

BTAPS

Berkeley Trending and Plotting System.



What Is BTAPS?

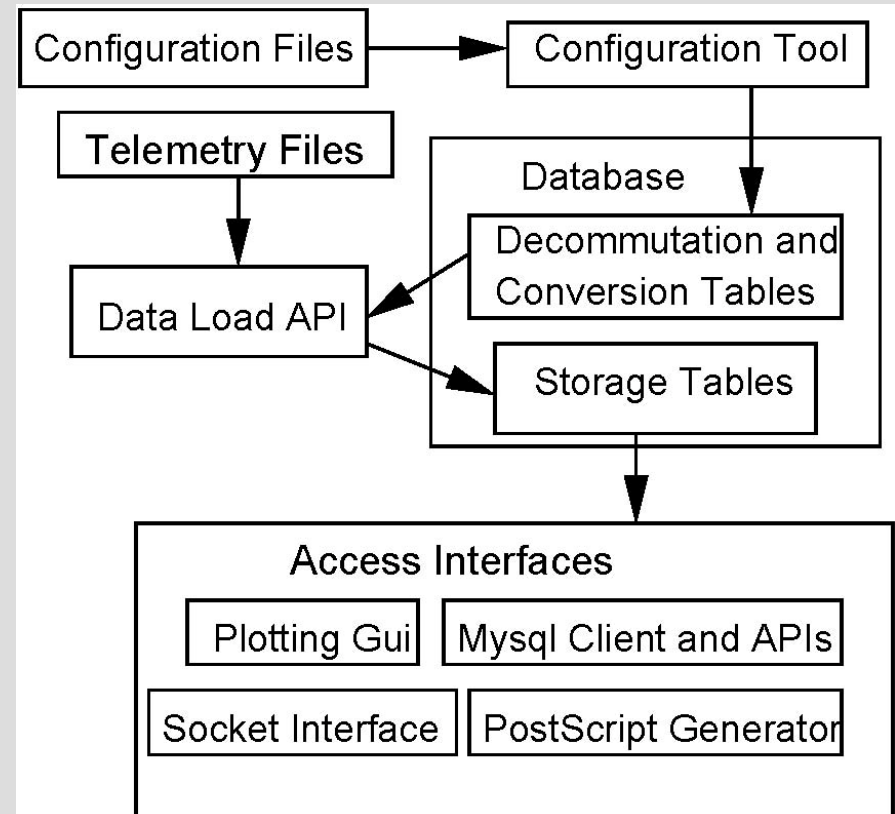
- BTAPS is a system to acquire, manage, and view satellite data
- It is used on the THEMIS satellite mission, and was tested on the RHESSI mission.
- A MySQL database serves as the core of the system.

Why BTAPS?

- Previous systems were limited to a real-time paradigm
- Viewing post-pass data required replay
- Data was managed using flat files
- Random data access was limited/impossible

How does BTAPS work?

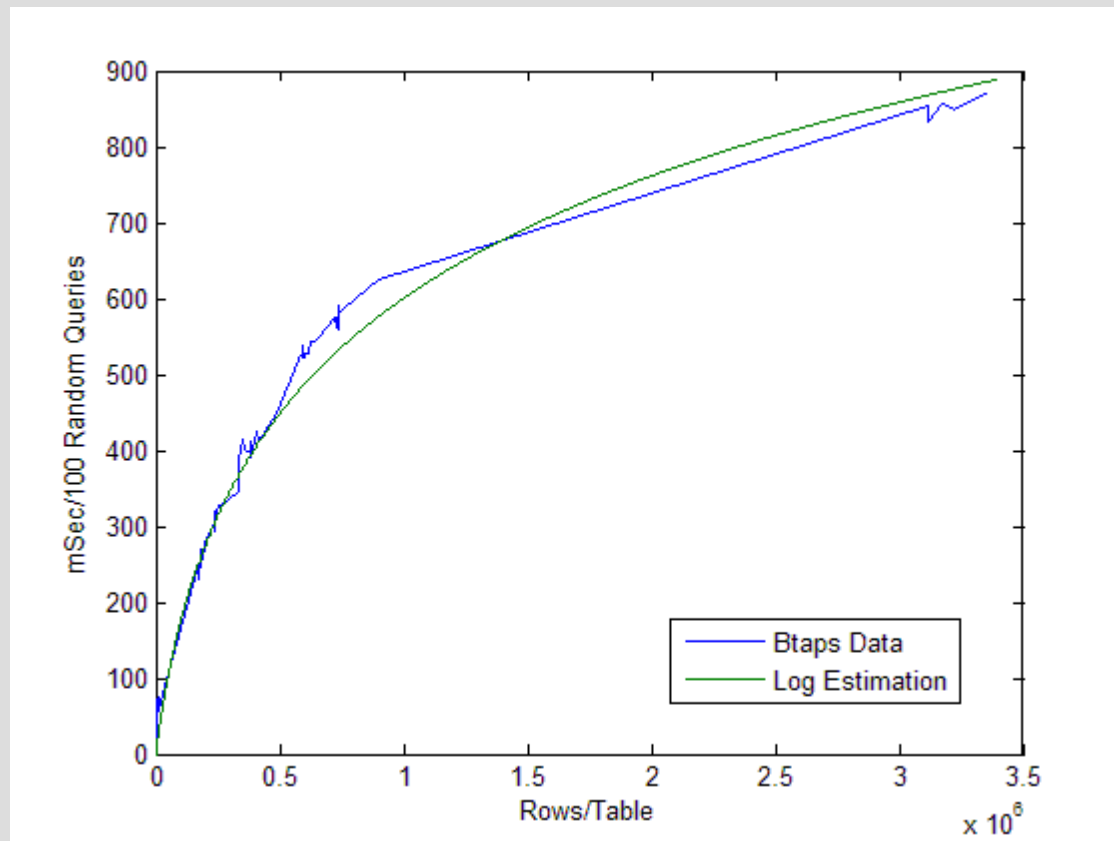
- Run one time configuration tool
- Telemetry is loaded in real time view C-API
- Data access is provided via several access interfaces.



How well does BTAPS work?

- Loads data as fast as it is acquired. ~15 kB/s
- Has enough storage space for ~8 years
- Allows instant access to the data from local and remote sites
- Logarithmic random access times for time-series quantities.
- Sparse/Lazy access algorithms in the interfaces means plotting takes constant time regardless of the length of the time interval

Query Times v. Row Number



Compatibility

- Works with CCSDS compatible missions.
- Requires SunOS(Unix) for the Load API
- Plotting Utilities work on Windows, Sun OS, Linux, Mac OS X
- Database is hosted on a rack mounted x86_64 Linux dual core.
- Data is stored on a 4x500 GB RAID in a 1+0 configuration.

Time range:

Start time: 2007:155:00:00:00

End time: 2007:158:00:00:00

Commit

Data

Realtime

Clear data

THEMIS Df

(2007/155 22:41:07.629, 28.94106)

Mnemonic

AMSSSSPINRT_RPM

Add

Remove

Properties

Mnemonic

RFUELTKPSI

Add

Remove

Properties

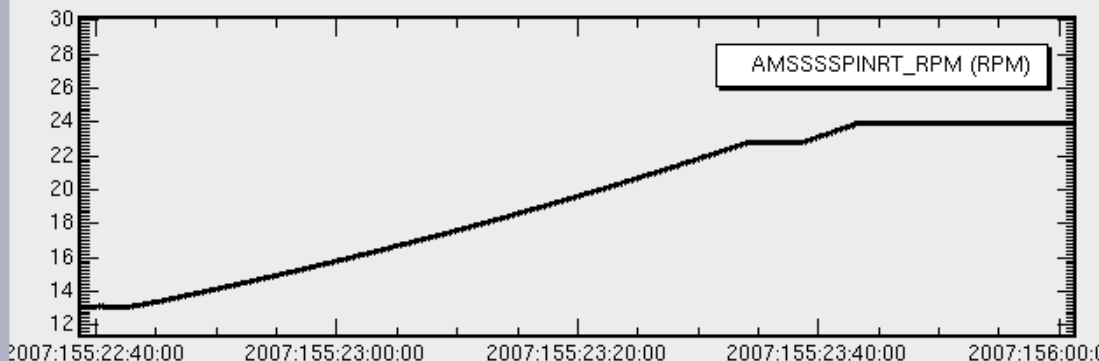
Mnemonic

BTMPTHRA1
BTMPHRT1

Add

Remove

Properties



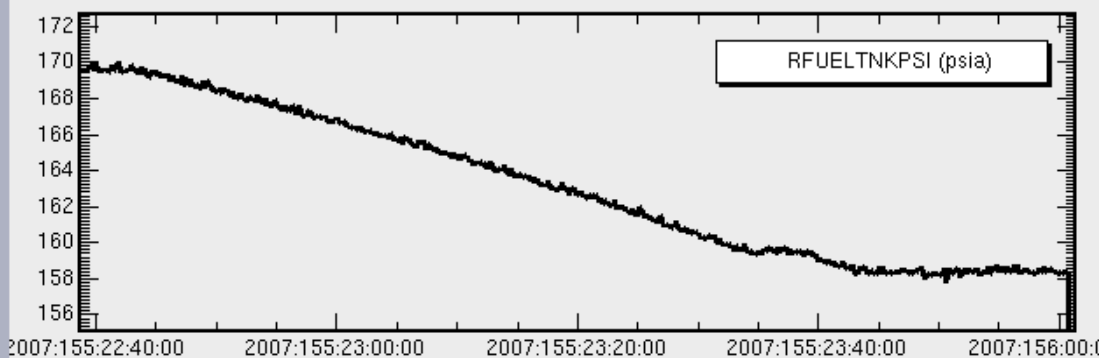
Maximize

Y+

Y Auto

Y-

Maximize

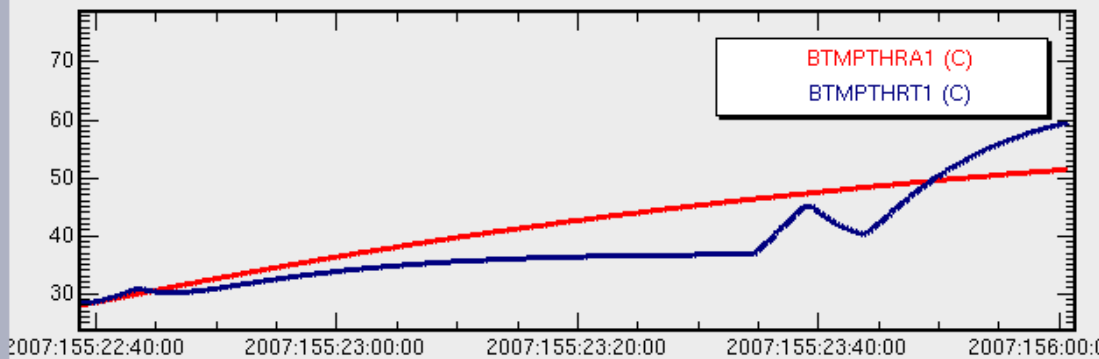


Y+

Y Auto

Y-

Maximize

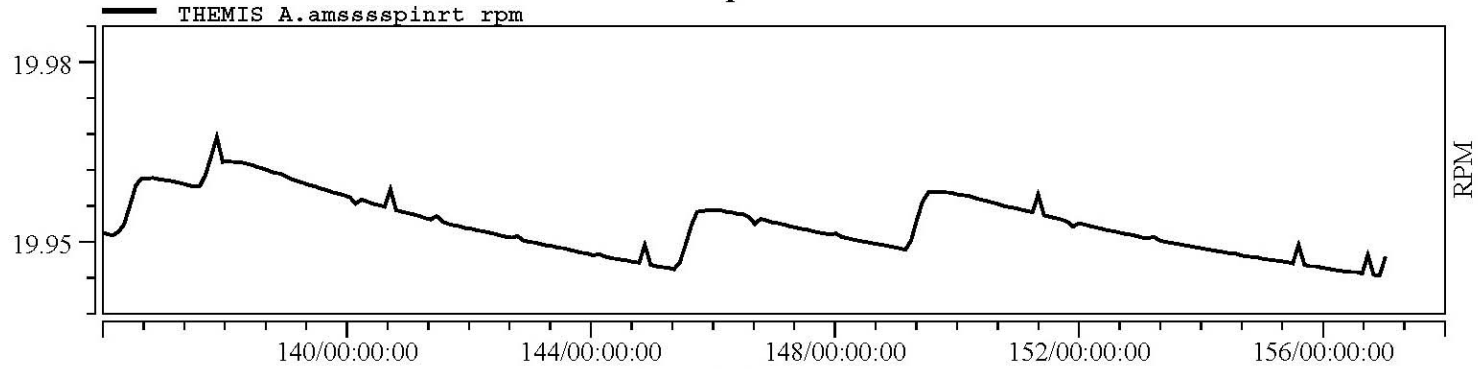


Y+

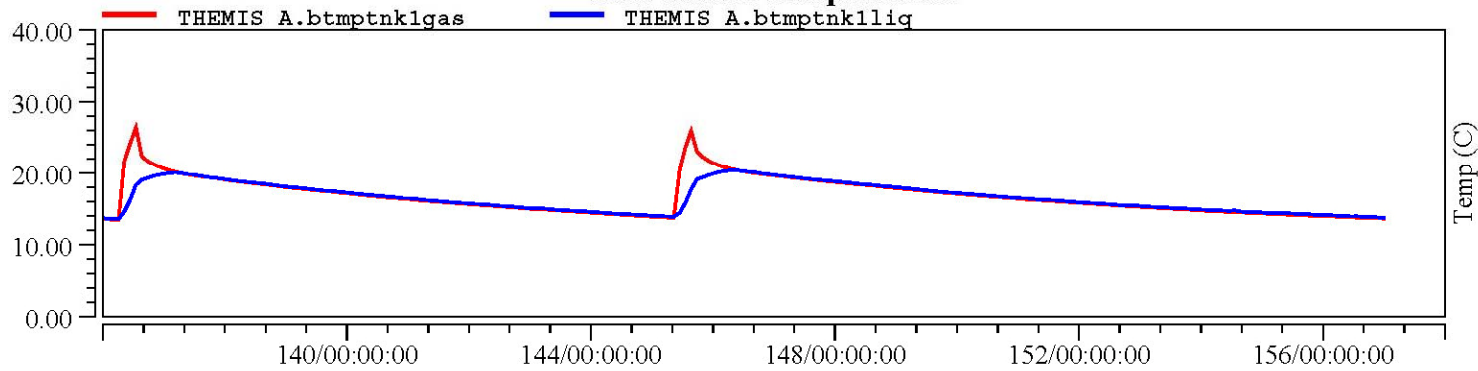
Y Auto

Y-

Spin Rate



Fuel Tank 1 Temperatures



Fuel Tank 2 Temperatures

