

eduroam: a South African perspective

African eduroam Roadshow, Feb 2021



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South African eduroam overview

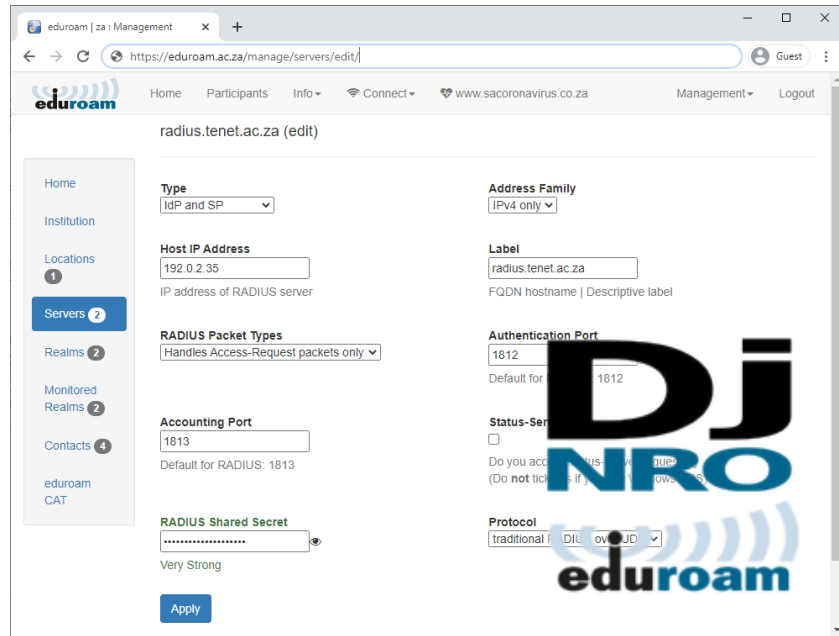


- First deployed in 2012
- 25 / 26 public universities + 12 ancillary organisations
- ~ 1 million end users – set to double in 2021/2022
- 120k AuthN per day (~ 2.5 / second)
- 132k unique MAC addresses
- realms from

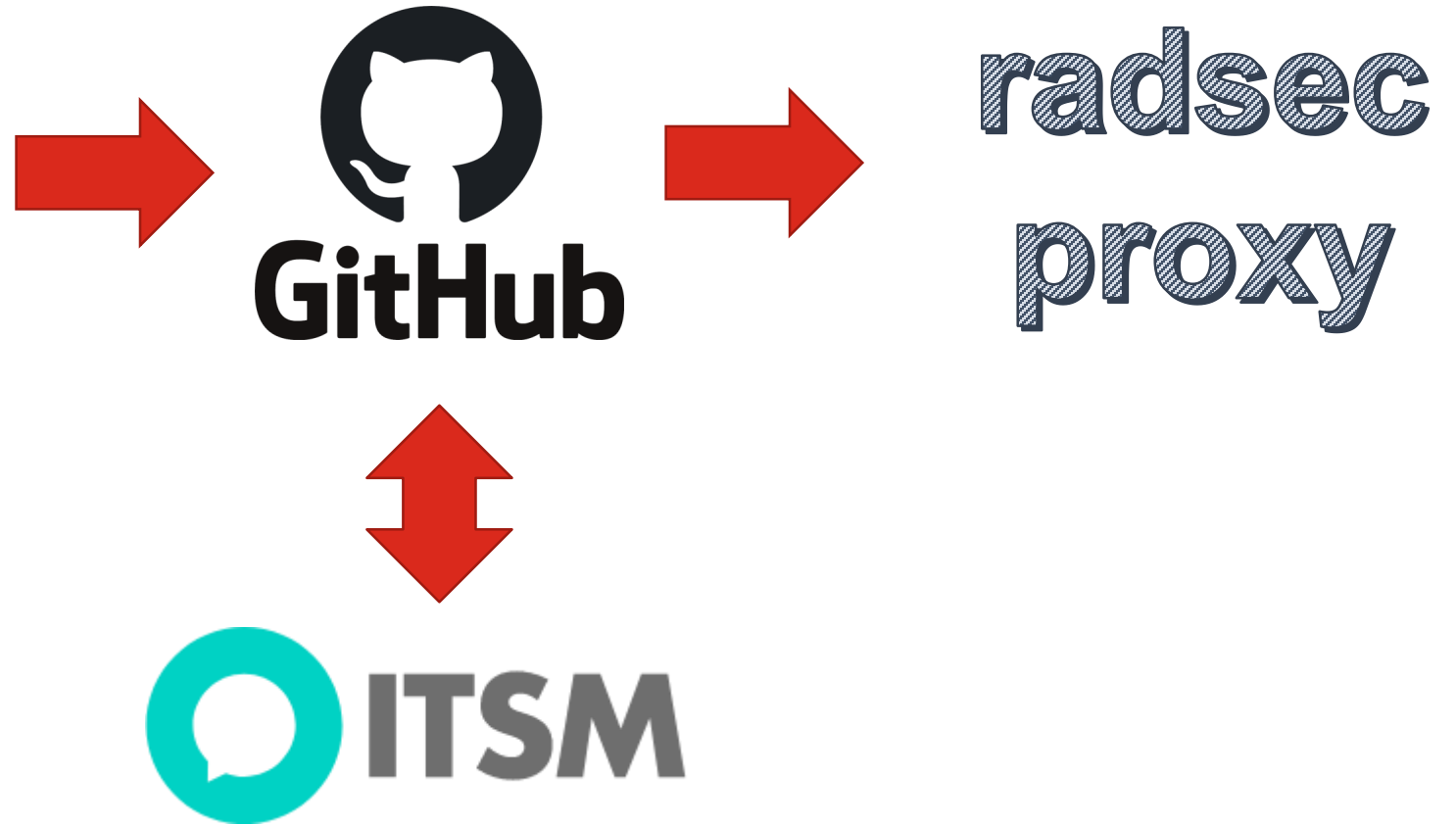


NRO operations in 2021

Configuration management



The screenshot shows the 'radius.tenet.ac.za (edit)' page in the eduroam management system. The interface includes a sidebar with navigation links: Home, Institution, Locations, Servers (selected), Realms, Monitored Realms, and Contacts. The main content area contains several configuration fields: 'Type' (IdP and SP), 'Address Family' (IPv4 only), 'Host IP Address' (192.0.2.35), 'Label' (radius.tenet.ac.za), 'RADIUS Packet Types' (Handles Access-Request packets only), 'Authentication Port' (1812), 'Accounting Port' (1813), 'RADIUS Shared Secret' (masked), and 'Protocol' (traditional). A large 'Dj NRO eduroam' watermark is overlaid on the right side of the form. An 'Apply' button is at the bottom left.



DevOps(-ish) automation



ANSIBLE

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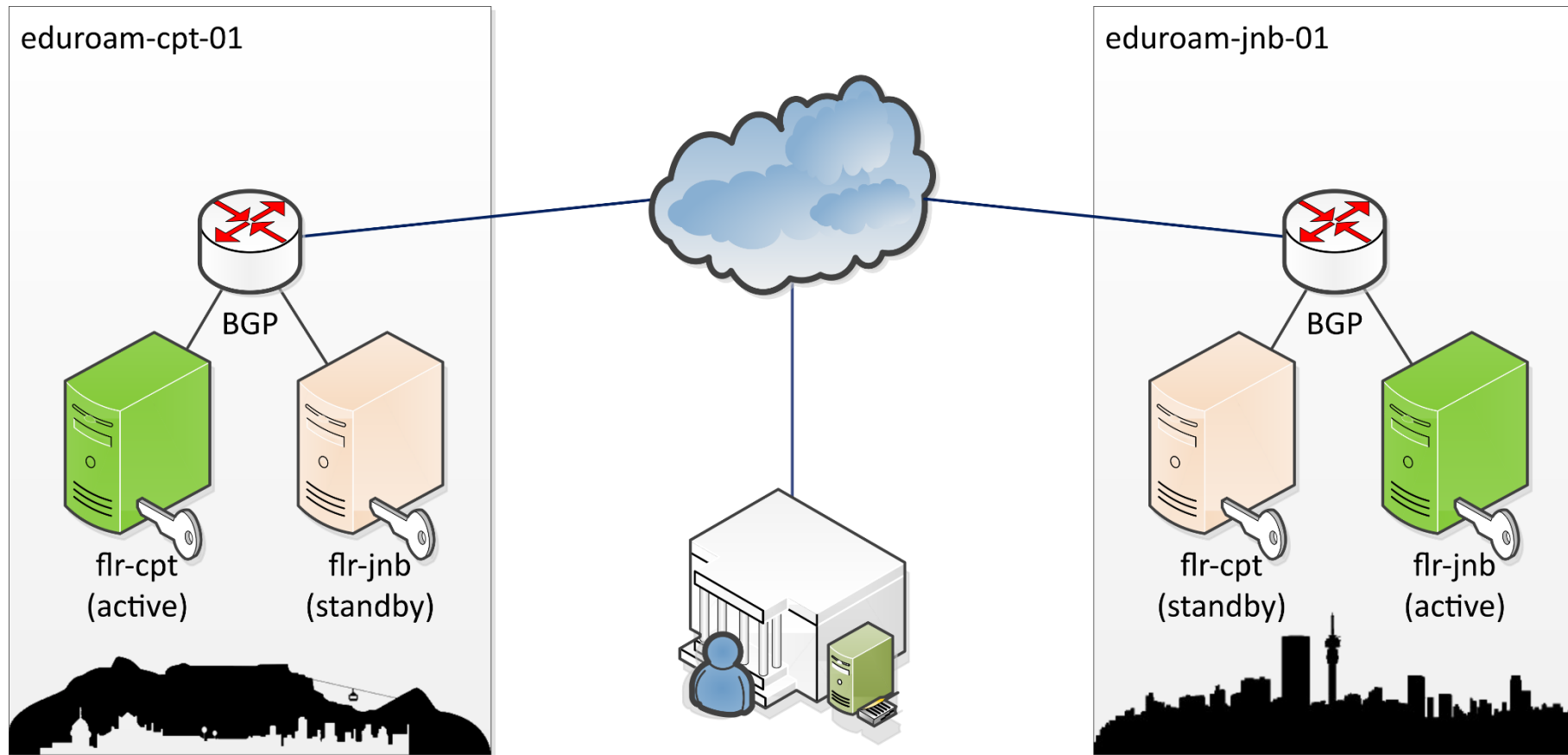


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GitHub

High availability architecture

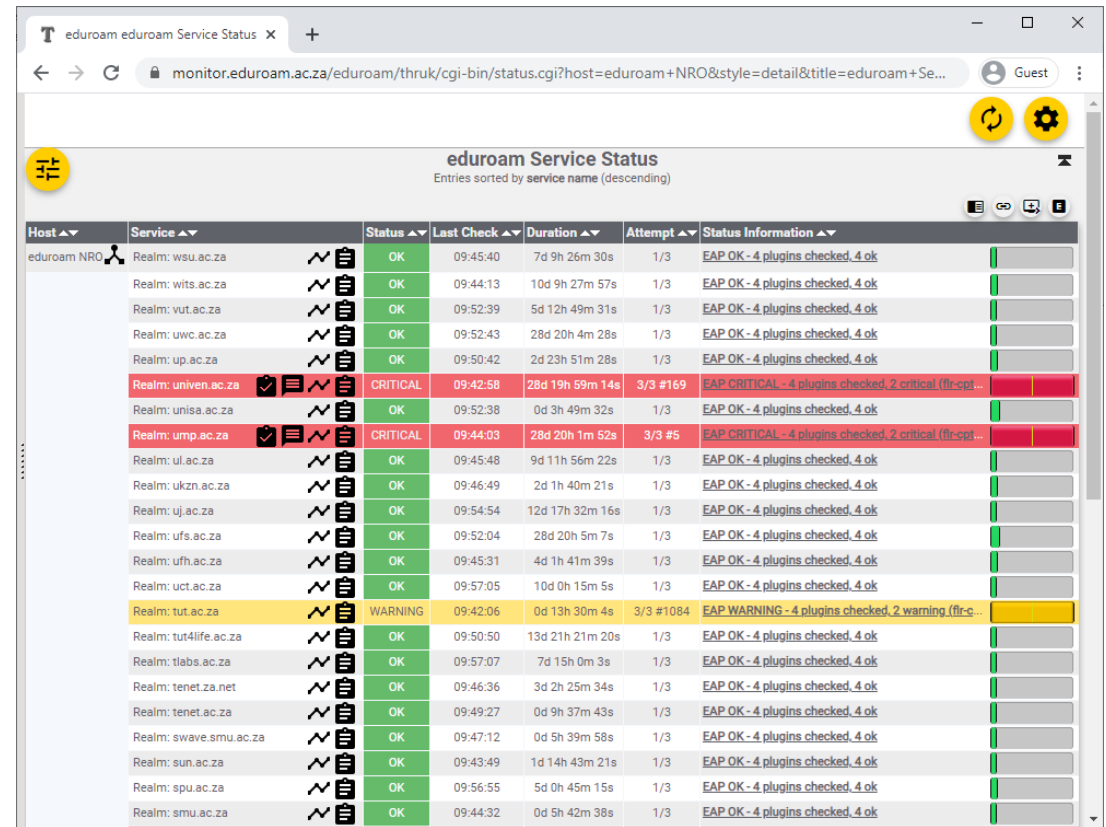


IdP Monitoring

OMD (Nagios)
rad_eap_test
+ DjNRO integration

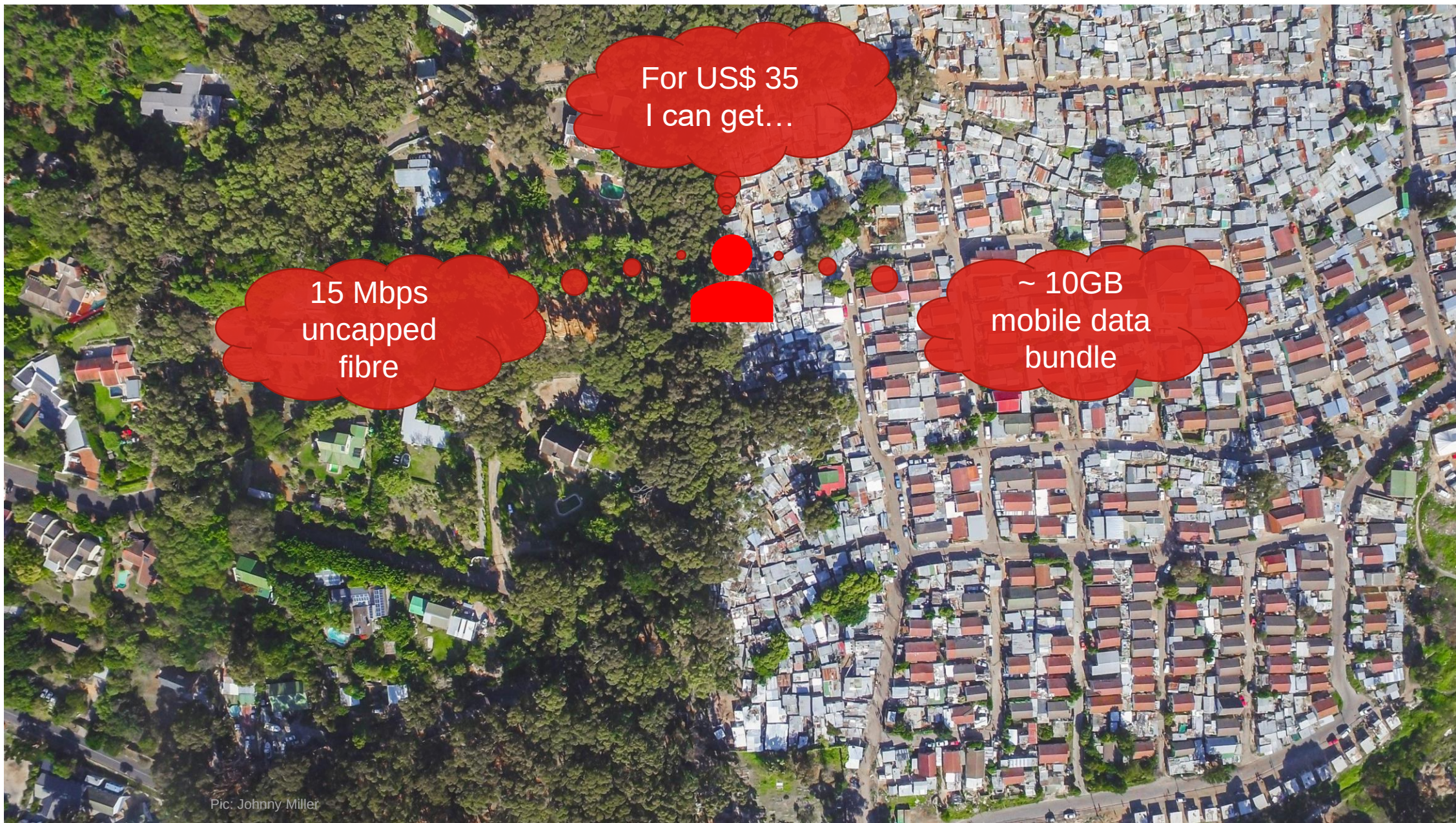
automated monitoring
& notifications

- <https://labs.consol.de/omd/>
- https://github.com/CESNET/rad_eap_test
- <https://github.com/safire-ac-za/monitoring-plugins>



Host	Service	Status	Last Check	Duration	Attempt	Status Information
eduroam NRO	Realm: wsu.ac.za	OK	09:45:40	7d 9h 26m 30s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: wits.ac.za	OK	09:44:13	10d 9h 27m 57s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: vut.ac.za	OK	09:52:39	5d 12h 49m 31s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: uwc.ac.za	OK	09:52:43	28d 20h 4m 28s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: up.ac.za	OK	09:50:42	2d 23h 51m 28s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: univen.ac.za	CRITICAL	09:42:58	28d 19h 59m 14s	3/3 #169	EAP CRITICAL - 4 plugins checked, 2 critical (fir-cpt...
	Realm: unisa.ac.za	OK	09:52:38	0d 3h 49m 32s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: ump.ac.za	CRITICAL	09:44:03	28d 20h 1m 52s	3/3 #5	EAP CRITICAL - 4 plugins checked, 2 critical (fir-cpt...
	Realm: ul.ac.za	OK	09:45:48	9d 11h 56m 22s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: ukzn.ac.za	OK	09:46:49	2d 1h 40m 21s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: uj.ac.za	OK	09:54:54	12d 17h 32m 16s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: ufs.ac.za	OK	09:52:04	28d 20h 5m 7s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: ufth.ac.za	OK	09:45:31	4d 1h 41m 39s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: uct.ac.za	OK	09:57:05	10d 0h 15m 5s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: tut.ac.za	WARNING	09:42:06	0d 13h 30m 4s	3/3 #1084	EAP WARNING - 4 plugins checked, 2 warning (fir-c...
	Realm: tut4life.ac.za	OK	09:50:50	13d 21h 21m 20s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: tlab.ac.za	OK	09:57:07	7d 15h 0m 3s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: tenet.za.net	OK	09:46:36	3d 2h 25m 34s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: tenet.ac.za	OK	09:49:27	0d 9h 37m 43s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: swave.smu.ac.za	OK	09:47:12	0d 5h 39m 58s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: sun.ac.za	OK	09:43:49	1d 14h 43m 21s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: spu.ac.za	OK	09:56:55	5d 0h 45m 15s	1/3	EAP OK - 4 plugins checked, 4 ok
	Realm: smu.ac.za	OK	09:44:32	0d 5h 42m 38s	1/3	EAP OK - 4 plugins checked, 4 ok

*Beyond today - eduroam as
an enabler*



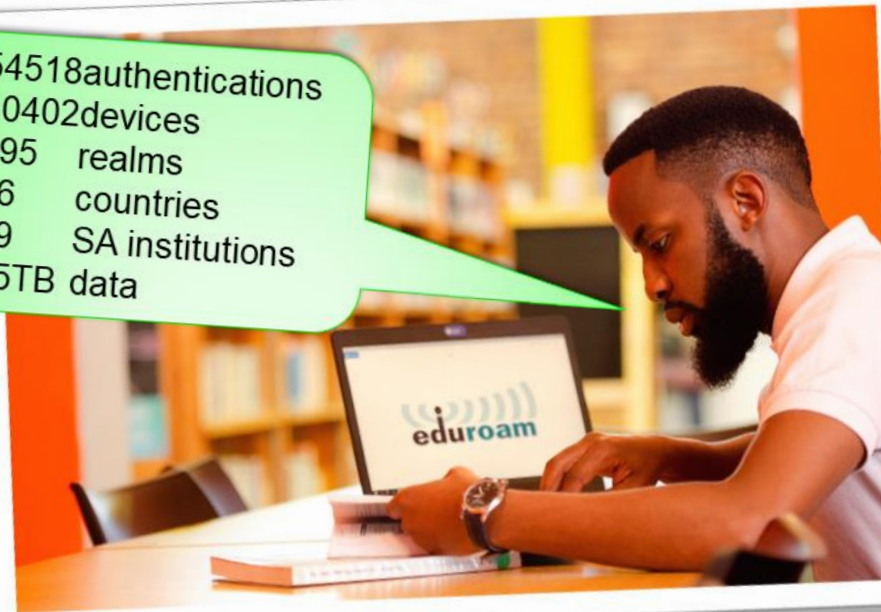
Pic: Johnny Miller

eduroam in cities



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

- 54518 authentications
- 10402 devices
- 295 realms
- 26 countries
- 19 SA institutions
- ~5TB data



1 July – 20 August 2019

TENET

TENET

UbuntuNet Connect 2019

<https://events.ubuntunet.net/event/24/contributions/350/>

TENET

eduroam

eduroam

Public libraries?



Pic: @wethinkcode via Twitter





Pic: Johnny Miller