NOC Updates
University of Kelaniya

Thilina Pathirana
Assistant Network Manager
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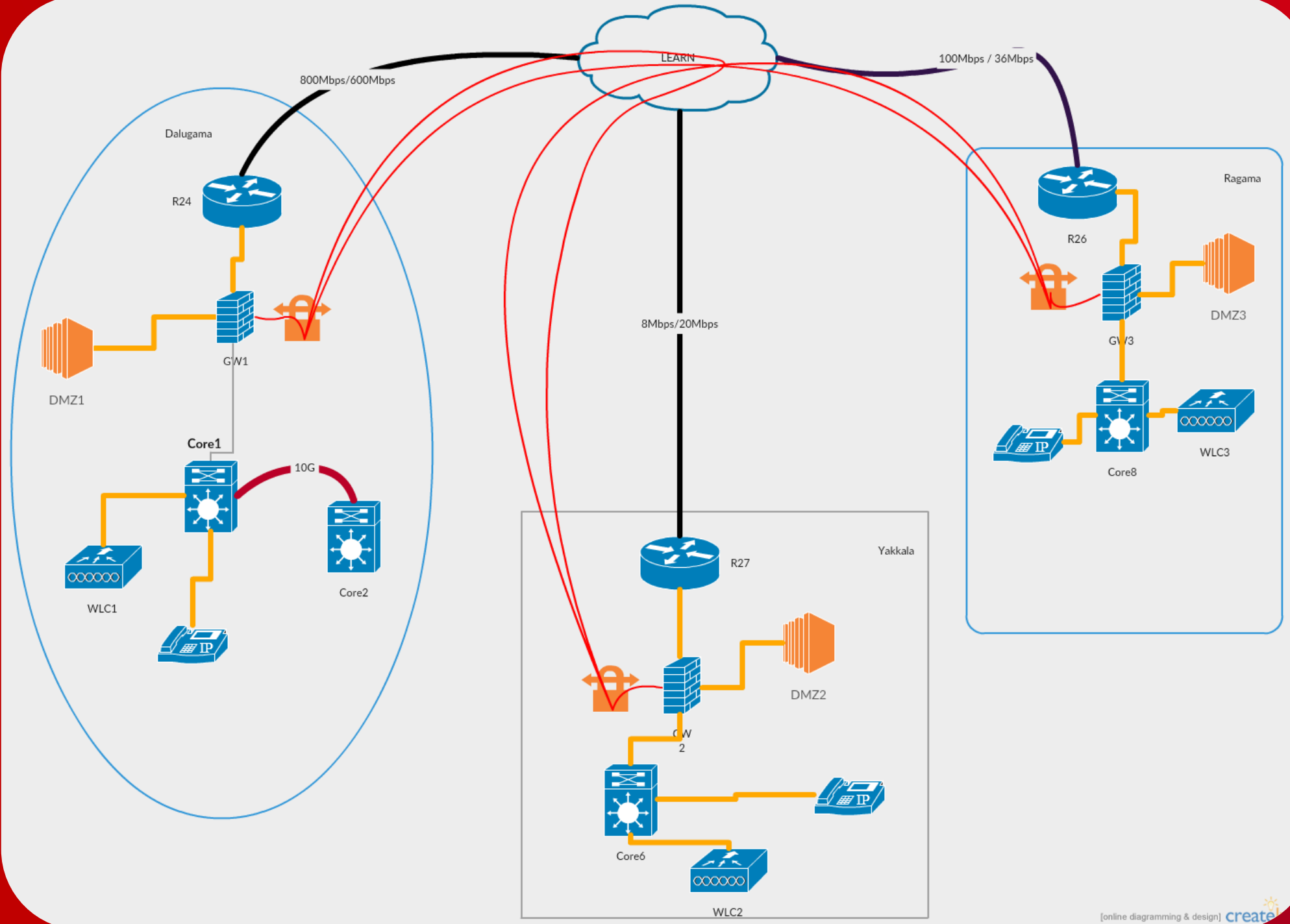
Where are we Today

- Network up-time 99.9% (monthly)
- Users Base : + 12000
- Daily Consumption: ~3.5TB downloads / ~50GB uploads
- Wireless AP's : + 130
- Active Concurrent Wireless Users: +3500
- Public Servers : +50
- Desktops : ~3000
- Top sites visited : Youtube , Facebook, Google



Updates

- Internet Bandwidth upgraded to 600/800 Mbps connectivity
- All premises are covered with wireless network – Kelani-Wifi
- IPv6 connectivity for all users
- Public DNS with failovers hosted within University
- Staff mail migrated to Gmail to reduce spam activity.
- Main servers are virtualized and replicated
- LMS systems to be accessed by high number of users concurrently.
- All external hostels are connected with 10M Fiber(SLT) or 60M Microwave(LankaCOM) links (3000 Users / Concurrent 1000 in night)
- Maintains RIPE Atlas monitoring and measuring probe
- Establishment of Eduroam

Updates (cont…)

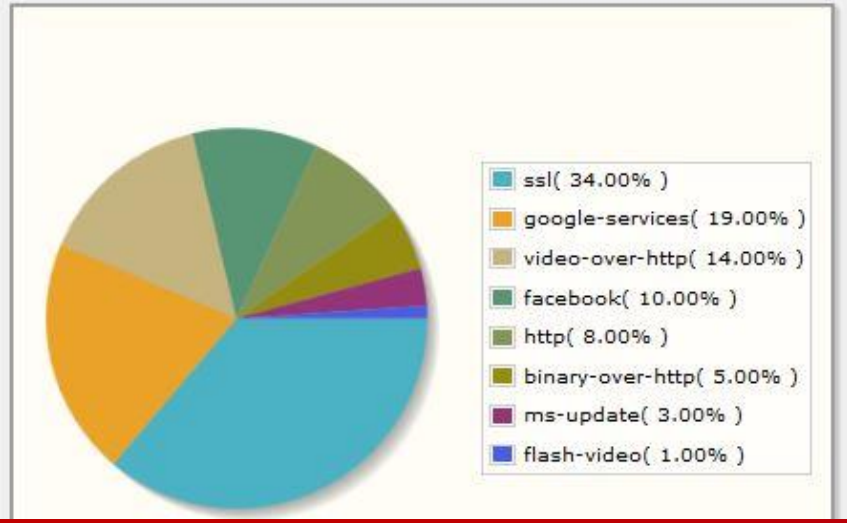
- Convert Faculty of Medicine flat NW (adhoc) into structured and hierarchical NW
- Introduction of controller based wlan system to Faculty of Medicine
- Replaced proxy with Next Gen Firewall at Faculty of Medicine
- Replaced Faculty of Medicine backbone with 10G new fiber backbone
- Users have given VPN access to work wherever they are in
- Implemented Next Gen Firewall, public DNS server, LMS and separate mail server for Ayurwedic institute and network facility to Laboratories
- Implimented Site to Site VPN between Dalugama, Yakkala and Ragama premises so that users can experience all internal services hosted separately in three locations.

Some Wireless Stats

Application Cumulative Stats

App Name	Packet Count	Byte Count	Usage(%)
ssl	3543390943	29621.42 GB	34.00
google-services	1247397020	16220.37 GB	19.00
video-over-http	729390264	12574.22 GB	14.00
facebook	4220719304	9290.74 GB	10.00
http	254332612	7127.41 GB	8.00
binary-over-http	554179110	4528.81 GB	5.00
ms-update	3099944624	2993.23 GB	3.00
flash-video	1197813273	1056.85 GB	1.00
itunes	802310303	727.32 GB	0.00
audio-over-http	738358492	675.28 GB	0.00

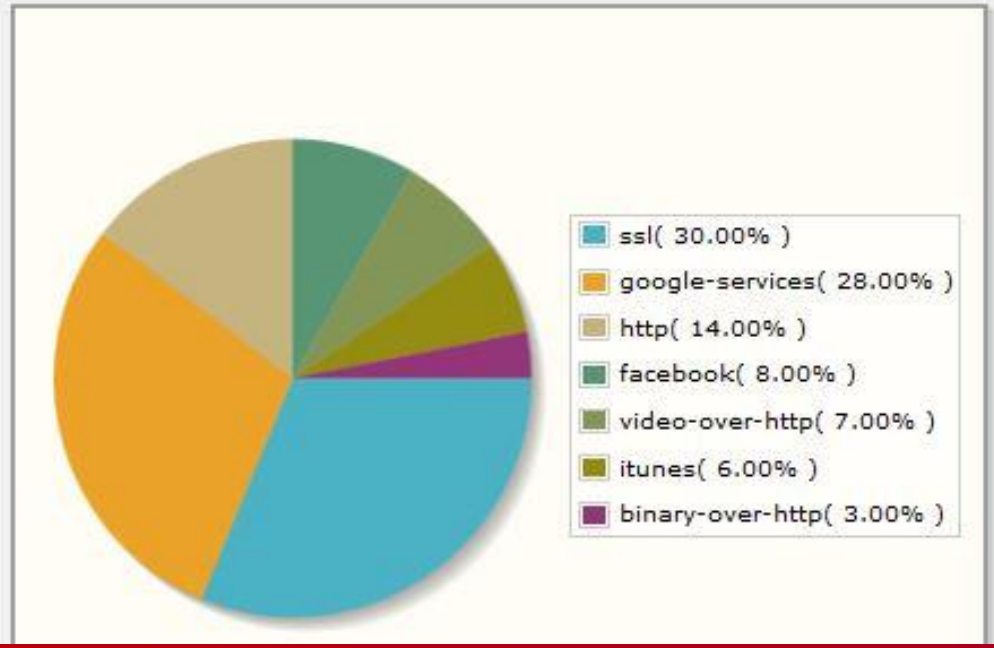
Application Cumulative Usage(%)



Application Cumulative Stats

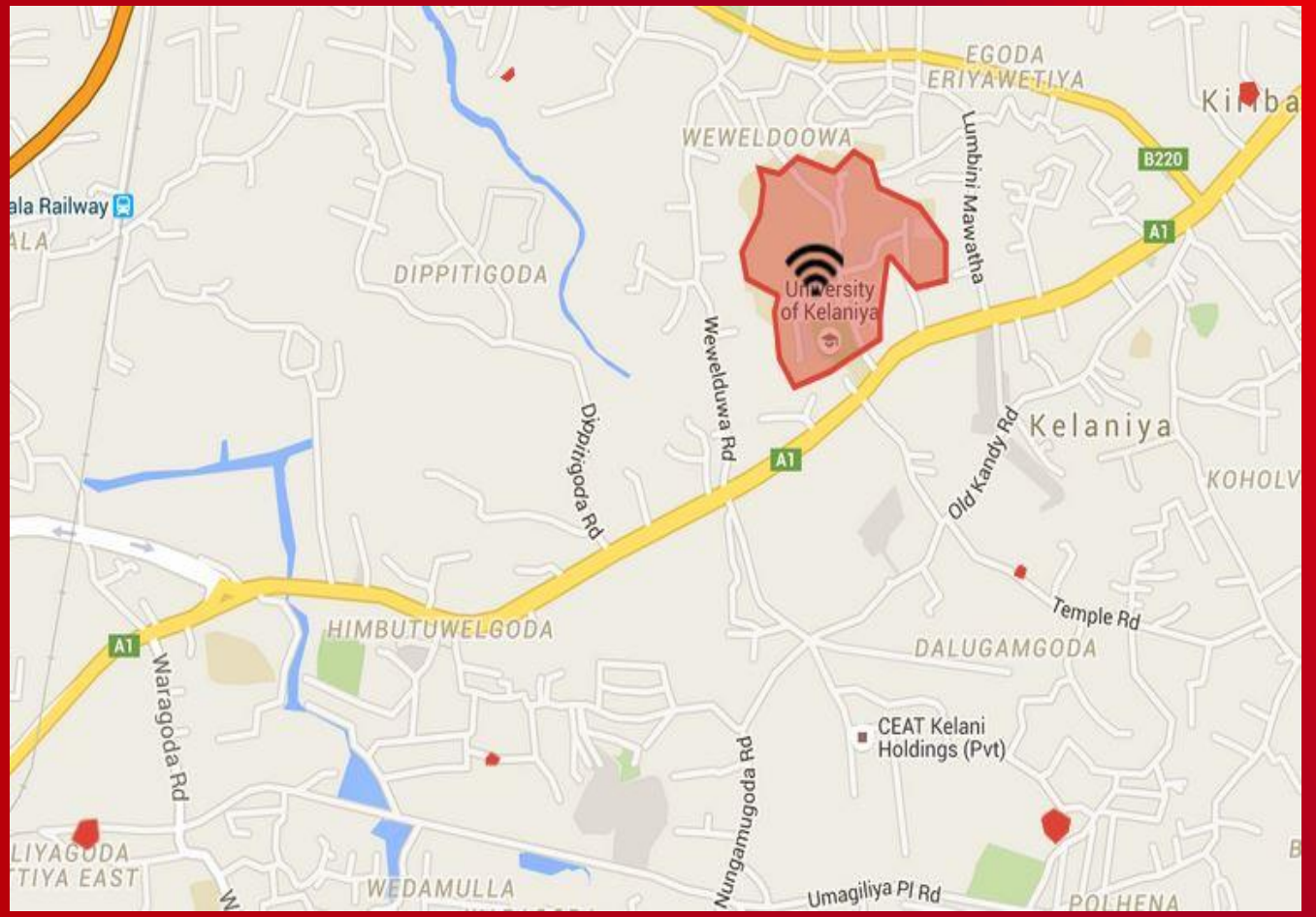
App Name	Packet Count	Byte Count	Usage(%)
ssl	49786470	43.97 GB	30.00
google-services	42473324	40.10 GB	28.00
http	23164665	20.65 GB	14.00
facebook	17094009	11.58 GB	8.00
video-over-http	10702600	10.17 GB	7.00
itunes	9450028	8.57 GB	6.00
binary-over-http	5765594	5.18 GB	3.00
youtube	858594	808.66 MB	0.00
ms-update	717774	722.61 MB	0.00
audio-over-http	370845	347.97 MB	0.00

Application Cumulative Usage(%)



Eduroam @ UoK

- Became first institute to connect with Sri Lankan Identity Federation and Eduroam.
- Uses WPA2/AES with PEAP for extended security in eduroam
- Tested connectivity from US, EU, AU, NZ and China.
- Visit eduroam.kln.ac.lk

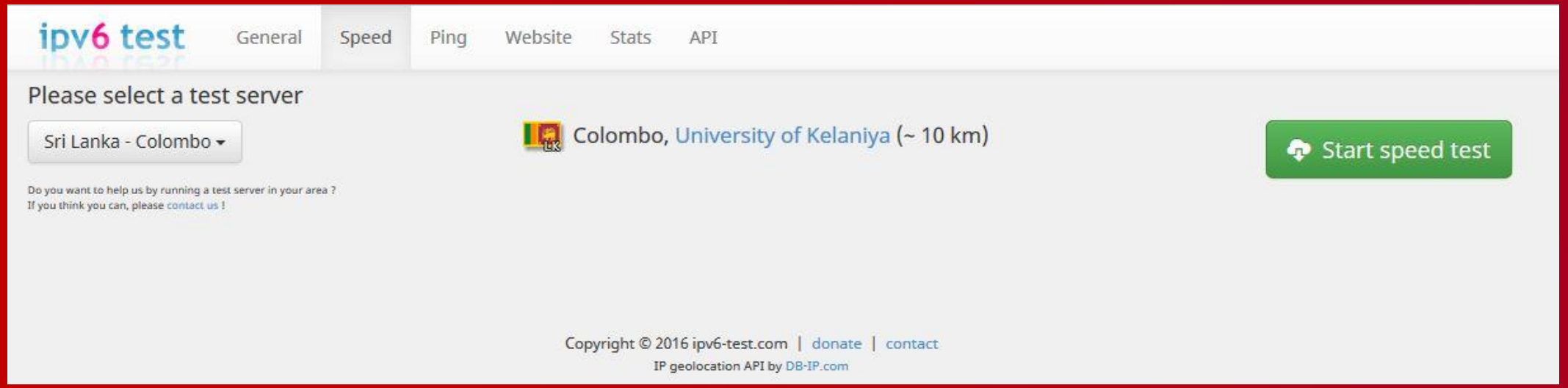


IPv6 Connectivity and Tests

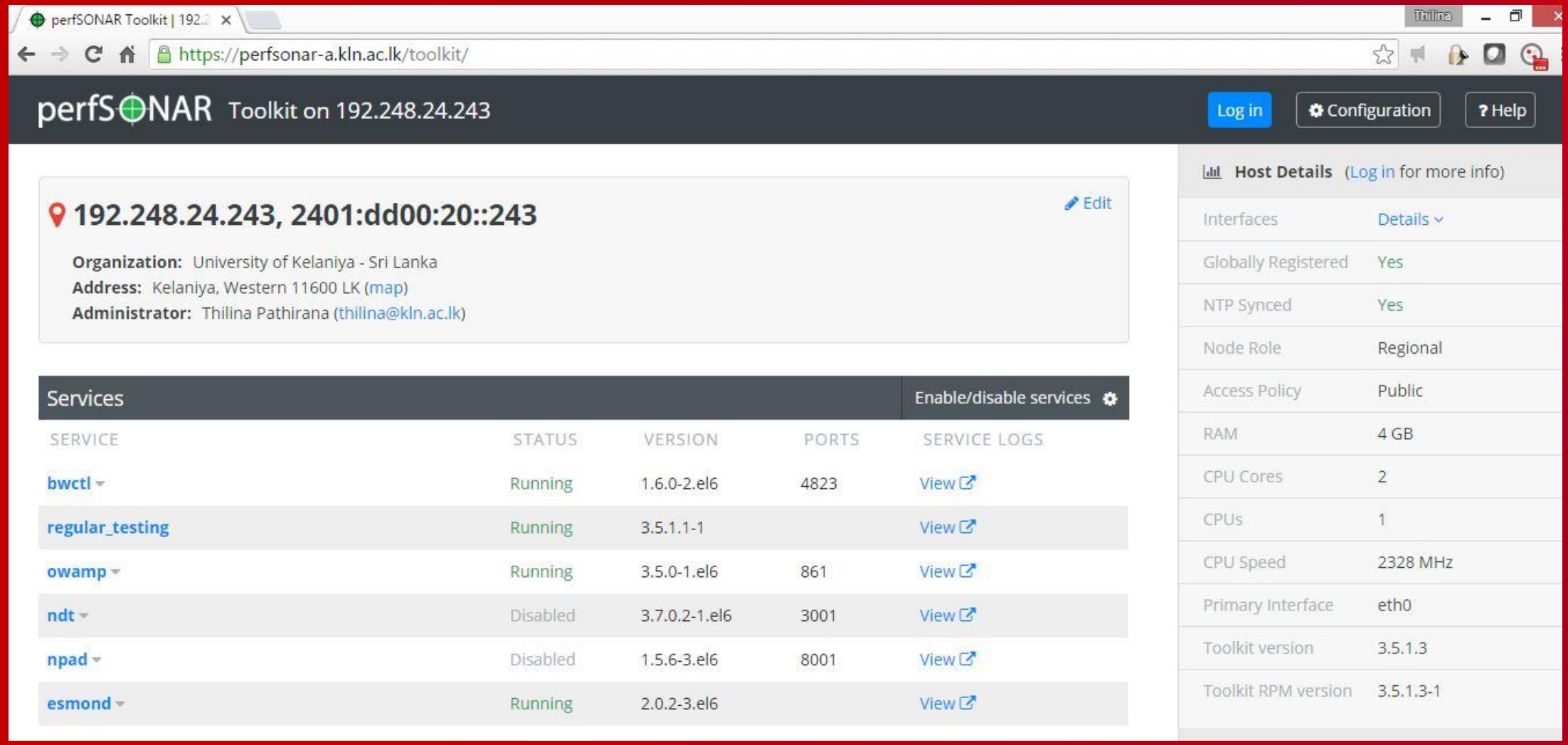
All LAN and WLAN users are given IPv6 connectivity using /64 vlans and routed through /54 subnets.

Provide IPv6 testing capability by hosting a node of

www.ipv6-test.com

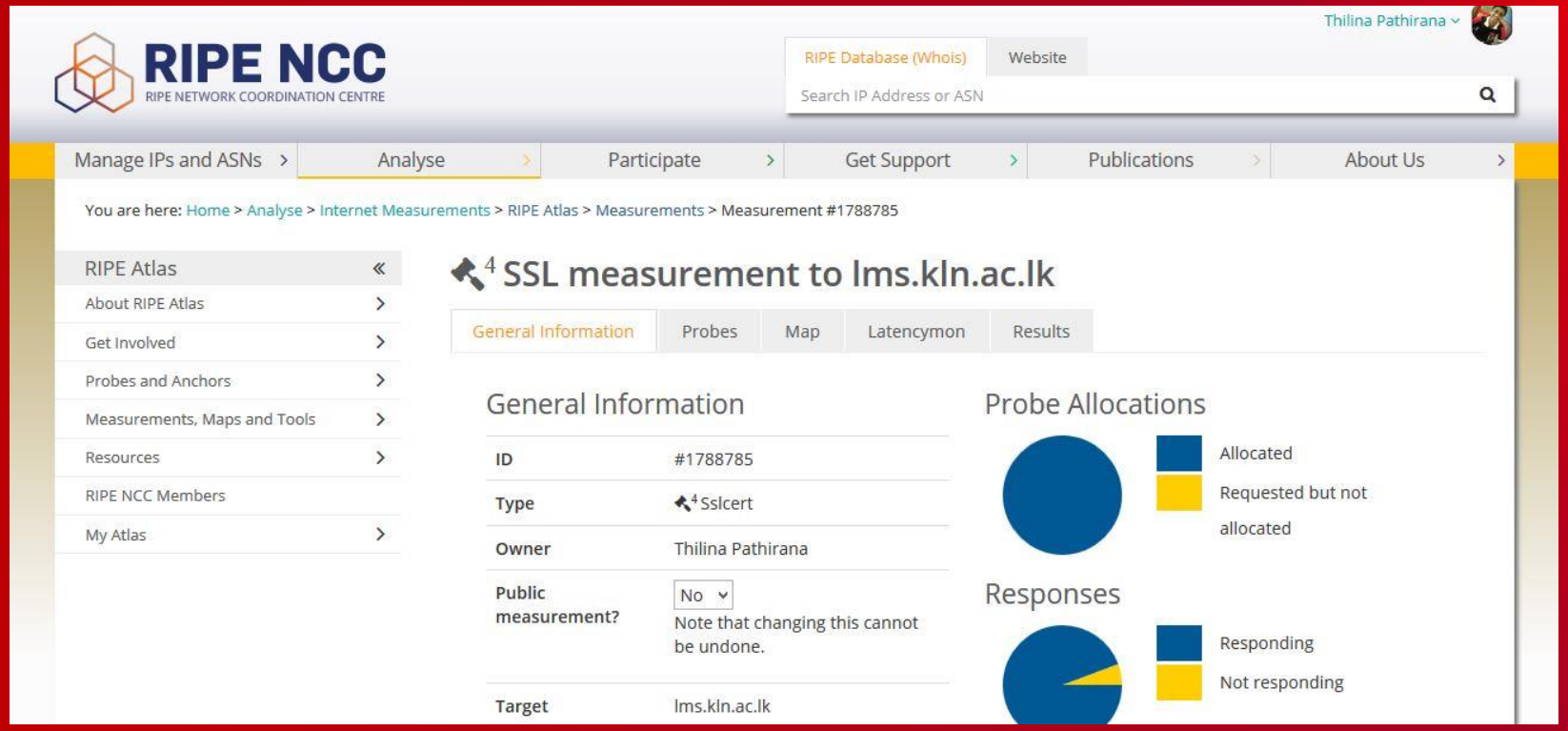


Bandwidth Testing - perfSONAR



https://perfsonar-a.kln.ac.lk/toolkit/

Network Tests – RIPE Atlas Probe



https://atlas.ripe.net/measurements/

Future …

- Will be implementing a 40G backbone for Dalugama Premises.
- State-of-Art Modern Data Center with redundancy
- Implementation of private/public cloud with multiple nodes.
- Upgrade UTM devices to match increased bandwidth
- Modern Labs with VDI solutions.
- VoIP connectivity (asterisk based) for all newly build infrastructure
- Network Redundancy for LEARN connectivity
- Connect Ragama Teaching Hospital through fiber and provide wifi from training Medical students.
- Expand Fiber Network to remote Hostals including Ragama and Kelaniya
- Commissioning of IP Cameras for outdoors (Wired/Wireless)
- LEARN bandwidth upgrade for Ragama and Yakkala

Thank You

For more details:
thilina@kln.ac.lk
+94716246331