

Run 5, the good:

- Onlinux5 and 6 were more stable than in Run 4:
 - They are key pieces in the db migration and provide starcrew's home directory and other services for the other onlinux boxes.
 - System stability was primarily helped by two factors:
 - Software and script improvements
 - Upgrade of OS and system-level software and configuration.
 - AFS instability is probably the primary source of problems now.
 - (Mike, do you agree?)

Run 5, the bad:

- The hardware failure(s) of onlsun1.

Discussion? -- already discussed, so I'll just point out that part of the pain came from my lack of confidence in both Sun hardware and Solaris OS. (I'm glad to see Linux on PCs taking over... 😊)

Run 5, the ugly:

- The Western Telematic network power switches were very unreliable.
 - Their network interfaces frequently went offline.
 - Most (all?) have 10Mb-HD connections
 - Most are connected to local desktop switches/hubs.
 - My only hypothesis is that their interfaces and/or buffers (or their local switches) are being overloaded with broadcast traffic.
 - EPICS trying to talk to VME processors may be a culprit...
 - What to do about it? Later slide (6 perhaps)...

Run 6: What to do?

No critical items that would prevent the run at a similar level of efficiency as last year.
Agreed?

- But lots of room for improvement, some of which is outlined in following slides, in approximate order of urgency, as judged by me...

Run 6 Preparation: Broad categories of improvement:

- NPS networking solution
- NIS -> LDAP conversion for onlinux systems (or other authentication improvements)
- Control Room system upgrades, mostly OS, but some hardware as well.
- Documentation
- Miscellaneous stuff

Run 6 Prep: the NPS situation

- Some possible solutions:
 - Determine what's really going on and fix it...
 - If it really is network overhead, such as broadcast packets, then diagnostics and testing are tough to do other than in “real” mode, but that's precisely when disruption is least desirable...
 - Create a private NPS network
 - Solves some cybersecurity issues, such as telnet w/ clear-text passwords...
 - Somewhat challenging physically, especially with systems on and off the South Platform – so can't violate grounding
 - Calls for either some fiber components (expensive) or multiple parallel networks.
 - Buy new hardware with better network interfaces:
 - Several thousand \$\$
 - Some physical installation hassles
 - Configuration time

Run 6 Prep: onlinux user authentication

- Long standing goal to switch from antique NIS server to LDAP server (and with far fewer accounts.)
 - Current server is a 7+ year-old Gateway PC with SunOS – the only one of its kind in STAR, thus a hassle to maintain and a single point of failure that is hard to recover. (At one time at we had a stand-in backup system. That's been decommissioned and I have configured onlinux1 as a NIS fallback server, which we could probably limp along on for a while if needed.)
 - LDAP server would be one of the onlinux boxes – thus eliminating starnis01.
- This just requires my time to do it, plain and simple.

Run 6 Prep: Control Room improvements

- OS levels (ignoring DAQ and trigger systems)
 - At least three Linux systems in mind: Eemc-spin (RH 9), eemc-sc (RH 7.3) and ssdlinux (an old Mandrake I think). At least the eemc computers are getting some updates from Fedora Legacy. I have no influence over ssdlinux...
 - One Windows 95 (!) system, but it is a RHIC system on their network, so maybe not critical for us to worry about.
- Emc01 rebuild...

Run 6 Prep: Control Room

improvements

- More backups: Legato and Retrospect clients should be installed on more systems. Partly a matter of getting the word out.
- Hardware upgrades:
 - Welles (RHIC monitor on shift leader's desk) is an old Gateway with Win 2K. I'd like to replace it with something slightly newer and running Linux. (Note: this is also on a RHIC network)
 - Printers are getting old and rickety...
- More UPSes – not as critical and somewhat a pain, plus expensive...

Run 6 Prep: Documentation

- Perpetual, perennial problem. There is much interconnectedness of systems and many dependencies that are undocumented except in faulty memories.
 - Jan Balewski... ok, that's not really fair, but he does have his hooks in a lot of things...
- I've not devoted enough time to documentation, especially in the online area... Mike has improved things in his realm, but everyone could improve.

Run 6 Prep: Miscellaneous

- STSG file server
- Network switch on South Platform
- Fiber conversion clean-up: still some work to be done if desired
- Control room and 1006C clean-up
- Configuration for DL2 services
- Noticeably absent from this list is the online web server. Could this be the first time in three runs that it doesn't undergo significant changes?

The FUTURE

- Cybersecurity scrutiny can only increase – and our experimental systems might be very difficult to merge into upcoming lab-wide policies. Technical, political and social problems issues abound...