Contribution ID: **29**   Type: **not specified**

Network configuration management at CERN: status and outlook

Monday, 8 October 2018 14:00 (25 minutes)

CERN's networks comprise approximately 400 routers and 4000 switches from multiple vendors and from different generations, fulfilling various purposes (campus network, datacentre network, and dedicated networks for the LHC accelerator and experiments control).

To ensure the reliability of the networks, the IT Communication Systems group has developed an in-house Perl-based software called "cfmgr" capable of deriving and enforcing the appropriate configuration on all these network devices, based on information from a central network database.

While cfmgr has been continuously extended and enhanced over the past 20 years, it has become increasingly challenging to maintain and further expand it due to the decrease in popularity of the technologies it relies upon (programming language and available libraries). Hence, we have evaluated the functionality of various open-source network configuration tools (e.g. NAPALM, Ansible, SaltStack and StackStorm), in order to understand whether we can leverage them and evolve the cfmgr platform.

We will present the result of this evaluation, as well as the plan for evolving CERN's network configuration management by decoupling the configuration generation (CERN specific) from the configuration enforcement (generic problem, partially addressed by vendor or community Python based libraries).

Desired length

20

Primary authors: SHEVRIKUKO, Arkadiy (CERN); STANCU, Stefan Nicolae (CERN)

Presenter: SHEVRIKUKO, Arkadiy (CERN)

Session Classification: Networking & Security

Track Classification: Networking & Security