Gemini Observatory

Version

Nicolas A. Barriga, Carlos Quiroz, Arturo Núñez

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# Introduction

This document provides a description of the Gemini Data Service (GDS) Interface to the Gemini software.

## Document Purpose

The purpose of this document is to present the GDS interface. This document does the following:

* Bla bla
* hfgh

This document does not rehash the critical information in references and . It is assumed that the reader has read these other documents and understands their content.

## Intended Readership

The intended audience for this document is *groups who are writing software, design review documents or providing operational support* *for Aspen instruments*.

## Conventions

The GDS is still under active development and things that are expected to undergo some changes are marked like this paragraph with a yellow exclamation point. There are not many of these situations in this document.

Code examples and individual methods are written in a fixed-width font like this: unsubscribeToStatus.

## Acronyms

ACM Action Command Model

CMS C++ Messaging Service

DHS Data Handling System

GIAPI Gemini Instrument Application Programmer Interface

GMP Gemini Master Process

GSDN Gemini Data Storage Network

ICD Interface Control Document

JMS Java Message Service

PCS Primary Control System

TCS Telescope Control System

TLC Top Level Computer

WCS World Coordinate System

GDS Gemini Data Service

## Reference Materials

1. *Guidelines for Designing Gemini Aspen Instrument Software*, Kim Gillies, AspenSoft-03072004-6.
2. *Aspen GIAPI Design and Use*, Kim Gillies, Arturo Núñez, GIAPIUse-08292006-02.
3. FITS Standard Specification: <http://archive.stsci.edu/fits/fits_standard/fits_standard.html>.
4. FITSIO Home Page, <http://heasarc.gsfc.nasa.gov/docs/software/fitsio/fitsio.html>
5. TCS/PTW/8.6, World Coordinates, Part 1: Astrometry, P.T. Wallace, RAL.
6. Java Message Service Home Page, http://java.sun.com/products/jms/
7. Apache log4xx Home Page, <http://logging.apache.org/log4cxx/index.html>
8. The boost C++ Libraries Home Page <http://www.boost.org/>
9. The CppUnit framework Home Page, <http://cppunit.sourceforge.net/cppunit-wiki>
10. Apache ActiveMQ Home Page, http://activemq.apache.org/
11. Apache ActiveMQ CPP Home Page, <http://activemq.apache.org/cms/>

## Reference Materials

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| [1] | Kim Gillies and Arturo Nunez, "Aspen GIAPI Design and Use," 2006. |
| [2] | Kim Gillies, "Guidelines for Designing Gemini Aspen Instrument Software," 2004. |
| [3] | FITS Standard Specification. [Online]. http://archive stsci.edu/fits/fits\_standard/fits\_standard.html |

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# Overview of the Gemini Data Service

# GDS <-> ODB Interface

# GDS <-> OCS Interface

|  |  |  |
| --- | --- | --- |
| **Class/Type** | **Description** | **C++ header** |
| StatusUtil | Utility class to manipulate and post status to Gemini. | <giapi/StatusUtil.h> |
| type::Type | Enumerated type to define the supported data types for Status Items | <giapi/giapi.h> |
| alarm::Severity | Enumerated type to define the severity of alarms | <giapi/giapi.h> |
| alarm::Cause | Enumerated type to define the cause of alarms | <giapi/giapi.h> |
| health::Health | Enumerated type to define health status values | <giapi/giapi.h> |

Table 1: Main classes and types to provide status support in the C++ Language glue

# GDS <-> EPICS Interface

# GDS <-> Instrument Interface