4.1 Ansible Inventory

Overview

▷ Group Name in [brackets]

  ▶ Common variables can be in group_vars

▷ One line per host

▷ Host can be in multiple groups

▷ Can specify host and group variables in file (not recommended by Ansible)

▷ Default location: /etc/ansible/hosts

  ▶ Contains examples you can reference

Example

[ios-devices]

iosv-1

iosv-2 ansible_host=172.16.1.83 ansible_user=cisco1

[TOR]

iosv-1

iosv-2

vyos

Example

[SPINE]

iosv-[1:2]

[SPINE:vars]

ansible_network_os='ios'

Resources

▷ Ansible Inventory

http://docs.ansible.com/ansible/latest/user_guide/intro_inventory.html#working-with-inventory

▷ INI File Format

https://en.wikipedia.org/wiki/INI_file

Next: Inventory Examples

Playbook

```
1   ---                                             Playbook
2   - name: First Network Playbook
3     connection: network_cli                       Play
4     hosts: all
5     tasks:
6       - name: show version                        Task
7         ios_command:              ←─────┐
8           commands: show version        │─ Modules
9                                         │
10        register: output         ←──────┘
11
12      - name: show output
13        debug:
14          var: output.stdout
15
16      - name: copy output to file
17        copy: content="{{ output }}" dest=./output/{{ inventory_hostname }}.txt
18  ...
```

YAML

```
1  ---
2  - name: First Network Playbook
3    connection: network_cli
4    hosts: all
5    tasks:
6    - name: show version
7      ios_command:
8        commands: show version
9
10     register: output
11
12   - name: show output
13     debug:
14       var: output.stdout
15
16   - name: copy output to file
17     copy: content="{{ output }}" dest=./output/{{ inventory_hostname }}.txt
18 ...
```

Dictionary

List

List

YAML Beginning / End

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OSPF Configuration Workflow

▷ Configure Basic OSPF

▷ Verifying OSPF Adjacencies
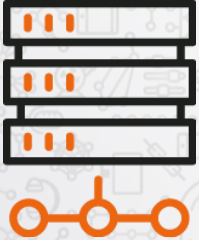
▷ Verifying the OSPF Database

New in Version 2

"Up and Running" with Network Devices

Save Time + Be More Productive

Prerequisites

▷ (optional) Basic Networking Knowledge

Why Ansible?

Ansible has thousands of users, hundreds of customers and over 2,400 community contributors

,600+ NSIBLE ODULES

29,000+ GITHUB STARS

230+ MEETUPS WORLDWIDE

JOIN OUR COMMUNITY

CISCO

" The work the Ansible team is doing... is something the entire industry should be paying attention to.

Lew Tucker
VP & CTO, Cloud Computing
Cisco

OpenStack Integration

JUNIPER NETWORKS

" Red Hat Ansible Tower allows us to easily streamline the delivery of applications and services to both OpenStack & Amazon Clouds in a cost effective, simple, & secure manner.

Jeremy Pruitt
Cloud & Automation
Juniper

IT Automation with Ansible Tower

Credit: https://www.ansible.com/

Come Join me to save time and be more productive as Network Engineers!

OSPF Configuration Workflow

▷ Configure Basic OSPF

▷ Verifying OSPF Adjacencies

▷ Verifying the OSPF Database

Tracking Topology Changes

▷ When a new LSA is received it is checked against the database for changes such as...

- Sequence number is used to:
    - track new vs old LSAs
- Age is used to:
    - Keep information new
    - Withdraw old information
        - Periodic flooding occurs after 30 minutes
            - "paranoid" update
    - LSAs that reach MaxAge (60 minutes) are withdrawn
- Checksum
    - Used to avoid transmission & memory corruption

Tracking Topology Changes

▷ When a new LSA is received it is checked against the database for changes such as...

- Sequence number
- Age
    - Used to keep information new
    - Withdraw old information
        - Periodic flooding occurs after 30 minutes
        - LSAs that reach MaxAge (60 minutes) are withdrawn
- Checksum
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Tracking Topology Changes

▷ When a new LSA is received it is checked against the database for changes such as...

- Sequence number
- Age
  - Used to keep information new and withdraw old information
  - Periodic flooding occurs after 30 minutes
  - LSAs that reach MaxAge (60 minutes) are withdrawn
- Checksum
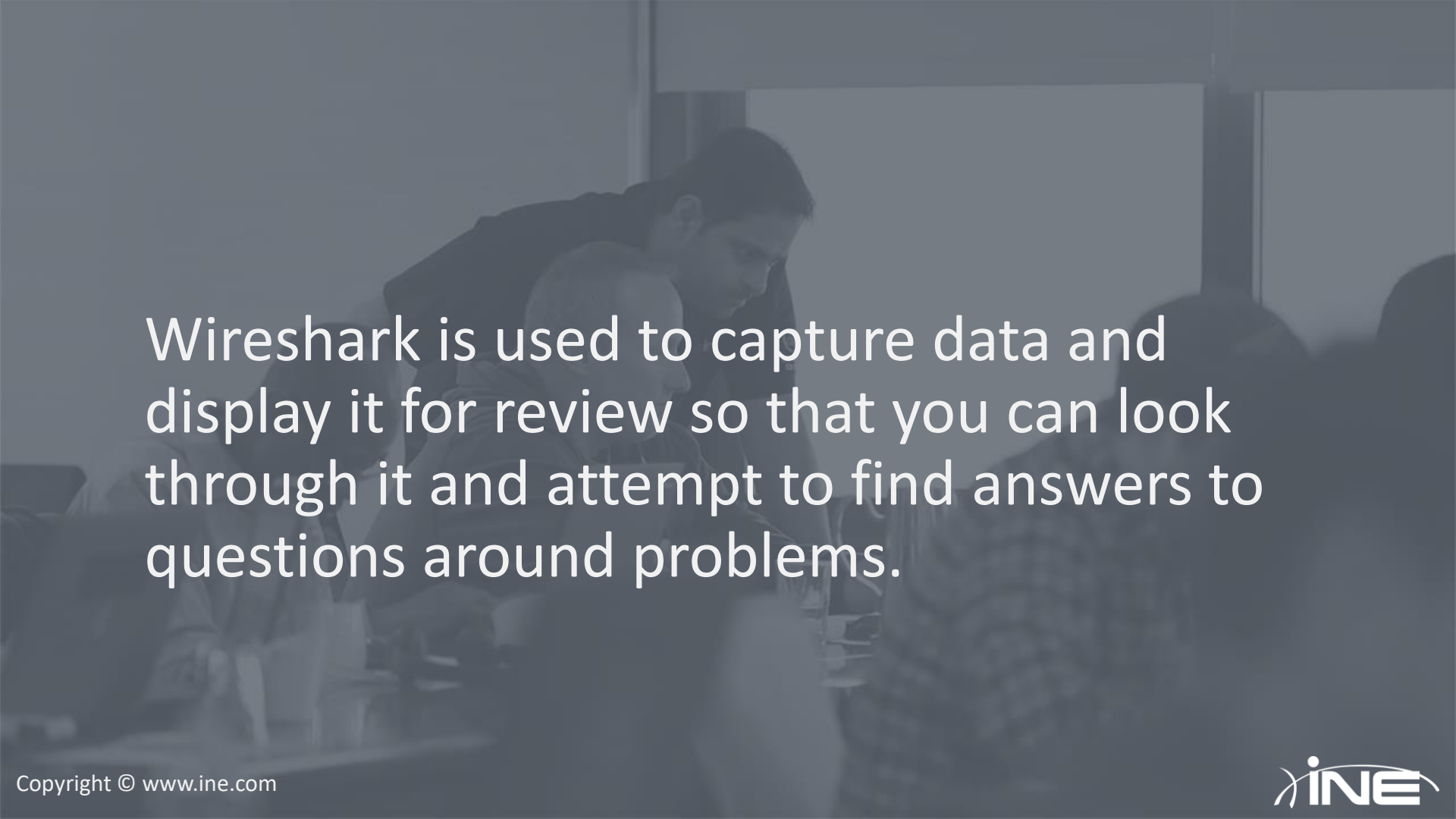 - Used to avoid transmission & memory corruption

Tracking Topology Changes

▷ When a new LSA is received it is checked against the database for changes such as...

- Sequence number
- Age
- Checksum
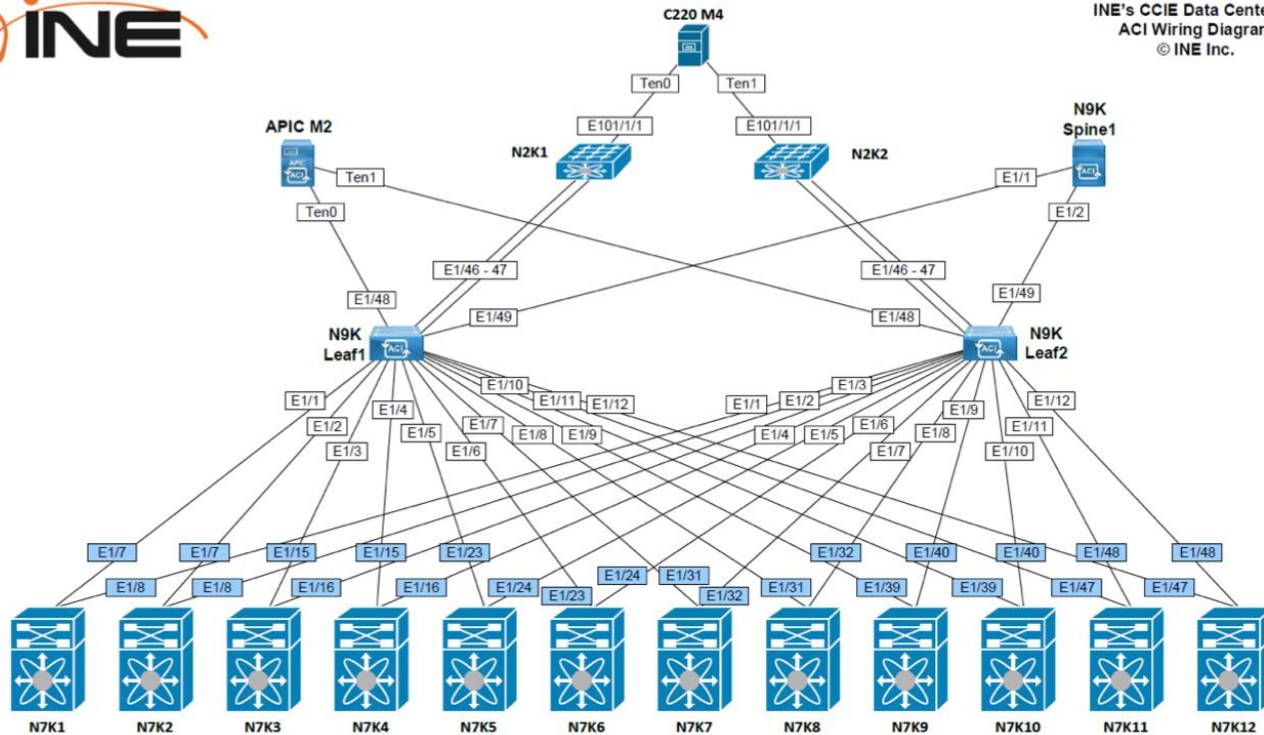
Product/Topology Diagram

Wireshark is used to capture data and display it for review so that you can look through it and attempt to find answers to questions around problems.

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