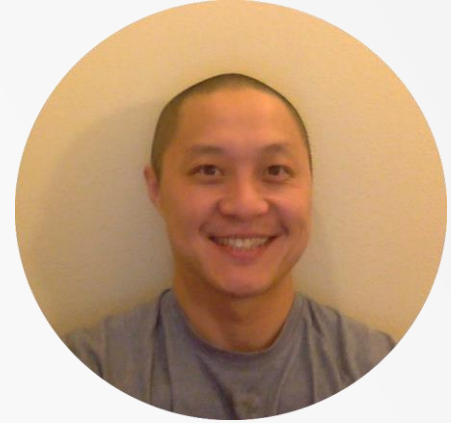


Network Automation with Ansible v2



Eric Chou

Author, “Mastering Python Networking”



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Ex-CCIE 22460 R&S

17 Years of Experiences

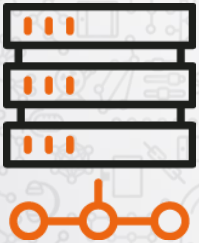
Author:

Mastering Python Networking (Packt Publishing)

Distributed Denial of Service
(O'Reilly)

Prerequisites

- ▶ Basic Networking knowledge
- ▶ Domain knowledge, e.g. know what you are automating.
- ▶ (optional) YAML, Jinja2, Python



Course Objectives

Introduce Ansible from Beginning
“Up and Running” with Network Devices
Save Time + Be More Productive



Tools Needed

- ▶ Ansible 2.5 (other versions ok)
- ▶ Python 2.7
- ▶ Lab: VIRL, GNS3, Gears



Course Structures

- ▶ Hands-On, Lab-Based
- ▶ Modules 1 – 3: Installation and Setup, Quickstart
- ▶ Modules 4 – 7: Variables, Inventory, Playbooks, etc.
- ▶ Modules 8 – 11: Demonstration with Cisco, Arista, Juniper, VyOS Devices
- ▶ Modules 12 – 15: Templates, Conditionals, Roles, Custom Modules, etc.
- ▶ Modules 16 – 17: AWS Cloud Modules and Conclusion

Additional Resources

- ▶ Additional resources file where necessary
- ▶ “Sensible Defaults” in my opinion

Come Join me to save time and be more
productive by leveraging Ansible!

Next: Why Network Automation




Why Ansible?


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

600+ ANSIBLE MODULES	29,000+ GITHUB STARS	230+ MEETUPS WORLDWIDE
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[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/>

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...
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 - Age
 - Used to keep information new
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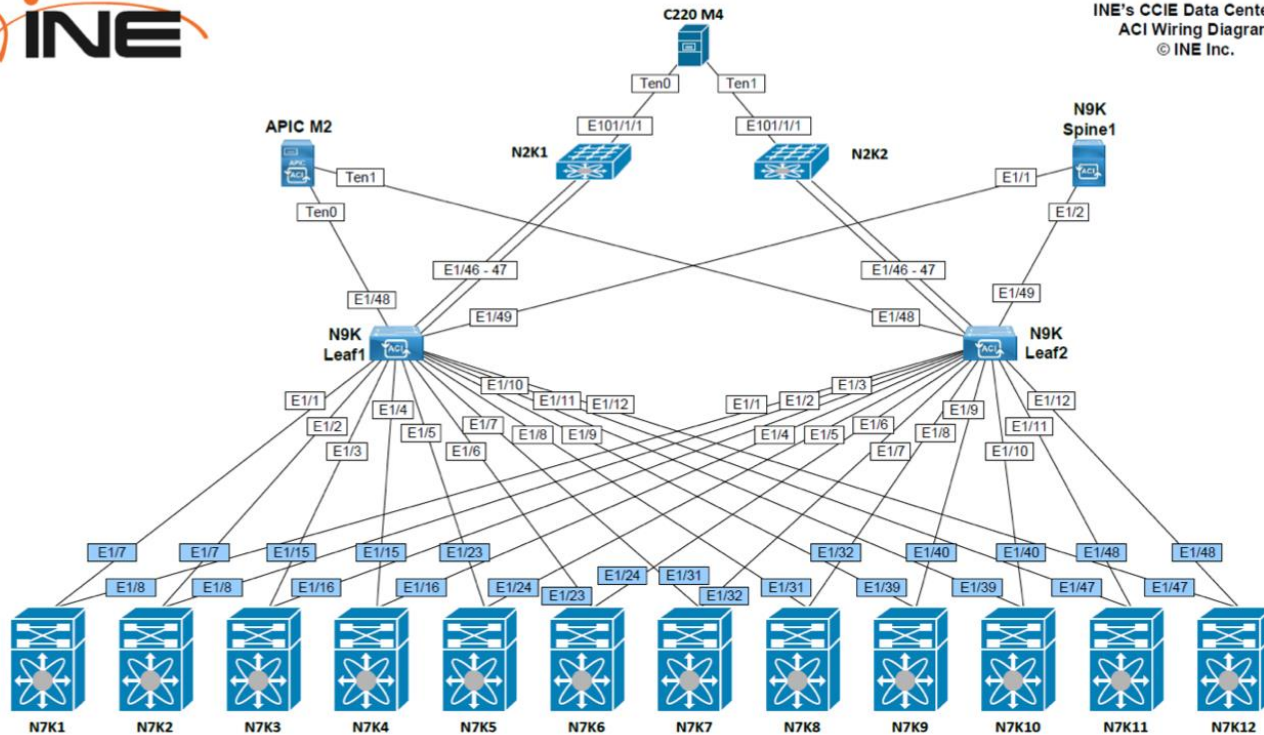
Tracking Topology Changes

- ▶ 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

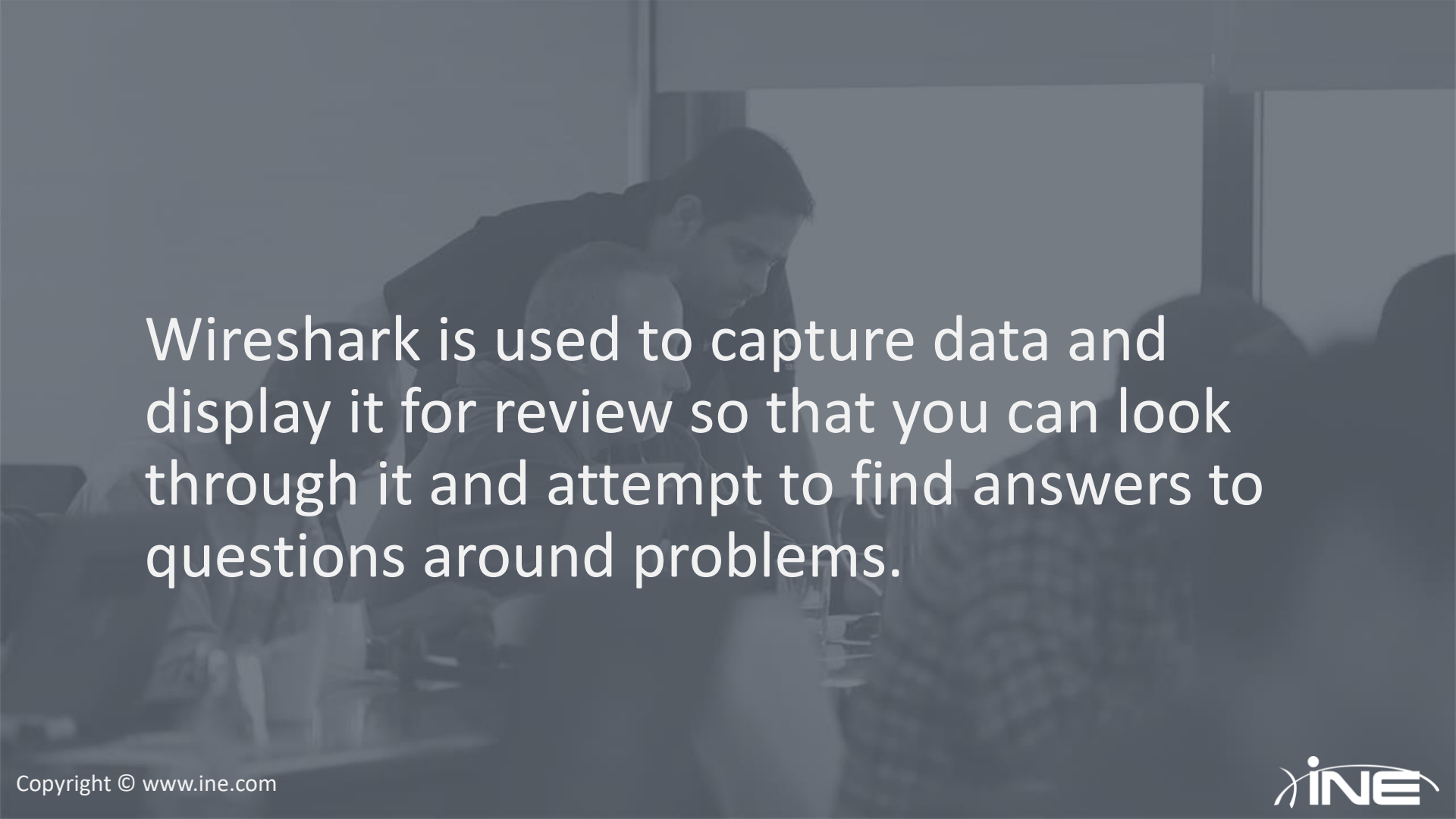
Tracking Topology Changes

▶ 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.