1. InfiniBand Network

Efficient high-performance computing systems require high-bandwidth, low-latency connections between thousands of multi-processor nodes, as well as high-speed storage systems. InfiniBand has many characteristics that make it ideal for HPC including: Low latency and high throughput Remote Direct Memory Access(RDMA)

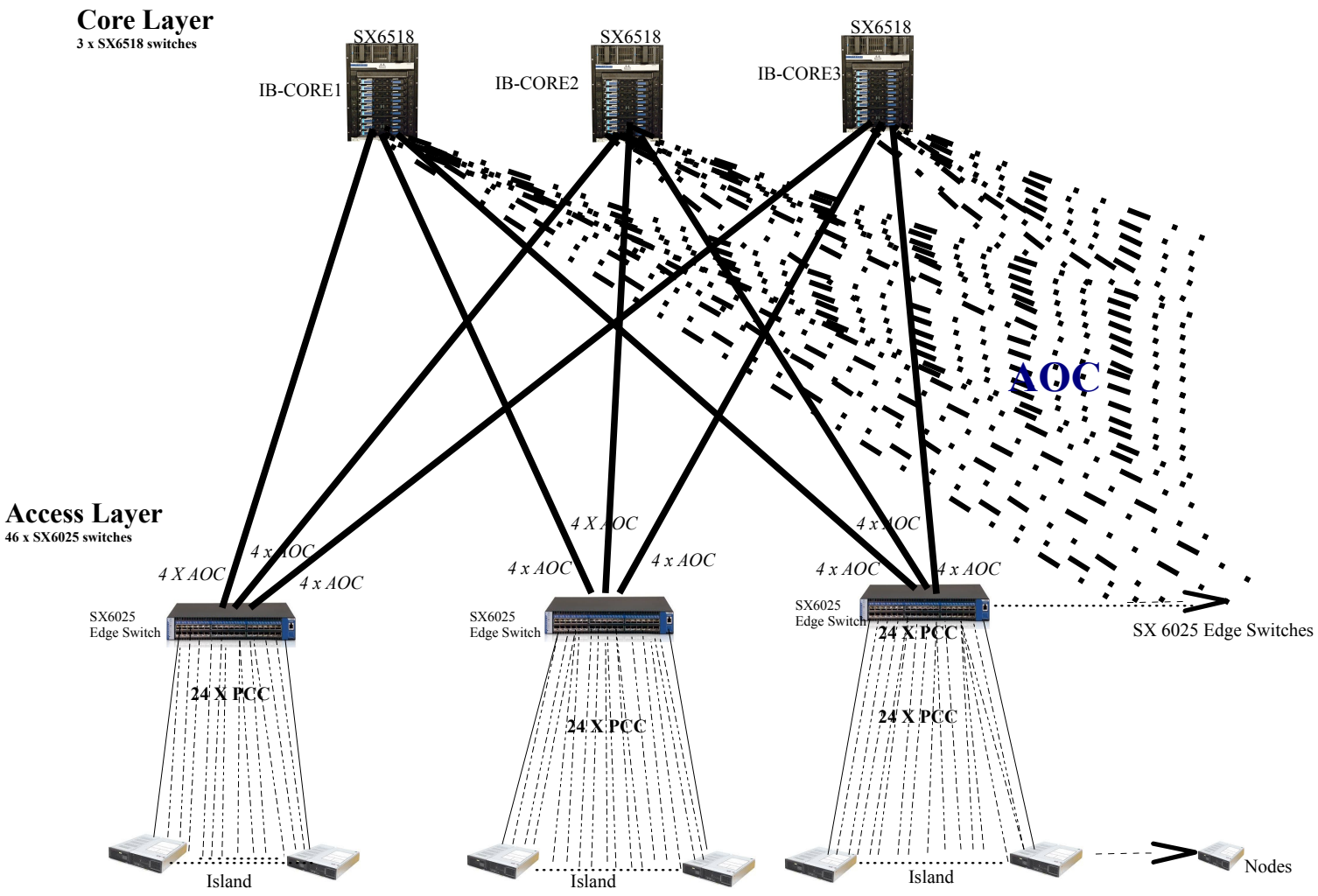
Lengau Infiniband Topology Deployment Design

The classic Ethernet architectures use hierarchical switched network, whereas InfiniBand uses a switched fabric topology. Lengau infiniband network topology is a Fat-Tree topology.

Deployment Model : Tripple Core Switch Deployment

The core layer comprises of 3 x Mellanox SX6518 324 Non Blocking port switches. The Infiniband network currently utilises 46 X 36 port Mellanox SX6025 switches at the access layer. Each Edge switch forms an island of 24 nodes directly attached to the switch and 12 uplinks equally distributed between the 3 core switches creating a blocking ratio of 1:2..The fabric comprises of 42 islands made up of 36 port Mellanox SX6025 Edge switches.

Deployment Model



Active Optical Cables (AOC) 56Gb/s

Mellanox Passive Copper Cable (PCC) 56Gb/s

SX 6025 Edge Switch

Compute Node Dell C6320

Island = 24 X Nodes Dell C6320