LS-CAT Remote User Control

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LS-CAT Computing Architecture

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Detector Control Using Postgresql Locks

- Database locks provide an easy way to enforce timing constraints
- Only 1 database client may own a given lock at a given time
- Lock requests are atomic: we are guaranteed that at no time, however short, will a lock be owned by more than one process
- Lock requests may be made with blocking calls
- Otherwise similar to a mutex, database locks work across the network allowing multiple machines to run synchronously

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LS-CAT Computing Architecture

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Requests can be anything requiring access to the raw images that results in a single stream of data.

All processing servers are notified of every request, the first to respond gets the work.

Since all processing servers share the same file system, it's possible to implement predictive processing.
Access to the LS-CAT remote interface is determined by an approved ESAF.

A random password that meets both ANL and Northwestern guidelines is emailed to the user.

Both the badge number and the corresponding email address must be listed on a recent LS-CAT ESAF.

If you follow the rules for submitting an ESAF, access is easy and does not require staff effort beyond approving the ESAF.
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To Do

Lots:
- Remote centering tool
- Remote sample changing
- Auto centering tools
- Data processing tools
- Rsync (protocol initiated from our servers)
- Rsync (protocol initiated from users' servers)
- Beam alignment tools
- Mail-in user support