility

DPL	Data Pool Subsystem
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
ERD	Entity Relationship Diagram
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
GIS	Geographic Information System
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
OGC	Open Geospatial Consortium



OWS	OGC Web Services
PDF	Portable Document Format
PDPS	Planning and Data Processing Subsystem
PK	Primary Key
PLANG	Production Planning CSCI
PLS	Planning Subsystem
RDBMS	Relational Data Base Management System
RPC	Remote Procedure Call
SDSRV	Science Data Server
STMGT	Storage Management Software CSCI
SUBSRV	Subscription Server
URL	Universal Reference Locator
WWW	World-Wide Web

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