Campus Network-as-a-Service (CNaaS)

CNaaS



Campus Network-as-a-Service (CNaaS) is a service within SUNET, providing a fully managed service for LAN/WLAN networks at university campuses.

Blog Posts

- Blog: Campus Networking Automation - Introduction created by
  Kristofer Hallin
  Oct 04, 2019
  Campus Network as a Service

CNaaS Documentation

There are three parts to the documentation of CNaaS at SUNET:

1. Product documentation - Documents the different products we use. For NMS and NAC documentation, see below. (Public access)
2. Service documentation - Documents the SUNET specific processes. (Mixed public/private access)
3. Customer documentation - Documents specific details of one customer implementation (Private access)

CNaaS - NMS

As part of this project a network management system called CNaaS-NMS is being developed to automate the management of the campus networks, the software is open source and can be used by anyone outside of SUNET as well.

Blog can be found here: Campus Networking Automation - Introduction

Source code available at Github

Documentation

Modules / VMs

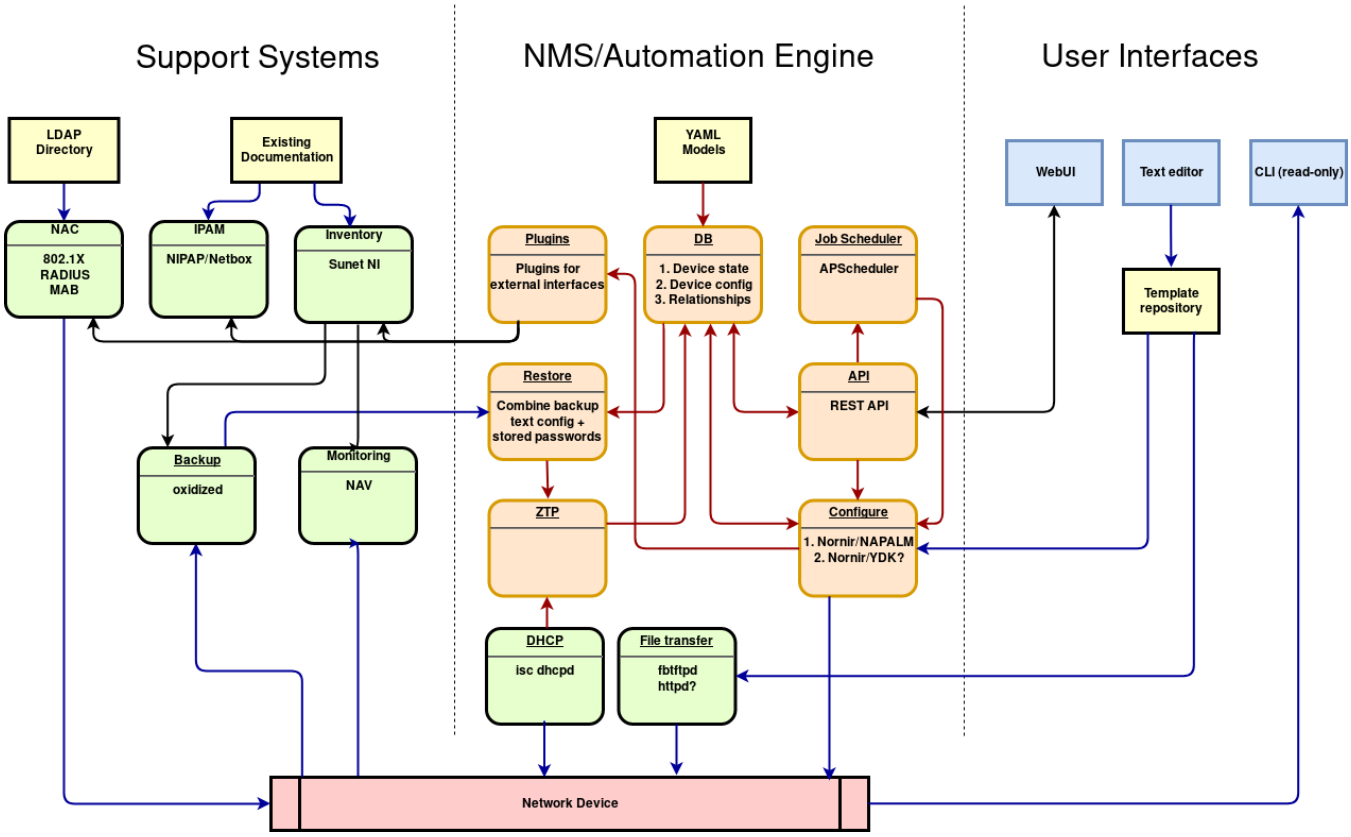
Dev / test environment setup

Lab Setup

Installation

Software Architecture (Google docs)

Code coverage status (codecov.com)



CNaas - NAC (Network Access Control)

In order to provide end users with an authentication mechanism CNaaS NAC was invented. It relies on freeradius (https://freeradius.org) for user authentication using 802.1X with MAB as fallback for clients not being able to use 802.1X.

Source code is available on GitHub: https://github.com/sunet/cnaas-nac

Freeradius can either be integrated towards the existing user database (LDAP, Active Directory etc) or use Postgres to store credentials. CNaaS NAC provides both an API and a web interface to handle users if Postgres is chosen for storing credentials.

CNaaS NAC API reference.

CNaaS NAC Web interface