

William and Mary Computational Science
SciClone Cluster Architecture

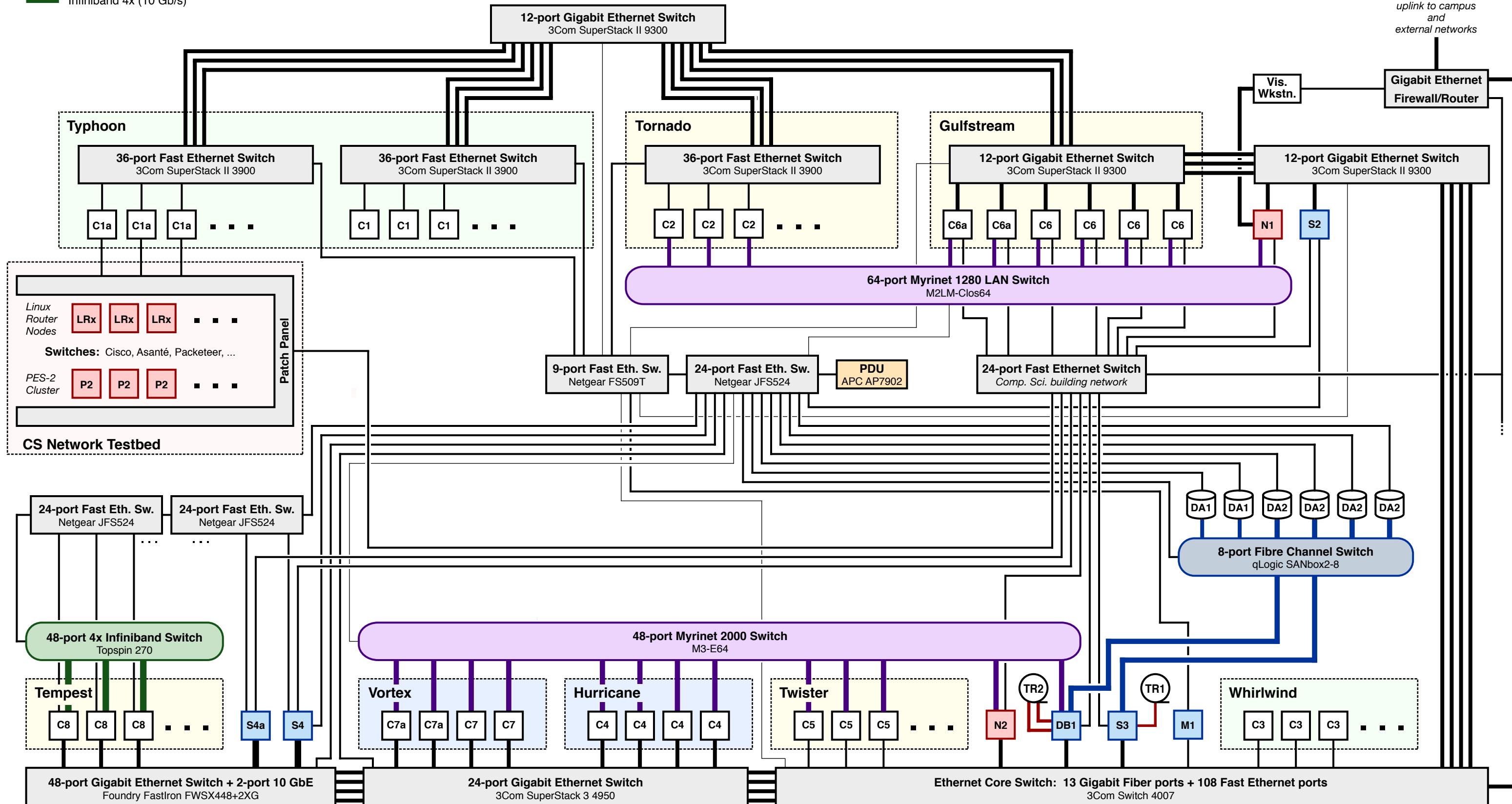
Rev. 3.0.1 5/5/06

Communication Links

- Ethernet (10 Mb/s)
- Fast Ethernet (100 Mb/s)
- Gigabit Ethernet (1 Gb/s)
- 10 Gigabit Ethernet (10 Gb/s)
- Myrinet 1280 (1.28 Gb/s)
- Myrinet 2000 (2 Gb/s)
- Infiniband 4x (10 Gb/s)
- Ultra SCSI (20 MB/s)
- Ultra3 SCSI (160 MB/s)
- Fibre Channel (1 Gb/s)
- Fibre Channel (2 Gb/s)

Node Types

- Servers: S2, S3, S4, S4a, DB1, M1
- Network nodes: N1, N2
- Compute nodes: C1, C1a, C2, C3, C4, C5, C6, C6a, C7, C7a, C8
- Storage subsystems: DA1, DA2, TR1, TR2



Node and Storage Specifications

Servers

- S2:** (1) Sun Ultra 60, file server, dual UltraSPARC II 450 MHz / 4 MB cache / 1 GB mem. / 91 GB UW SCSI disk
- S3:** (1) Sun Fire 280R, compile/file server, dual UltraSPARC III Cu 900 MHz / 8 MB cache / 2 GB mem. / 72 GB FC-AL disk
- S4:** (1) Sun Fire V20z, compile/file server, dual Opteron 250 2.4 GHz / 1 MB cache / 4 GB mem. / 219 GB Ultra320 SCSI disk
- S4a:** (1) Sun Fire V20z, application/file server, dual Opteron 250 2.4 GHz / 1 MB cache / 4 GB mem. / 219 GB Ultra320 SCSI disk
- DB1:** (1) Sun Fire 280R, database/bioinformatics server, dual UltraSPARC III Cu 900 MHz / 8 MB cache / 4 GB mem. / 146 GB FC-AL disk
- M1** (1) Sun Fire V120, system management node, single UltraSPARC IIe 650 MHz / 512 KB cache / 512 MB mem. / 36 GB Ultra2 SCSI disk

Compute Nodes

- C1/C1a:** (64) Sun Ultra 5, single UltraSPARC III 333 MHz / 2 MB cache / 256 MB mem. / 9.1 GB EIDE disk
- C2:** (32) Sun Ultra 60, dual UltraSPARC II 360 MHz / 4 MB cache / 512 MB mem. / 18.2 GB UW SCSI disk
- C3:** (64) Sun Fire V120, single UltraSPARC IIe 650 MHz / 512 KB cache / 1 GB mem. / 36 GB Ultra2 SCSI disk
- C4:** (4) Sun Enterprise 420R, quad UltraSPARC II 450 MHz / 4 MB cache / 4 GB mem. / 18.2 GB UW SCSI disk
- C5:** (32) Sun Fire 280R, dual UltraSPARC III Cu 900 MHz / 8 MB cache / 2 GB mem. / 72 GB FC-AL disk
- C6:** (4) Sun Ultra 60, dual UltraSPARC II 360 MHz / 4 MB cache / 512 MB mem. / 45.5 GB UW SCSI disk
- C6a:** (2) Sun Ultra 60, dual UltraSPARC II 360 MHz / 4 MB cache / 512 MB mem. / 63.7 GB UW SCSI disk
- C7:** (2) Sun Fire V440, quad UltraSPARC III 1.28 GHz / 1 MB cache / 8 GB mem. / 292 GB Ultra320 SCSI disk
- C7a:** (2) Sun Fire V440, quad UltraSPARC III 1.28 GHz / 1 MB cache / 16 GB mem. / 292 GB Ultra320 SCSI disk
- C8:** (42) Sun Fire V20z, dual Opteron 250 2.4 GHz / 1 MB cache / 4 GB mem. / 73 GB Ultra320 SCSI disk
- N1:** (1) Sun Ultra 60, dual UltraSPARC II 360 MHz / 4 MB cache / 512 MB mem. / 18.2 GB UW SCSI disk
- N2:** (1) Sun Fire 280R, dual UltraSPARC III Cu 900 MHz / 8 MB cache / 2 GB mem. / 72 GB FC-AL disk

Storage Subsystems

- DA1:** (2) Sun StorEdge T3 WG, FC-AL RAID array, 9 x 36.4 GB FC-SCA-2 disk, 327 GB raw capacity
- DA2:** (4) Sun StorEdge 3510, FC RAID array, 12 x 146 GB FC-AL disk, 1.7 TB raw capacity
- TR1:** (1) Sun StorEdge L9 tape library, LTO Ultra SCSI drive, 9 slots, 900 GB native capacity
- TR2:** (1) Sun StorEdge L100 tape library, 2 x LTO-2 Ultra3 SCSI drives, 100 slots, 20 TB native capacity

Network Systems Testbed (W&M Computer Science)

- LRC:** (1) Remote console controller for LRx nodes, x86 architecture
- LRx:** (6) Linux router node, x86 architecture, various configurations
- P2** (8) Atipa rackmount server, single hyper-threaded Pentium 4 2.8 Ghz / 512 KB cache / 1 GB mem. / 36 GB disk