ATLAS Computing @ RZG and MPP

Status

Stefan Kluth, 21.01.08

New hardware at RZG 2007

- CPU

    - 7 IBM BladeCenter, 14 HS21 dual quad core Xeon 5345 2,33 GHz, 16 GB RAM

    - 3 in operation, 4 waiting

- Disk (ca. 250 TB netto)

    - 14 Intel SSR212MC2 servers + JBOD (12+16 750 GB SATA disks), 4 GB RAM, 2 Xeon 5310, hardware RAID, 10 GbE LAN

    - delivered, in operation soon

WLCG

WLCG - Tier-2 Accounting Summary   December 2007

Efficiency factor for Tier-2 sites - utilisation 60% of pledge as specified in TDR   **CPU usage in month (KSI2K-Hrs)**

Federation	2007 CPU Pledge (KSI2K)	pledge inc. efficiency (KSI2K-Hrs)	Site(s)	ALICE	ATLAS	CMS	LHCb	Total	delivered as % of pledge
Australia, University of Melbourne			Australia-UNIMELB-LCG2		6,579			6,579	
AU-ATLAS	40	17,856			**6,579**			**6,579**	**37%**
Austria, Austrian Tier-2 Federation			HEPHY-UIBK		3,781			3,781	
AT-HEPHY-VIENNA-UIBK	420	187,488			**3,781**			**3,781**	**2%**
Belgium, Belgian Tier-2 Federation			BEgrid-ULB-VUB			60,443		60,443	
			BelGrid-UCL			3,577		3,577	
BE-TIER2	600	267,840				**64,020**		**64,020**	**24%**
China, IHEP, Beijing			BEIJING-LCG2						
CN-IHEP	400	178,560							
Czech Rep., FZU AS, Prague			praguelcg2	32,670	33,014			65,684	
			prague_cesnet_lcg2						
CZ-Prague-T2	80	35,712		**32,670**	**33,014**			**65,684**	**184%**
Finland, NDGF/HIP Tier2			HIP-T2						
FI-HIP-T2	187	83,477							

Federation	2007 CPU Pledge (KSI2K)	pledge inc. efficiency (KSI2K-Hrs)	Site(s)	ALICE	ATLAS	CMS	LHCb	Total	delivered as % of pledge
Germany, ATLAS Federation, Munich			LRZ-LMU		11,540			11,540	
			MPPMU		22			22	
DE-MCAT	60	26,784			**11,562**			**11,562**	**43%**
Germany, CMS Federation			DESY-HH			60,931		60,931	
			DESY-ZN			458		458	
			RWTH-Aachen			46,593		46,593	
DE-DESY-RWTH-CMS-T2	500	223,200				**107,982**		**107,982**	**48%**
India, TIFR, Mumbai			INDIACMS-TIFR						
IN-INDIACMS-TIFR	130	58,032							
India, VECC/SINP, Kolkata			IN-DAE-VECC-01	5,442				5,442	
IN-DAE-KOLKATA-TIER2	282	125,885		**5,442**				**5,442**	**4%**
Israel, HEP-IL Tier-2 Federation			WEIZMANN-LCG2	1	1,256		89	1,346	
			TAU-LCG2	3	2,203	15	30	2,251	
IL-HEPTier-2	61	27,230		**4**	**3,459**	**15**	**119**	**3,597**	**13%**

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Tier-2 Availability and Reliability Report

Federation Summary - Sorted by Name   **December 2007**

WLCG

Critical Sam Tests - http://sam-docs.web.cern.ch/sam-docs/docs/htmldocs/MANUserManual/node22.html
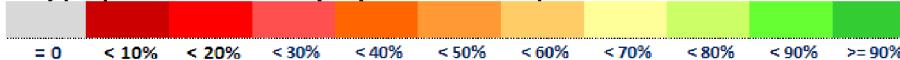*availability = % of successful tests during the day*
reliability = availability/scheduled availability
Reliability and availability for federation - average of all sites in the federation
Colour coding:

| | = 0 | < 10% | < 20% | < 30% | < 40% | < 50% | < 60% | < 70% | < 80% | < 90% | >= 90% |

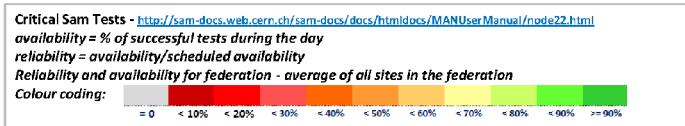| Federation	reli-ability	avail-ability	Federation	reli-ability	avail-ability
AT-HEPHY-VIENNA-UIBK	99%	99%	JP-Tokyo-ATLAS-T2	100%	99%
AU-ATLAS	83%	83%	NO-NORGRID-T2	0%	0%
BE-TIER2	39%	51%	PK-CMS-T2	19%	22%
CH-CHIPP-CSCS	87%	87%	PL-TIER2-WLCG	91%	91%
CN-IHEP	81%	81%	PT-LIP-LCG-Tier2	60%	66%
CZ-Prague-T2	72%	78%	RO-LCG	56%	58%
DE-MCAT	45%	45%	RU-RDIG	52%	56%
DE-DESY-LHCb-T2	99%	99%	SE-SNIC-T2	0%	0%
DE-DESY-RWTH-CMS-T2	75%	76%	SI-SiGNET	51%	67%
DE-FREIBURGWUPPERTAL	83%	83%	TW-	88%	88%
DE-GSI	51%	51%	UA-	0%	0%
ES-ATLAS-T2 tbc	72%	81%	UK-London-Tier2	60%	64%
ES-CMS-T2	57%	74%	UK-NorthGrid	91%	91%
ES-LHCb-T2	62%	62%	UK-ScotGrid	89%	89%
FI-HIP-T2	0%	0%	UK-SouthGrid	79%	79%
FR-GRIF	93%	93%	US-AGLT2	0%	0%
FR-IN2P3-CC-T2	90%	90%	US-Caltech	0%	0%
FR-IN2P3-LAPP	91%	90%	US-Florida	0%	0%
FR-IN2P3-LPC	99%	99%	US-MIT	0%	0%
FR-IN2P3-SUBATECH	89%	89%	US-MWT2	0%	0%
IL-HEPTier-2	36%	36%	US-Nebraska	0%	0%
IN-DAE-KOLKATA-TIER2	98%	98%	US-NET2	0%	0%
IN-INDIACMS-TIFR	0%	0%	US-Purdue-T2	0%	0%
IT-ALICE-federation	65%	66%	US-SWT2	0%	0%
IT-ATLAS-federation	64%	70%	US-UCSD	0%	0%
IT-CMS-federation	51%	55%	US-Wisconsin	0%	0%
IT-LHCb-federation	65%	66%	US-WT2	0%	0%

Low reliability/availability

downtimes not announced

learning curve at RZG

interference of new hard-ware, SL3/ SL4 and glite versions

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Tier-2 Availability and Reliability Report

December 2007

Critical Sam Tests - http://sam-docs.web.cern.ch/sam-docs/docs/htmldocs/MANUserManual/node22.html
availability = % of successful tests during the day
reliability = availability/scheduled availability
Reliability and availability for federation - average of all sites in the federation
Colour coding:

| = 0 | < 10% | < 20% | < 30% | < 40% | < 50% | < 60% | < 70% | < 80% | < 90% | >= 90% |

SAM tests

Federation	Site	reli-ability	avail-ability	reliability history Oct-07	Nov-07
Austria, Austrian Tier-2 Federation	HEPHY-UIBK	99%	99%	99%	96%
AT-HEPHY-VIENNA-UIBK		99%	99%	99%	96%
Australia, University of Melbourne	Australia-UNIMELB-LCG2	83%	83%	90%	80%
AU-ATLAS		83%	83%	90%	80%
Belgium, Belgian Tier-2 Federation	BEgrid-ULB-VUB	78%	78%	77%	76%
	BelGrid-UCL	0%	25%	64%	58%
BE-TIER2		39%	51%	71%	67%
Switzerland, CHIPP	CSCS-LCG2	87%	87%	57%	83%
CH-CHIPP-CSCS		87%	87%	57%	83%
China, IHEP, Beijing	BEIJING-LCG2	81%	81%	54%	71%
CN-IHEP		81%	81%	54%	71%
Czech Rep., FZU AS, Prague	praguelcg2	80%	80%	94%	87%
	prague_cesnet_lcg2	65%	76%	99%	93%
CZ-Prague-T2		72%	78%	97%	90%
Germany, ATLAS Federation, Munich	LRZ-LMU	0%	0%	0%	83%
	MPPMU	89%	89%	0%	55%
DE-MCAT		45%	45%	0%	69%
Germany, DESY, Hamburg	DESY-HH	100%	100%	97%	100%
	DESY-ZN	99%	99%	98%	100%
DE-DESY-LHCb-T2		99%	99%	97%	100%
Germany, CMS Federation	DESY-HH	100%	100%	97%	100%
	DESY-ZN	99%	99%	98%	100%
	RWTH-Aachen	25%	29%	68%	80%
DE-DESY-RWTH-CMS-T2		75%	76%	88%	93%
Germany, ATLAS Federation FR/W	UNI-FREIBURG	99%	99%	51%	90%
	wuppertalprod	68%	68%	0%	39%
DE-FREIBURGWUPPERTAL		83%	83%	25%	64%
Germany, GSI, Darmstadt	GSI-LCG2	51%	51%	99%	84%
DE-GSI		51%	51%	99%	84%
Spain, ATLAS Federation	Ifae	92%	92%	96%	73%
	IFIC-LCG2	97%	97%	99%	98%
	UAM-LCG2	28%	53%	98%	90%
ES-ATLAS-T2 tbc		72%	81%	98%	87%
Spain, CMS Federation	CIEMAT-LCG2	96%	96%	91%	82%
	IFCA-LCG2	19%	51%	89%	72%
ES-CMS-T2		57%	74%	90%	77%
Spain, LHCb Federation	UB-LCG2	35%	35%	96%	97%
	USC-LCG2	90%	89%	95%	96%
ES-LHCb-T2		62%	62%	96%	96%
Finland, NDGF/HIP Tier2	HIP-T2	0%	0%	0%	0%
FI-HIP-T2		0%	0%	0%	0%
France, GRIF, Paris	GRIF	93%	93%	98%	100%
FR-GRIF		93%	93%	98%	100%
France, CC-IN2P3 AF	IN2P3-CC-T2	90%	90%	90%	86%
FR-IN2P3-CC-T2		90%	90%	90%	86%
France, LAPP, Annecy	IN2P3-LAPP	91%	90%	99%	99%
FR-IN2P3-LAPP		91%	90%	99%	99%
France, LPC, Clermont-Ferrand	IN2P3-LPC	99%	99%	99%	99%
FR-IN2P3-LPC		99%	99%	99%	99%
France, SUBATECH, Nantes	IN2P3-SUBATECH	89%	89%	98%	91%
FR-IN2P3-SUBATECH		89%	89%	98%	91%
Israel, HEP-IL Tier-2 Federation	WEIZMANN-LCG2	56%	56%	72%	88%
	TAU-LCG2	15%	15%	0%	55%
IL-HEPTier-2		36%	36%	36%	72%

Funding for RZG 2007

- ATLAS Computing

  - 185 kEuro: fileserver, LAN, power bill, LAN

- BAR

  - 400 kEuro: 3 BladeCenter (summer), fileserver, LAN, shared within MPP

- D-Grid

  - 200 kEuro: 4 BladeCenter, shared within MPP

  - need to install D-Grid HEP VOs

ATLAS Desktop PCs

- 8 Dell Optiplex 745

  - ordered after successful tests

  - Dell delivered Optiplex 755 :o

  - needs kernel patch (LAN), VGA graphics only
    (PCI-e problems)

- Keep or return to Dell?

  - 6 already in use, 1 broken, 1 in preparation

  - switch to FSC? (20% more expensive)