Computing at MPI

Stefan Kluth

ATLAS

Computing commission, chairman

Personell C/N Group

Head of group: Leupold, U.

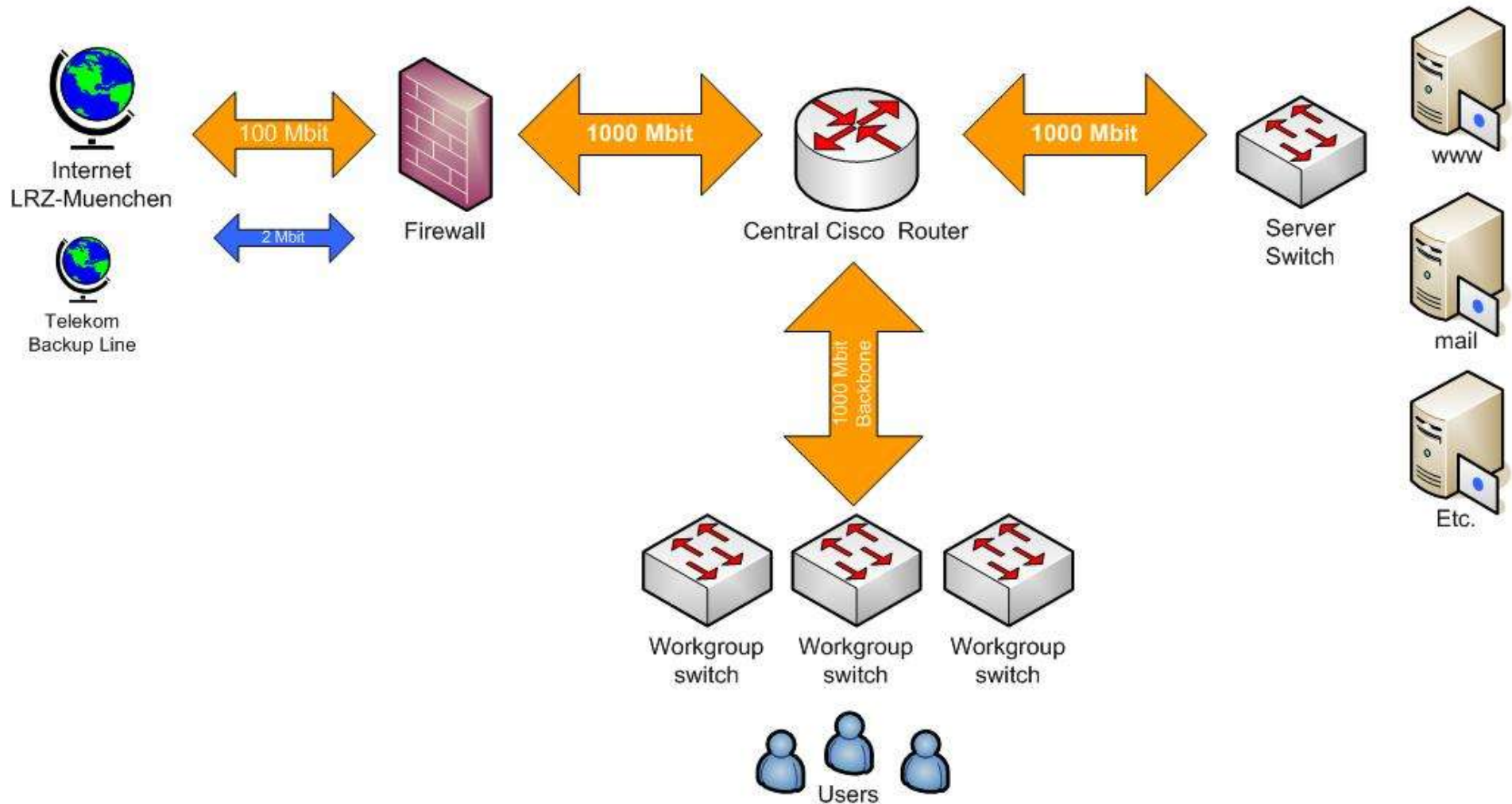|	Linux	MS	SW	LAN	HW	SW	Grid
Leupold, U.	x	x	x	x	x	x	
Kriesel, A.	x(reg.)				x		
Kraemer, M.				x			
Pan, Y.	(x)	x					
Salihagic, D.	x		x				x
Vidal, M.	x(AIX)				x	x	
Krebs, K.				x			

Hardware Overview

- Central servers
  - batch farm (15 dual CPU), condor
  - 13 fileservers with 19 TB
  - mail, web, DNS, accounts
- Experimental and engineering groups
  - ca. 270 PCs, 2/3 Linux, 1/3 MS, Intel and AMD, partially condor
- Theory group
  - 78 PCs (Linux), Intel and AMD, condor

LAN

General Network Overview

Internet
LRZ-Muenchen

Telekom
Backup Line

100 Mbit

2 Mbit

Firewall

1000 Mbit

Central Cisco Router

1000 Mbit

Server
Switch

www

mail

Etc.

1000 Mbit
Backbone

Workgroup
switch

Workgroup
switch

Workgroup
switch

Users

Software overview

- OS
  - Linux (MPI, Debian (ATLAS), peb (theory)
  - AIX (servers), Solaris (Elektronik)
    - MacOSX, VMS without C/N support
  - MS Windows (Admin, Labs, h1win, thwin)

- Applications/libraries
  - Mathematica, Maple, Portland pgf compiler, IDL, NAG (Theory)
  - xlf on MacOSX (Exp.)
  - OSS in consultation with C/N group

MPI computing commission

- Subcommittee of IA

  – Members: Bethke, Hahn, Kluth, Leupold, Wagner, (Schieck), (Wassatsch)

- Mandate

  – oversight of C/N operations

  – medium- and longterm planning

- Please consult before buying hardware or requiring services

Rahmenvertrag BW

- MPG joined procurement contract for IT

  - Hardware small and big, LAN, software, services

  - order without tendering procedure

  - competetive prices (still check F&L prices)

  - FSC, HP(LAN), Acer, IBM, ...

- Experience

  - Good for standard orders

  - Companies respond well

Current activities

- Hardware replacements

  - central servers from AIX to HA-Linux

  - h1win, thwin new hardware

  - (ATLAS) account server to HA-Linux

- Software

  - Migrate ATLAS to Debian

  - CDS → Indico

  - ...

Computing at RZG

- MPI has Linux cluster at RZG

  – 7 IBM BladeCenter, 98 servers (HS20 Dual Xeon 3/3,2 Ghz, 4 GB RAM)

  – ca. 60 TB Fileserver

  – SLES9, SGE, LCG3/glite, mr-afs, dcache

- Operation

  – Main users ATLAS (WLCG), MAGIC

  – Open for all MPI groups (10% share)

  – need RZG account

Computing at RZG Experience

- Hardware
  - CPU Server: no failures
  - Fileserver: stable this year (all disks replaced)
- Software
  - mr-afs not solid under load (ATLAS)
  - SGE sometimes unstable
- Operation
  - usually efficient, 5x8, RZG renovations
  - support@rzg.mpg.de

Computing at RZG

- Major expansion planned
  - ATLAS Tier-2/3 centre
  - MAGIC analysis centre
  - Other MPI groups?
- Other tasks possible at RZG
  - AIX (xlf)
  - Parallel computing