# Overview

RENCI Rack architecture is based around IBM x3650 M3 platform. Each rack consists of one master node, several worker nodes used for bare-metal and virtualized provisioning, an OpenFlow switch (either a 1G client/10G uplink or 10G client/40G uplink, depending on the capability of the site), a management switch, a NAS for OS image storage.

This generation is based on Intel Westmere and PCIe Gen II. We expect Gen2 racks to have Intel SandyBridge CPUs and PCIe Gen III that will support 100G NICs.

# Details 10G/40G rack

- Head node: x3650 M3, 2x146GB 10K SAS hard drives, 12G RAM, dual-socket 4-core Intel X5650 2.66Ghz CPU, Quad-port 1Gbps adapter (+4 on-board ports)
- Worker node: x3650 M3, 1x146GB 10K SAS hard drive +1x500+GB secondary drive, 48G RAM, dual-socket 6-core Intel X5650 2.66Ghz CPU, dual 1Gbps adapter, 10G dual-port Chelseo adapter
- IBM BNT G8264R OpenFlow switch, 10G client/40G uplink ports
- IBM BNT G8052R management switch 1G client/10G uplink ports
- DS3512 storage NAS 6x1TB 7200RPM drives
- Rack hardware/cabling
- IBM assembles and ships the racks with ORCA software suite pre-installed

# Details 1G/10G rack

- At present BNT/IBM does not offer an OpenFlow-enabled 1G/10G switch. Expected Q2 2012.

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