ConfD from Tail-f

A Vital Piece of the NFV/SDN Puzzle

Mechanical Puzzles

Mechanical puzzles are a popular pastime among game enthusiasts. These puzzles generally consist of several interlocking parts that must be assembled or disassembled in a precise order in order to solve them. One slip can undo all the progress that had been made.

While solving these puzzles can be an enjoyable hobby for individuals and families, such challenges are generally unwelcome in the business world. Doing business is challenging enough without throwing new variables into the product development process. And yet, this frequently happens in the technology industry, particularly among network equipment providers (NEPs).

As service providers continue to implement new technologies such as cloud computing and software-defined networking (SDN), network equipment providers need to frequently update their equipment. This introduces a series of hurdles that must be overcome in order to remain competitive and keep their equipment from becoming obsolete.

ConfD Solution

Solving the NFV/SDN puzzle

Changing one variable can can impact the ability to find a workable solution. Solving the puzzle requires starting with the right piece.

Challenges

- **New requirements:** One of the main drivers for change in the network equipment provider space is changing protocol requirements. In particular, NETCONF is sought after by service providers as a way to drive down operational expense and successfully maintain an environment utilizing equipment from any number of vendors.

- **Increasing complexity:** Up to this point, NEPs have operated with largely siloed development processes within the organization. For each interface of the product, unique code was developed from the ground up. A company might develop their SNMP instrumentation and the back end, then turn around and recreate it all for a CLI. As a result, each time the company needed to expand its product line or expand its functionality, their engineers had to go back and revise the code for each interface.

Eventually, it becomes impossible to maintain.

- **Expense:** As a consequence of increasing complexity, established NEPS have found that it is more expensive to support changes to their current product line than it would be to completely replace their management interface. This situation has continued to the point that it has become cost-prohibitive to develop disruptive, next-generation solutions that will deliver competitive advantage.

- **Maintaining the status quo:** While new interfaces and protocols must be supported in the latest generation of products, many organizations are hesitant to move away from the way things have been done for years. This need to preserve current interfaces and applications can paralyze an NEP and make innovation even more challenging.

- **Supporting features first:** Because it is the data plane and the control plane that tend to be the points of emphasis in a given piece of network equipment, the management plane has often been an afterthought for NEPs. This can result in a last-minute scramble to model the management plane, leading to increased expense, delayed rollout or the deployment of an inferior product.

Much like the mechanical puzzle, this series of challenges has created a set of delicately balanced parts. Changing one variable can have a domino effect that negatively impacts the ability to find a workable solution. Solving such a puzzle requires starting with the right piece. ConfD from Tail-f has been developed to offer such a solution for established NEPs.

The Solution: ConfD from Tail-f

ConfD is a management plane solution that was developed to aid established NEPs as they create their next-generation boxes and incorporate the latest set of demands from their customers. No other commercially available management plane solution offers the same degree of control, support and functionality to strengthen what has previously been a weak point in network equipment providers. ConfD offers the following key benefits::

- **The latest technology:** The use of YANG is the standard for modeling the management plane with the NETCONF protocol. It's vital that NEPs take advantage of the opportunity to incorporate NETCONF in all their solutions moving forward. ConfD provides full NETCONF support through the use of YANG, including transactions, validations, commits and rollbacks.

- **Increased modeling efficiency**: Whereas in the past each interface was modeled separately in its own silo, ConfD delivers the realization of an important new innovation: model once, use many. This means that the company can develop a single model of a northbound interface that describes all the management data and apply it to all other interfaces, preventing current problems with spaghetti code from plaguing them in the future.

- **Legacy support:** With years or even decades of experience, NEPs are reluctant to embrace a third party product if it means tearing out their old management solution completely. ConfD allows businesses to maintain

ConfD Key Benefits

- Full support through the use of YANG

- Code can be modeled once and repeated across systems

- Maintain current software with minimal disruptions

- Seemless integration between planes is key to reducing the development cycle to produce solutions quickly

their current software applications with minimal disruption, whether their current deployment was built with a Cisco or Juniper-style CLI, or their own interface developed in house.

- **A focus on functionality:** With most customers looking at data plane or control plane features first and foremost, it's important for the NEP to be able to focus its energy on developing the features that will make the sale. By greatly simplifying the management plane development process, the NEP can devote its time to these other productive areas of development.

- **More rapid time to market:** Key to any company's success is the ability to produce its solutions quickly. The service provider market can be a volatile industry, with needs changing quickly, and it's important that NEPs be agile enough to get their products to market as rapidly as possible. ConfD helps make that a reality.

- **Additional functionality:** Because in some instances it can be a challenge for the management plane, control plane and data pane to integrate seamlessly, Tail-f also offers TailPacks, which are additional software packages that improve integration between ConfD and other solutions from providers such as IP Infusion and Metaswitch. This can further reduce development cycles and help NEPs get their products to market more quickly.

Today's technology developers face significant challenges in the wake of ever increasing demands from customers. End users demand more from service providers, and they demand more of the NEPs, creating a series of demands that must be met with each ensuing generation of equipment. While addressing these challenges can be puzzling for a large equipment provider, ConfD allows them to simplify a significant portion of the process – the development of a standardized management plane. With ConfD, the product development process can move smoothly – quickly and effectively solving the puzzle.

tail=f

www.tail-f.com info@tail-f.com

Corporate Headquarters

Sveavagen 25
111 34 Stockhold
Sweden
+46 8 21 37 40