Xrootd Monitoring

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Xrootd Monitoring

- How the monitoring package works
- Some Definitions
- How it looks like
- Which information is available
- Security Protocols
- Authorization

How it works

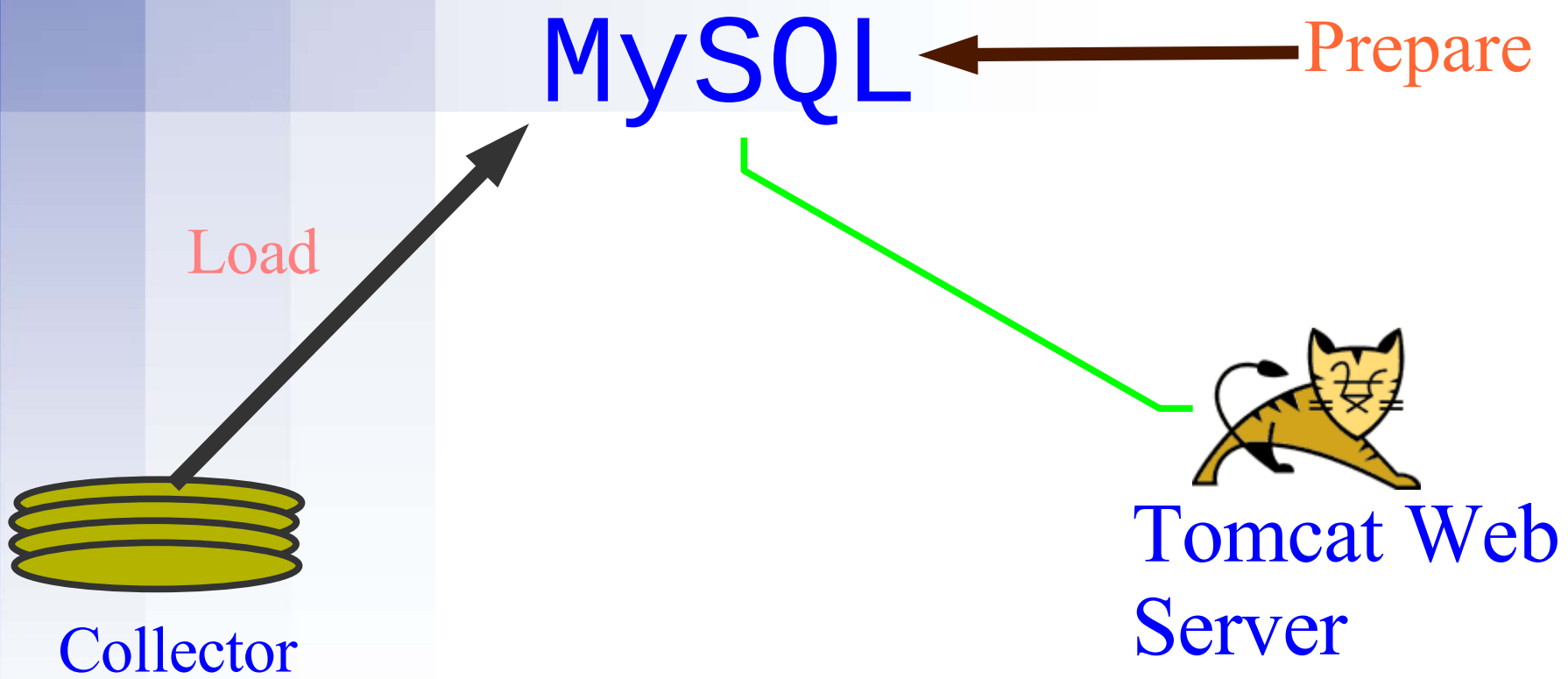
Xrootd

File

UDP
Packets

Collector

How it works



Some Definitions

Job: A job is a collection of sessions having the same userName, processId and clientHost. Each job is assigned a unique jobId. At a given time a job can assume one of the three states:

1. running: Number of open sessions > 0
2. finished: Number of open sessions = 0 AND latest disconnect time is at least <maxJobIdleTime> before current time.
3. dormant: When none of above is true. A dormant job can resume running if a new session is started before the <maxJobIdleTime> limit is reached.

Some Definitions

Session: A session is any operation using Xrootd. It has an assigned id ,the id of the user, the start time, a job id, the clientHost id, the serverHost id and the connection time.

How it looks

Xrootd data access monitoring

Basic view

Top performers

List all
- users
- dataTypes
- files
- servers
- clients
- jobs

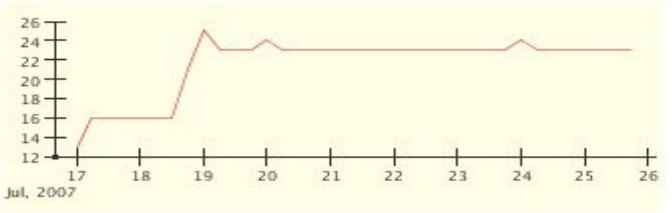
List current
- users
- dataTypes
- files
- servers
- clients

Time Period: Last Month | Update

statsLastMonth

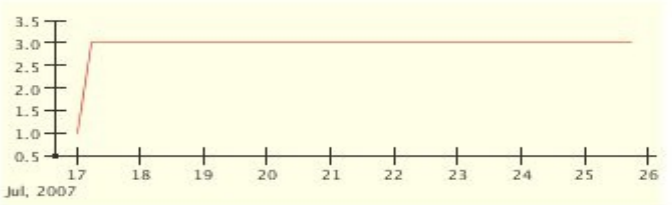
Number of running jobs

Site	Now	Change
usatlas	25	



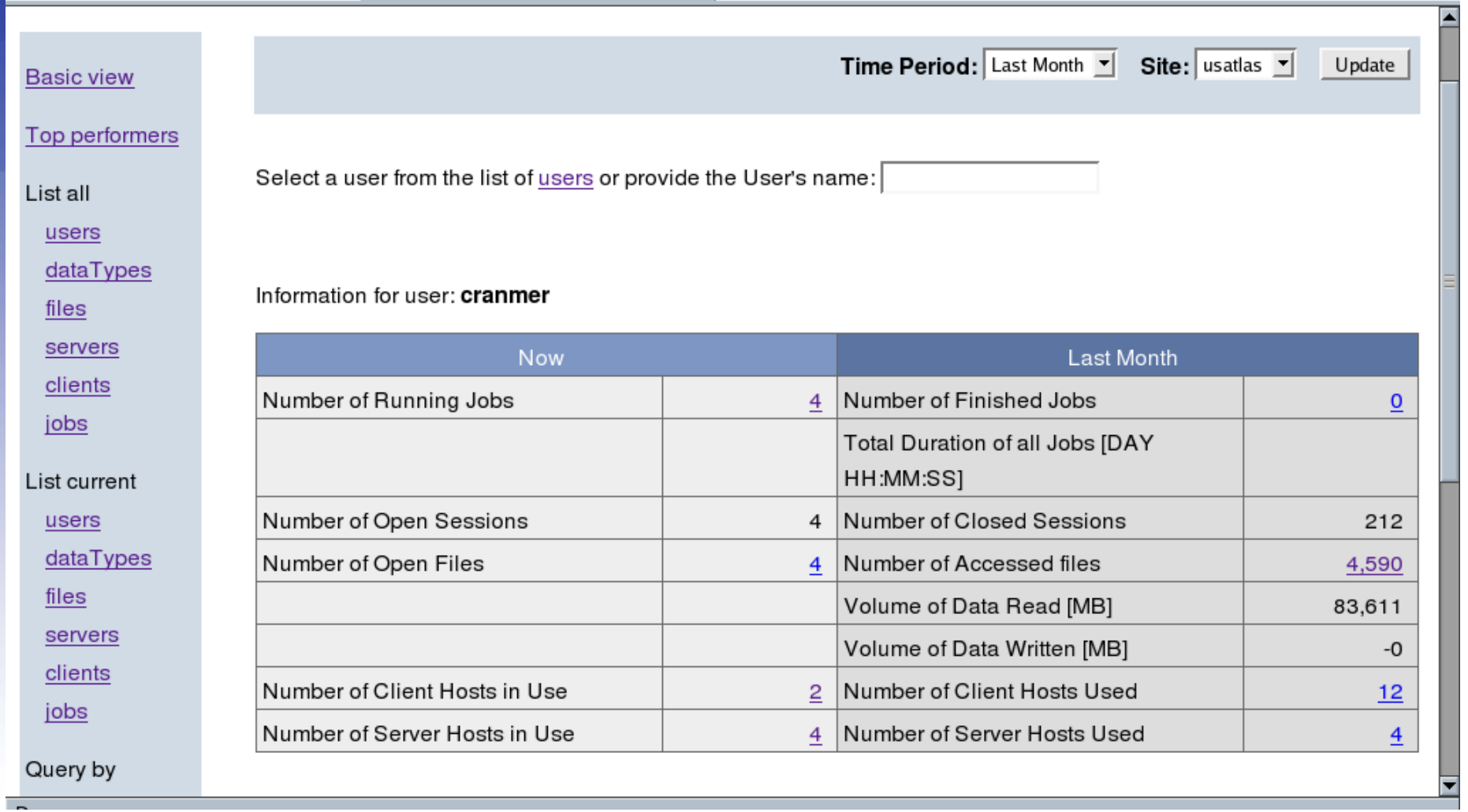
Number of active users

Site	Now	Change
usatlas	4	



Done

How it looks



Basic view

Top performers

List all
- users
- dataTypes
- files
- servers
- clients
- jobs

List current
- users
- dataTypes
- files
- servers
- clients
- jobs

Query by

Time Period: Last Month **Site:** usatlas Update

Select a user from the list of users or provide the User's name:

Information for user: **cranmer**

Now		Last Month	
Number of Running Jobs	4	Number of Finished Jobs	0
		Total Duration of all Jobs [DAY HH:MM:SS]	
Number of Open Sessions	4	Number of Closed Sessions	212
Number of Open Files	4	Number of Accessed files	4,590
		Volume of Data Read [MB]	83,611
		Volume of Data Written [MB]	-0
Number of Client Hosts in Use	2	Number of Client Hosts Used	12
Number of Server Hosts in Use	4	Number of Server Hosts Used	4

Which Information is available

- Users
- Data Types
- Files
- Servers
- Clients
- Jobs

For the

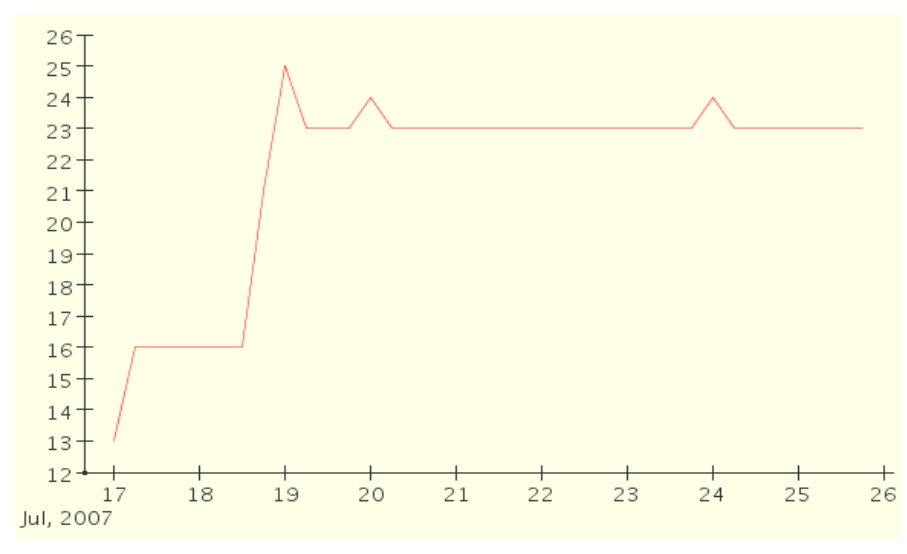
- Last Hour
- Last Day
- Last Week
- Last Month
- Last Year

Which Information is available

- Top Active Users
- Hottest Data Types
- Hottest Files
- Xrootd Restarts

Which Information is available

Plots



Running Jobs / Last Period

- Number of active users / Last Period
- Running jobs / Last Period
- Unique files opened / Last period
- Non unique files opened/ Last period

Security in Xrootd

Protocols Supported

- Host: authenticates using host name
- GSI
- Kerberos 4
- Kerberos 5
- Password based authentication

Currently using Kerberos 5 and it worked fine.

Authorization in Xrootd

- Works using a plain text file where it is possible to specify what each user can do.
- The file must be shared among all servers of xrootd.
- It's a server side only issue.
- It's possible to specify how often to refresh the file with the authorization database.

Authorization in Xrootd

Specific privileges can be set for:

- Group name
- Net group name
- User name
- Host/Domain name

Authorization in Xrootd

The privileges can be:

- All privileges
- Delete
- Insert
- Lookup a file
- Rename a file
- Read a file
- Write a file

Authorization in Xrootd

The privileges are set for prefix paths for example:

u edfajar /xrd rw

Means that the user edfajar can read and write all the files in the xrd directory.

u * /xrd r

Means all user can read all files from directory xrd