

EMI Registry Pilot Service

EGI Technical Forum 2012

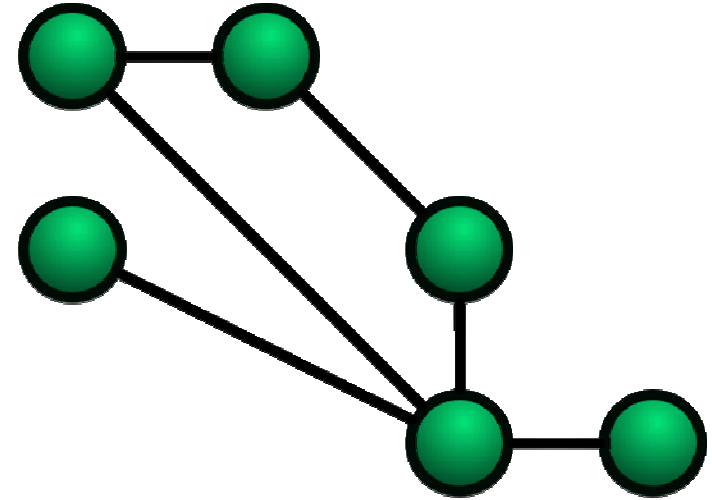


- Introduction to EMIR
- The Pilot Service
- Lessons Learned
- The Next Steps

- EMI Service Registry
 - Directory, Index, Catalogue, etc.
- Provides References to Services (Endpoints)
 - Associated Metadata
 - Static attributes that can be indexed
 - e.g. Service Type, Supported VO, Capability
- Automated Information Management
 - Services are the authoritative source
 - Information about themselves
- Federated Building Blocks
 - *Enable Autonomous Federations*
 - *And facility interoperability between them*



- Components
 - *Service Publisher (SP)*
 - *Domain Service Registry (DSR)*
 - *Global Service Registry (GSR)*
- *What is a Domain?*
 - *What ever you want it to be*
 - *Just represents a collection of service*
 - *That are autonomously managed*
 - *It may or may not contain sub domain*
- *Example Domains*
 - *Site, Country, Region (National or International)*



- *EMI 2 (Matterhorn) released May 2012*

—EMIR

- *emi-emir (DSR/GSR)*
- *emird (SP)*
- *emir-manual*



*“Now this is not the end. It is not even the beginning of the end.
But it is, perhaps, the end of the beginning.”*

- Winston Churchill



- Small production-like rollout
 - *Virgin admins*
 - *Tests documentation, assumptions, complexity, quality*
 - *Stability*
 - *Service Stability*
 - *Infrastructure Stability*
 - *Hardening*
 - *Stupid Bugs*
 - *System Bugs*
 - *Controlled Environment*
 - *Direct contact with admins*
- Simple Topology
 - *Site DSR registering to a single GSR*



- Improved Documentation
 - How To Set Up a Domain Service Registry
 - Lightweight Guide
 - Reduced learning curve/effort for pilot admins
 - » Made it easy for them to help us
- Service Translation Tool (ginfo)
 - Extracts Information From Site BDII
 - Reduced integration, complexity, configuration, etc.
- Alternative Software Repository
 - Reduced overhead for updates
 - Prioritize fast iteration cycle over potential incidents

- Grid Info
 - Command Line Client Tool
 - GLUE 2.0 Service Records
 - Queries Information System
 - Queries EMI Registry
 - Output in different formats
 - EMI Registry format
- Available in EPEL



DSR Locations



- Positive
 - Well packaged (Software and Twiki Documentation)
 - Took on average 30 minutes to setup a DSR
 - Good quality implementation
 - Worked out of the box
 - No service maintenance required
- Negative
 - Could be made even more intuitive
 - Simplify configuration and released documentation
 - Improve system robustness
 - *Handling of bad input data*

- The importance of Software Packaging
 - *This is what people “touch and feel”*
 - *And how quality will be initially judged*
 - *Good quality packages*
 - *File naming and locations*
 - *Simple and intuitive configuration*
 - *Informative log messages*
 - *Clear and targeted documentation*
- Software 1 bug per 100 lines
 - 50% chance for a configuration step!
 - *e.g. host name not specified in full*
 - *Software failure due to miss-configuration*



- Rules are different for large-scale computing
 - *Service Availability = 99.9%*
 - *Availability of*
 - *2 services = 99.8%*
 - *10 services = 99.0%*
 - *100 services = 90.5%*
 - *1,000 services = 36.8%*
 - *10,000 services = 0.0%!*
 - *There is no such thing as an exceptional circumstance*
 - *An exception for a single instance*
 - *Is a normal occurrence for a large-scale system*
 - *Pessimistic Programming*
 - *Assume everything is broken because it is*



- Bad Input Data
 - Due to previous two reasons
- All components must handle bad input data
- Address at source
 - Strict error checking
 - Component must reject
 - And not fail!
- Address in system
 - Source maybe the problem
 - Balance checking vs migration reliability
- Address at the client/query
 - It should not get this far!

- Improvements
 - Packaging
 - Robustness
- Enable SSL
 - *Using X509 credentials*
- Define Service Record
 - *Ensure that EMI services publish this to EMIR*
- Expand the pilot
 - *More in-depth evaluation*
 - *Invite others to participate/evaluate*

- EMI Registry is available
- Evaluated in the pilot service
 - Feedback is positive
- A few areas for improvements
 - Will be addressed in a future update
- Will continue with the pilot
 - Evaluate Updates
- Push for rollout when ready

- Thanks to the admins
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