Middleware Requirements from NGIs

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on behalf of the OMB

e-infrastructure

Outline

- Multi-platform support
- Middleware requirements
  - Oct 2010-Jan 2011
  - Prioritization:
    - OMB 15 Feb 2011
    - OMB 21 Feb 2011

Multi-platform support 1/2

- *"Do you need more platforms to be supported by EMI software, in addition to those already supported (SL5)?"*
  - 12 replies (Asia Pacific ROC, Czech Republic, Cyprus, Georgia, Greece, Ibergrid, Italy, Norway, Poland, Serbia, Sweden, Switzerland)
  - One NGI could specify multiple platforms
  - Requested platforms
    - CentOS (30% - 4 NGIs)
    - Ubuntu and Debian (3 NGIs)
    - Windows7, OsX for the client side (Sweden)
    - Solaris for disk servers is felt to be important for large resource centres (Ibergrid, Switzerland)
  - Support for 32-bit still needed: Greece, Switzerland

OS needed by NGI
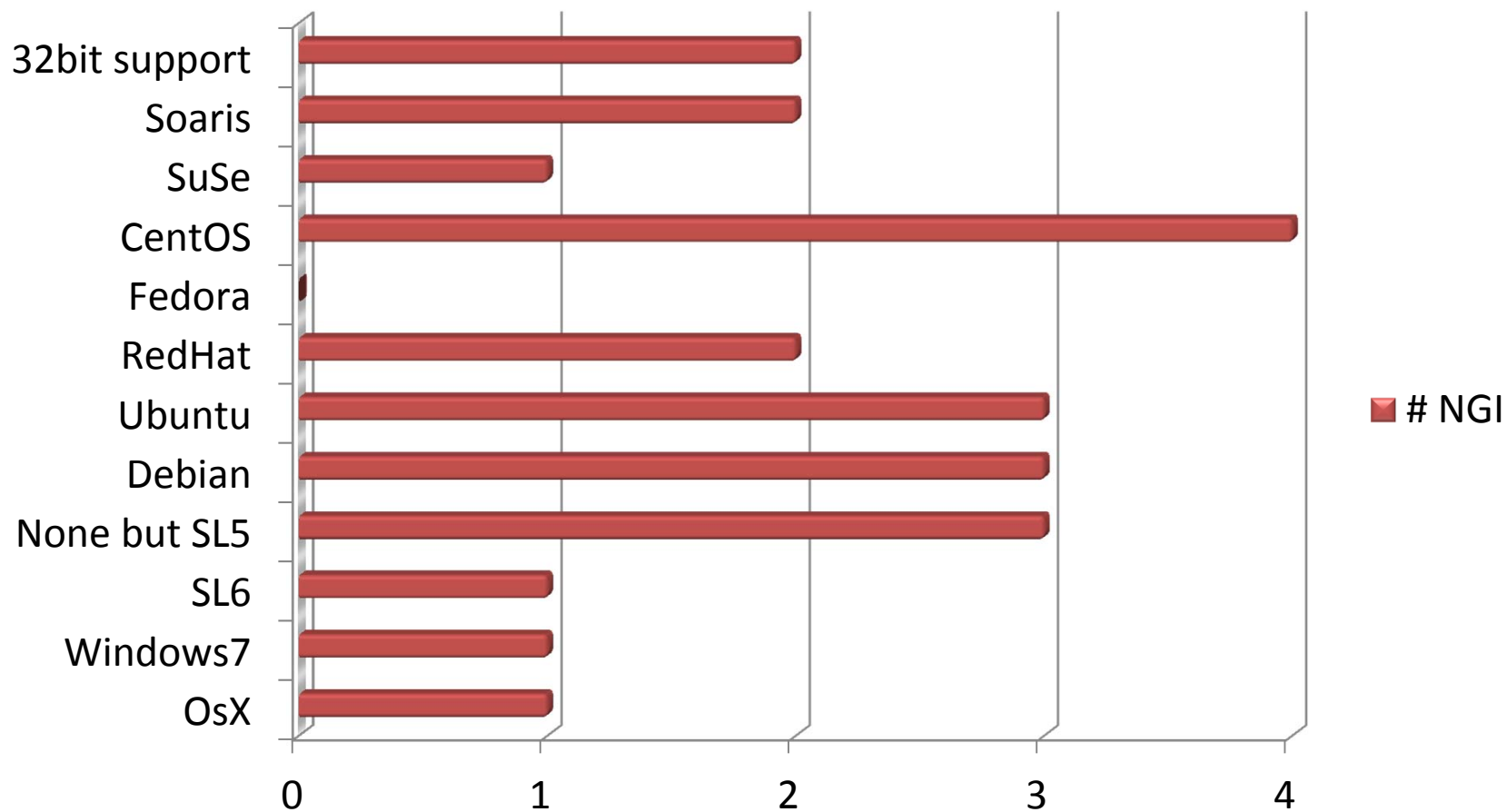
- Service Management
- Data Management
- Information Discovery
- Compute
- Other (installability/usability)

Middleware requirements 2/2

- Who are the actors?
  - Site managers (feeding requirements to the respective NGI Operations Manager)
  - National/Regional Operations Centres
  - Infrastructure VOs
  - Regional VOs (if managed by the NGI)
- Who submit tickets? NGI Operations Managers

- 32 tickets collected (Oct 2010-Jan 2011)
  - Several requirements already resolved as addressed by EMI plans
  - Full list of tickets: SA1 Middleware requirements
- Priorities
  - Submitters specify the "impact" of the requirement [0-4]
  - The priority is defined by the OMB after discussing the use cases

Number of requirements: 9

Hot topics:

- The middleware components should use standard locations for logs and temporary files - 1357.

- Uniform logging formats for all implementation of a given capability (e.g. compute, file access) - 1202.

- MySQL server tuning is necessary to boost the performance of services with MySQL back ends.
  - Configuration files need to be provided – 1379
  - MySQL database self-checks to generate early warnings - 1380

- Easier configuration: automate the collection of configuration parameters when these can be automatically obtained (e.g. OS platform of host) - 1381

- Better documentation – 1382, 1388
  - Differences between different implementations of the same service.
  - Services replication, load balancing configurations

Number of requirements: 11

Hot Topics:

- Batch system support (all NGIs!) - 1376
  - E.g. LRMS plugins have to be set up to properly translate JDSL requirements
  - Plugins should be ready to use the Glue 2.0 information as implemented in the Ces
  - Support of SLURM (Ireland, Lithuania, Norway, Sweden) – 1235 – doodle in progress
- WMS known issues fixed with configuration changes should be implemented in the production release - 1380
  - E.g. max num FTP connections extended to 300
  - WMS configuration has to contain the lines that ensure usage of google-perftools
- UNICORE Service Orchestrator
  - Use of additional site information in brokering process (i.e. use of SSR)
  - Possibility to plug additional custom site match makers for Service Orchestrator

Number of requirements: 4

Hot topics:

- Information Discovery Service interoperating with all implementations of the Compute capability
- Publication of OS, arch and service version on BDII for ALL services - 1378
- Enhance UNICORE information system - 1183
  - More information available from the site info system Support Strings and Enums for Site Specific Resources
  - Information on the expected wait of a job in a TSS queue.
- Improve "service bdii status" command to detect hanging conditions of the service – 1181
  - Site BDII hangs in certain conditions. It appears that it happens when internal network is overloaded or unstable. Slapd begins to consume more and more CPU, ending on 100% and stops responding to queries. Command „service bdii status" returns „bdii ok"

gLite-cluster

- Recently released for production

- Accurate installed capacity publication important for EGI-InSPIRE and NGIs

- Survey output
  - 67% of the NGIs with heterogeneous clusters of WNs in the farm
  - 61% of the NGIs experimented difficulties with publishing of installed capacity information
  - 38% of NGIs are willing to deploy gLite Cluster. More sites interested if available for CREAM and other compute implementations

Number of requirements: 4

Hot topics:

- Improve service protection against misuse - 1384
  - Generally applicable to all services
  - Self-healing mechanisms needed to protect the service from overload generated by authorized users. E.g. protect dCache from overload
- StoRM support for the file protocol within *srmPrepareToPut* - 1386
- Features for VO decommissioning - 881
  - user with multi VO membership could move his data around VOs he is member of
  - Data management can handle VO aliases
- UNICORE (SMS) - 1187
  - Support for end-users cooperation, including in the first place the ability to share files
  - Support for manipulating file permissions.
  - Implementation of a logical SMS that provides a uniform access to multiple physical SMS instances

- Harmonization of client APIs - 1203
- UNICORE: better service management - 1189
  - easy identification of orphaned job directories in uspace; possibility to convert old state DB to the newer server; current activity status of the server (showing amount of active jobs with their owners); ability to disable job submission.
  - Queue selection
- Information Discovery System interworking with all compute capability implementations
- Extension of AuthN AuthZ: VOMS Shibboleth integration