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# Building the Open Science Grid

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LCG Grid Deployment Meeting

March 15, 2005



Open Science Grid

# Grid3 is evolving into OSG

## ■ Main features/enhancements:

- ❑ Storage Resource Management
- ❑ Role-based authorization services
- ❑ Add data management capabilities
- ❑ Improved monitoring and information services
- ❑ “VO-owned and operated” ← effort must come from VOs

## ■ Timeline update

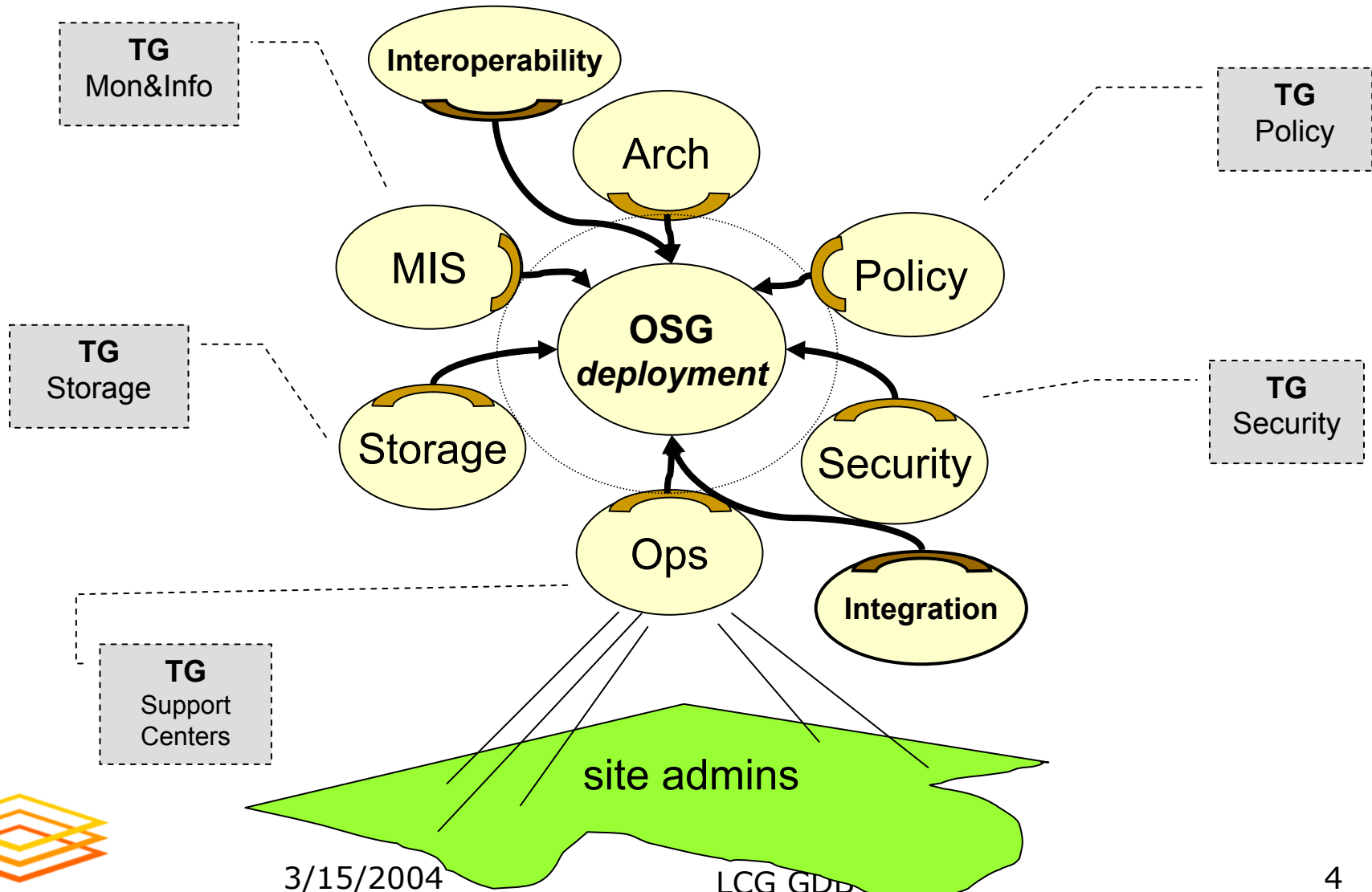
- ❑ First release of Integration Testbed deployed
- ❑ Deployment of production OSG Spring 2005



# Collaborative, Self-Organized Activities

- Need: evolve the current Grid3 to production scale distributed infrastructure. How to get there?
- We recognized early that without a large, single source of project funding we would have to find a framework for collaboration that aligned stakeholder interests and maintained existing project management lines
- Also, rather than architecting a complete system, we would derive principles based on working end-to-end requirements, and assemble teams with middleware and higher level service technology providers, VO-based project development teams, and applications integrators
  - These teams (Activities) would be formed on an add-needed basis

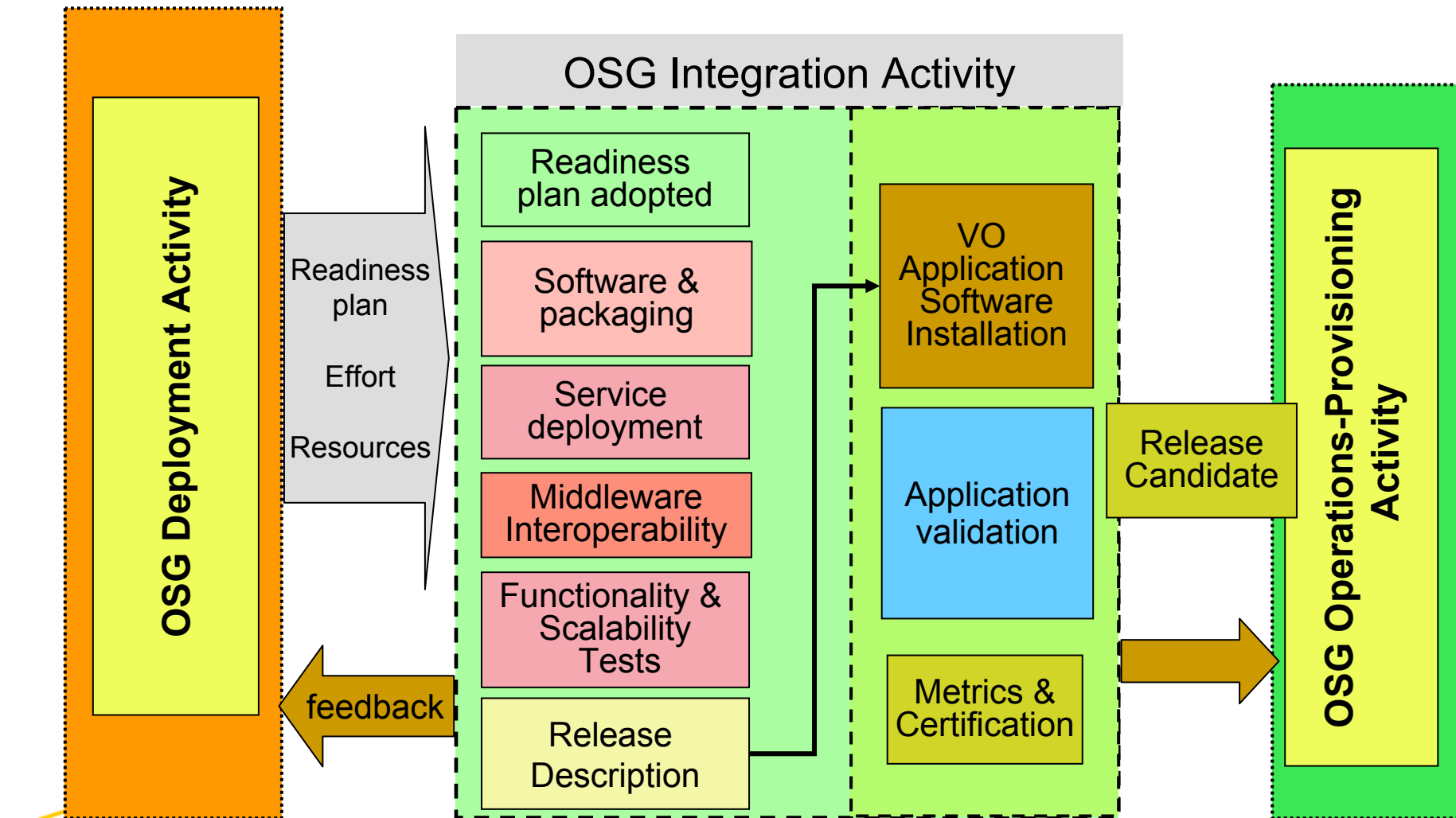
# OSG Deployment Activities



# OSG Integration Startup

- Requirements and schedule are determined with the OSG deployment activity
- The specific program of work is driven by the deliverables from the satellite activities. Architectural coherence will be maintained through participation with the blueprint group
- Integrate middleware services from technology providers targeted for the OSG
- Provide testbed for evaluation and testing of new services and applications; test and exercise installation and distribution methods
- Provide feedback to service providers and VO application developers; prepare release candidates for provisioning.

# Path for New Services in OSG



# Service Readiness and Integration Plans

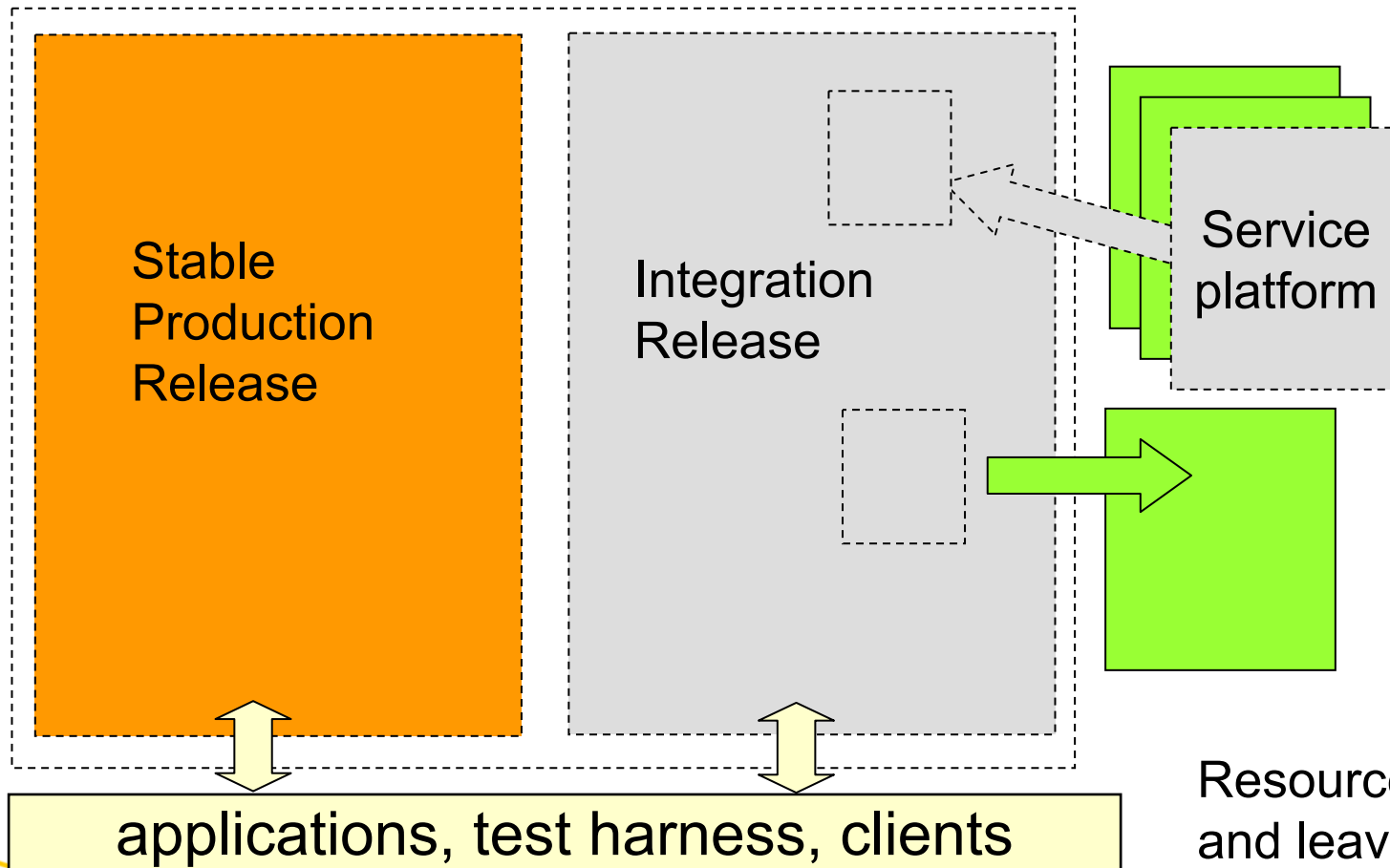
- Service proponents come to the integration testbed with an appropriately scoped functionality and integration plan
  - Purpose, scope
  - Service Description
  - Packaging Description
  - Dependencies: resources and services needed
  - Test use cases identified
  - Testing tools – clients, harness; metrics for success clearly defined
  - Effort to contribute to the OSG-IVC and schedule
  - Links to appropriate documentation, WSDL, etc
- Integration testbed release structure description
  - <http://osg.ivdgl.org/twiki/bin/view/Integration/ItbRel014>



# OSG Integration Testbed Layout

OSG Integration Testbed

VO contributed





# OSG Integration Workshop



- First exercise of the integration process
  - February 15-17, University of Chicago
  - 40 participants – end 2 end
    - USATLAS, USCMS, CDF, VDT, PPDG, iVDGL, GriPhyN, Fermilab and BNL Tier1 centers, Tier2 centers, etc.
- Configured first OSG Integration Release 0.1.2
- Deployed basic set of services (site and VO-level) on 17 sites
- Validation
  - with ATLAS, CMS and service validation scripts

# Integration Testbed Description

- VDT 1.3.2 based core infrastructure
- Privilege infrastructure
  - VOMS service
  - PRIMA gatekeeper callout for extended role-based proxy
  - GUMS site management
- SRM/DRM – managed disk based access
- GridCat information service
- MDS GRIS and BDII (to update with GIP)
- MonALISA and Core-MIS monitoring
- Clarens-based Discovery Service
- Incident response channels established



# OSG Testbed Deployed



<http://www.ivdgl.org/osg-int/workshop.html>

1 to 17 of 17 | sort by: Service | entries per page: 100 | map: U.S. | view: Summary

Status	Site Name	Jobs	Disks	Service	Loc	Facility	CPUs
●	IU_iuatl	0/0	0/0	CS	IN	INDIANA	2
●	OUHEP_ITB	0/0	0/0	CS	OK	OU	18
●	UBuffalo-CCR-ITB	0/0	0/0	CS	NY	BUFFALO	18
●	IU	0/0	0/0	CS	IN	IU	2
●	BNL_OSG_Test1	0/0	0/0	CS	NY	BNL	392
●	UFlorida-IJT	0/0	0/0	CS	FL	UFL	2
●	Caltech-OSG	0/0	0/0	CS	CA	CALTECH	16
●	TTU-TESTWOLF	0/0	0/0	CS	TX	TTU	0
●	fnpcg_fnal_gov	0/0	0/0	CS	IL	FNAL	31
●	FNAL DDS	0/0	0/0	CS	IL	FNAL	0
●	LIGO-CIT-OSG	0/0	0/0	CS	CA	CALTECH	4
●	FNAL_CMST1_TEST	0/0	0/0	CS	IL	FNAL	8
●	ANL_HEP	0/0	0/0	CS	IL	ANL	1
●	tp-Insig2_uchicago_edu	0/0	0/0	CS	IL	UCHICAGO	0
●	UC_ATLAS_OSG_ITB	0/0	0/0	CS	IL	UCHICAGO	0
●	DUKE-HEP	0/0	0/0	CS	NC	DUKE	0
●	UCSD-OSGINT	0/0	0/0	CS	CA	SDSC	4

Total CPUs: 498

# Summary

- Consortium model of pulling together efforts from multiple projects & organizations working well so far
- Iterate ITB to release 0.1.4 this week with new VDT 1.3.3
  - sites will have core set of services deployed
  - multiple privilege scenarios will be tested
  - sites validated with small scale ATLAS and CMS applications
  - integrative tests with storage services outside the ITB (SRM/dCache, SRM/DRM)