



Eduroam and Identity Federation Progress and Challenges

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DigiNar-II - 2012-12-18

Eduroam Status

- Operational
 - December 2016
- Deployed at 15 Institutions (Dec 2019)
 - All in Kathmandu
 - Mostly NepalREN members
 - Universities, affiliate Colleges, Hospitals
- Support by XEAP programs from GEANT/Asi@Connect instrumental in starting the deployment
- <http://eduroam.org.np>

Target institutions

- Universities
- Affiliate Colleges
- Hospitals
- R&D institutions

Pre-eduroam Status

- Internet and Campus Networking - Good
- WiFi Service
 - Mostly for faculties, staff and management
 - Very few provided WiFi to students
 - Limited coverage
 - Issues handling logins

Access Points

- Most members were using consumer level APs
- Few had limited enterprise APs
- Predominantly 2GHz, very few dual-band
- Limited Coverage

Identify and Authentication

- ID database
 - Almost non-existent
 - Lacking at most members
 - Few had some sort of ID store, but decentralized
- Authentication
 - Mostly pre-shared key
 - Few open
 - Few with captive-portals
- Lack of Expertise
 - RADIUS expertise
 - 802.1x expertise

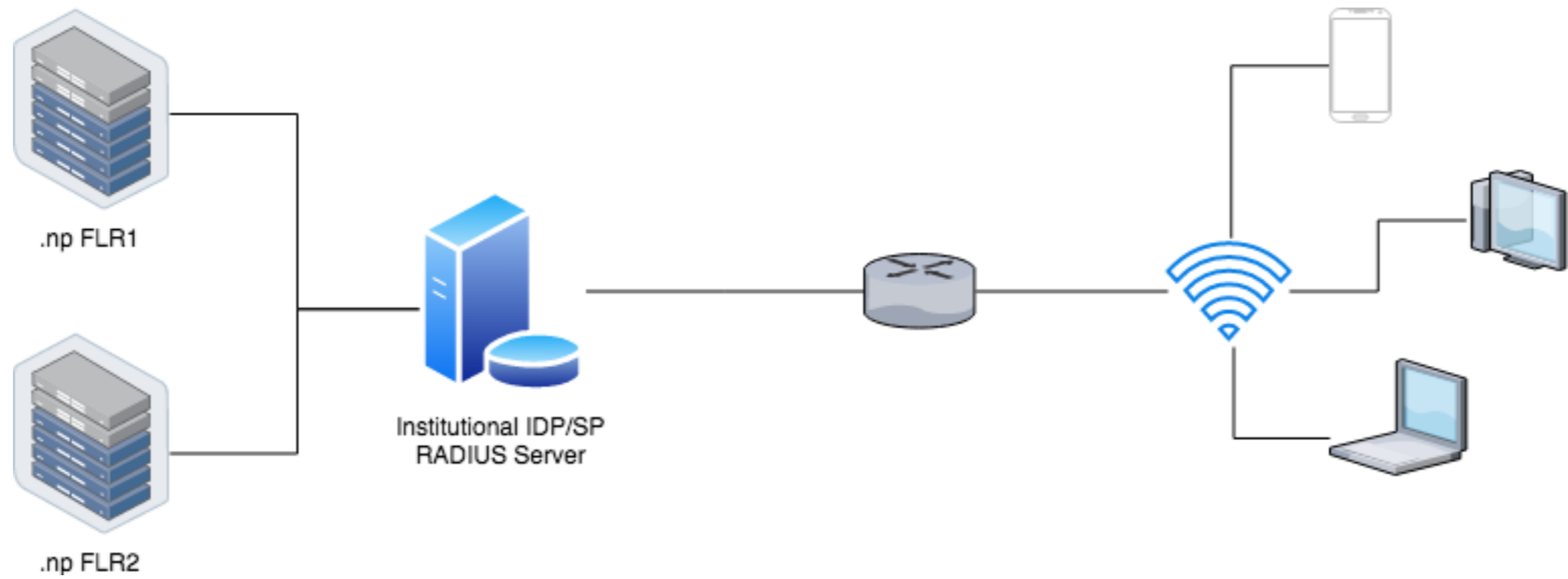
Decision Makers

- Advantages to an Institution
- Resource Concerns
- Bandwidth utilization
- Costs vs. Benefit analysis

Summary - Identifying challenges

- Identity Management
- Resource bottlenecks
- Skills and trainings
- Support and Guidance
- Convince Decision Makers

eduroam Deployment



eduroam deployment

- Training
 - RADIUS, Front End
 - 802.1x
 - System Setup and Management
 - WiFi configuration
- Resources
 - Enterprise Access Points
 - Servers and VPS
- .np FLR peering
- Support

Turn-key solution

- IDP & SP in a box
 - ID database in MySQL/Mariadb
 - FreeRADIUS 3.0
 - Web-based front-end - Polaris
 - Based Upon freeradius-web-ui (Github)
 - Peering with .npFLR1 and .npFLR2
- Hosted at NREN Cloud
- Quick to deploy
- Orientation and ob-boarding in minutes

Status of .np eduroam

- Upstream Peering with two APTLDs - Hongkong and Australia (AARNET)
- Deployed at 15 institutions
- Roaming working great
 - Value of eduroam being realized
- Few more institutions
- Monitoring tools deployment - to be completed

Ongoing Challenges

- Campus-wide deployment of eduroam
 - NREN provides few APs - provides limited coverage
 - Institutions need to replace/buy more APs
 - More convincing to the decision makers
 - Progress is happening - but slow
- Challenges expanding to whole country
 - More outreach and training needed outside major cities
 - Awareness other Resources
- Security and Technical aspects are less of a concern than bandwidth demand, costs, motivation

Identity Federation - Challenges

- Resource bottlenecks
 - Working ID Management with eduroam
- Awareness, Trainings
 - Build expertise
- Convince Decision Makers
 - Policy Development
- Content Publishers
- Support System at NepalREN

Contents and Eyeballs

- Identity Database is available
 - Mostly due to eduroam deployment
 - Technical side
- Content and Publishers
 - Limited usages
 - NREN working on facilitating between content vendors and universities
 - Looking to collaborate with Content providers

Federation Setup

- Setting up of Identity and Access Federation department
- Policy and administrative aspects
- Setting up test federation
- eduGAIN compliance
- Get started by mid-2020

Thanks

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