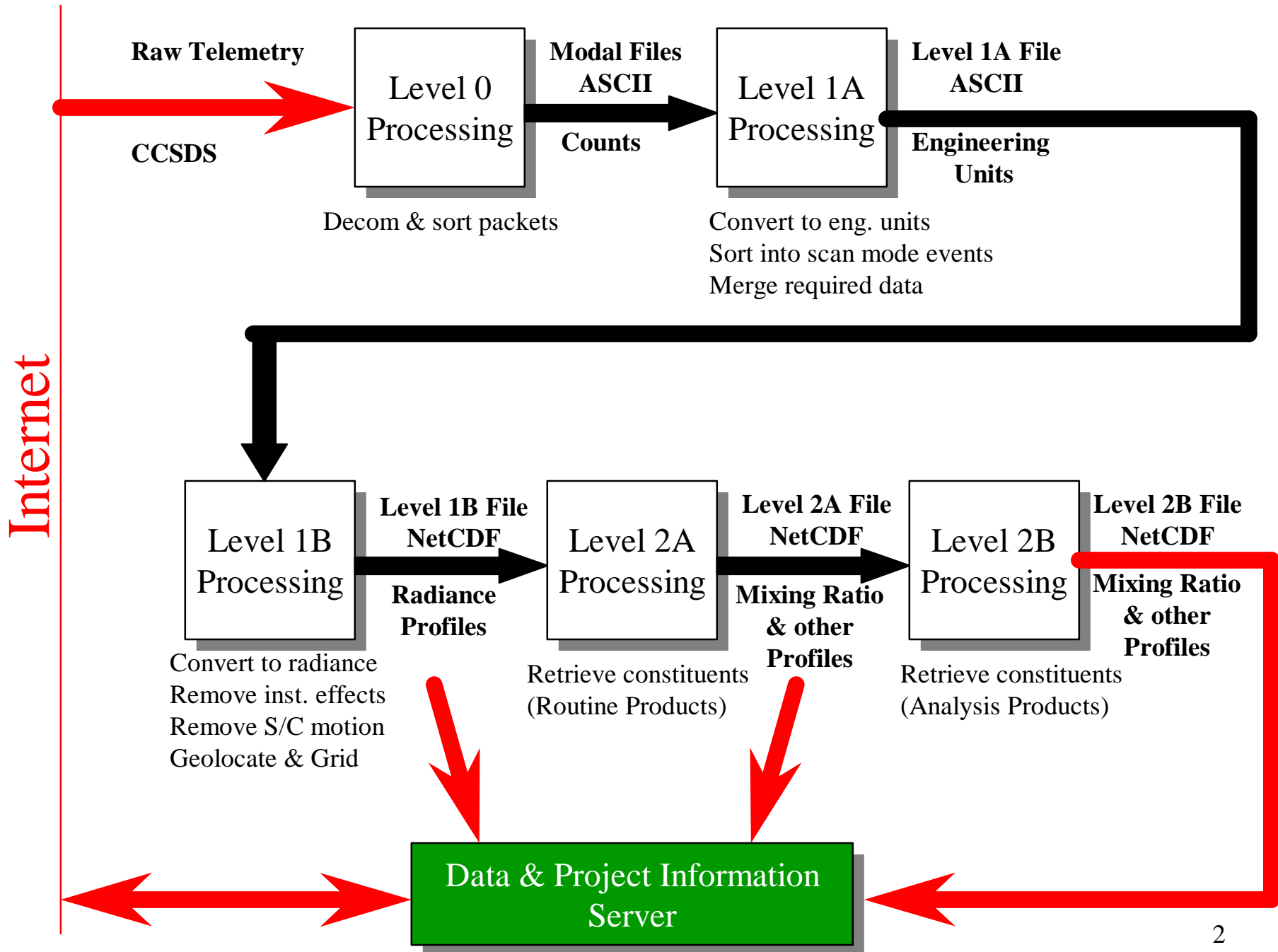
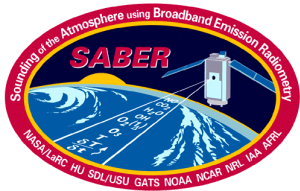


SABER Project Information Server

John Burton
Computer Systems Engineer
j.c.burton@gats.hampton.va.us

JB-1





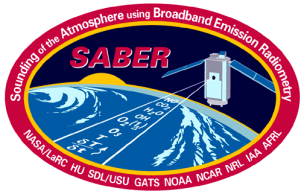
SABER Project Information Server Heritage



- GATS Heritage for Data Management/Access:

Software & Lessons Learned from:

- HALOE Data Management/Access
- MASDA (LIMS reprocessing)
Data Management/Access
- SAGE III Project Management

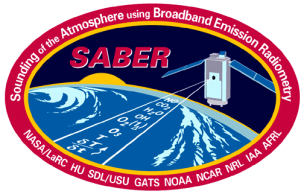


SABER Project Information Server System Requirements



-
- Input:**
- Level 1B→2B NetCDF files
 - Contributed data files
 - Project documents
- Output:**
- Level 1B→2B NetCDF files
 - Contributed data files
 - Project documents
 - POC Data Products Status File
 - POC Data Products URL File
 - Web based GUI for user interaction
- Processing:**
- Ingest and catalog data and document files
 - Process database queries for file locations (URL)
 - Serve files via HTTP and FTP

JB-4

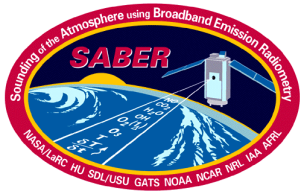


SABER Project Information Server System Configuration

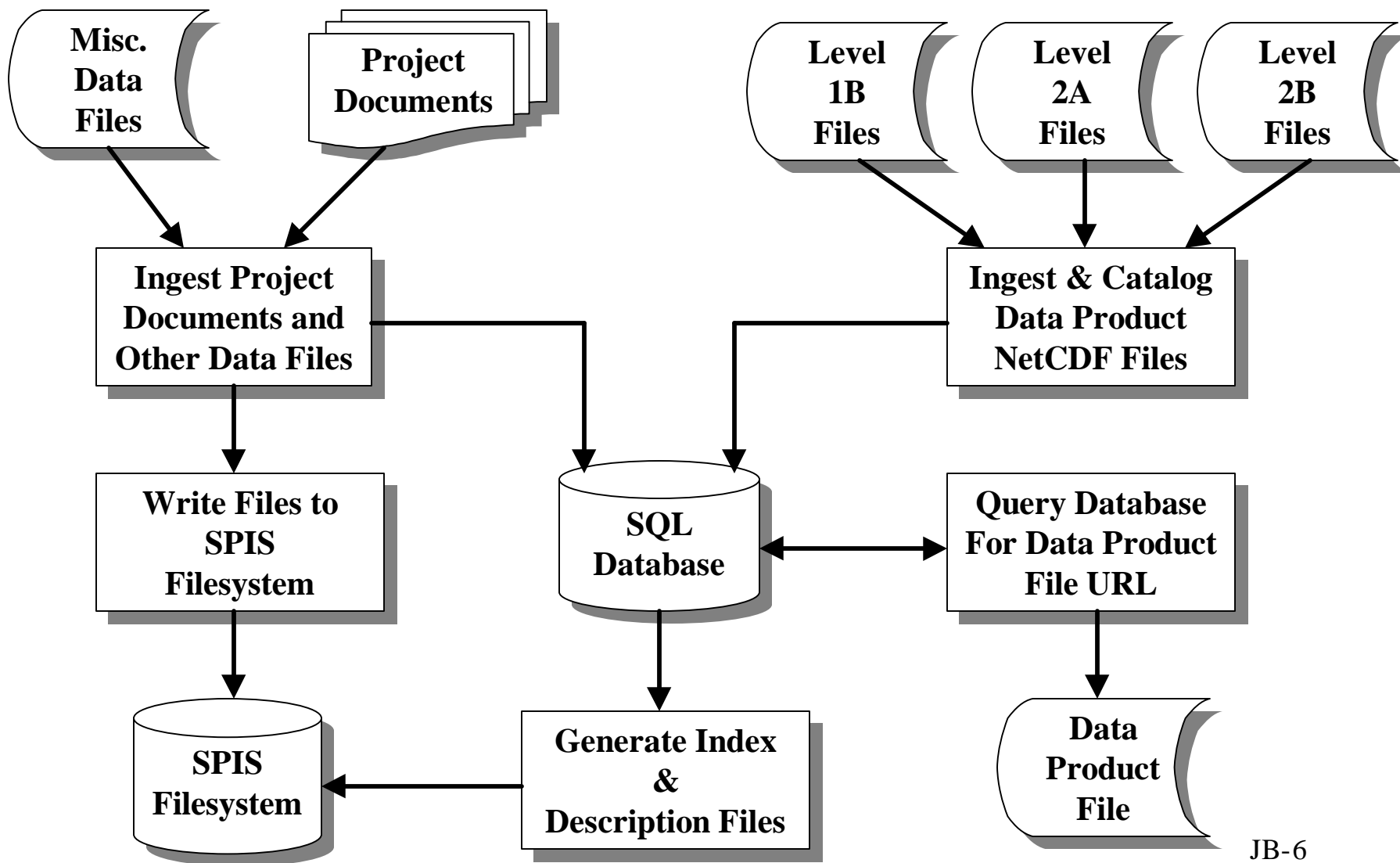


- Uses Standard Node Configuration (SPIS Node)
- Apache HTTP Web Server
- CGI Routines written in Perl/C/C++
 - Perl - Rapid prototyping and general utilities
 - C/C++ - Performance optimization
- PostgreSQL - ODBMS Database Server
 - Standard SQL query syntax
 - Perl interface module
 - C/C++ library interface
 - JDBC interface
- Web/DB interfacing available via standard HTML forms and JAVA depending on client capabilities

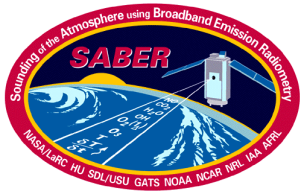
JB-5



SABER Project Information Server System Design



JB-6

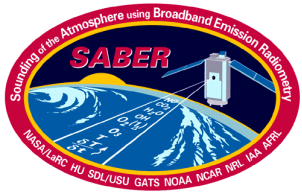


CSCI: Ingest Project Documents and Miscellaneous Data Files Requirements



Requirements:

- (1) Web interface for file upload and ingestion.
- (2) Username/password authorization and registration.
- (3) Generate URL for file storage.
- (4) Insertion of file URL and information into database.

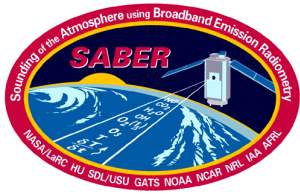


CSCI: Ingest Project Documents and Miscellaneous Data Files Testing



Testing:

<u>Test</u>	<u>Requirement</u>
• Attempt access using valid and invalid username/ password combinations.	1, 2
• Register user and attempt access.	1, 2
• Determine if file URL is valid and within SPIS file system.	3
• Query database and compare with input information.	4

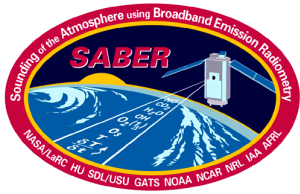


CSCI: Ingest and Catalog Data Product NetCDF Files Requirements



Requirements:

- (1) Read levels 1B through 2B files and extract file and event level information.
- (2) Record cataloging information to database.
- (3) Ingested information must be accessible via standard SQL queries.

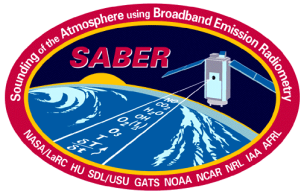


CSCI: Ingest and Catalog Data Product NetCDF Files Testing



Testing:

<u>Test</u>	<u>Requirement</u>
• Ingest simulated Levels 1B through 2B files into SPIS.	1, 2
• Query database based on file and event level information.	3
• Compare query results with input files.	1, 2, 3

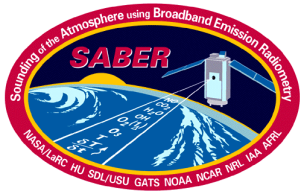


CSCI: Store Files to SPIS Filesystem Requirements



Requirements:

- (1) HTTP server must be able to write to URL generated by ingest process.
- (2) HTTP server performs a binary file transfer from client to SPIS filesystem.



CSCI: Store Files to SPIS Filesystem Testing



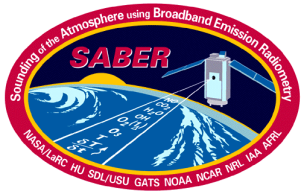
Testing:

Test

- Ingest a file into the SPIS and perform a byte-by-byte comparison of input file and file at specified URL.

Requirement

1, 2

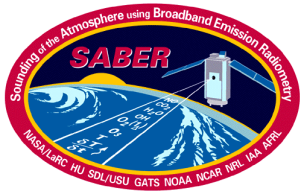


CSCI: Query Database for Data Product File URL Requirements



Requirements:

- (1) The database server will be accessible via a command line or GUI client for custom queries and administrative tasks.
- (2) The database server will be accessible via the HTTP server for standard queries.

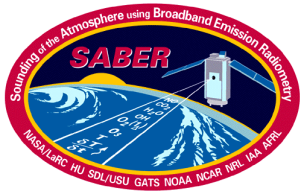


CSCI: Query Database for Data Product File URL Testing



Testing:

<u>Test</u>	<u>Requirement</u>
• Ingest simulated/predefined files and query via a command line client. Compare results with ingest information and file URL.	1
• Ingest simulated/predefined files and query via web interface. Compare results with ingest information and file URL.	2



CSCI: Generate Index/Description and URL Files Requirements



Requirements:

- (1) Generate/update POC Data Products URL File.
- (2) Generate/update POC Data Product Status File.
- (3) Generate/update SPIS Filesystem Index/Description Files.



CSCI: Generate Index/Description and URL Files Testing



Testing:

<u>Test</u>	<u>Requirement</u>
• Ingest simulated files, query database, and generate POC Data Products URL File.	1
• Query database and generate POC Data Product Status File.	2
• Query database and generate Index/Description Files.	3

