

# 3.1 Ansible Overview



# Overview

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- ▶ More Declarative (high level) than Imperative (low level)
  - ▶ "How do you want your egg this morning?"
- ▶ YAML and INI formatted files
  - ▶ [https://docs.ansible.com/ansible/2.5/reference\\_appendices/YAMLSyntax.html](https://docs.ansible.com/ansible/2.5/reference_appendices/YAMLSyntax.html)
- ▶ Inventory: Your hosts
- ▶ Variables: What is different about your host?
- ▶ Playbook: Orchestrator of what you want to do.
- ▶ Be aware of some of the defaults

# YAML

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- ▶ Starts with “---” and end with “...”
- ▶ All members of a list are lines with the same indentation level with ‘-’ and a space
- ▶ A Dictionary are lines with the same indentation level with (key: value) pair
- ▶ Indentation is important

# Playbook

```
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  ...
```

Playbook

Play

Task

Modules

# YAML

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```

Dictionary

List

YAML Beginning / End

List

# Next: Examples



# OSPF Configuration Workflow

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- ▶ Configure Basic OSPF
- ▶ Verifying OSPF Adjacencies
- ▶ Verifying the OSPF Database



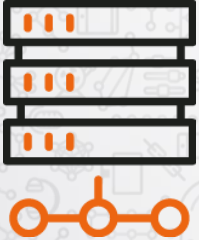
# New in Version 2

“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+	29,000+	230+
ANSIBLE MODULES	GITHUB STARS	MEETUPS WORLDWIDE

[JOIN OUR COMMUNITY](#)




*“ 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](#)



*“ 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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- ▶ 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

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  - Age
    - Used to keep information new
    - Withdraw old information
      - Periodic flooding occurs after 30 minutes
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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

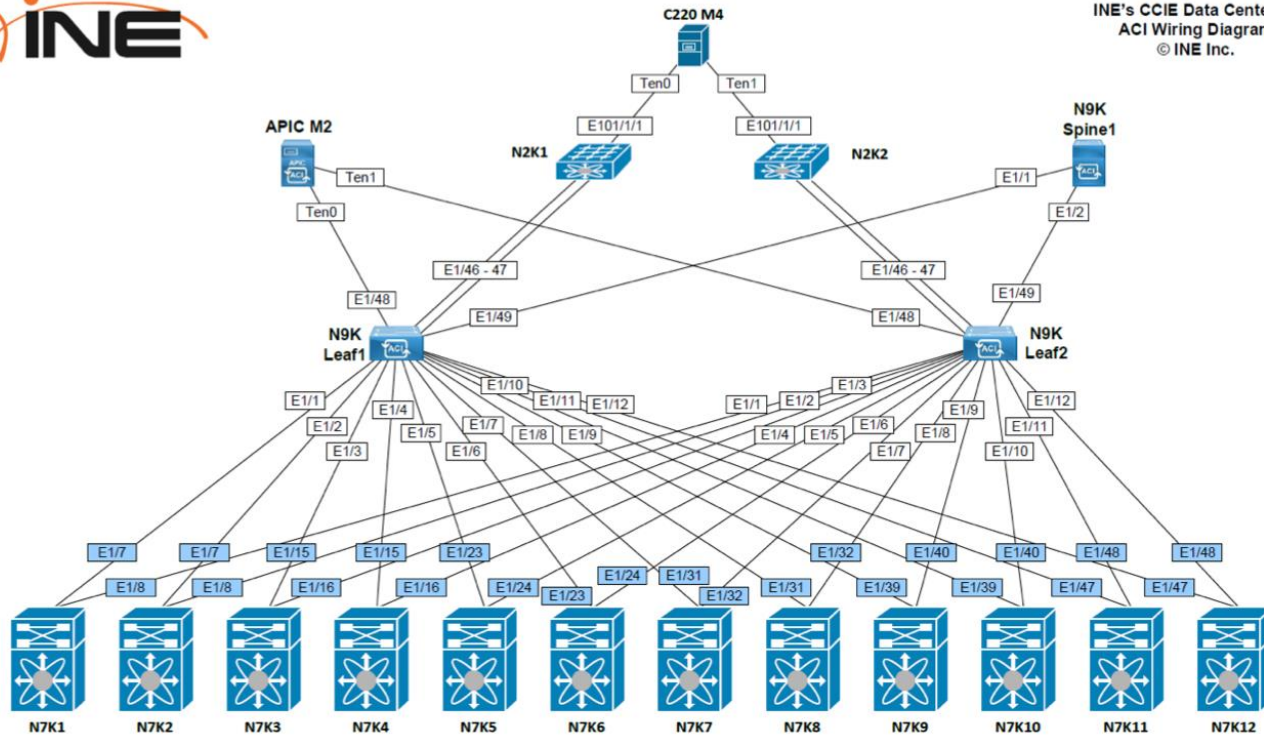


# Tracking Topology Changes

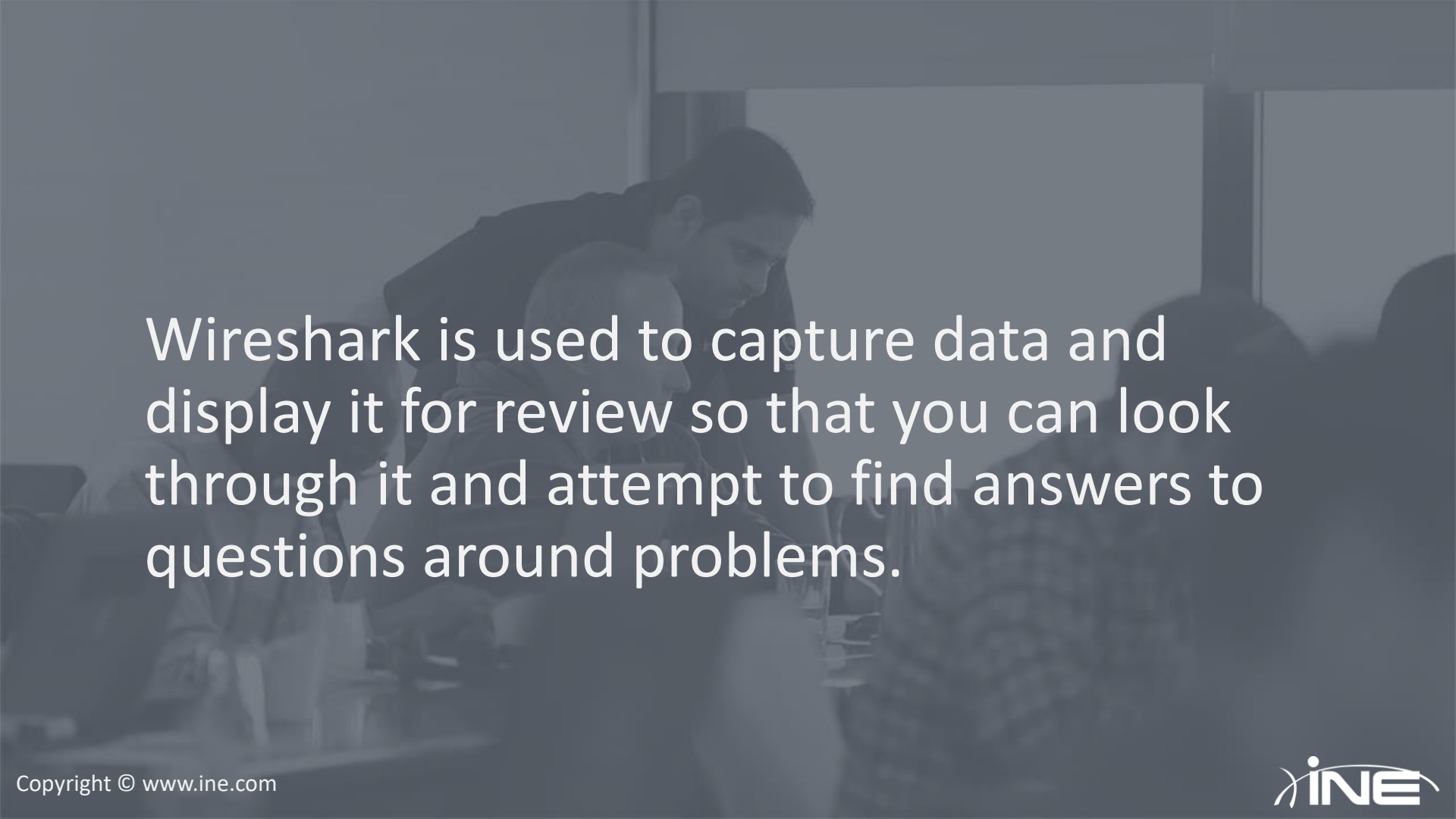
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- Age
- Checksum



# 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.