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

25 October 2017

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.

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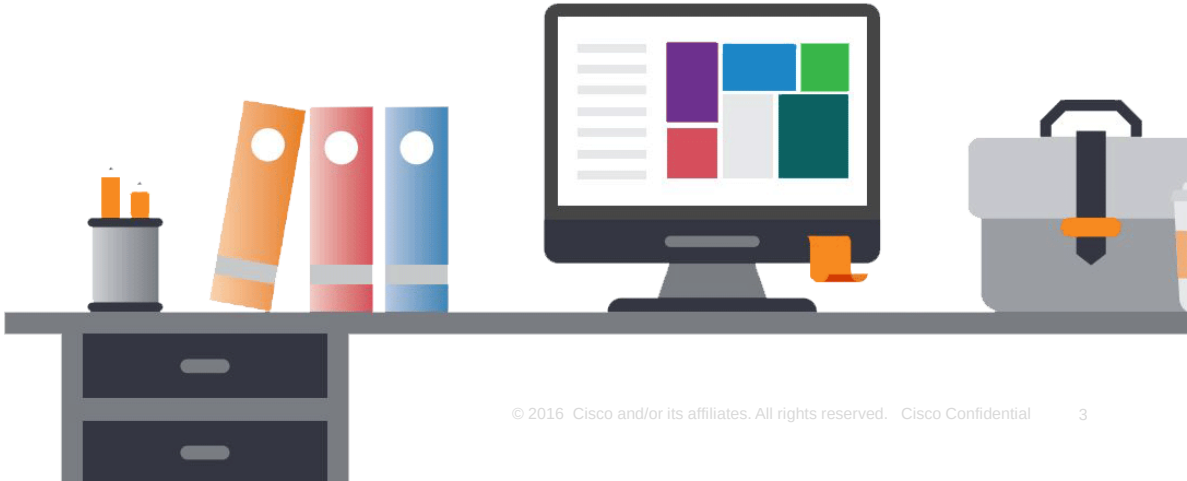
Cisco DevNet Series

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

All Series Details can be Found @ http://bit.ly/DevNetSeries

More Sessions to Come!



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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

Tomorrow's Network Engineers!

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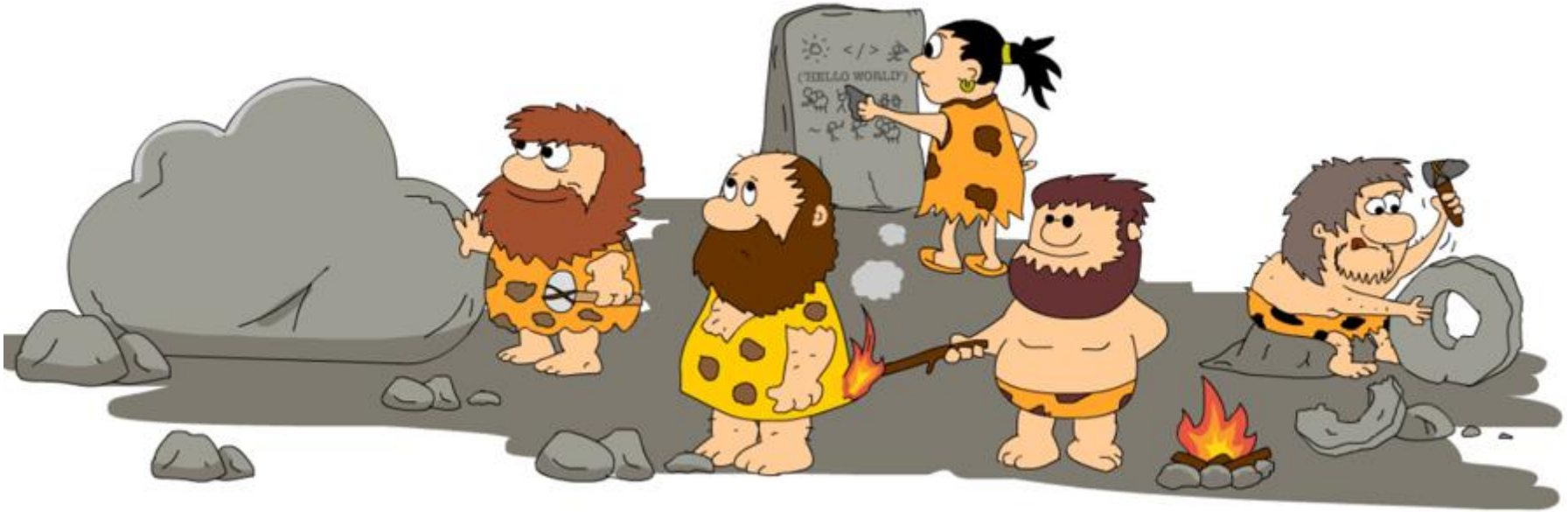

The Network Engineer of Old

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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?

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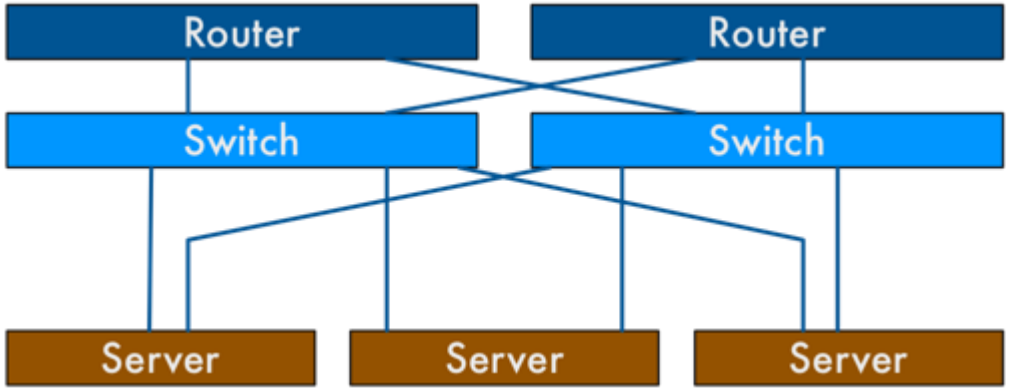
The Network…



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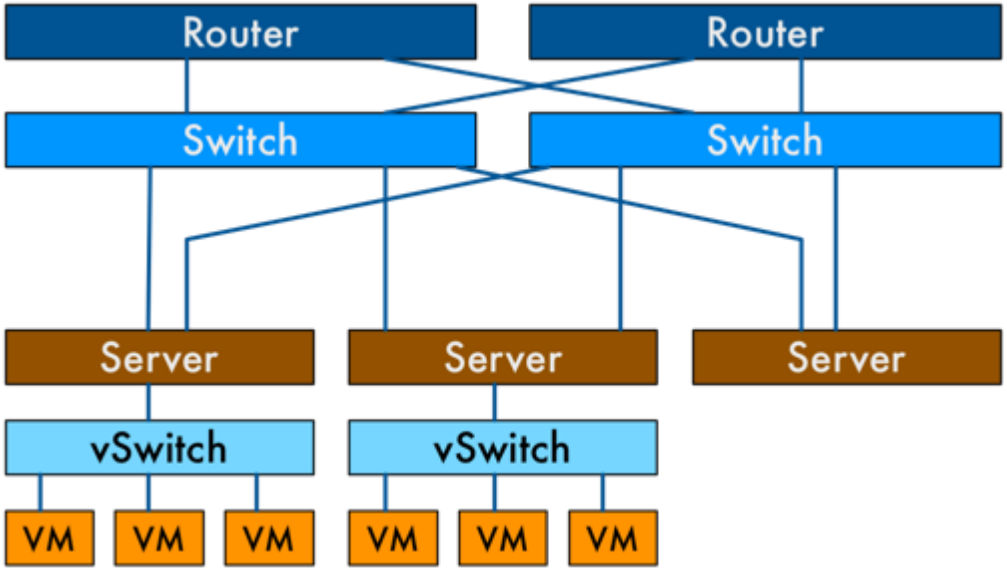

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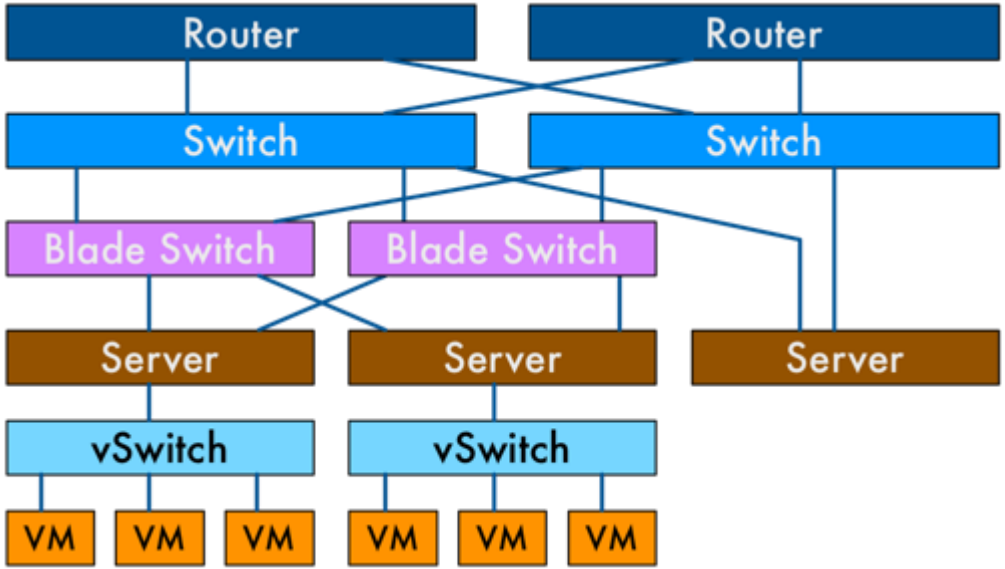

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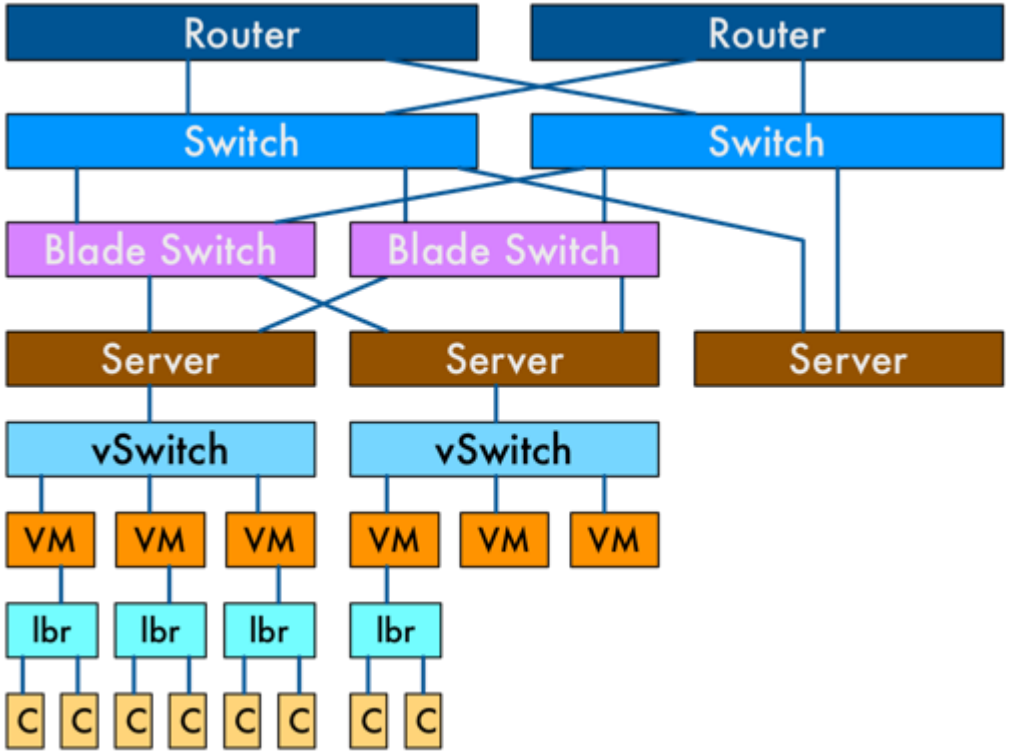

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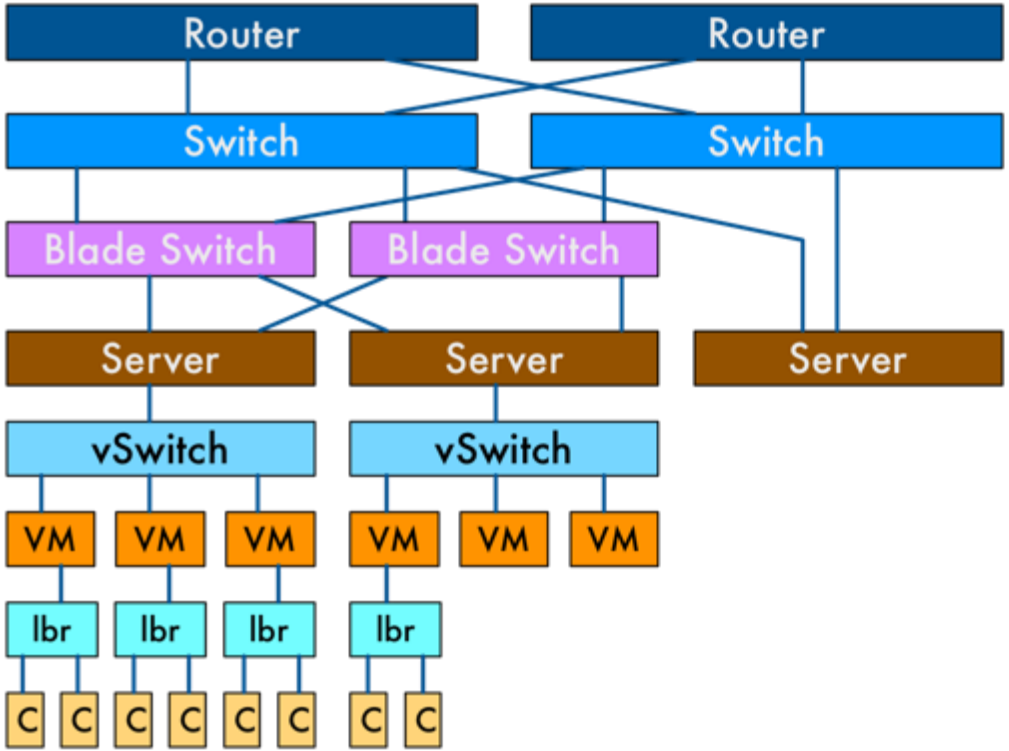

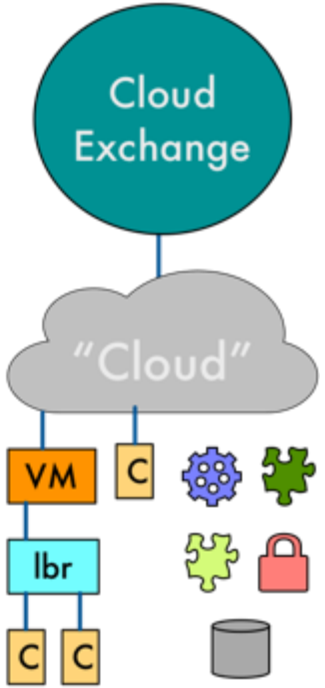

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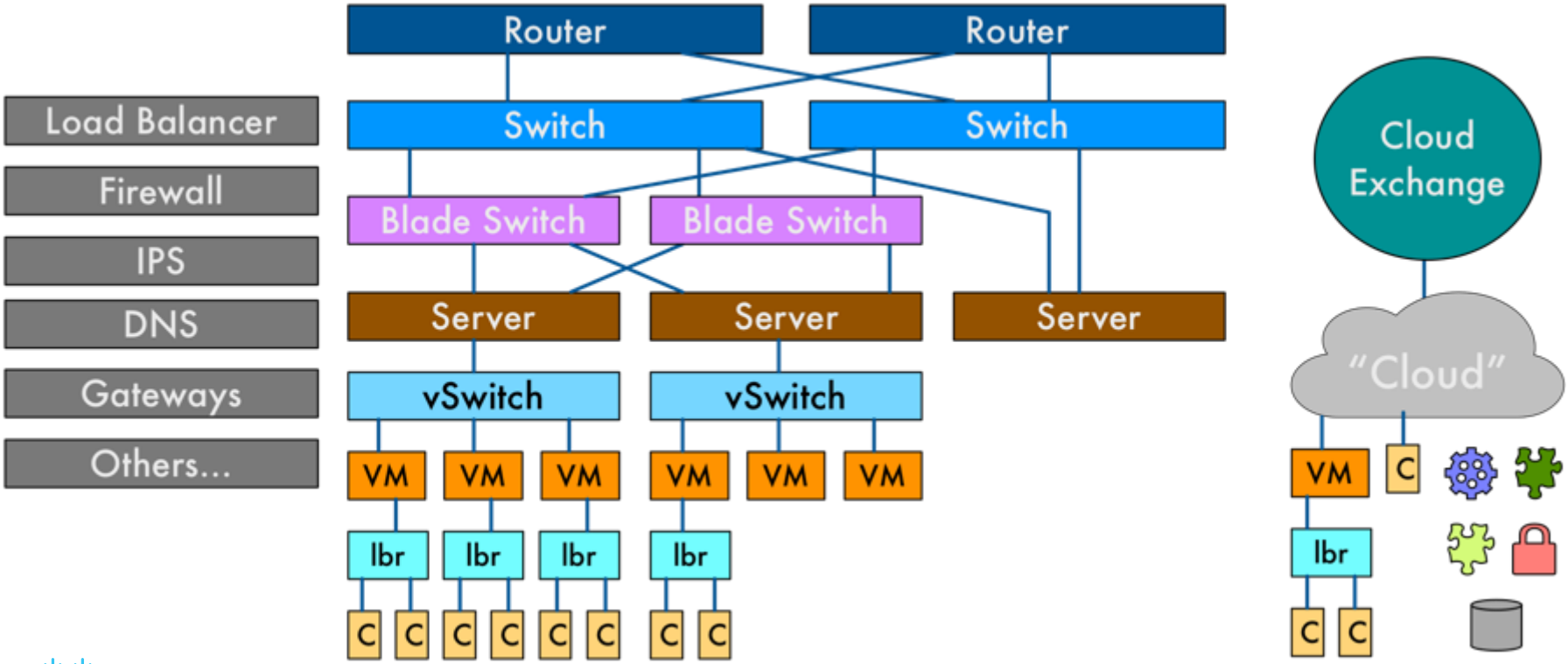

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The OSI Model of Networking…

Please don't ask about this…

L7: Application

L6: Presentation

L5: Session

L4: Transport

L3: Network

Oh Yeah… We Got this

L2: Data Link

Black Magic

L1: Physical

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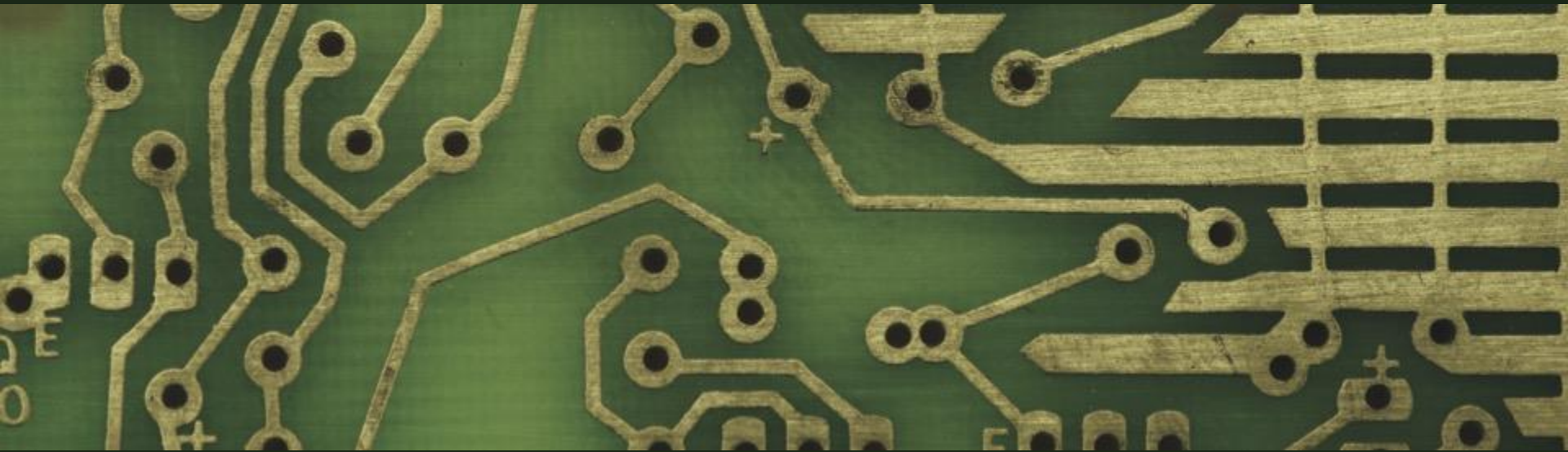
The Four Ages of Networking



Stone Age

Spanning Tree

VLANs

The Four Ages of Networking…..

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Stone Age

Spanning Tree

VLANs

Bronze Age

Routing Protocols

WAN Design

IP-magedon

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The Renaissance

SDN

OpenFlow

Controllers

Overlays

MP-BGP

VXLAN

Micro-Segmentation

White Box

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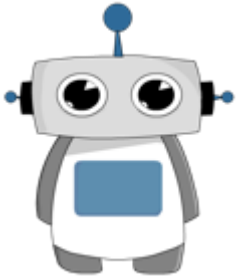

Programmable Age

Cloud

Python

REST / APIs

NETCONF / YANG

“Fabrics”

Network Function Virtualization (NFV)

DevOps

Containers

The Four Ages of Networking…..

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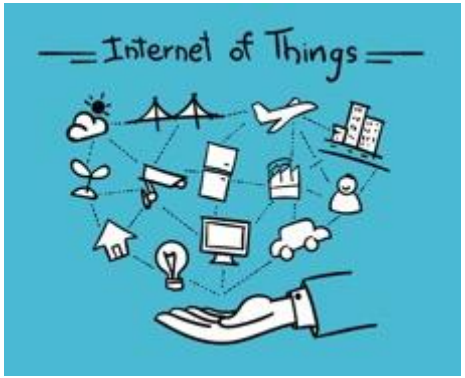
App Economy

User Expectations and Agility

Internet of Things



If it isn't connected, don't bother…

Tech Unicorns

Low barrier of entry for disruptors

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The Cloud You Plan to Build ☺

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The Cloud You Plan to Build ☺

The Cloud You End Up With ☹

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The New Infrastructure Stack

Users and Developers

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

Architects and Operators

Operating System	CoreOS, Rancher, RedHat, Ubuntu, Microsoft
Infrastructure	UCS/ACI, HP, vSphere/NSX

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Container Layer	
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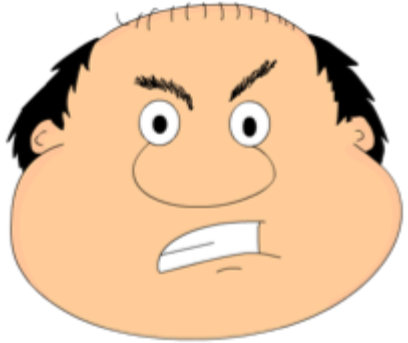

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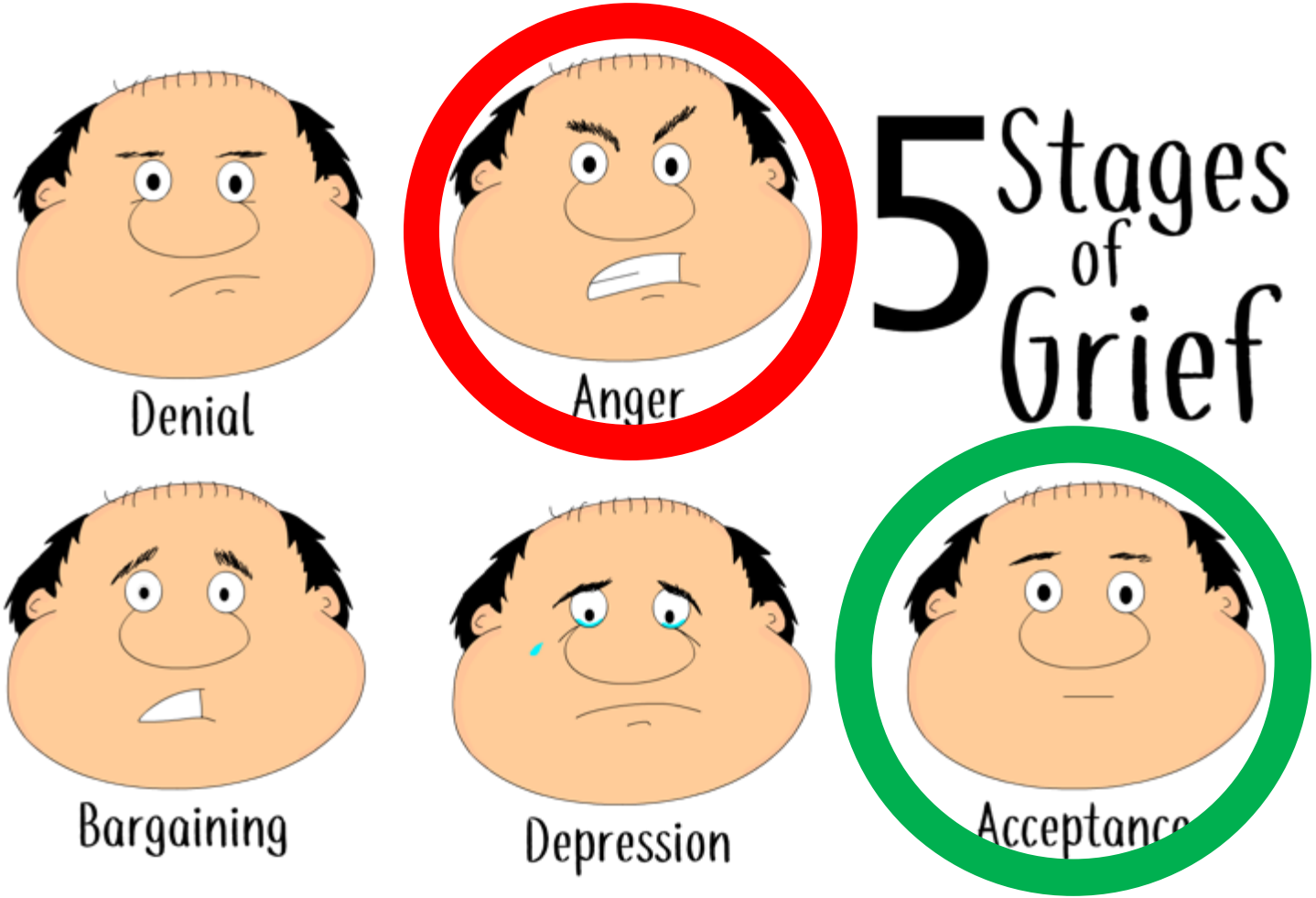

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The Programmable Network Engineer

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”

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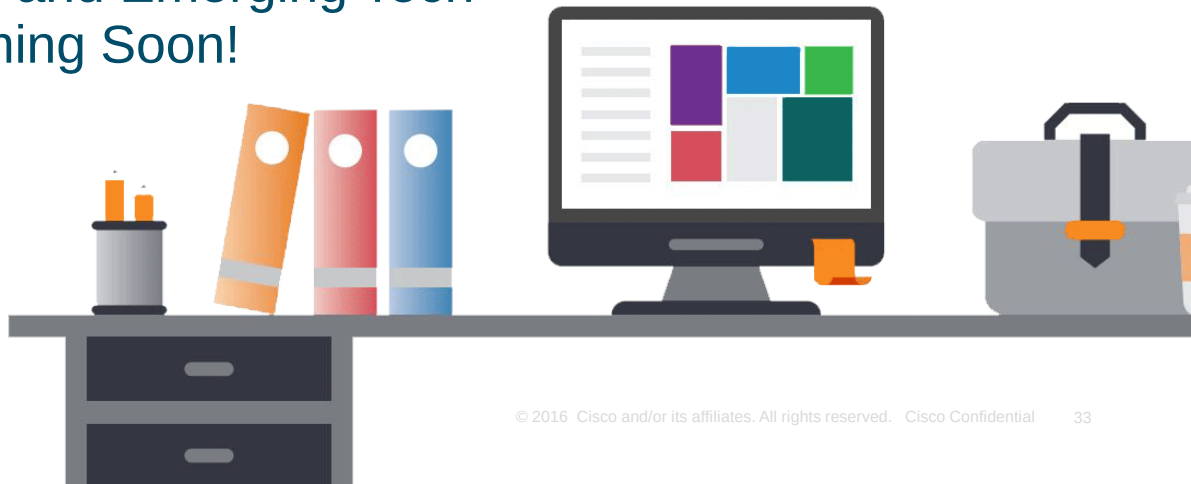
Next Steps!

- Linux Unhatched Course – Available Now!

  http://bit.ly/LinuxUnhatched

- Python Essentials and Emerging Tech Workshops – Coming Soon!



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