

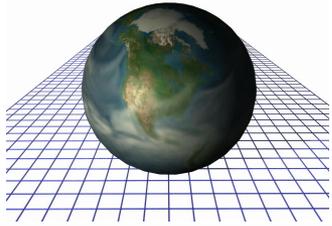
The Earth System Grid (ESG)

A Fault Monitoring System for
ESG Components

www.earthsystemgrid.org
DOE SciDAC ESG Project Review

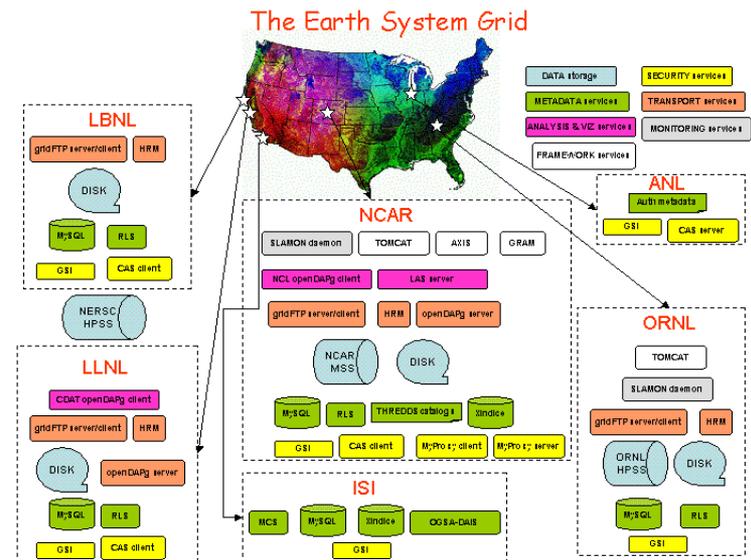
Argonne National Laboratory, Illinois

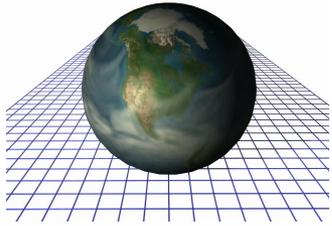
May 8-9, 2003



Motivation

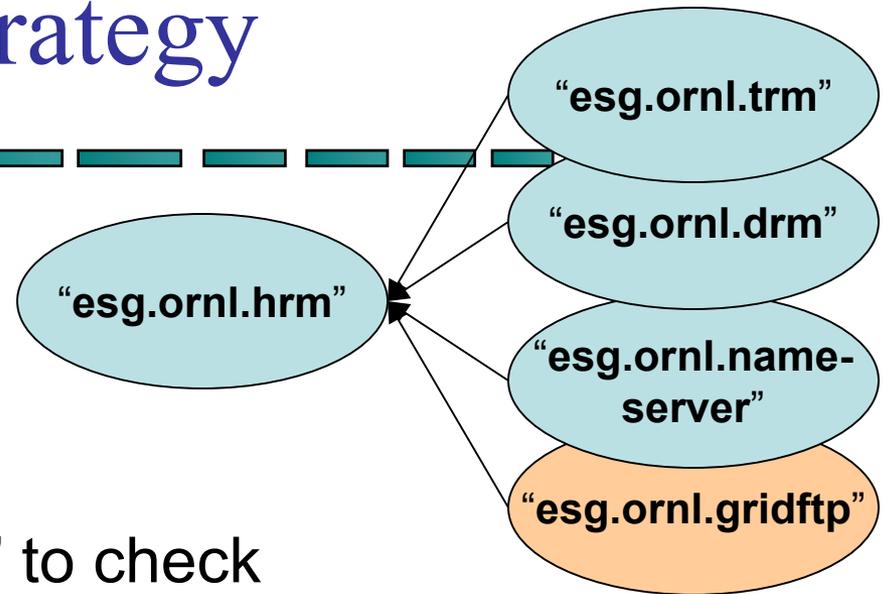
- ESG has many software components running at various locations
- Components not be available for various reasons: scheduled maintenance, unplanned hardware, software, or network problems
- Availability of particular components may or many not effect user's activities
- Want to develop a monitoring facility to help both users and ESG service providers be aware of overall ESG status, provide notifications, etc.

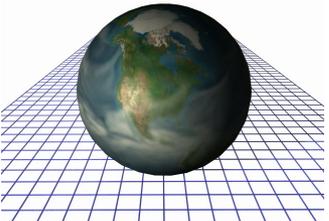




Monitoring Strategy

- Identify relevant ESG services and inter-dependencies required for service availability
 - Design software “probes” to check availability
- Deploy *sensor* software to probe and collect availability information
 - Leverage DOE Science Grid monitoring prototype
- Make availability information via web and other notification and query channels



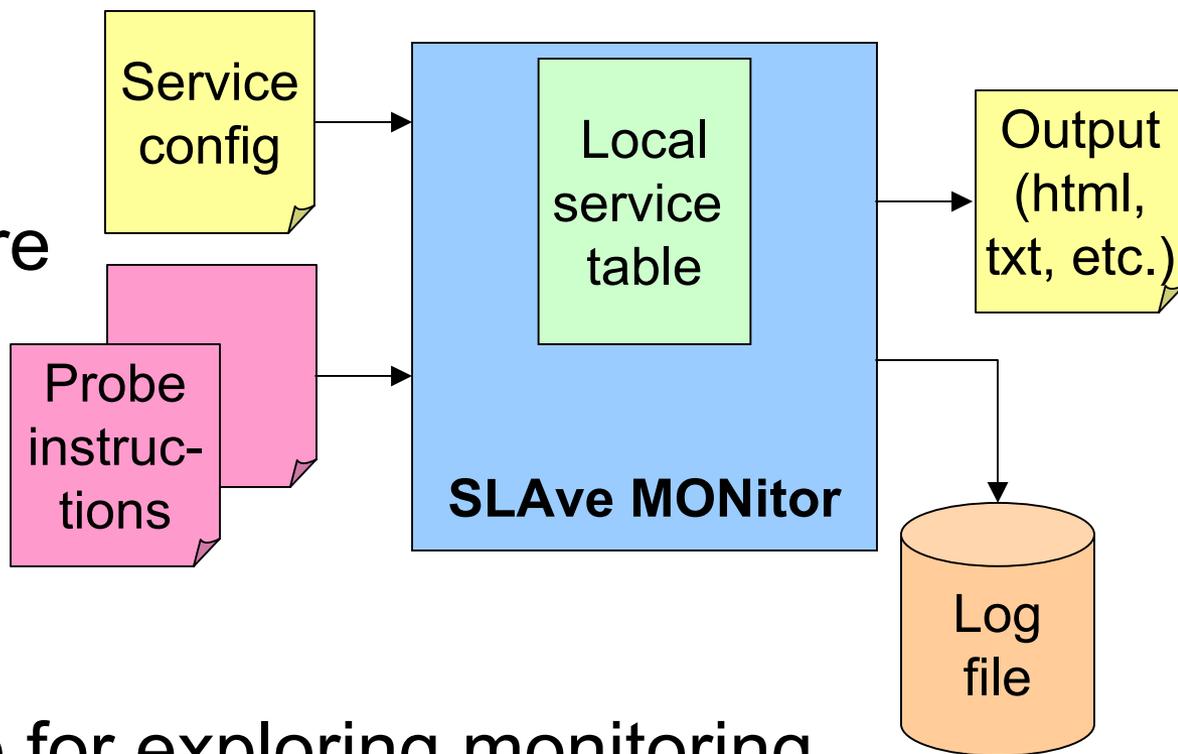


Current Implementation

- Based on DOE Science Grid monitoring software

- Simplified “local-only” deployment
- “Composite service” concept added

- Primarily a vehicle for exploring monitoring requirements and methods



SG vo webpage - Netscape

File Edit View Go Bookmarks Tools Window Help

http://dataportal.ucar.edu/esg/monitoring/ Search

5G vo webpage

THE EARTH SYSTEM GRID

INSTITUTION	SERVICE NAME	DESCRIPTION
NCAR	esg.ncar.*	DODS serv/client, L
ANL	esg.anl.*	CAS serv, Gr FTP
ISI	esg.isi.*	MCS, OGSA_DAL, ;
LBNL	esg.lbnl.*	DODS serv, HRM, F
LLNL	esg.llnl.*	DODS serv, HRM, F
ORNL	esg.ornl.*	DODS serv, HRM, F
ESG Computers	host.*	ping ESG machines

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Scientific Discovery through Advanced Computing

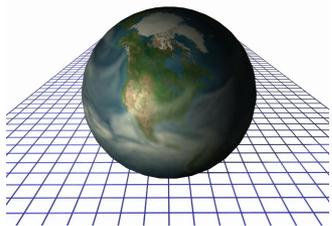
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SERVICE	NAME	STATUS	DESCRIPTION
All ESG Services	esg.ncar.*		All components at NCAR
Data Transport	esg.ncar.hrm	Up	HRM's components, gridFTP
Replica Location Service	esg.ncar.rls	Up	rls server, mysql
openDAPg Server	esg.ncar.openDAPg	Up	dods server, mysql
LAS Server	esg.ncar.las	n/a	LAS, mysql, tomcat
My Proxy Server	esg.ncar.myproxy	Up	myproxy
Basic Grid Services			
CAS-enabled GridFTP	esg.ncar.casftp	Up	CAS-enabled Grid FTP
GridFTP	esg.ncar.gridFTP	Up	Basic Grid FTP
GRAM Gatekeeper	esg.ncar.gram	Up	GRAM Gatekeeper
ESG Computers	host.*		ping ESG machines

Service Availability Information

SERV	HOST	TYPE	STATUS	METHOD
esg.ncar.gridFTP	dataportal.ucar.edu	ftp	Up	p/probeinet gsiftp gsiftp
esg.ncar.trm	dataportal.ucar.edu	proc	Up	p/pid/probeuserps trm.sol asim trm
esg.ncar.drm	dataportal.ucar.edu	proc	Up	p/pid/probeuserps drmServe asim drm
esg.ncar.nameserv	dataportal.ucar.edu	proc	Up	p/pid/probeuserps nameserv asim nameserv

Detailed Availability Information



Future Plans

- Complete deployment to all ESG sites
- Better define ESG monitoring requirements
- Continue to leverage DOE SG monitoring effort
- Possible integration with other monitoring frameworks
 - Globus MDS, GMA
 - “Commodity” open source tools
 - i.e. monit, nagios, ganglia, etc.
- Status Notification and Query
 - Email, IM, pager,...
 - Check status prior to accepting user task