Structural and Functional Description of HiCat

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HiCat Review
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What is HiCat?

- Database Server
- MySQL
- Associated HiRISE Filesystem
- Supporting Software
Data Dictionary

- Single key location for database changes

- master is in XML
  - under version control
  - HTML can be generated
  - SQL CREATE statements can be generated

- HTML Data Dictionary acts as a "live" document to facilitate coordination
Security

- MySQL server will be on HiROC-only machine
- Enable & require SSL-encrypted connections
- Privileges within the MySQL system are closely monitored by database specialist
Performance

• Expect to use one master and many slave replicants

• Load-balancing will be done by system routing software or hardware
Data Integrity

- Currently data disks are being backed up by nightly system backups
- Plan to test a backup system which dumps table contents to files
- Replicants will also serve as backups when they are brought online
- Integrity checking programs will be run on the database
Reliability

- Hardware
- Server Software
- Structure
User Scenarios

- Represent a single interaction with HiCat
- Act as specific stand alone tests
- Facilitate communication within the team
- Important tool to support future database changes
Current Status

- Database is functional, and supporting current GDS activities
- Table structure continues to evolve
  - XML Data Dictionary implemented & functional
  - User Scenarios mechanism is being developed
- Security is currently weak
  - Improvements will be implemented before launch
- Performance is adequate for GDS development
  - Not ready for general public load
- Data Integrity is currently minimal
  - Plans for expansion
- Reliability is good, will also continue to evolve