



CSC

ICT Solutions for
Brilliant Minds



Funet Kampus Service

14.10.2019 Asko Hakala



Background

- Replaces old Funet Router Service
 - CPE routers to connect to Funet network
 - Started in 2012
 - 17 customers 33 routers (Juniper MX)
- Buildout of Funet 2020 core network
 - Capacity increase
 - 100 G backbone
 - Funet PoPs closer to customers
 - New automation tools
 - All router configuration done by Ansible

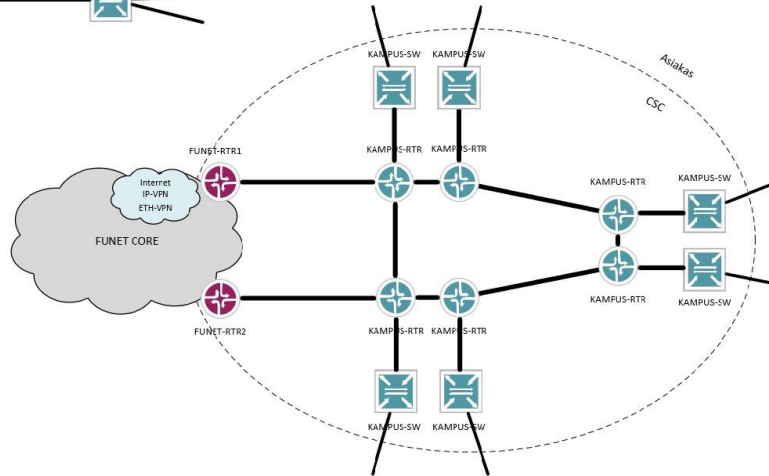
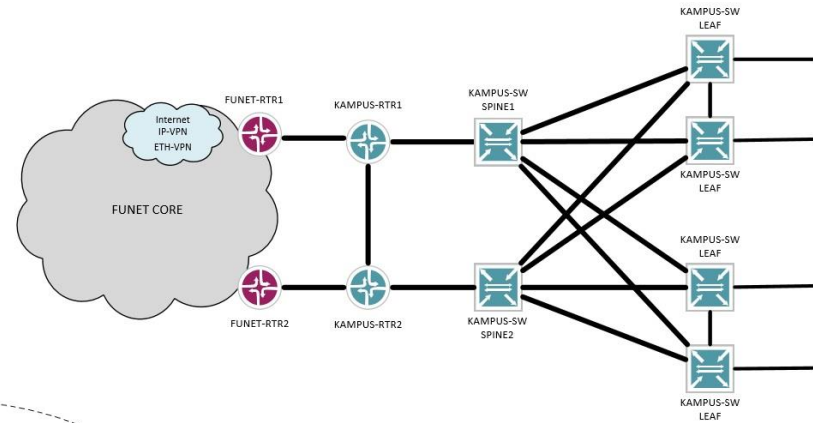
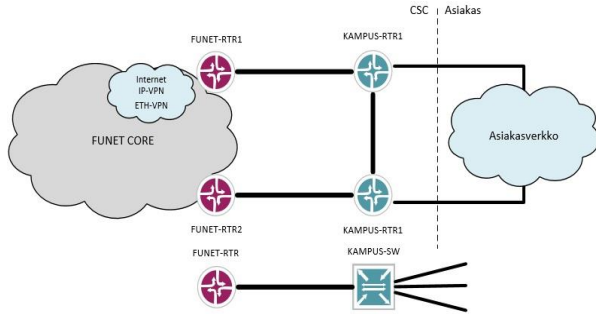
Funet Kampus service

- Launched in 2019
- 3-person virtual team
- Equipment Juniper MX routers and Huawei S series switches
- Initial small deployments: 7 customers with 7 routers and 4 switches
- Currently two bigger deployments ongoing with 6 routers and 18 switches

Use cases

- Unified and standardized connection to all Funet services
 - Uplinks up to 100 G
 - Internet, L₃VPNs and L₂VPNs using the same connections
 - Removes e.g. the need for low capacity light paths
 - VPNs to services in Funet data centers
- Customers' own core from edge routers to access switches
 - Besides the routers switches are also available
- Connecting customers' separate campus areas

Sample topologies



Service Delivery

- Equipment purchased using CSC's frame agreements
 - Standardized device types which are also used in Funet core and data centers
 - Cost benefits due to the volumes
 - Customer doesn't need a separate tender process
- Customer is responsible for the device installation
 - Devices located in customer premises
- Configuration, management and monitoring are done by Funet
 - Shared NOC, tools and processes with Funet network

Configuration and monitoring

- All router configuration is done using Ansible and Jinj2 templates
 - Based on tools developed for Funet 2020
 - Clean, standardized configuration
 - Routers can be pre-configured before sending them to customers
 - Configuration is stored in YAML files
- Routers and switches are added to monitoring using Ansible during the provisioning
 - Same alert and monitoring tools and processes are used as for the rest of the Funet network



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