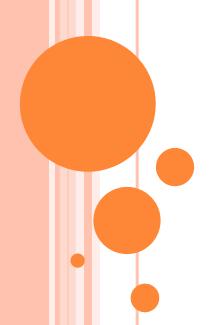
University of Colombo School of computing



Vishwajith Mapa Network Manager UCSC

History

- **OUOC** is the oldest university with a 93 years of service
- One of the first three institutions established network in 1991 with dialups
- •In year 1998 university was connected with 64Kbps leased circuit with LEARN
- The connection was jointly managed by ICT (Institute of Computer Technology) and Department of Computer Science (Science Faculty)

History

- •In 2003 server room was expanded and UCSC LAN was upgraded to 1G fiber core network infrastructure
 - There were 9 servers at that time with 5KVA UPS
 - The proposal was to have a room with 5 times larger capacity, 12 new racks 100,000 BTU cooling with failovers (total 200,000 BTU), two 10 KVA UPS with 9 hour battery backup in clustered mode and upgraded network to two 1G links to each cabinet

By 2008

- •We had 50+ servers and desktops in the main server room
- OUCSC LAN connected with IBMBB via 1Gbps and all other faculties via 100Mbps fibers
- We had expanded some services like DNS, mail, web, and e-learnning systems

In 2010

- ODecision was made to have a 10G ring network and a separated network room for UOC and separated from UCSC
- •Separate IP blocks were requested from LEARN
- Some services were transferred to UOC NOC from UCSC except UOC backup website

2010

- OUCSC server room had been hosted 65+ physical servers and majority of them were rack mounted servers and few desktops
- Capacity of UPS increased from two 10KVA to two 30KVA UPS on Cluster mode with 200min backup time
- Cooling capacity was increased from 100,000BTU to 150,000BTU
- •3 Core switches were deployed to manage connectivity

Today UCSC

- The LAN is being upgraded to duel redundant core with HP7503
- Have been moved from individual physical servers to virtual server hosting via VMware
- •An agreement has been signed with VMware for Cloud solutions as a first government institute in the country to have virtual data center solutions
- Two VC units are being in operation
- HP IMC, Cati and several other tools are being used for monitoring and configuring

Today UCSC

- OVMware vCenter Server provides a centralized platform for managing our VMware vSphere environments.
- Hosting 3 number of high performance clusters
 & Providing services to other departments
- Has a fortinet Firewall with IDP, Virus and content filtering facility
- •PfSense is deployed for students for web filtering
- Each lab contains a separate Vlan for not more than 50 computers

Today UCSC

- Students are centrally authenticated using AD
- Two separate WiFi systems
- •MIS segment is separated and have a separate additional layer of defense
- •Deploys a network based CCTV system

Future plan

- OC will move away from basic services like mail and web
- •Will continue providing more technical and specialized services to university community
- •Implementing to shift from 1Gbps to 10Gbps for end switches and 40Gbps for inside the server room

Future plan

- ONetwork will be expanded its' services to CCTV, access controlling, building management, power, AC and other infrastructure monitoring and management for Green IT related tasks
- Virtualization will be extended to facilitate BYOD (Bring Your Own Device) for students
- Each student will be provided separate work space and sufficient storage

Thank You!!!