

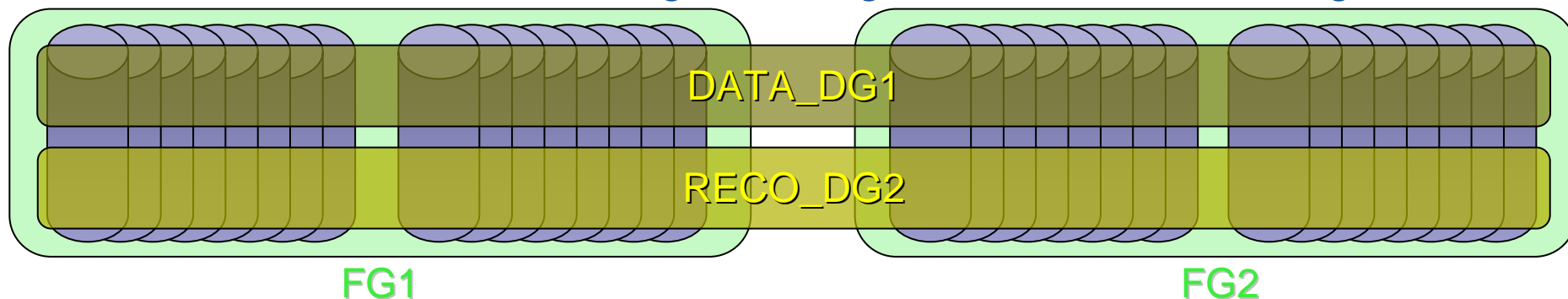
# RAC & ASM monitoring

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- Oracle Real Application Cluster
  - high availability solution
  - successfully deployed at CERN (8 production, 5 integration, few test RACs)
- Oracle Automatic Storage Management
  - volume manager and cluster file system
  - automatic mirroring (between **failgroups**) and striping (within **diskgroups**)
  - high performance/cost ratio
  - online storage reconfiguration and rebalancing



- Reliable, easy to use and configure
- Centralized – no configuration or deployment on RAC side
- Web interface (RAC monitoring dashboard) – one common place for ASM and RAC's services status
- Monitoring of ASM instances (diskgroups and failgroups)
- Monitoring of oracle services on RACs
- Notification send via emails to DBAs

- Python script with xml configuration for each cluster:
  - generates bash scripts to gather necessary information
  - sends files to the destination nodes and executes it remotely
  - retrieves output and upload results to the web service
  - sends alerts if necessary
  - can automatically retrieve ASM configuration from RAC's nodes
- PHP webservice:
  - receives monitoring data
  - separates monitoring from presentation
  - general overview of status of deployed RACs (addition to OEM monitoring)

RACMON - RAC monitoring system - Mozilla Firefox <2>

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ASM Services

atonr int2r lgr atlr cmsr lhcbcr compr intr d3r int3r int4r pabr recor int5r

Last updated: 13-09-2006 17:08

Cluster: atonr - RAC for Atlas Online

	Disk Groups			
	ATONR_DATADG1 (ITSTOR06)	ATONR_DATADG1 (ITSTOR17)	ATONR_RECODG1 (ITSTOR02)	ATONR_RECODG1 (ITSTOR03)
Reference disks (failgroups)	16 (FG1)	16 (FG2)	16 (FG4)	16 (FG3)
atonr2: itrac24	OK	OK	OK	OK
atonr1: itrac23	OK	OK	OK	OK

Cluster: int2r - RAC for int2 (CMS)

	Disk Groups			
	INT2R_DATADG1 (ITSTOR13)	INT2R_DATADG1 (ITSTOR22)	INT2R_RECODG1 (ITSTOR07)	INT2R_RECODG1 (ITSTOR21)
Reference disks (failgroups)	15 (FG2)	16 (FG1)	14 (FG4)	16 (FG1)
int2r2: itrac22	OK	OK	OK	OK
int2r1: itrac21	OK	OK	OK	OK

RACMON - RAC monitoring system - Mozilla Firefox <2>

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ASM Services

atonr int2r lgr atlr cmsr lhcbcr compr intr d3r int3r int4r pabr recor int5r

Last updated: 13-09-2006 17:32

Cluster: atonr - RAC for Atlas Online

Service	Nodes	
	atonr2 (itrac24)	atonr1 (itrac23)
ora_atonr_atlas_cool_cs		ONLINE
ora_itrac23_ASM1_asm		ONLINE
ora_itrac23_vip		ONLINE
ora_atonr_atonr_backup_atonr2_srv	ONLINE	
ora_atonr_atonr2_inst	ONLINE	
ora_itrac24_ons	ONLINE	
ora_itrac24_ASM2_asm	ONLINE	
ora_itrac23_ons		ONLINE
ora_itrac24_gsd	ONLINE	
ora_atonr_atonr_backup_atonr1_srv		ONLINE
ora_itrac24_vip	ONLINE	
ora_atonr_atlas_cool_atonr1_srv		ONLINE
ora_atonr_atonr_backup_cs		ONLINE
ora_atonr_atonr1_inst		ONLINE
ora_itrac23_gsd		ONLINE
ora_itrac24_LISTENER_ITRAC24_lsnr	ONLINE	
ora_itrac23_LISTENER_ITRAC23_lsnr		ONLINE
ora_atonr_atlas_cool_atonr2_srv	ONLINE	
ora_atonr_db		ONLINE

Cluster: int2r - RAC for int2 (CMS)

- OEM integration
  - investigating creation of a custom dashboard
- Automatic service relocation
  - after failure of a node, when it becomes available again we need to relocate services back to their preferred nodes – already implemented in a script (area for future improvements)
- Work on OEM command line interface
  - automatic target configuration
- Testing OEM patching functionality

The feedback is circulated between the people involved.

**Monica Marinucci Lopez**  
**June Farmer**  
**Graeme Kerr**

## **Oracle EMEA**

Management of the programmes  
Management of the programmes  
Technical liaison

**Bjørn Engsig**

## **Oracle Development**

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## **CERN Openlab**

Chief Technologist Officer  
**IT-PSS Group leader**  
**IT-PSS-DP Team Leader**



# Q & A