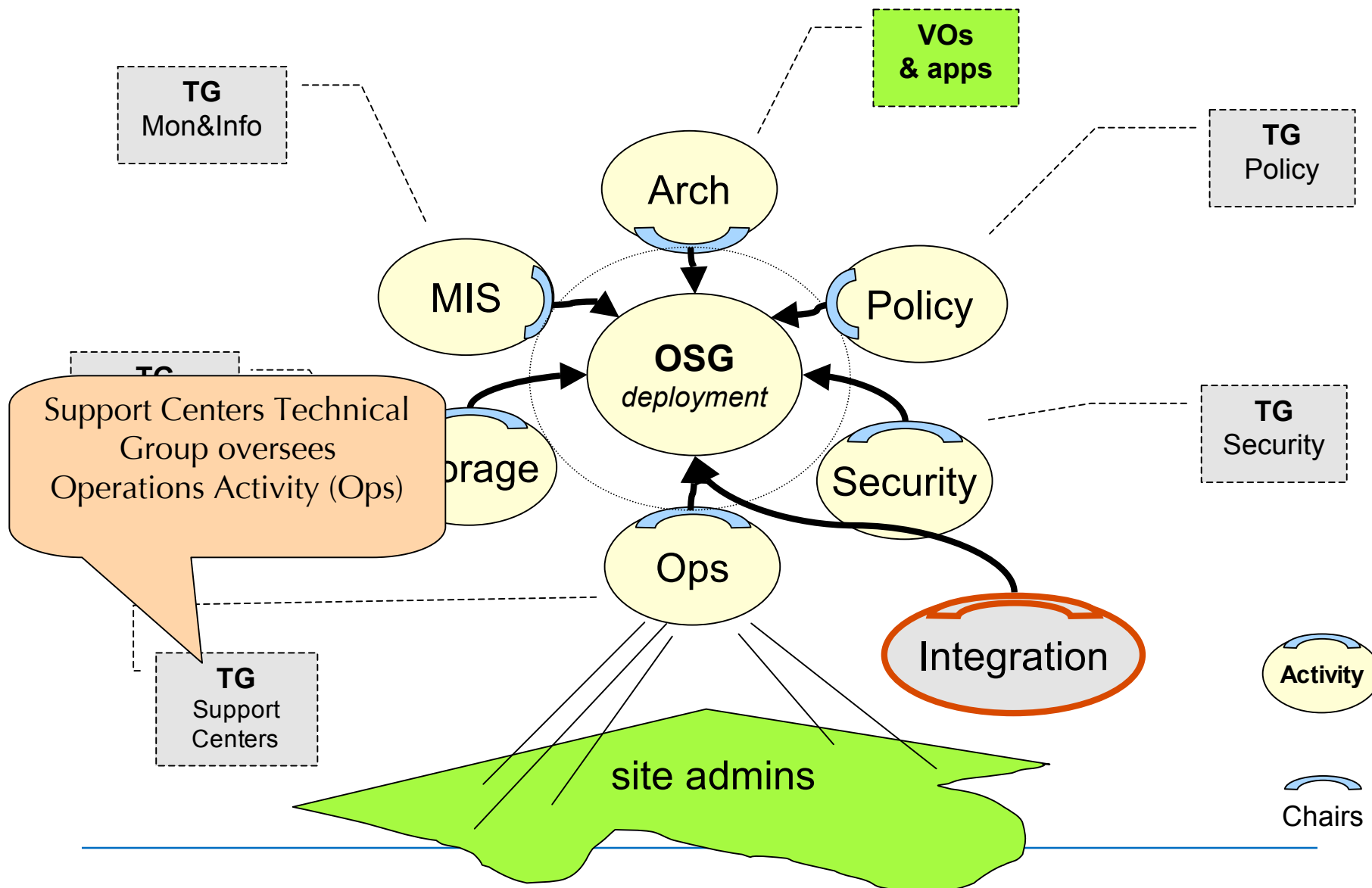# Grid Operations

Leigh Grundhoefer, Indiana University

representing the Open Science Grid Consortium

www.opensciencegrid.org

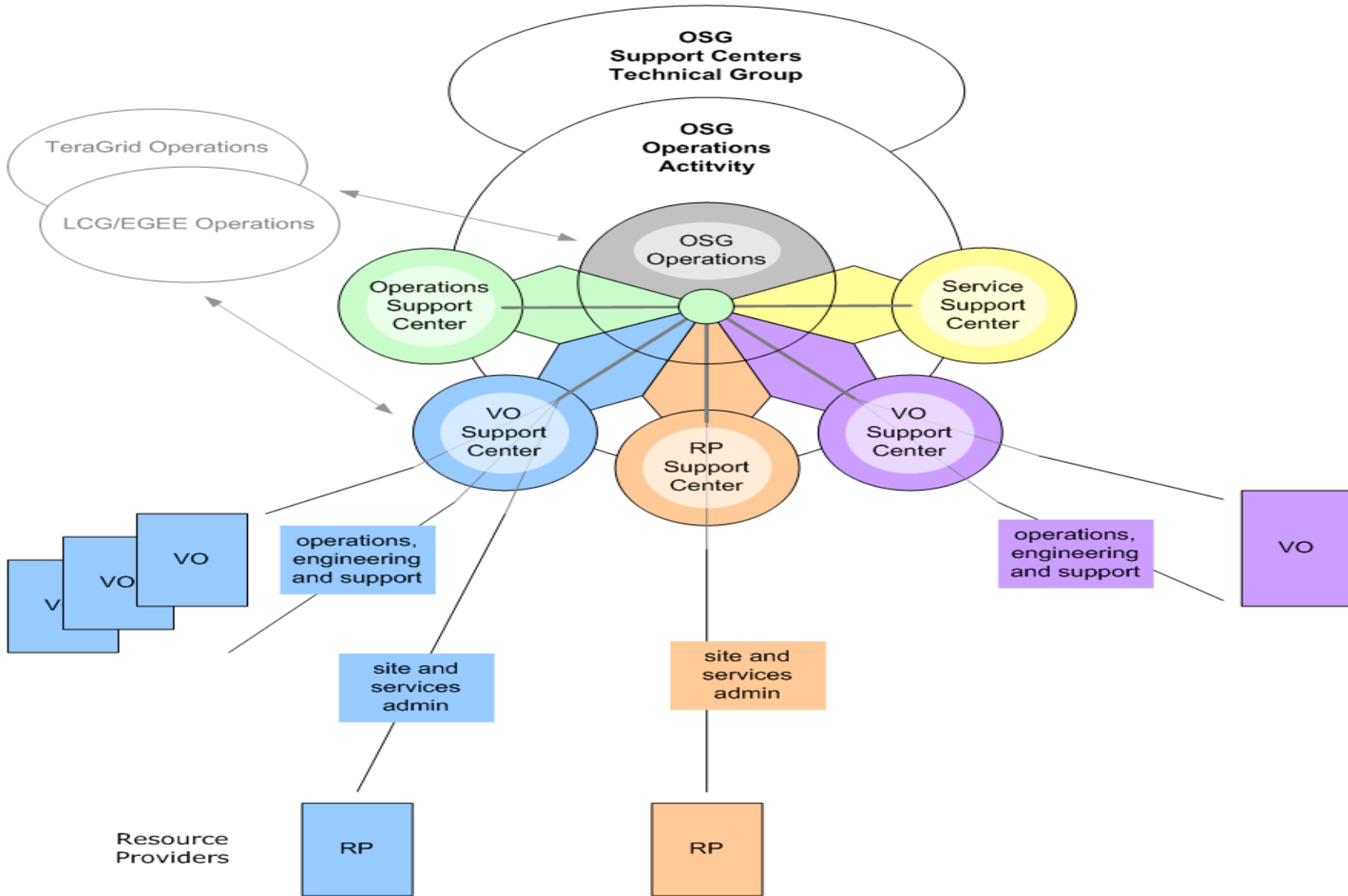# OSG deployment landscape

VOs & apps

TG Mon&Info

TG Policy

Arch

MIS

Policy

OSG *deployment*

TG Security

Support Centers Technical Group oversees Operations Activity (Ops)

torage

Security

TG Support Centers

Ops

Integration

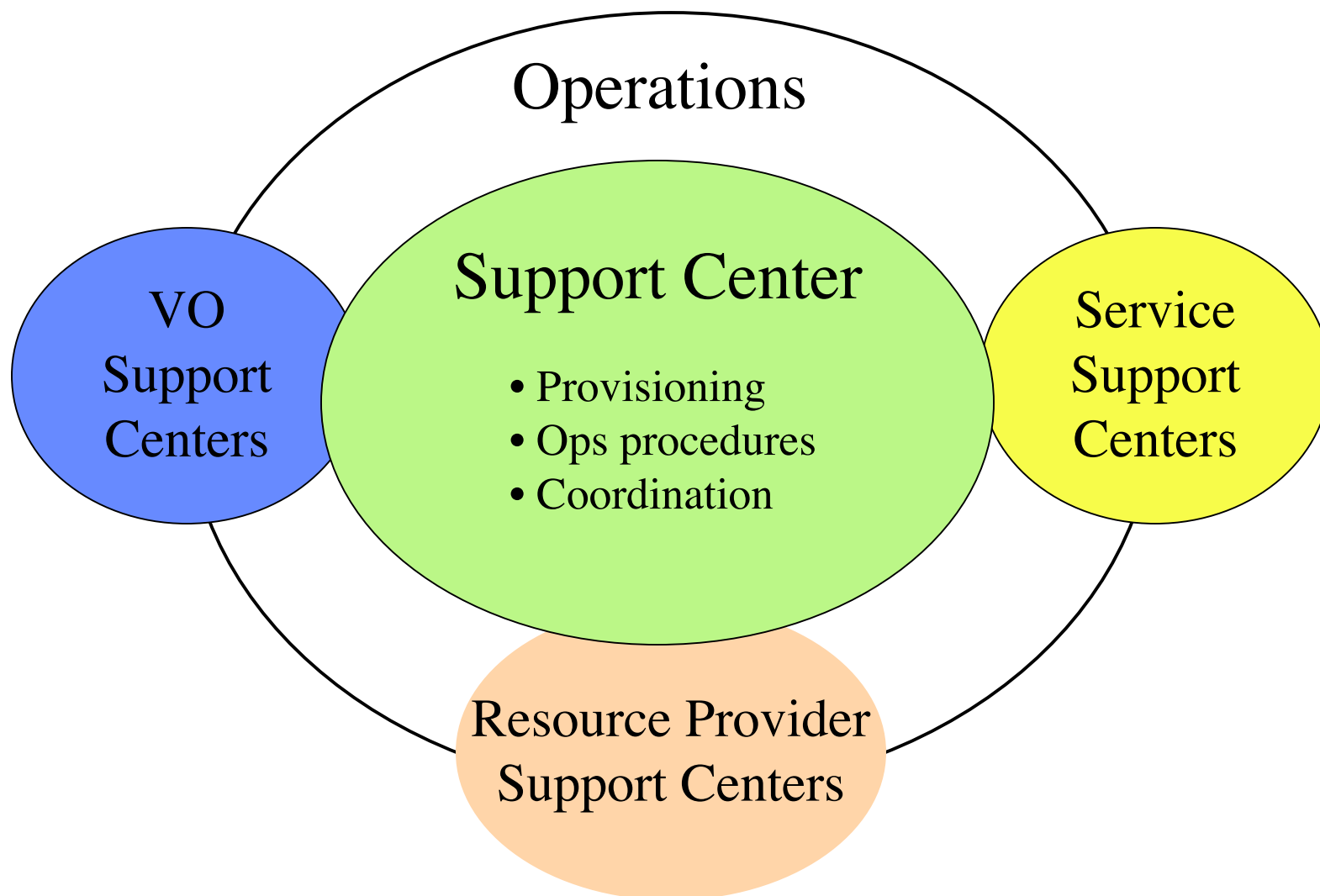**Activity**

Chairs

site admins

Operations Activity

Open Science Grid

- Implements Operations Model

- Runs the grid-wide services including provisioning and installation of middleware and operational support for those services, resource providers and VO's running on OSG.

- All the support centers hosting services and providing VO and end-user support for OSG are participants in this activity.

- Applies Users and Service Agreements

- Provides a repository for collected registrations and agreements of participating organizations (just getting started)

Operations Relationships

Grid Operations Center

Operations

Support Center

- Provisioning
- Ops procedures
- Coordination

VO Support Centers

Service Support Centers

Resource Provider Support Centers

OSG Operations - Services and Providers

VO Support Center	RP Support Center	Service Support Center - grid services	Service Support Center - middleware	Operations Support Center	
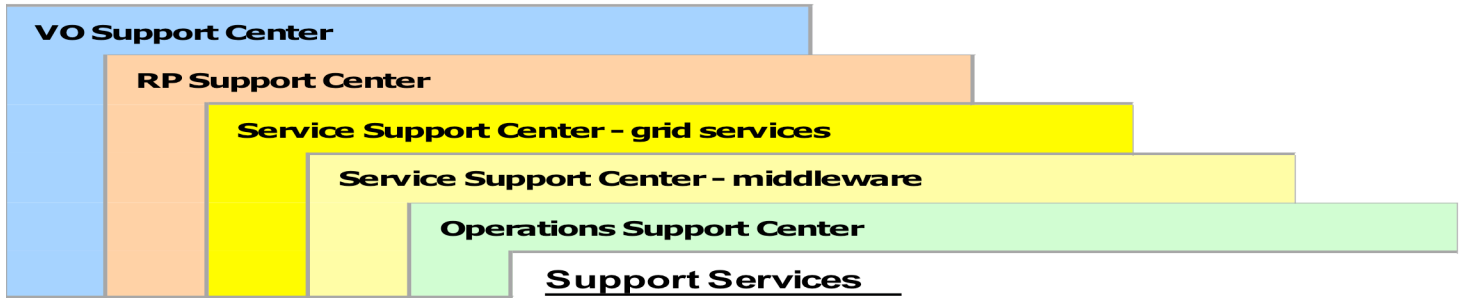
Support Services

Service Desk

VO	RP	SSC-grid	SSC-middleware	OSC	Service
■	■	■	■	■	faciliate and support communications
■	■			■	coordinate and track problems and security incidents
■	■			■	coordinate and track requests for assistance
■	■	■	■	■	respond to problems, security incidents, and requests for assistance
■	■	■		■	publish status, activity, accounting, and problem management reports
■	■			■	maintain a repository of support, process, and policy information
				■	schedule and coordinate grid service and middleware changes
■	■	■		■	monitor the status of grid resources
■	■			■	monitor policy compliance

Engineering

VO	RP	SSC-grid	SSC-middleware	OSC	Service
				■	maintain grid-controlled software packages and cache
			■	■	provide common grid software not supported through VDT
			■	■	verify software compatibility
■	■	■	■	■	provision releases of OSG middleware
■	■				provide site installation and configuration support
■			■		provide ease-of-installation tools
■			■		develop instructions on how to plug things together
		■		■	troubleshoot grid service failures
■					troubleshoot application failures
		■		■	provide and maintain common grid services
■		■	■	■	provide development guidance and assistance
■					provide specialized services for VO's and applications
■		■	■	■	create APIs to information resources
■			■	■	liaison middleware and application developers

Infrastructure

VO	RP	SSC-grid	SSC-middleware	OSC	Service
				■	trouble ticketing system and interface among systems
				■	monitoring tools development and provisioning
		■			accounting services provisioning
		■			discovery services provisioning
		■			identity services
		■			grid information index

Support Services

- Coordinates and Tracks:
  - problems for service providers
  - Security incidents
  - requests for assistance
- Monitor the status of resources and services
- Publish activity and status of resources and services
- Schedule grid service and middleware changes
- Monitor policy compliance

Engineering

Open Science Grid

- Maintained grid-controlled software packages and cache
- Provide common grid software support through VDT
- Verify software compatibilities
- Provision releases of the OSG middleware and services
- Troubleshoot service failures
- Deployment guidance and assistance
- liason to other service support centers

Infrastructure

- Trouble Ticketing system and interface
- Monitoring tools development and maintenance
- Accounting services
- Discovery services
- Identity services
- Grid information index
- Grid Catalog
- VO-level services for monitoring services
- Knowledge base
- Mailing Lists
- Formal and collaborative web information repositories

Participating Organizations

- US CMS Tier 1 Support Center

- US Atlas Tier 1 Support Center

- ESnet DOEGrids CA services

- VDT at UW services

- FermiLab Support Center

- Indiana University Global NOC

- iVDGL Grid Operations Center

- Grace VO

- Glow VO

Provisioning Tasks

Open Science Grid

- Set up the pre-release candidates for production installation tests
- Add version control to production release
- Deploy and validate auxiliary services
- Adjust middleware configuration setup
- Pre-release testing of production installation
- Pre-release test of services
- Full documentation preparation
  - Installation Manuals
  - Releases Notes, Change Logs, Patches, Upgrades
  - Description of the services provided for the release and access information

Interaction with LCG

- OSG has flat naming model in that almost everything is a Support Center (SC), so SC comes in different sizes.

- At December Operations Workshop we discussed interaction with LCG and Teragrid.

- It was apparent that LCG Operations will have interaction with OSG Operations and also both ATLAS and CMS Tier1 centers in US. Each are somewhat equivalent to a ROC, but details and terminology are different than LCG because OSG Consortium is organized quite different than LCG.