



J2EE Review - Outline

- **Context for review**
- **Potential Scope of Applications**
- **Possibilities for Manpower**

Charge:

- evaluate the appropriateness of the technology for the problems at hand
- evaluate the particular toolset in terms of being the right set of tools for the job
- evaluate the maintainability of the solution
- evaluate the manpower needed to support this effort

Reviewers pre-queries hit the issues nail on the head on whether this is the right toolset for us



Context

- **GLAST offline mostly a C++ shop – Windows + Linux**
 - **~25 FTE developers across collaboration**
- **Most scripting done in Perl; web interfaces in perl/cgi**
 - **SCS security restrictions pretty severe for cgi**
 - **Existing system tests interface is IIS/ASP with plots done with JAS & JSP. Now 2 years old.**
- **Main infrastructure group – 4+ people**
 - **3 Perl experts, 1 competent (1 expert just leaving, in fact)**
 - **2 of these have java experience**
 - **Little perl expertise outside the main infrastructure group**
- **Primary potential applications foreseen in data handling areas: processing pipeline + data server and Web apps like system tests front end.**
- **Had envisaged use for all tools, but delays have led to implementation of Release Manager, Installer and Tag Collector in perl.**



Data Handling (1)

- **Pipeline (see Dan's talk for current status)**
 - **Handle MC, Data and be configurable to run arbitrary linked tasks**
 - **Envisaged as the heart of the ISOC (Instrument Science Operations Center) triggering all its automated work**
 - **Will be in use for 10+ years**
 - **Talks to central databases, batch system and file servers in SCS**
 - **Must run different tasks (eg flight data; MC; re-Recon) in parallel and not choke with hundreds to thousands of queued/running jobs**
 - **Portability would be nice – for potential use at other GLAST sites and as backup at the GSSC (Science Support Center at Goddard)**



Data Handling (2)

- **Data Server**
 - **Need to serve up our various Root files to collaborators**
 - MC, Digi, Recon, Ntuple
 - Estimating ≈ 40 TB/yr in flight. <25 TB/yr before.
 - Assuming ftp delivery for now
 - Most work might be in organization of the data for optimal access
 - Wild card is SCS TeraMemory server concept
 - **DC1 servers**
 - **perl/cgi version for DC1 at SLAC**
 - Allowed TCuts applied to ntuple and found events that passed cuts
 - Could fetch full tree events with (run, event) list
 - Hardwired directory locations of available datasets
 - **“Level 1 Database” server at Goddard**
 - Pixelated sky in 2 week time periods
 - Pixels grouped in FITS files served by perl/cgi on beowulf cluster
 - **DC2 kickoff in July 2005**
 - Will want some access to data for bkg rejection studies ~ Feb



My Tool Issues

- **Database**
 - Not prepared to abandon ‘legacy db’ – will still want to access it outside this framework
- **Perl**
 - I’m nervous about it!
 - Too easy to hack (one can write bad code in any language of course)
- **Web**
 - SCS Security makes cgi use almost prohibitive



Potential Manpower

- **Depends on how the review goes!**
 - **For a success-oriented view**
 - **Prototype pieces of pipeline (Dan)**
 - **Some (as yet unknown) fraction of TonyJ/Max/Mark**
 - **Hopefully involvement from the ISOC (some fraction of 2-3 people)**
 - **Matt, of course**
 - **Karen Heidenreich on web work**
 - **Jean-Paul LeFèvre on 6-month sabbatical from Saclay**
 - **Wrote a J2EE data server for EROS project (in ~6 months)**
 - **We are producing reqs for two new infrastructure people whose duties are not fully spec'ed yet.**