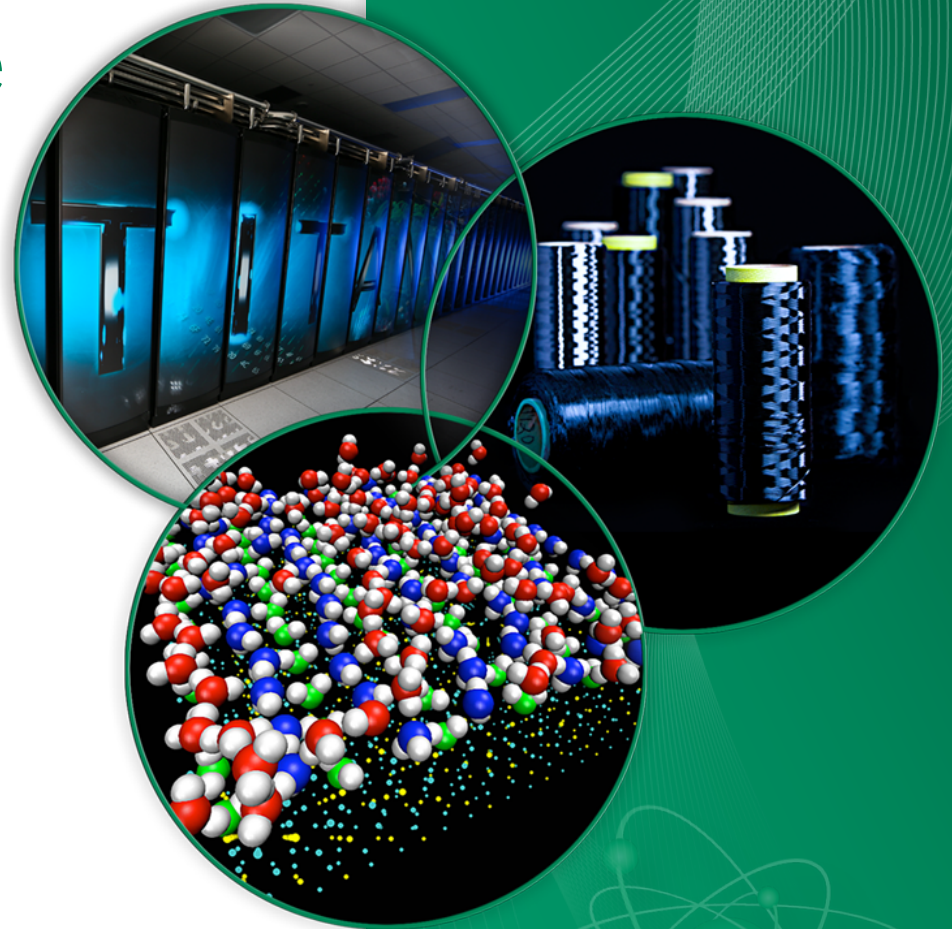


ICAT4 Experience at ORNL/SNS

Shelly Ren

Scientific Information Systems

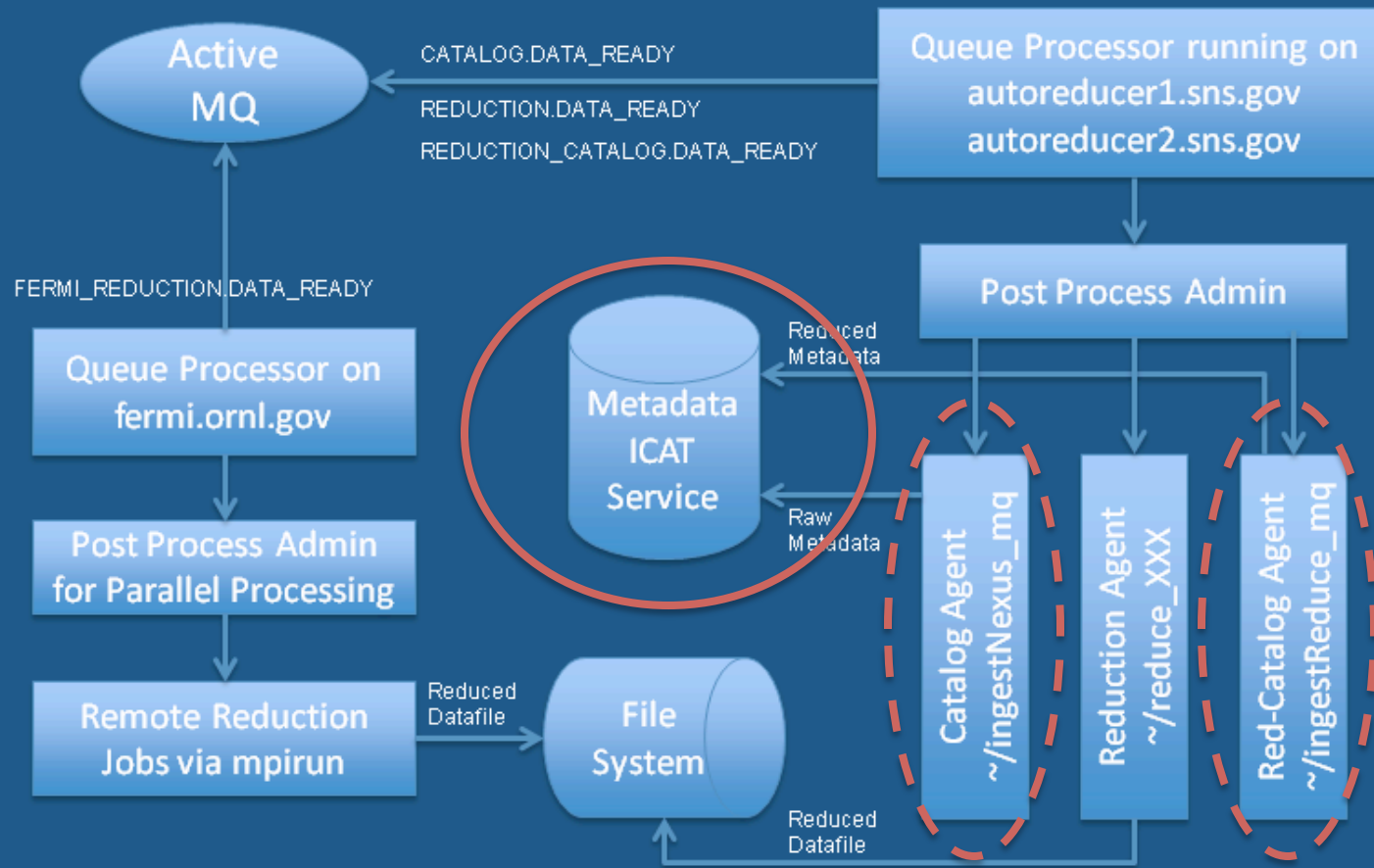
March 24, 2014



How is ICAT used at SNS today?

- Fully integrated with SNS post processing
 - Auto catalog of raw experiment data
 - Auto catalog of auto reduced data
- Web service to serve live experiment monitor
 - Up to date information about a proposal
 - Up to date information about runs of a proposal
- Web service to serve for search engines (findnexus, finddata, Filefinder):
 - Summary of a proposal
 - Metadata of an experiment/run
 - Location of experiment data

Automated Data Catalog and Data Reduction



Experiment Monitor



SEQ IPTS-10633

3qr | [admin](#) | [logout](#)

[home](#) > [seq](#) > [ipts-10633](#)

live monitoring: [status](#) | [runs](#) | [PVs](#)

List of SEQ runs for IPTS-10633:

Run	Created on	Status
48832	March 23, 2014, 6:07 p.m.	complete
48831	March 23, 2014, 5:09 p.m.	complete
48830	March 23, 2014, 4:09 p.m.	complete
48829	March 23, 2014, 3:11 p.m.	complete
48828	March 23, 2014, 2:07 p.m.	complete
48827	March 23, 2014, 1:51 p.m.	complete
48826	March 23, 2014, 12:38 p.m.	complete
48825	March 23, 2014, 11:35 a.m.	complete
48824	March 23, 2014, 10:07 a.m.	complete
48823	March 23, 2014, 9:07 a.m.	complete
48822	March 23, 2014, 7:46 a.m.	complete
48821	March 23, 2014, 6:45 a.m.	complete
48820	March 23, 2014, 5:46 a.m.	complete
48819	March 23, 2014, 4:44 a.m.	complete
48818	March 23, 2014, 3:46 a.m.	complete
48817	March 23, 2014, 2:43 a.m.	complete
48816	March 23, 2014, 1:44 a.m.	complete
48815	March 23, 2014, 12:43 a.m.	complete
48814	March 22, 2014, 11:41 p.m.	complete
48813	March 22, 2014, 10:40 p.m.	complete
48812	March 22, 2014, 9:41 p.m.	complete

Experiment status

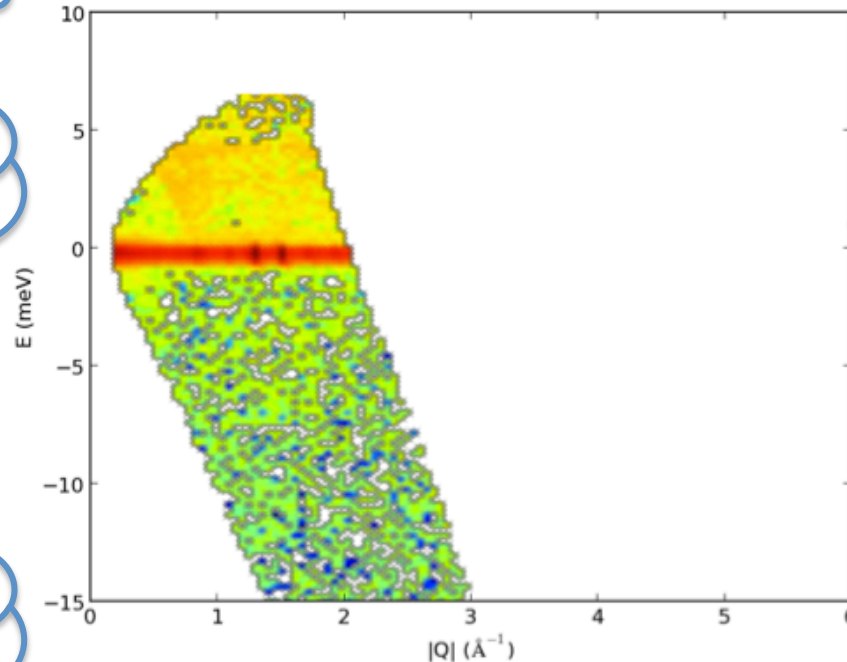
List of experiments

21 of 223 runs shown - [show all runs](#)

Experiment Data Display

Run title: Run=42172,Ba3NiSb2O9, powder,T=1.51 K,7.5 meV,Fermi=180 Hz<>
Run start: March 23, 2014, 11:18 p.m.
Run end: March 24, 2014, 6:23 a.m.

Experiment parameters



Plot of auto reduced data

Experiment data location

Data files:

- /SNS/HYS/IPTS-10498/adara/HYS_42172.adara
- /SNS/HYS/IPTS-10498/nexus/HYS_42172.nxs.h5

Reduced files:

- /SNS/HYS/IPTS-10498/shared/autoreduce/4pixel/HYS_42172_4pixel.nxspe
- /SNS/HYS/IPTS-10498/shared/autoreduce/msk_tube/HYS_42172_msk_tube_spe.nxs
- /SNS/HYS/IPTS-10498/shared/autoreduce/reduction_log/HYS_42172.nxs.h5.log
- /SNS/HYS/IPTS-10498/shared/autoreduce/4pixel/HYS_42172_4pixel_spe.nxs
- /SNS/HYS/IPTS-10498/shared/autoreduce/msk_tube/HYS_42172_msk_tube.nxspe
- /SNS/HYS/IPTS-10498/shared/autoreduce/msk_tube/HYS_42172_msk_tube_spe.nxs.png

More about ICAT tomorrow

- Web service to encapsulate database/objects from application users
 - Integrated user or guest portal
 - Experiment hall monitors
- ICAT driven fully automate data reduction
 - Auto reduce via the latest calibration, characterization runs
 - Auto reduce via strategies defined in ICAT
- Statistical distribution of experiment parameters, aka process variables
- ICAT assisted experiment design

ICAT Installation, Performance, Concerns

- Plan to roll ICAT 4.3 in the summer break
- Still need to work on and test out Rules
- ICAT 4.2 seems to run smoothly in production
- Potential performance concerns: load and search of large volume of dataset and datafile parameters