

Computing at MPP

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MPP Computing commission, chairman

MPP Project Review, 20.12.2011

Personnel C/N Group

Head of group: Leupold, U.

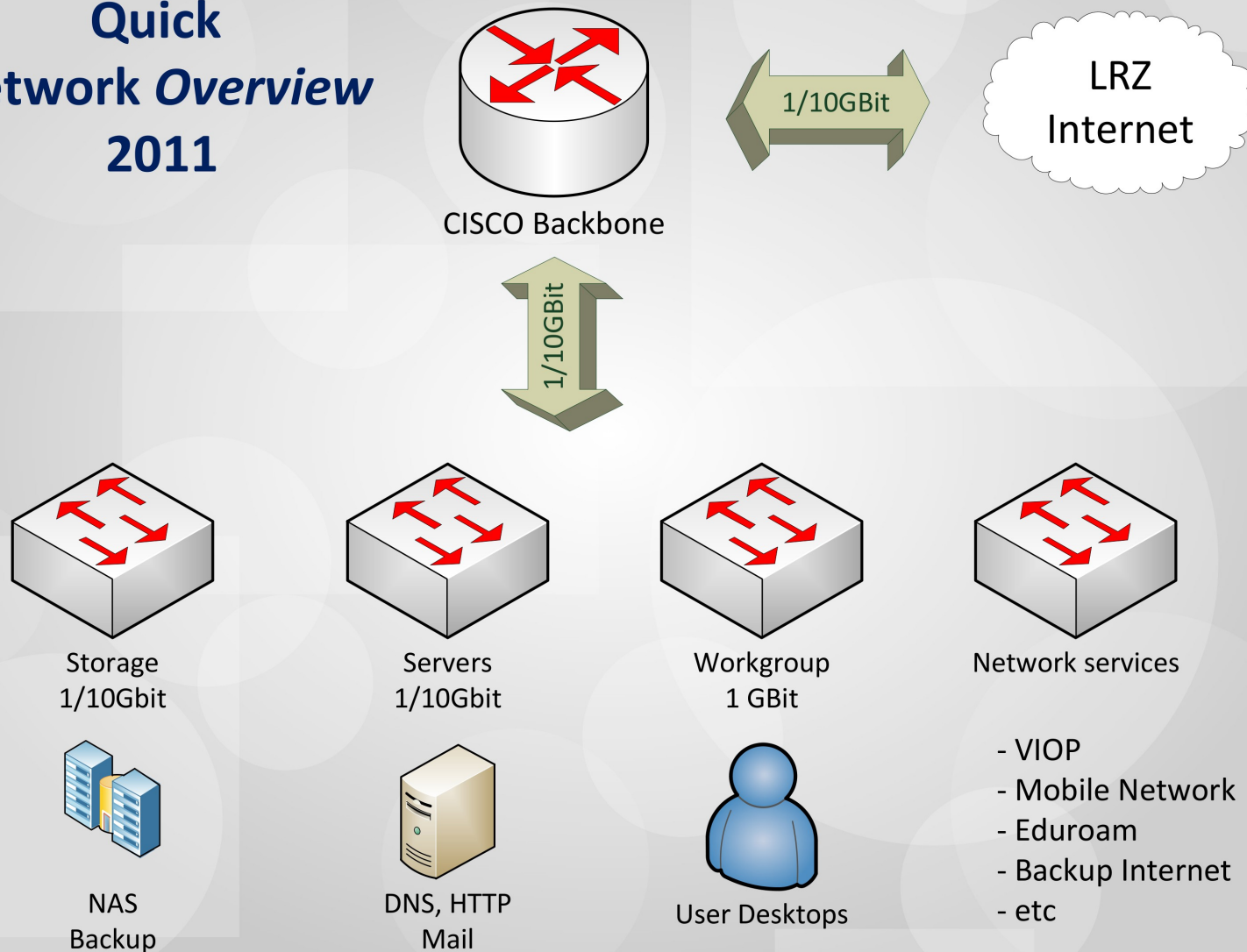
	Linux	MS	SW	LAN	HW	Pr	Tel
Leupold, U.	x	x	x	x	x		x
Kriesel, A.	x(reg.)				x	x	x
Krämer, M.				x			x
Pan, Y.	(x)	x					
Salihagic, D.	x		x		x		
Vidal, M.	x(AIX)		x		x		
Krebs, K.				x			

Hardware Overview

- Central servers
 - 2 IBM BladeCenter, 56 cores (ATLAS)
 - 29 file servers with ~90 TB
 - mail, web, DNS, accounts, backup, printer, ...
 - ~730 cores in condor for batch (BCs and PCs)
- Experimental and engineering groups
 - ~400 PCs, 2/3 Linux, 1/3 MS
- Theory group
 - ~80 PCs (Linux), 1 DEC Alpha

LAN

Quick Network Overview 2011



Software overview

- OS
 - Linux (Ubuntu 10.04 (ATLAS/BELLE/ILC), Opensuse 11.4 (Theory))
 - AIX (1 server left), Solaris (Elektronik)
 - MacOSX, VMS without C/N support
 - MS Windows (Admin, Labs, h1win, thwin)
- Applications/libraries
 - Mathematica, Maple, Portland pgf compiler, IDL, NAG, Matlab, ifortran, ...
 - OSS with C/N group & mppcc

Software Applications

- Commercial
 - Oracle 10, Infopark cms Fiona, Tivoli (backup), Wilma (WLAN manager), Gleitzeitserver, LogInventory, HP ProCurve Manager, ...
- OSS
 - Indico, mysql, root, CERNLIB, phpBB, twiki, Asterisk, eGroupware, kvm, ...

New Phonesystem

- **MX-ONE plus Cisco/Asterisk VoIP system**
 - new GBE LAN edge switches with PoE and vlan (done)
 - production service with ~250 phones
- **Future (2012)**
 - Betriebsvereinbarung Telefonanlage
 - Upgrade Asterisk and phone firmware
 - phase out MX-ONE

Phonesystem Observations



Phonesystem Observations

- Operation smooth
 - After VLAN correctly configured
 - Maintenance with support from BayCom
- Telephone hardware
 - 6 broken phones so far
- Egroupware (www interface)
 - Admin pages not easy
 - Procedures sometimes redundant
 - VW can't access
 - No free numbers (due to MX-ONE)

C/N Plans 2012

- ATLAS-ILC/Belle homedir servers
- Consolidate “RZF”
- VoIP upgrades
- LAN 1 → 10 GBE
- WAN 1 → 10 GBE
- WLAN AP in rooms
- Linux migrations
- Windows server to W2008
- nfs3 → nfs4/afs?
- nis → Krb/LDAP?
- Virtualize services

MPP computing commission

- Subcommittee of IA
 - members: Abt, Bethke, Hahn, Kluth, Leupold, Reimann, Simon, Stonjek, Wagner
 - meetings are public
- Mandate
 - oversight of C/N operations
 - medium- and longterm planning
- Please consult before buying hardware or requiring services

Rahmenverträge

- **MPG has procurement contracts for IT**
 - hardware, LAN, software, services
 - order without tendering procedure
 - competitive prices (still check F&L or street prices)
 - FSC, HP, IBM, Acer, Dell, Lenovo, Apple, ...
- **Experience**
 - good for standard orders
 - companies respond well

Computing at RZG

- Operation
 - main users ATLAS (WLCG), MAGIC
 - open for all MPP groups (10% share)
 - connection via 1 GBE link (10 GBE 2012)
- Usage
 - need RZG account (via web-form)
 - direct access e.g. “ssh mppui[1,2,3].rzg.mpg.de”
 - direct access to dcache storage (dccp, dcap)
 - direct access to tape storage via afs

Computing at RZG

- Current status
 - 2464 cores, 2 GB/core, ~1500 TB disk
 - ATLAS Tier-2/3 and MDT calibration
 - MAGIC analysis centre
 - Others: theory, GERDA, ILC, BELLE(II)
- Upgrade for 2012
 - +~500 TB, CPU?, new 10 GBE LAN
- Other tasks possible at RZG
 - AIX (xlf), parallel computing

Computing at RZG

- Software
 - SLC5, WLCG, dCache, afs, SGE
 - access to tape storage (via afs)
 - various gcc versions, other tools
 - experiment software
- Functions
 - WLCG: send/receive grid jobs and data
 - local SGE batch jobs
 - Work interactively
(mppui[1,2,3].t2.rzg.mpg.de)

Fachabteilung IT

- C/N group upgraded to Fachabteilung IT
- New head of Fachabteilung chosen
 - Many good candidates
 - Starts early next year (1 Feb)
 - Coordination through mppcc
- Major improvement for group

Summary and Trends

- MPP IT landscape continuously changing
 - rapid changes in hard- and software
 - keeps C/N staff busy
- Mass data storage at MPP growing fast
 - > 100 TB soon? CPU power? Management?
 - use RZG cluster/storage (10 GBE soon)
- IT security
 - needs a well-managed setup
 - requires some protocol upgrades