Intent Networks
How to be a Network Engineer in a Programmable Age
Cisco DevNet Webinar Series

Speaker: Hank Preston | Cisco DevNet
Hostess: Kara Sullivan | Cisco Networking Academy
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Welcome to the 3rd session of the Cisco DevNet webinar series

• Use the Q and A panel to ask questions.
• Use the Chat panel to communicate with attendees and panelists.
• A link to a recording of the session will be sent to all registered attendees.
• Please take the feedback survey at the end of the webinar.
Cisco DevNet Series

Session 1: Intro to Software & Programmability (Available On-Demand)
Session 2: Intro to Coding (Available On-Demand)
Session 3: Intent Networks – Today!


More Sessions to Come!
Joining You Today:

Hank Preston III
Developer Evangelist
DevNet, Cisco
Topics to Cover

• The Network Engineer of Old
• The Four Ages of Networking
• Cloud to the Rescue
• The Programmable Network Engineer
The Network Engineer of Old
Meet Carl the Network Engineer

Programming Skills

- TCL
- EEM
- Expect Scripts

Networking Skills

- Spanning-Tree
- Routing Protocols
- QoS
- VPN Design
- Spanning-Tree
- VOIP
- Fibre Channel
- Security Policy
- MPLS
- Spanning-Tree
- Did I mention Spanning-Tree?
The Network…
The Network…

[Diagram of network architecture with routers, switches, servers, and virtual switches (vSwitches) connected by lines, indicating network topography.]
The Network…
The Network…
The Network…
The Network…

- Load Balancer
- Firewall
- IPS
- DNS
- Gateways
- Others…

Cloud Exchange

“Cloud”
The OSI Model of Networking…

Please don’t ask about this…

L1: Physical
L2: Data Link
L3: Network
L4: Transport
L5: Session
L6: Presentation
L7: Application

Oh Yeah… We Got this

Black Magic
The Four Ages of Networking
The Four Ages of Networking
The Four Ages of Networking.....
The Four Ages of Networking.....
The Four Ages of Networking.....
App Economy
User Expectations and Agility

Internet of Things
If it isn’t connected, don’t bother…

Tech Unicorns
Low barrier of entry for disruptors
The Cloud You Plan to Build 😊
The Cloud You Plan to Build 😊

The Cloud You End Up With 😞
The New Infrastructure Stack

Development Environment
- Vagrant, Docker, Vim, Slack, Spark, Git

Operating System
- CoreOS, Rancher, RedHat, Ubuntu, Microsoft

Infrastructure
- UCS/ACI, HP, vSphere/NSX

Users and Developers

Architects and Operators
# The New Infrastructure Stack

## Development Environment
- Vagrant, Docker, Vim, Slack, Spark, Git

## Delivery Pipeline
- GitHub, BitBucket, Jenkins, Team City, Drone, Puppet, Ansible, Chef

## Cloud Management and Automation
- UCS Director, vRealize, OpenStack, AWS, CloudCenter

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- CoreOS, Rancher, RedHat, Ubuntu, Microsoft

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The New Infrastructure Stack

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Users and Developers

DevOps Engineers

Architects and Operators
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PaaS

IaaS

UCS/ACI, HP, vSphere/NSX
The Programmable Network Engineer
Adding Network Programmability Skills!

**Phase 1**
- Python
- REST APIs
- JSON/XML
- git/GitHub

**Phase 2**
- Linux Skills
- Ansible
- Docker
- NETCONF/YANG

**Phase 3**
- Linux Networking
- Container Networking
- NFV

**As Needed**
- Network Controllers
- IOT Networking
- Cloud Networking
- NFV
- "DevOps"
Next Steps!

Linux Unhatched Course – Available Now!
http://bit.ly/LinuxUnhatched

Python Essentials and Emerging Tech Workshops – Coming Soon!