



*EGEE Greek 3rd parties kick-off, May 27-28th, 2004*

**Enabling Grids for  
E-science in Europe**

# **HG-01-GRNET ISABELLA**

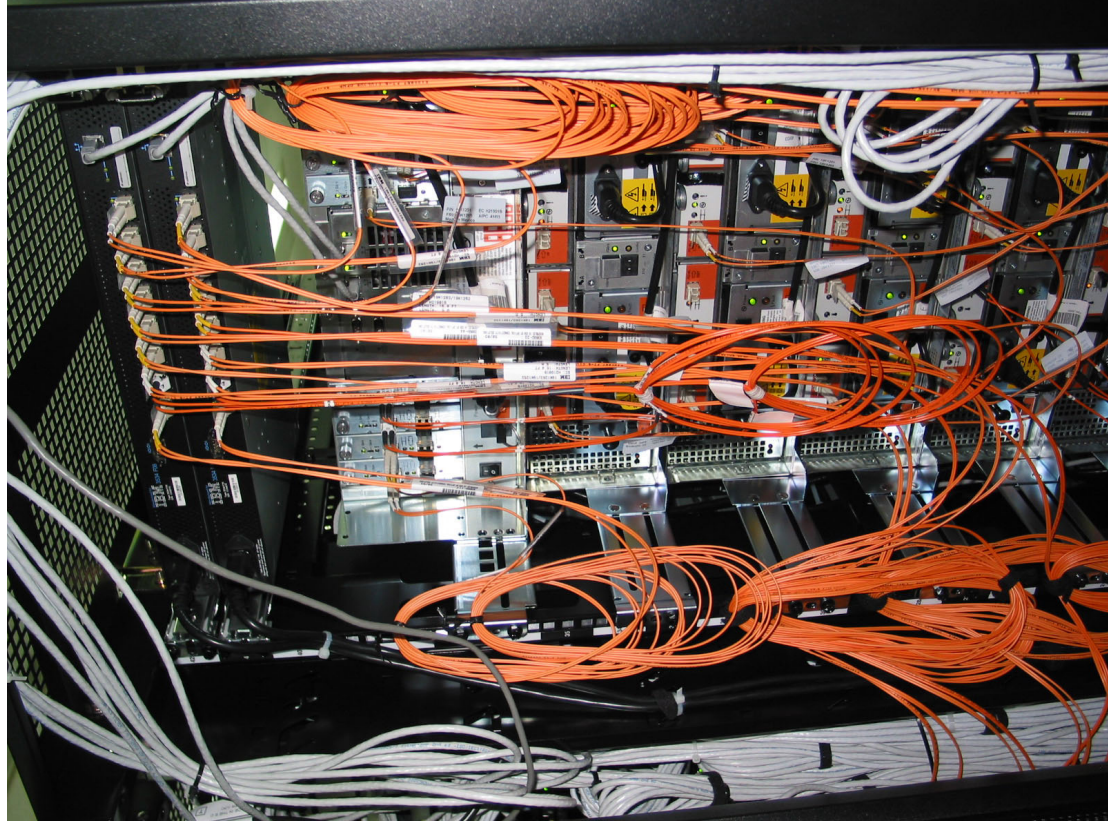
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ROC Technical Manager, GRNET**



# Objectives of this session

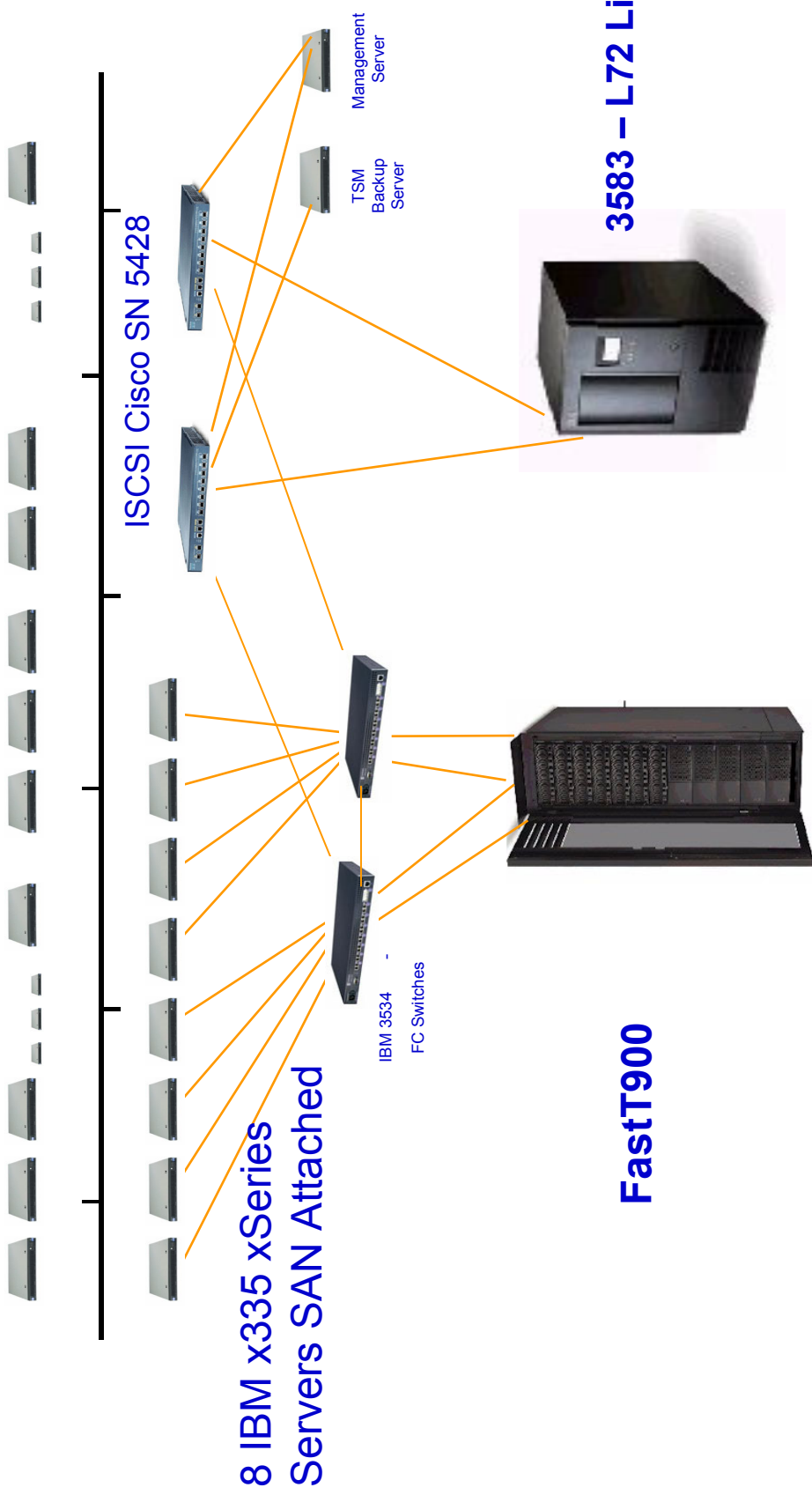
- Present the new HG-01-GRNET site
- Overview of the HW Configuration
- Overview of the SW Configuration
- Overview of the MW Configuration
- Overview of the steps required to join LCG-2 / EGEE
- EGEE Middleware Releases Schedule ...

# Meet Isabella



# Meet Isabella 2

23 IBM x335 xSeries Servers



# Storage Area Network

## IBM FAST900

- 2 FastT FC RAID Controllers
- Hard Disks 70 \* 146,8 GB = **10,276TB** 10K-4, 2GB FC Hot Swap2GB
- Cache (1GB per Controller)
- RAID protection 0, 1, 3, 5, 10
- Maximum Capacity **32 TB** (raw)
- Redundant hot swappable components
- LUN masking
- FlashCopy

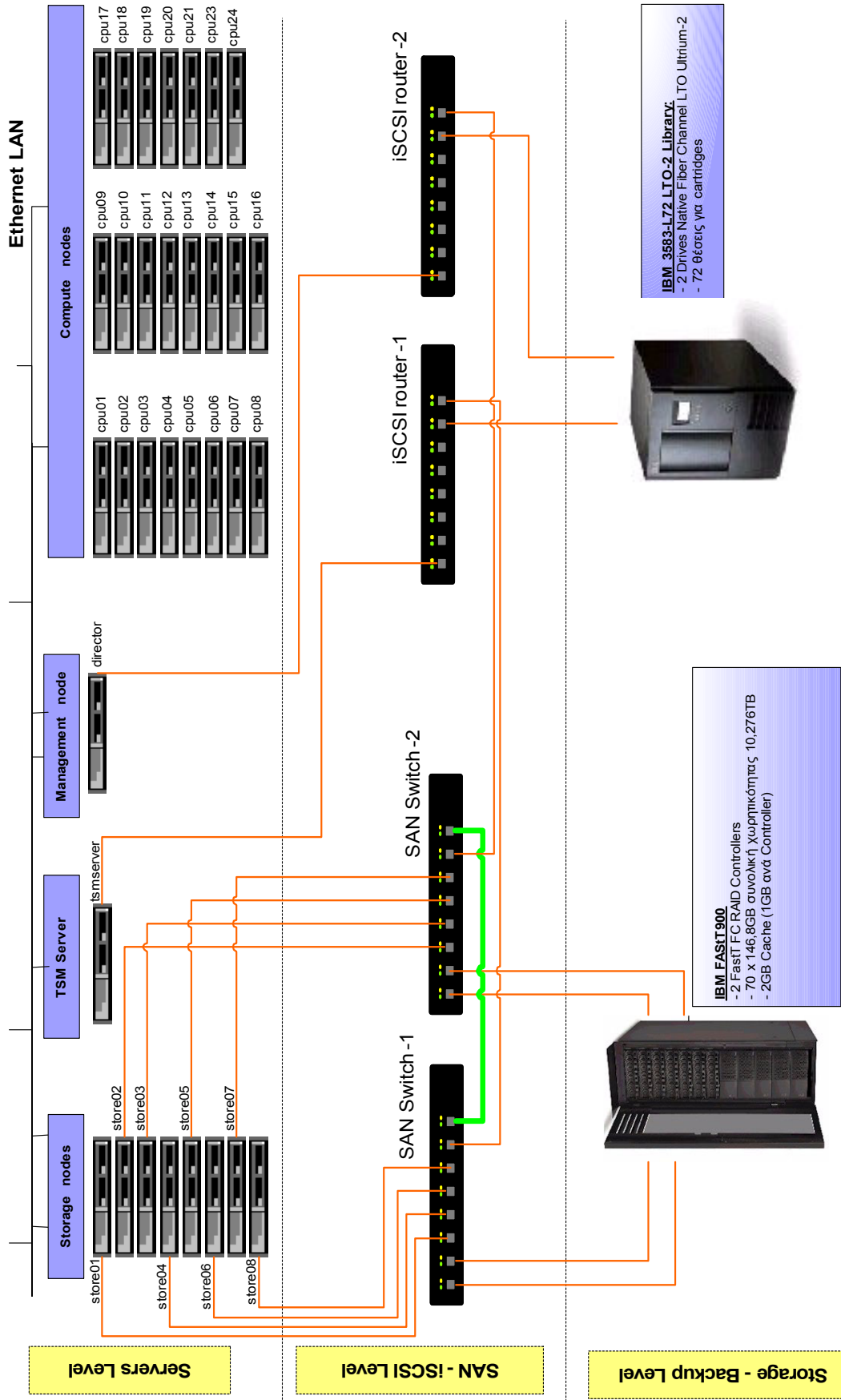
## • Fibre Channel Switches

- 2x IBM 3534-F08 8-port 2GBps Switches
- 200 MB/sec

# Storage Area Network

- **IBM 3583-L72 LTO-2 Library**
  - 2 Drives Native Fibre Channel LTO Ultrium-2 (6 Drives maximum)
  - 35MB/sec native or 70MB/sec compressed per Drive
  - 72 cartridges max Cartridges
  - Double Power Supply fans for redundancy.
  - Max Capacity 28,8TB Compressed.
  - Built-in Barcode Reader
  - Multiple Virtual Library partitioning

# SAN Schema

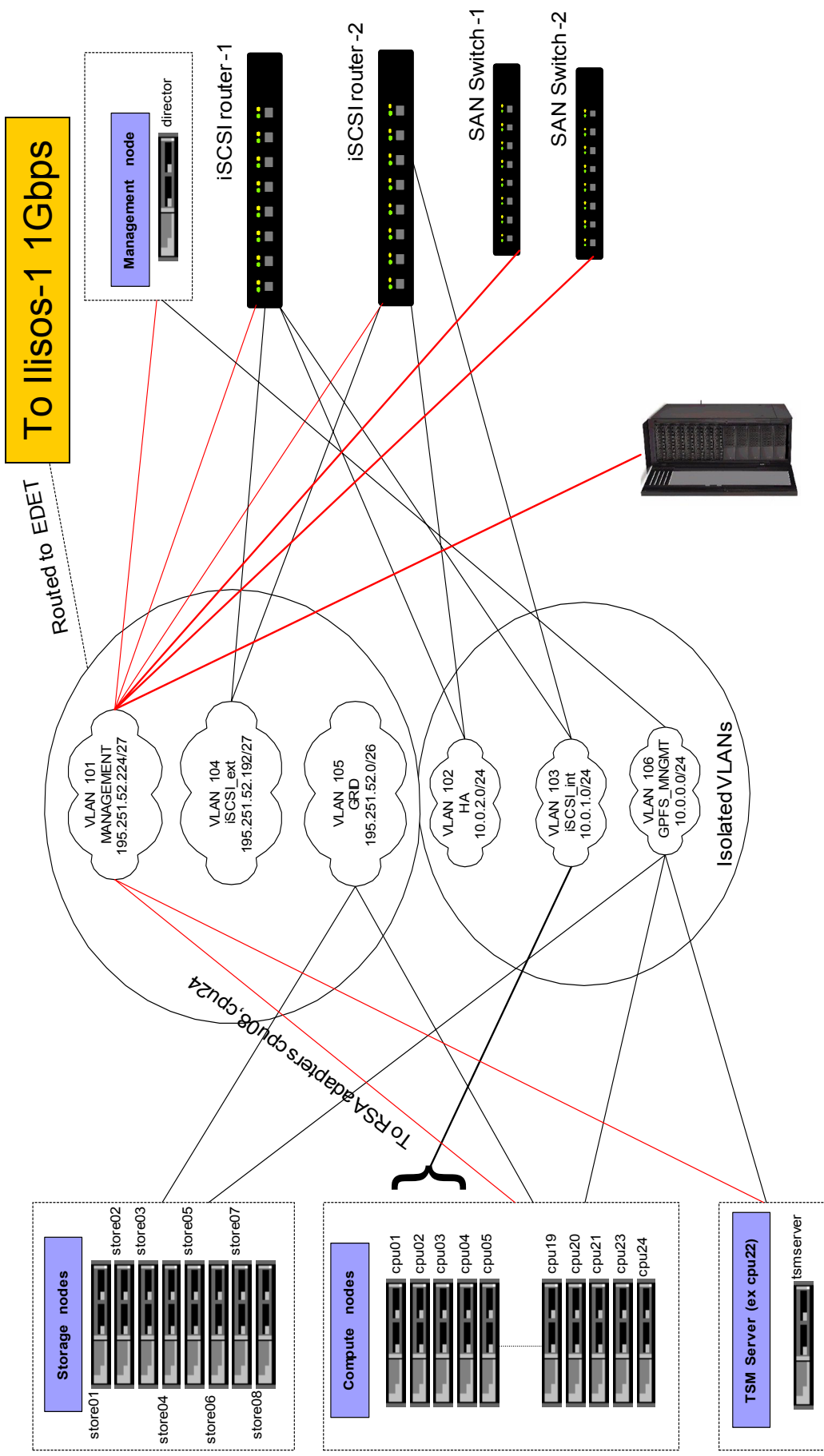


# H/W Description

- **(32 +1) x IBM xSeries x335**
  - Dual Intel Pentium Xeon DP @ 2.8 GHz with 533MHz Front Side Bus.
  - Memory 1 GB ECC PC2100 DDR Registered @ 266MHz, With Chipkill – Two Way Interleaved technology.
  - 2 I/O PCI-X buses @ 64bit /100MHz.
  - 2 64 bit PCI-X expansion slots.
  - 2 Ultra320 SCSI HD @ 73.4GB.
  - Dual Port 10/100/1000 Mbps Ethernet controller
  - Built-in System Management Processor for Light Path Diagnostics
  - C2T Daisy Chain capability with lights-out remote control
  - 2Gbit Fiber Channel PCI-X adapter for the 8 SAN attached Hosts.

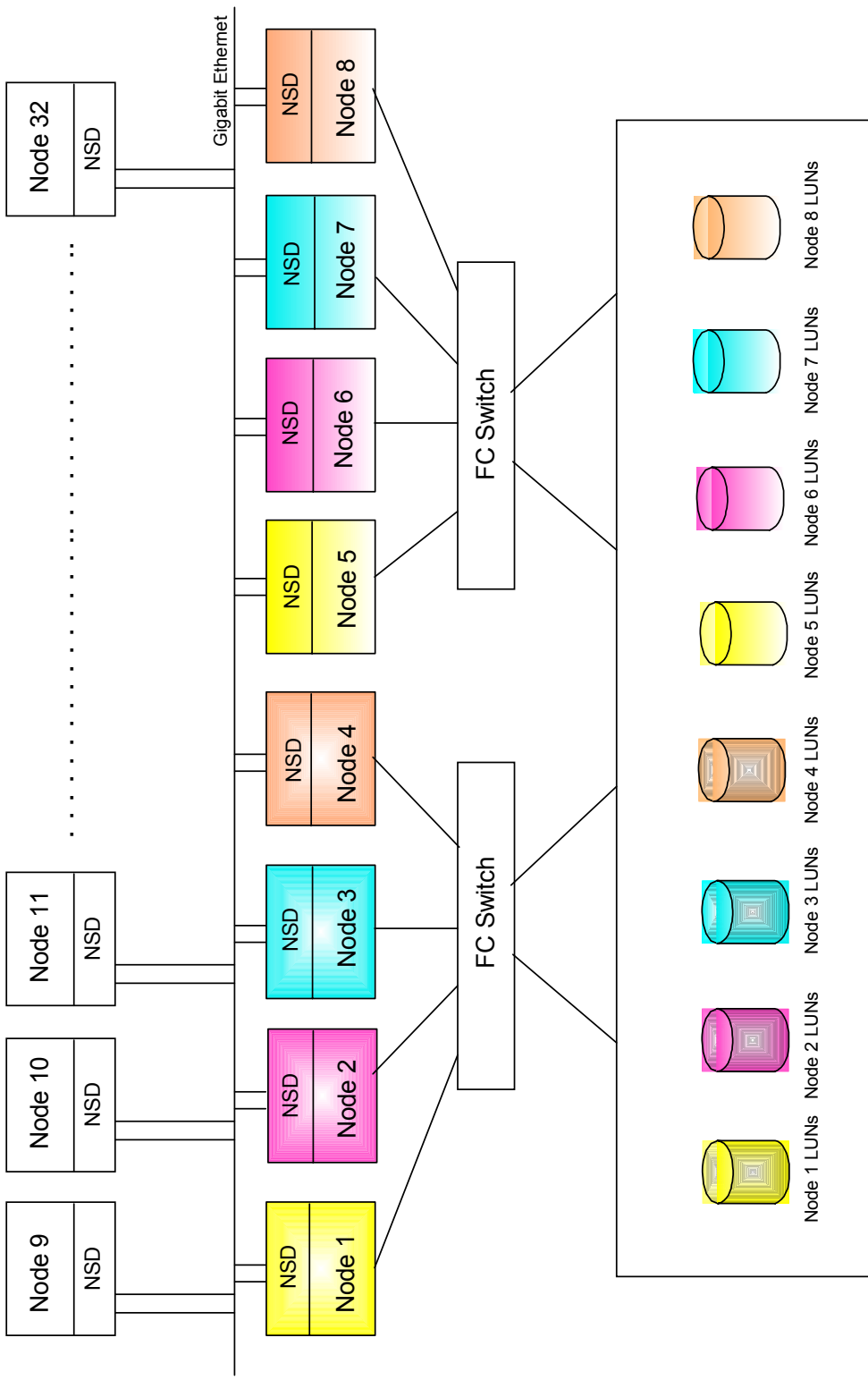


# Network



# GPFS File system

**GPFS - Physical Connectivity Diagram**



FAST Storage Subsystem

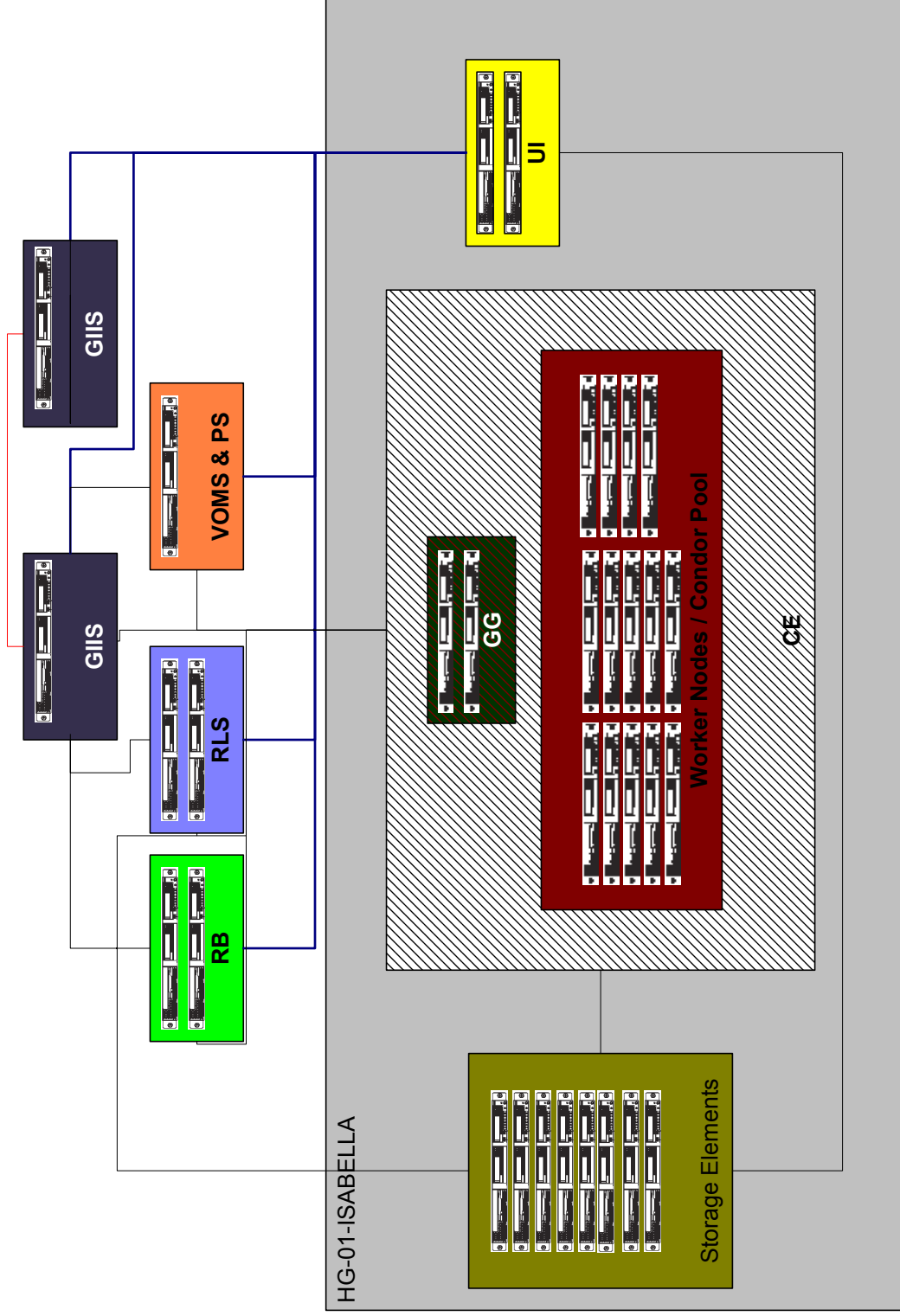
# GPFS Capabilities

- High-performance parallel, scalable file system for Linux cluster environments
- Shared-disk file system where every cluster node can have concurrent read/write access to a file
- High availability through automatic recovery from node and disk failures

## LCG – 2 Middleware

- Currently in LCG-2 Pre-Production Test bed
- Currently Running:
  - A Computing Element (**CE**) with 16 Worker Nodes (**WN**)
  - A Storage Element (**SE**) that Serves 2.1 Terabytes of Storage
  - And a User Interface (**UI**)
  - Release: [lcg20040408\\_1100-edgt20030718\\_1025](#)

# LCG-2 Middleware



# Comments / Q & A

