5.1 Ansible Variables

Overview

▷ How Ansible deal with differences in managed nodes, i.e. ip addresses, username, password, etc.

▷ Variable names can be letters, numbers, and underscores but not space, dash, or dot.

▷ Good: foo_port, foo5

▷ Bad: foo-port, foo port, foo.port

Location

▷ Inventory

▷ Playbook

▷ Defined from other files and roles

▷ Passing in from command line

Usage

▷ Follows Jinja2 format

▷ {{ foo_bar }}

▷ YAML Gatcha: use quotes when in doubt

▷ Facts: special kind of variable that you discovered before Playbook execution.

Suggestion

Keep in simple, follow a pattern ☺

…. at least for now

Resources

▷ Ansible Variables

http://docs.ansible.com/ansible/latest/user_guide/playbooks_variables.html

▷ Variable Precedence

http://docs.ansible.com/ansible/latest/user_guide/playbooks_variables.html#variable-precedence-where-should-i-put-a-variable

Next: Variable Examples

Playbook

```
1  ---                                                          Playbook
2  - name: First Network Playbook
3    connection: network_cli                                    Play
4    hosts: all
5    tasks:
6      - name: show version
7        ios_command:                          ◄──────          Task
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

OSPF Configuration Workflow

▷Configure Basic OSPF

▷Verifying OSPF Adjacencies
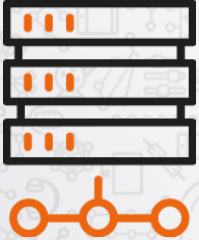
▷Verifying the OSPF Database

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

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▷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

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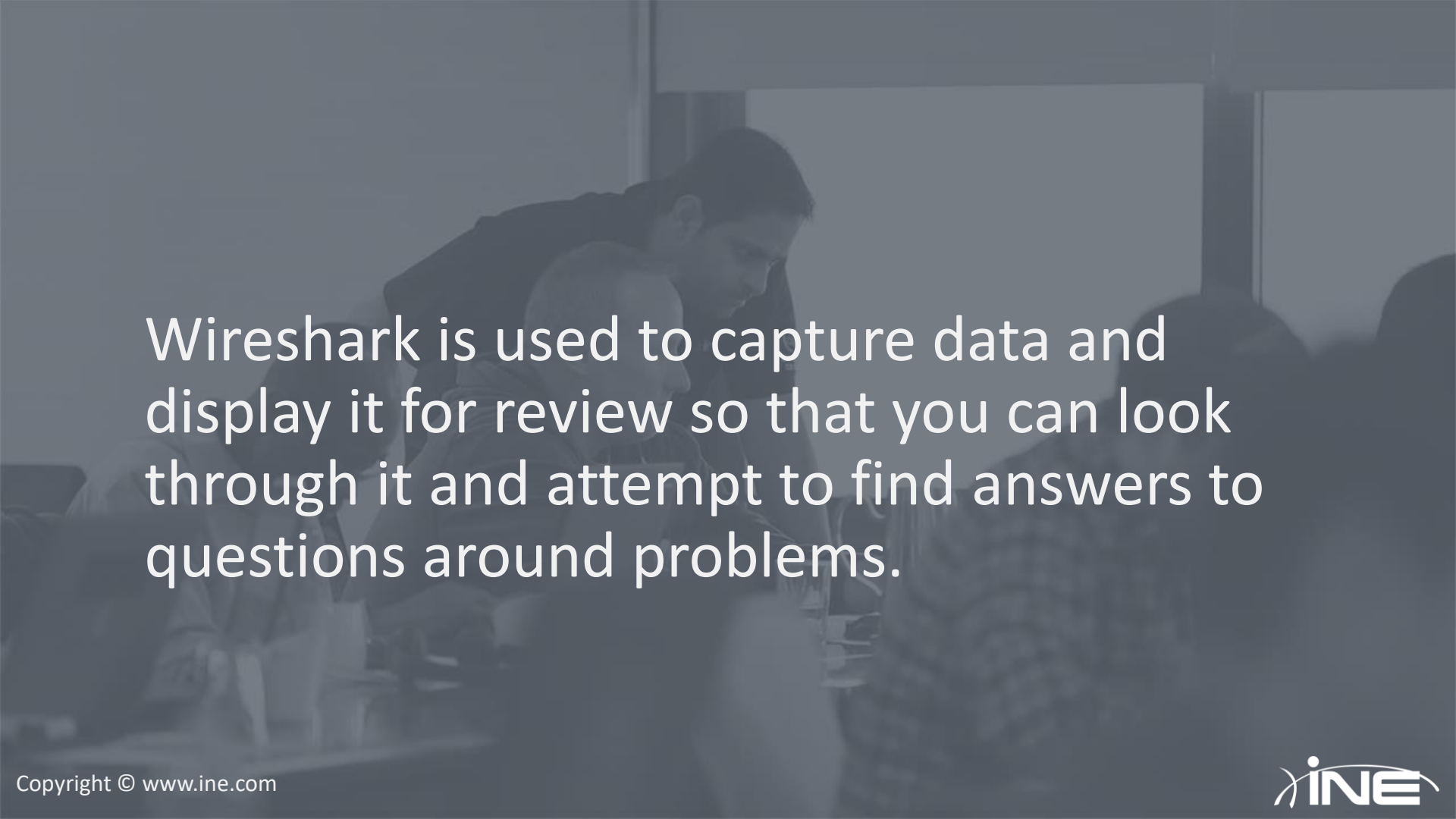 - Used to avoid transmission & memory corruption

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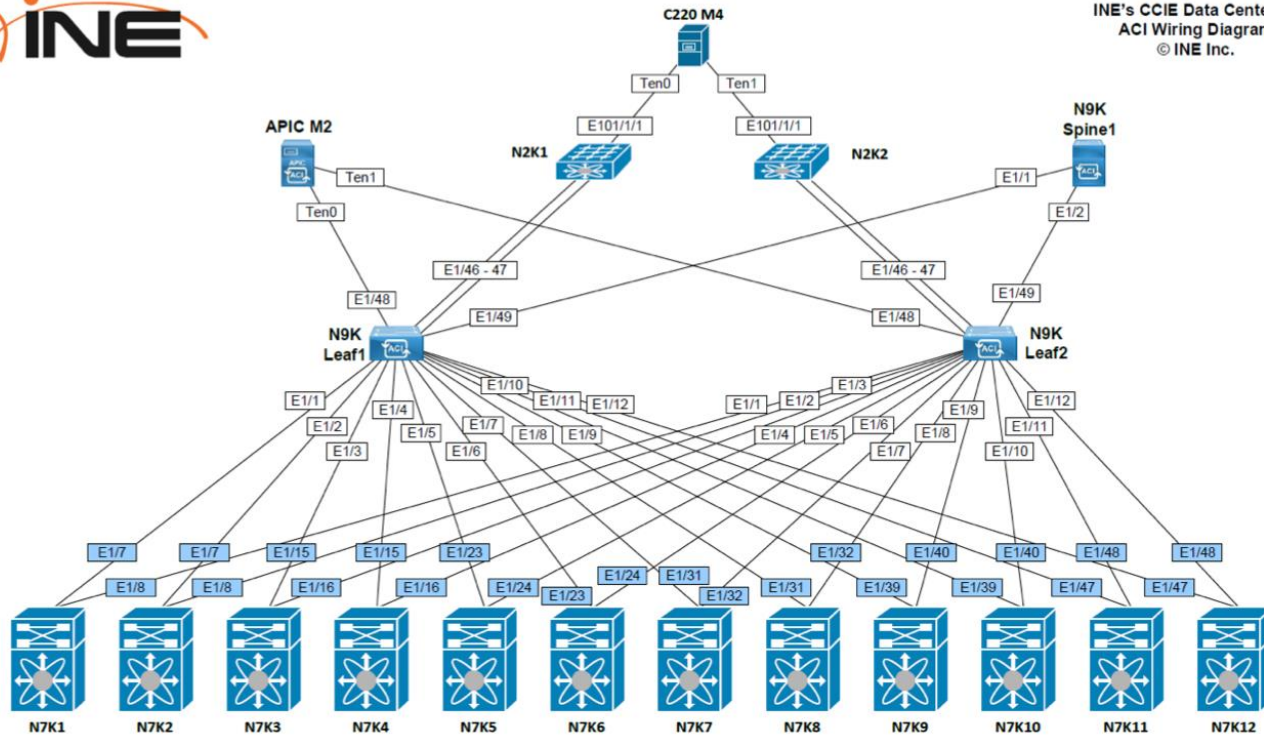
Product/Topology Diagram

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.