STAR Database Systems

Star Collaboration Meeting

Summer 2003

Topics

- Online
  - Changes for upcoming run
    - MySql Version
    - Increased Buffering
  - Testing
- Offline
  - Monitoring
  - Grid initiative

Online- DatabaseTypes

- Conditions
  - Detector and Env. Monitoring
  - Input to Calibrations
- RunLog
  - Run settings and summaries
  - Input into offline production scripts
- EventTag DB
  - Event Selection
  - Fine Detailed Run Monitoring

Online Configuration (New)

New DAQ buffering system:

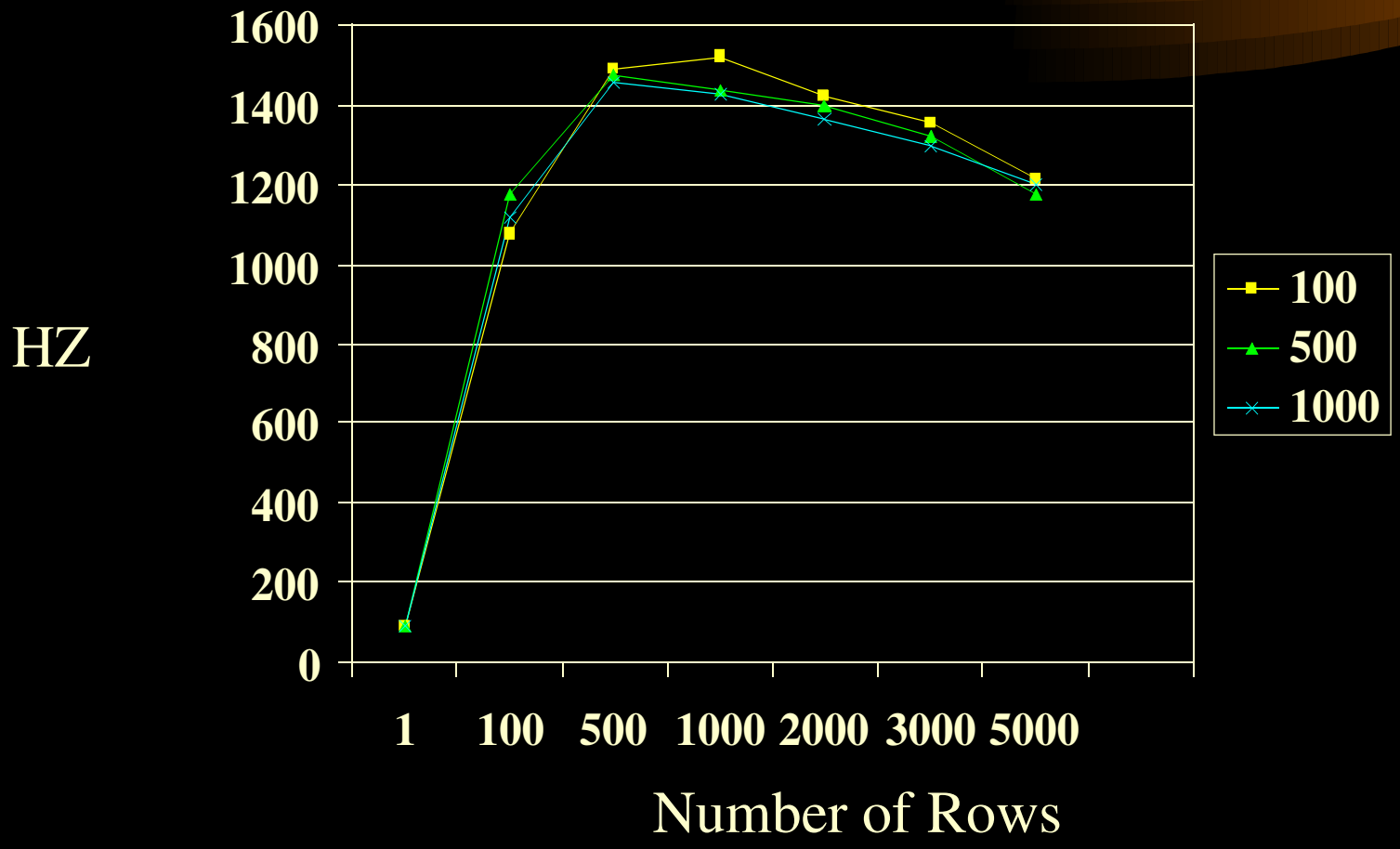
Four Linux boxes into one db server

- Formally one Solaris box into db server
- Parallel event builder
- Increase performance

Questions

- Will MySql handle it the increased load?
- Will MySql scale?
- Version?

MySQL 3.23.56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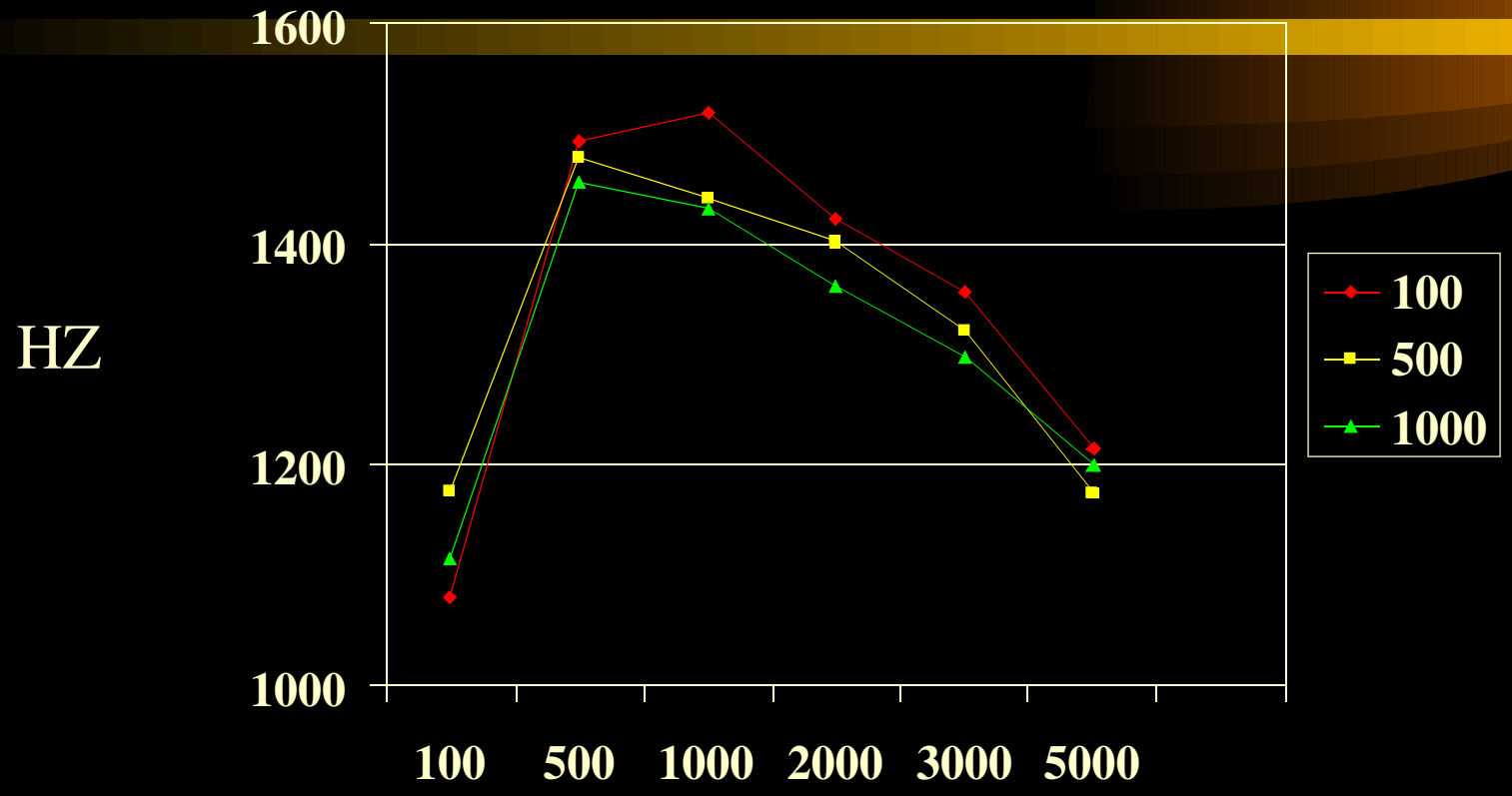
MySQL 3.23.56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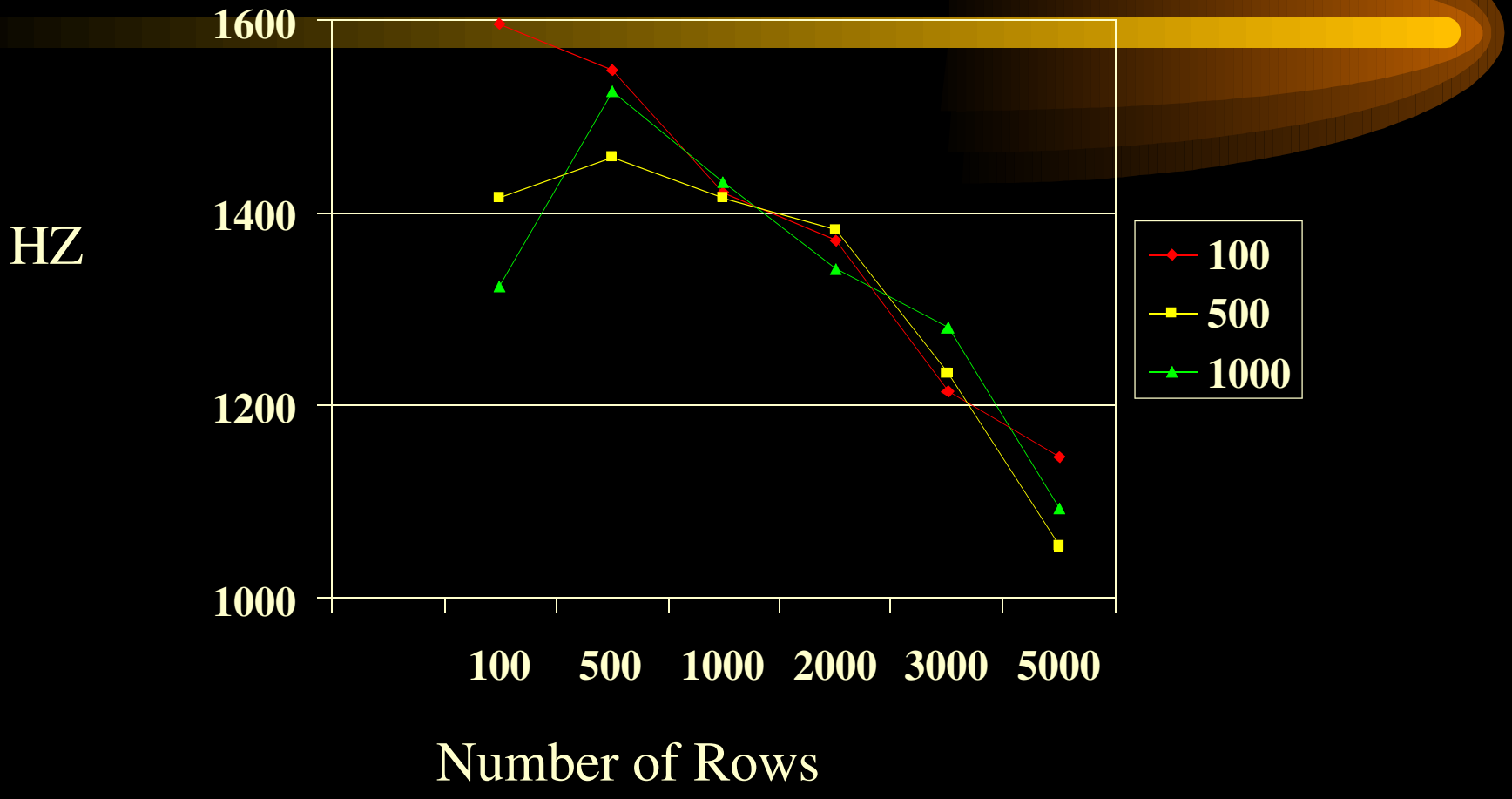
MySQL 4.0.13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Online dbTests
Some Final Comments

A buffered load of 1000 rows, run for >1hr,
Ran at ~1.35 kHz

This is good news:

- Fastest input this year will be max 2 kHz
  from trigger only simulation

Online – Disk Space

- Will NOT be a problem
- Onlsun1.starp.bnl.gov
  - ~.5 terabyte of storage

/*** TODO ***/

- Gather some more statistics - benchmarks
  - Retool some of the tests to include other variables
- Test the system with the new DAQ machines (Commissioning)
- Incorporate them into the existing dbMonitoring Tools

Segue
Online - Version - Offline

- Are we ready to upgrade to 4.0.13

(latest stable release)

MySQL 4.0.13

- SSL strong encryption
- Accepts X509 certificates
- Needed to Grid enable MySql

Grid Initiative

- Single Log-in
- “One” Large Virtual “Grid” DB

- Open SSH – GSI enabled patch
- Alter MySql “Open” Source Code

Offline Monitoring (Toolbox)

- Two Round Robins db/dbx
  - Five Servers (minus one)

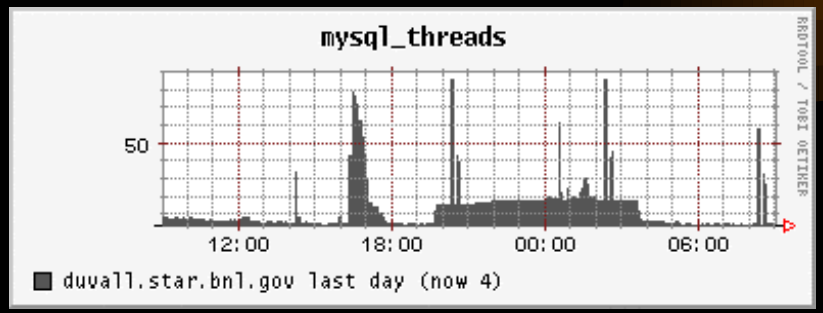
This is stable, additional servers are not needed

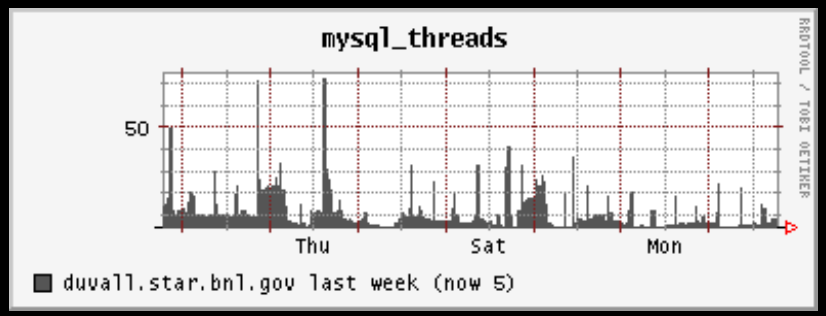
- Packet Sniffers for monitoring TCP/IP

  e.g., Ethereal/ TCP dump

GANGLIA

–A DAY/WEEK in the life of…..





Correlate with other graphs

e.g., bytes in/out, disk space, etc.

Offline - Monitoring

/***TODO***/

- Ultimately Need to ALTER the API to tell us which mirror machine is being hit by a call from the client.
- Currently MySQL does not provide this (dns name provided)