Arista Ansible Modules for CloudVision

Multi Cluster CVP Synchronization using Ansible

Inside

Overview

This tech brief describes how Red Hat Ansible Automation Platform can be used to synchronize configuration state across multiple CloudVision instances by leveraging the Arista Ansible modules for CloudVision (https://github.com/aristanetworks/ansible-cvp). These modules help network operators to take advantage of the rich features of CloudVision while automating configuration through Ansible.

Introduction

As customers deploy Arista devices across multiple locations it becomes important to consider where and how these are managed. In many circumstances more than one instance of CloudVision Portal will be required. This allows for multiple fault domains and redundancy within the management plane.

When multiple instances of CloudVision Portal are controlling the network it becomes advisable to synchronise common configuration between them, ensuring a consistent configuration across the entire Arista network. CloudVision Portal decomposes configuration into smaller manageable configuration snippets called Configlets. It is these configlets that need to be kept in sync.

Red Hat Ansible Automation Platform is an industry-leading enterprise automation platform trusted by over 1500 customers across multiple verticals and geographies. By combining Ansible with CloudVision, operators are able to leverage existing expertise around with Red Hat Ansible Automation Platform for general automation tasks, and use it to synchronize configuration across multiple CloudVision instances. In addition, the network operations team is able to take advantage of the advanced monitoring and change control features of CloudVision.

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Benefits

- Simple synchronization process using existing enterprise toolset.
- Leverages the advantages of using CloudVision Portal and Red Hat Ansible Automation Platform
- Synchronises multiple instances of CloudVision Portal and configuration generated by Red Hat Ansible Automation Platform.
- Provides an efficient way for organisational policies and security requirements to be more quickly deployed across an entire Arista network in a consistent automated manner.

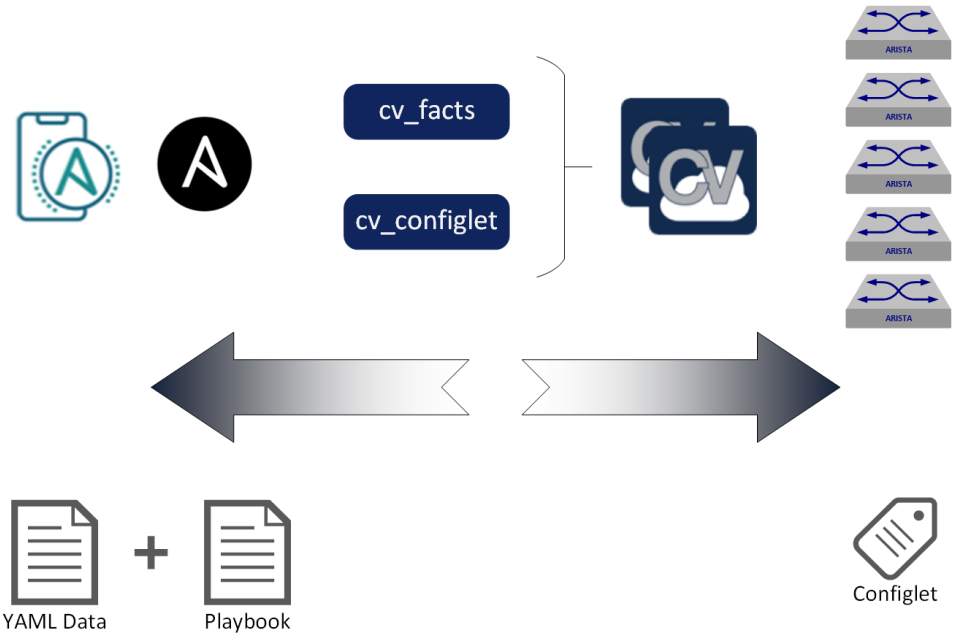

Figure 1: Arista CloudVision Portal with Red Hat Ansible Automation Platform

Technical Description

In this solution an Ansible Playbook is used to gather facts about the different deployments of CloudVision Portal and extract information about the Configlets that are to be synchronized.

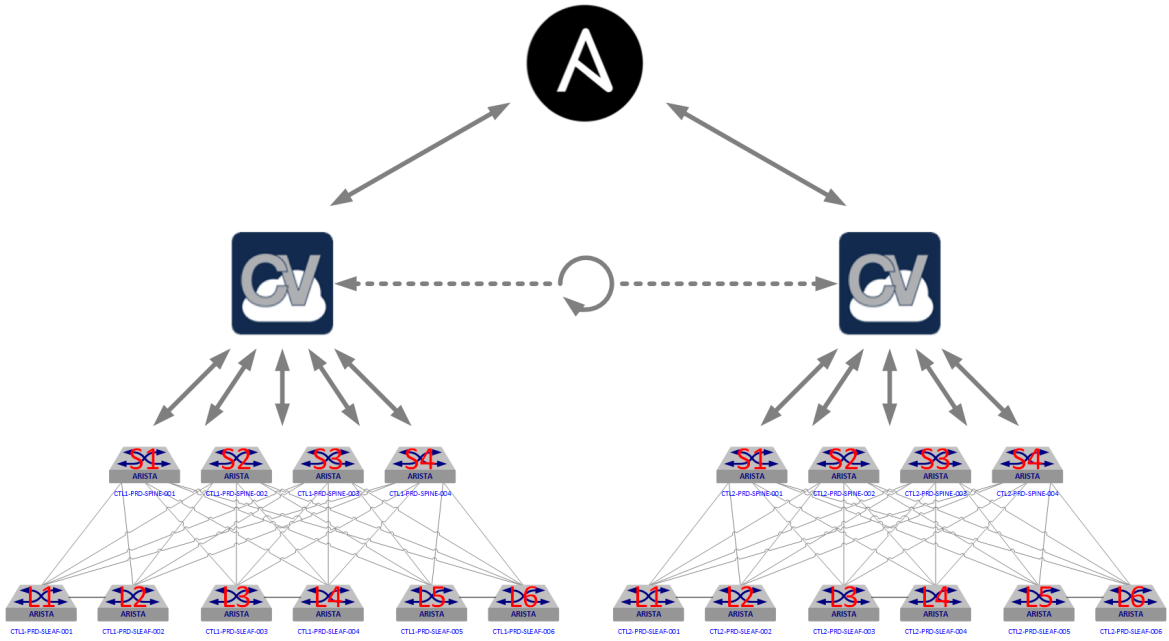

Figure 2: Red Hat Ansible Automation Platform synchronising Arista CloudVision Portal instances

The date-timestamp included with the Configlet information is used to identify the latest version of a Configlet amongst the CVP instances. This configlet will become the candidate Configlet for synchronisation across the CloudVision Portal clusters. The Configlet can also be updated from Ansible. It has been assumed that Ansible has the "True" version of the configlet and will overwrite the existing Configlet versions on the CloudVision Portal clusters and update the candidate Configlet.

The Playbook combines two Ansible roles :

```
./playbook.yml
---
- name: Check Shared Configlets across CVP clusters
  hosts: cvp_servers
  serial: true
  gather_facts: no
  tasks:
    - name: Sync Shared Configlets
      import_role:
         name: cvp.sync

- name: Update Shared Configlets across CVP clusters
  hosts: cvp_servers
  gather_facts: no
  tasks:
    - name: Sync Shared Configlets
      import_role:
         name: cvp.refresh
```

Figure 3: Ansible Playbook to synchronise Arista CloudVision Portal instances

Check Shared Configlets across CVP clusters - gathers the information about the configlets to be synchronised.

Update Shared Configlets across CVP clusters - synchronises the Configlets across the CloudVision Portal Clusters and Ansible.

Conclusion

By combining the rich telemetry and automation features found in Arista CloudVision Portal with the simple, yet powerful IT automation available in Red Hat Ansible Automation Platform organizations can create, organise, deploy, and synchronise network configuration. This configuration can be checked and monitored automatically by CloudVison Portal helping ensure a stable and reliable network.

About Arista

Arista Networks was founded to pioneer and deliver software-driven cloud networking solutions for large data center environments. Arista's award-winning platforms, ranging in Ethernet speeds from 10 to 400 gigabits per second, redefine scalability, agility, and resilience. Arista has shipped more than 20 million cloud networking ports worldwide with CloudVision and EOS software, our advanced network operating system. Committed to open standards, Arista is a member of the 25/50GbE consortium and the Cloud Native Computing Foundation. Arista Networks products are available worldwide directly and through partners.

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