eduroam @ Education City

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What is eduroam?

eduroam:

- Stands for Education Roaming.

- Provides secure internet access for academic roamers.

- User experience – Quick connection using laptop, smartphone, tablet (whether iPad, or Android based)

Why eduroam?

Researchers, Students, Administrators:

- Travel with WLAN-enabled computers.

- Want transparent, secure network access.

- Want similar experience at visited institution as home.

Experience facilitated by seamless sharing of network resources.

Better for the users, easier for administrators.

A BRIEF HISTORY OF eduroam

Initially developed out of the TERENA Mobility Task Force.

Now it is part of Geant2 Project.

In the US – It is an Internet2 Net+ Service

eduroam in Qatar

- Texas A&M University at Qatar

- Georgetown University – School of Foreign Service in Qatar

HIGH-LEVEL REQUIREMENTS

The eduroam design:

- Enables guest usage of visited networks.

- Guarantees reasonable security and data integrity.
  - Identifies users uniquely at the network's edge.

- Is open.

- Is scalable, robust, easy to install and use.

eduroam: Authentication and Authorization

Authentication:

- Is the user who they say they are?

- Carried out by user's home institution.

Authorization:

- What network access should the user be granted?
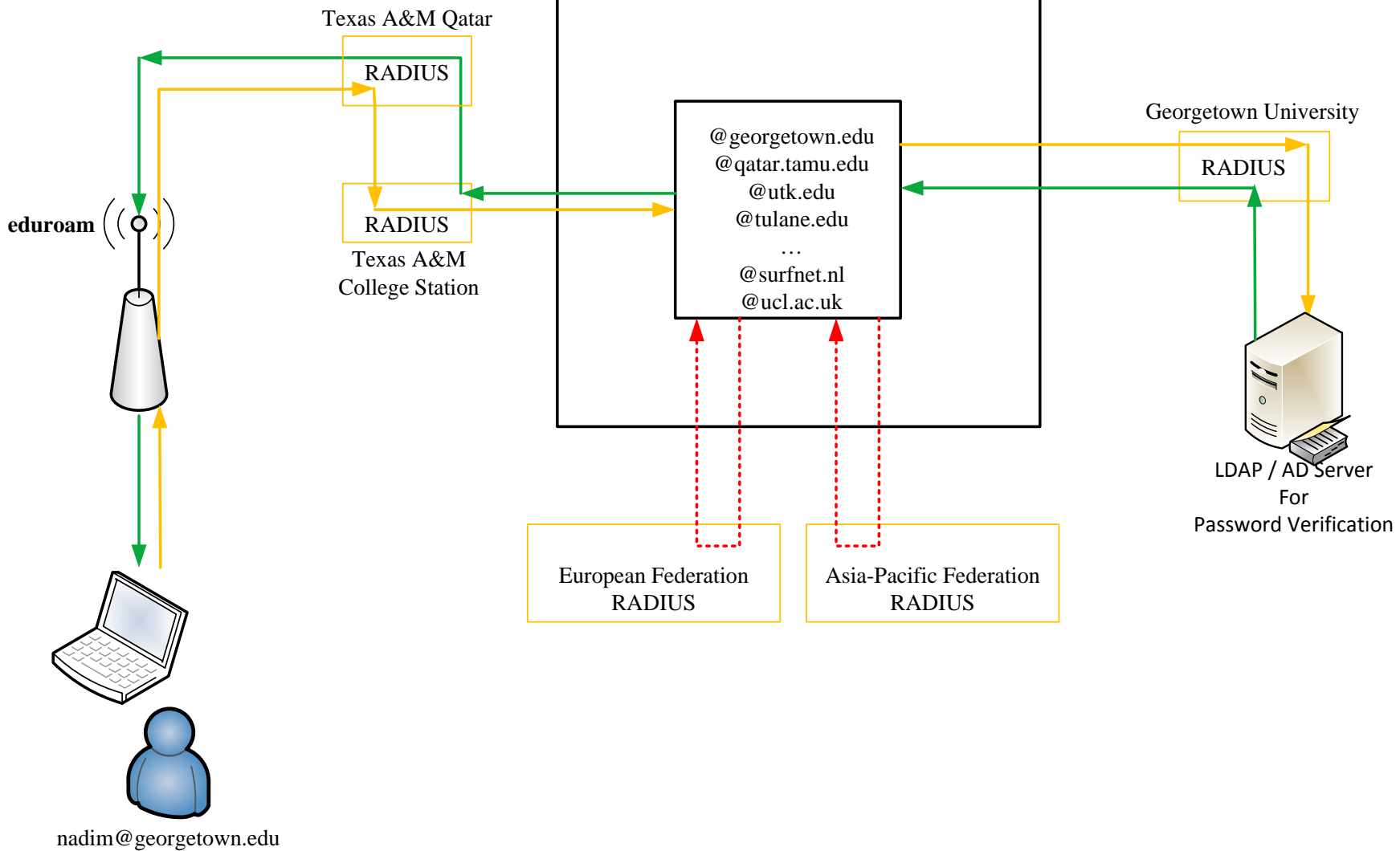
- Determined by visited institution.

eduroam: Infrastructure

- eduroam technology is based on 802.1x standard and a hierarchy of RADIUS proxy servers.

- The role of the RADIUS hierarchy is to forward the users' credentials to the users' home institution, where they can be verified and validated.

How It Works

- eduroam combines the power of 802.1x, SSL, and RADIUS to create a standards based global trust fabric.

Eduroam-US Top-Level Routing

Texas A&M Qatar

RADIUS

Georgetown University

RADIUS

@georgetown.edu
@qatar.tamu.edu
@utk.edu
@tulane.edu
…
@surfnet.nl
@ucl.ac.uk

eduroam

RADIUS

Texas A&M
College Station

LDAP / AD Server
For
Password Verification

European Federation
RADIUS

Asia-Pacific Federation
RADIUS

nadim@georgetown.edu

In Summary

- Every institution (i.e. university or equivalent) that wants to participate in eduroam connects its institutional RADIUS-server to the national top-level RADIUS (NTLR) server of the country where the institution is located.

- The NTLR is normally operated by the National Research and Education Network (NREN) of that country. These country-level servers have a complete list of the participating eduroam institutions in that country. This is sufficient to guarantee national roaming.

- For international roaming, a regional top-level RADIUS server is needed in order to roam the users request to the right country. Currently there are three main regions where eduroam is deployed: Europe, Asia-Pacific and North America

- In the case of Europe the top-level RADIUS server (ETLR) are operated by the Dutch NREN (SURFnet) and the Danish NREN (UNI-C).

- In the case of Asia-Pacific, the top-level RADIUS server (APTLR) is operated by the Australian NREN (AARNet) and by the University of Hong Kong

- In the case of North America, the top-level RADIUS server is operated by Internet2 Net+ Service and managed by the University of Tennessee at Knoxville.

- In the case of South America, eduroam is available in Argentina, and Brazil

Important Links

- https://www.eduroam.org

- https://www.eduroam.us

Thank you