



NOC Updates

University of Kelaniya

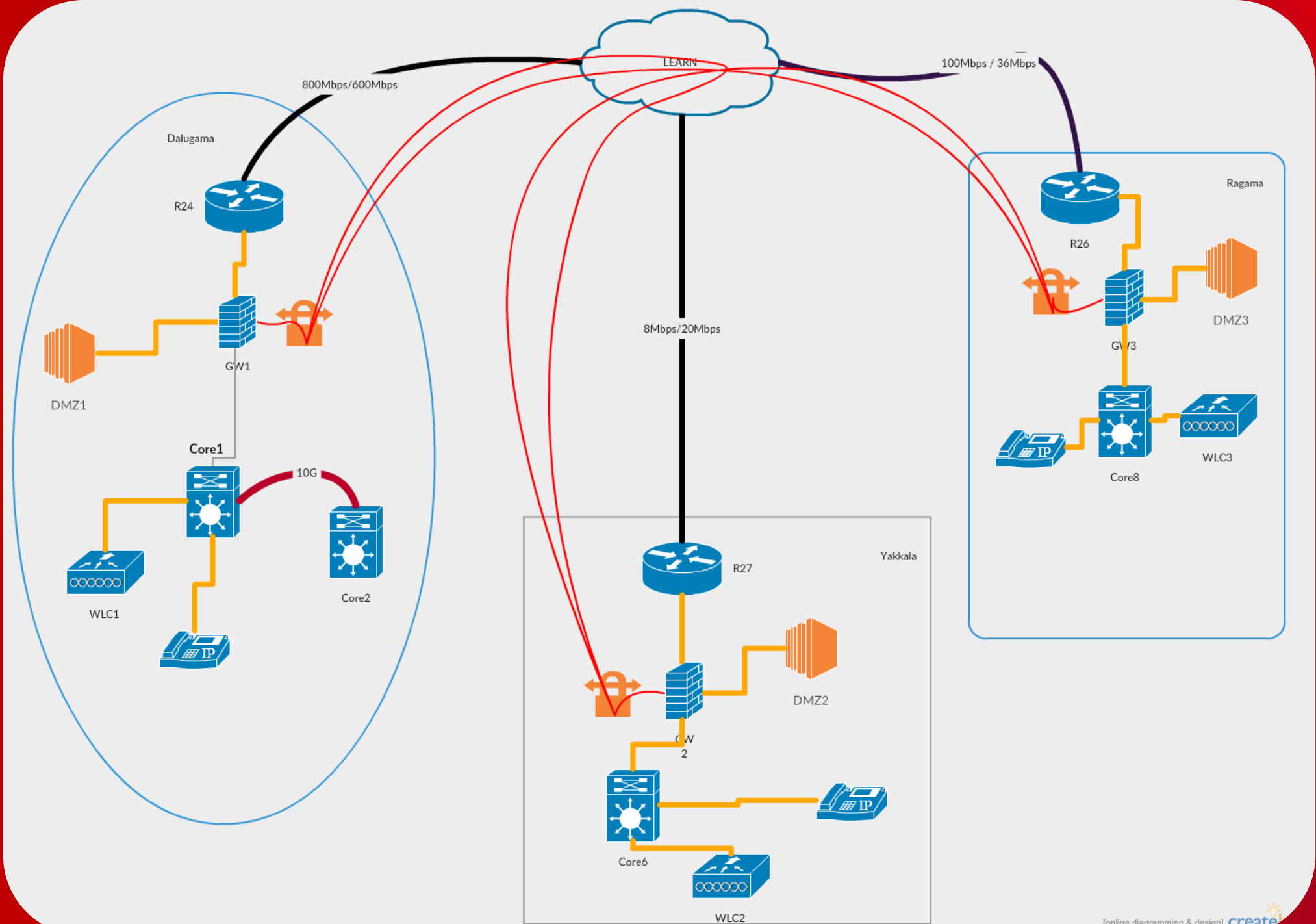
Thilina Pathirana

Assistant Network Manager

04th May 2016

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...)

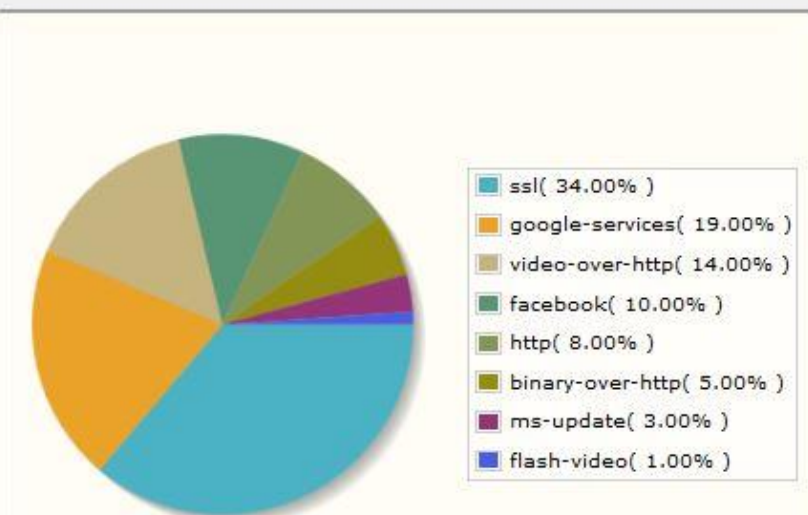
- Convert Faculty of Medicine flat NW (adhoc) into structured and hierarchical NW
- Introduction of controller based wlan system to Faculty of Medicine
- Replaced proxy with Next Gen Firewall at Faculty of Medicine
- Replaced Faculty of Medicine backbone with 10G new fiber backbone
- Users have given VPN access to work wherever they are in
- Implemented Next Gen Firewall, public DNS server, LMS and separate mail server for Ayurvedic 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

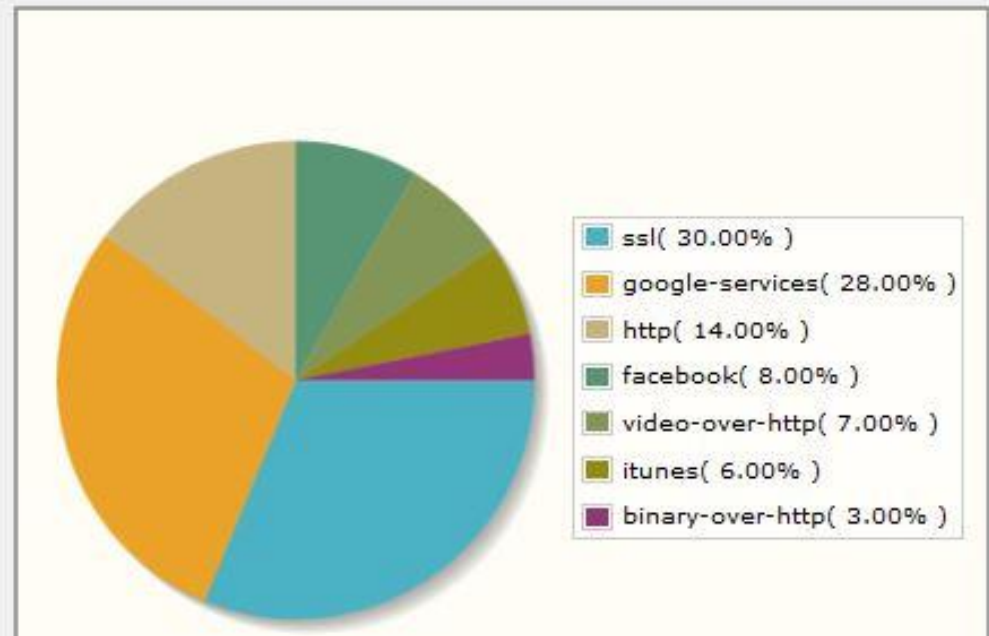
Application Cumulative Usage(%)



Application Cumulative Stats

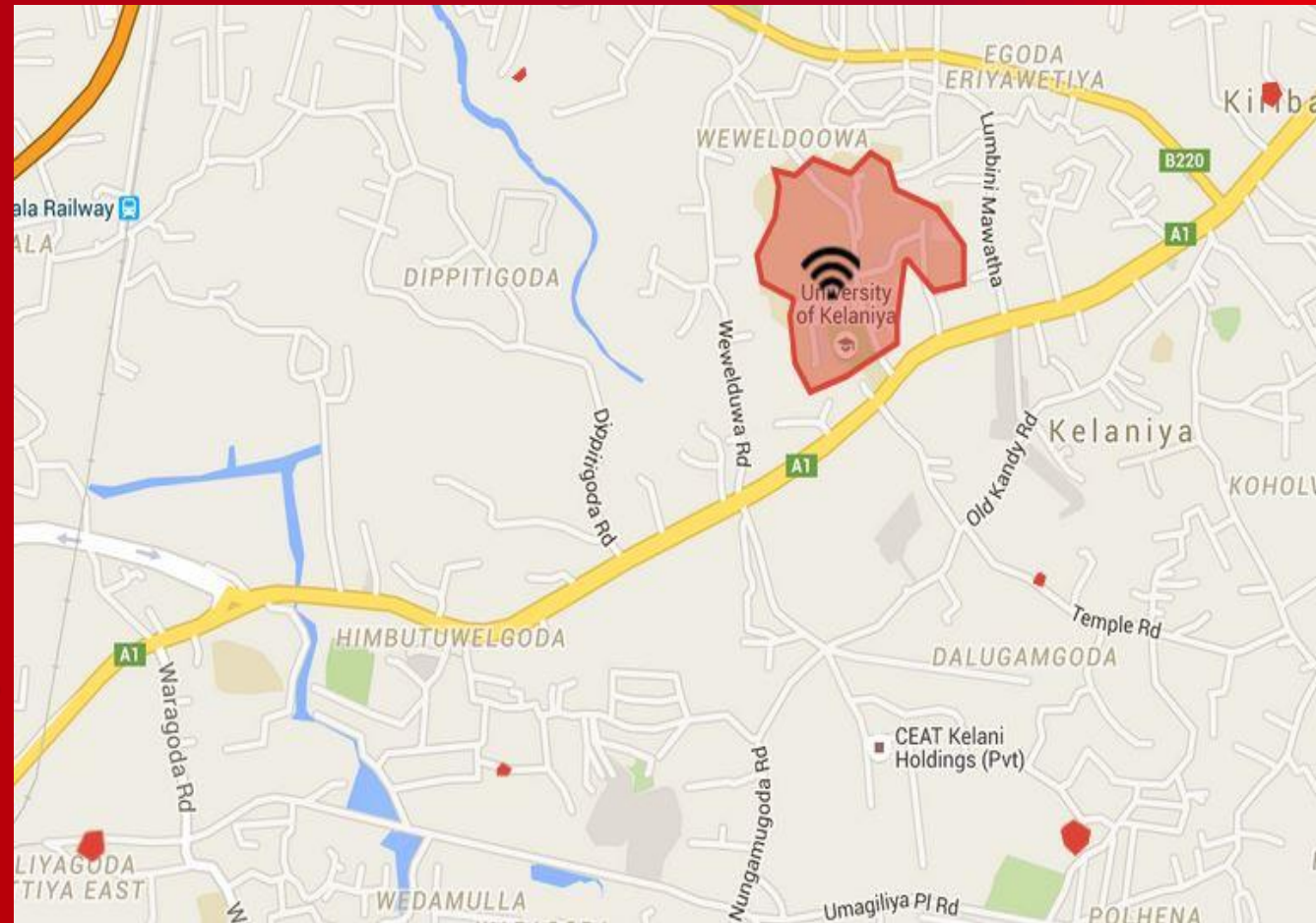
App Name	Packet Count	Byte Count	Usage(%)
ssl	49786470	43.97 GB	30.00
google-services	42473324	40.10 GB	28.00
http	23164665	20.65 GB	14.00
facebook	17094009	11.58 GB	8.00
video-over-http	10702600	10.17 GB	7.00
itunes	9450028	8.57 GB	6.00
binary-over-http	5765594	5.18 GB	3.00
youtube	858594	808.66 MB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

Application Cumulative Usage(%)



Eduroam @ UoK

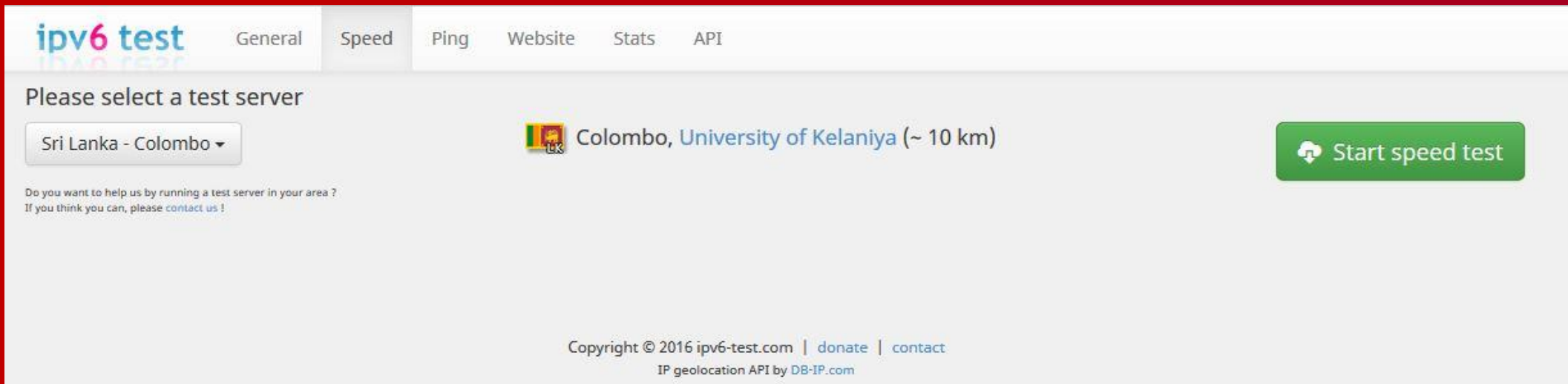
- Became first institute to connect with Sri Lankan Identity Federation and Eduroam.
- Uses WPA2/AES with PEAP for extended security in eduroam
- Tested connectivity from US, EU, AU, NZ and China.
- Visit eduroam.kln.ac.lk



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



The screenshot shows the IPv6 test website interface. At the top left is the logo "ipv6 test" with "IPv6 test" written below it. To the right of the logo are navigation tabs: "General", "Speed", "Ping", "Website", "Stats", and "API". The "Speed" tab is currently selected. Below the navigation is a section titled "Please select a test server". On the left, there is a dropdown menu showing "Sri Lanka - Colombo". To the right of the dropdown, there is a server selection card for "Colombo, University of Kelaniya (~ 10 km)" with a small flag icon. On the far right of this section is a green button with a play icon and the text "Start speed test". Below the server selection area, there is a small text prompt: "Do you want to help us by running a test server in your area? If you think you can, please [contact us](#)!". At the bottom of the page, there is a footer with the text: "Copyright © 2016 ipv6-test.com | [donate](#) | [contact](#)" and "IP geolocation API by [DB-IP.com](#)".

Bandwidth Testing - perfSONAR

The screenshot displays the perfSONAR Toolkit interface for a host at IP 192.248.24.243. The interface includes a navigation bar with 'Log in', 'Configuration', and 'Help' buttons. The main content area is divided into two sections: 'Host Details' and 'Services'.

Host Details: This section provides information about the host, including its IP address (192.248.24.243, 2401:dd00:20::243), organization (University of Kelaniya - Sri Lanka), address (Kelaniya, Western 11600 LK), and administrator (Thilina Pathirana). It also lists various system metrics such as RAM (4 GB), CPU Cores (2), CPU Speed (2328 MHz), and the Toolkit version (3.5.1.3).

Services: This section displays a table of running and disabled services, including their status, version, ports, and service logs.

SERVICE	STATUS	VERSION	PORTS	SERVICE LOGS
bwctl	Running	1.6.0-2.el6	4823	View
regular_testing	Running	3.5.1.1-1		View
owamp	Running	3.5.0-1.el6	861	View
ndt	Disabled	3.7.0.2-1.el6	3001	View
npad	Disabled	1.5.6-3.el6	8001	View
esmond	Running	2.0.2-3.el6		View

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

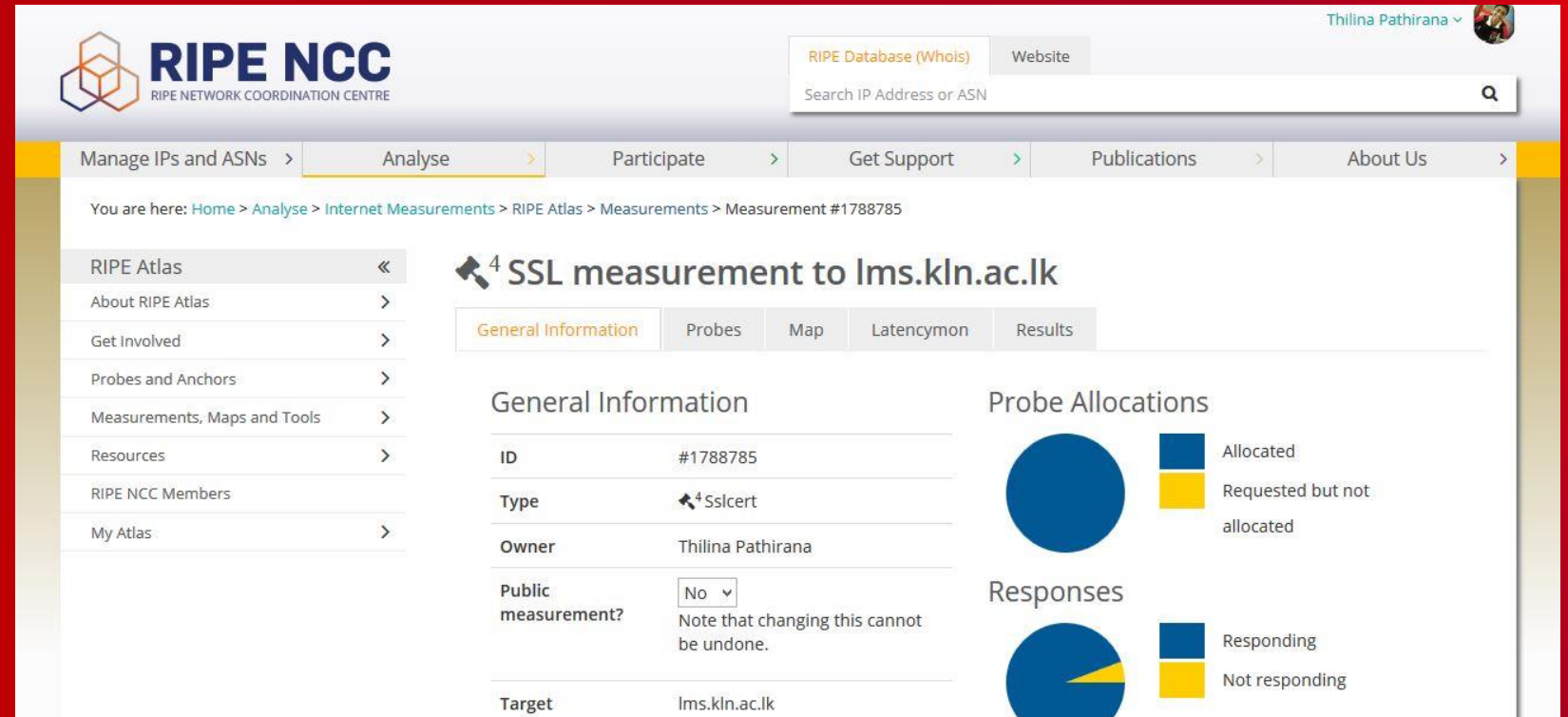
Network Tests – RIPE Atlas Probe



IPv4
IPv6

Probe #18643: ICT Centre,
University of Kelaniya, Sri
Lanka

IPv4 ASN: 38229
IPv6 ASN: 38229



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE Database (Whois) Website

Search IP Address or ASN

Manage IPs and ASNs > Analyse > Participate > Get Support > Publications > About Us >

You are here: Home > Analyse > Internet Measurements > RIPE Atlas > Measurements > Measurement #1788785

4 SSL measurement to lms.kln.ac.lk

General Information Probes Map Latencymon Results

General Information	
ID	#1788785
Type	4 Sslcert
Owner	Thilina Pathirana
Public measurement?	<input type="checkbox"/> No <input type="checkbox"/> Yes Note that changing this cannot be undone.
Target	lms.kln.ac.lk

Probe Allocations

- Allocated
- Requested but not allocated

Responses

- Responding
- Not responding

<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:

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