Core Network/VoIP Implementation

Frank Catanese

Chief Technology Officer

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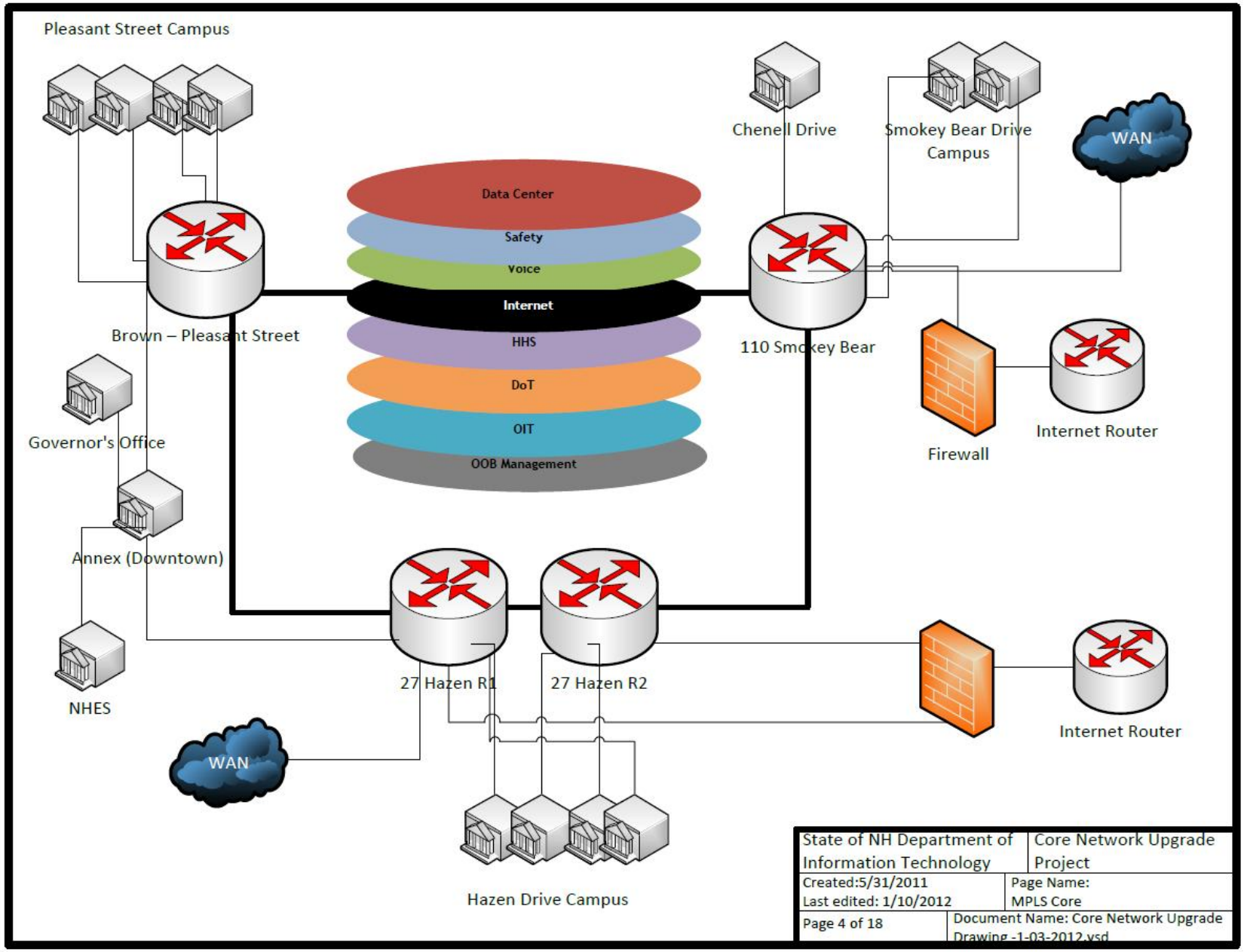
Core Network Upgrade

- What is the core network?
- Why are we upgrading it?
- How will it change?
- How are we replacing it?
- Next Steps
- Questions?

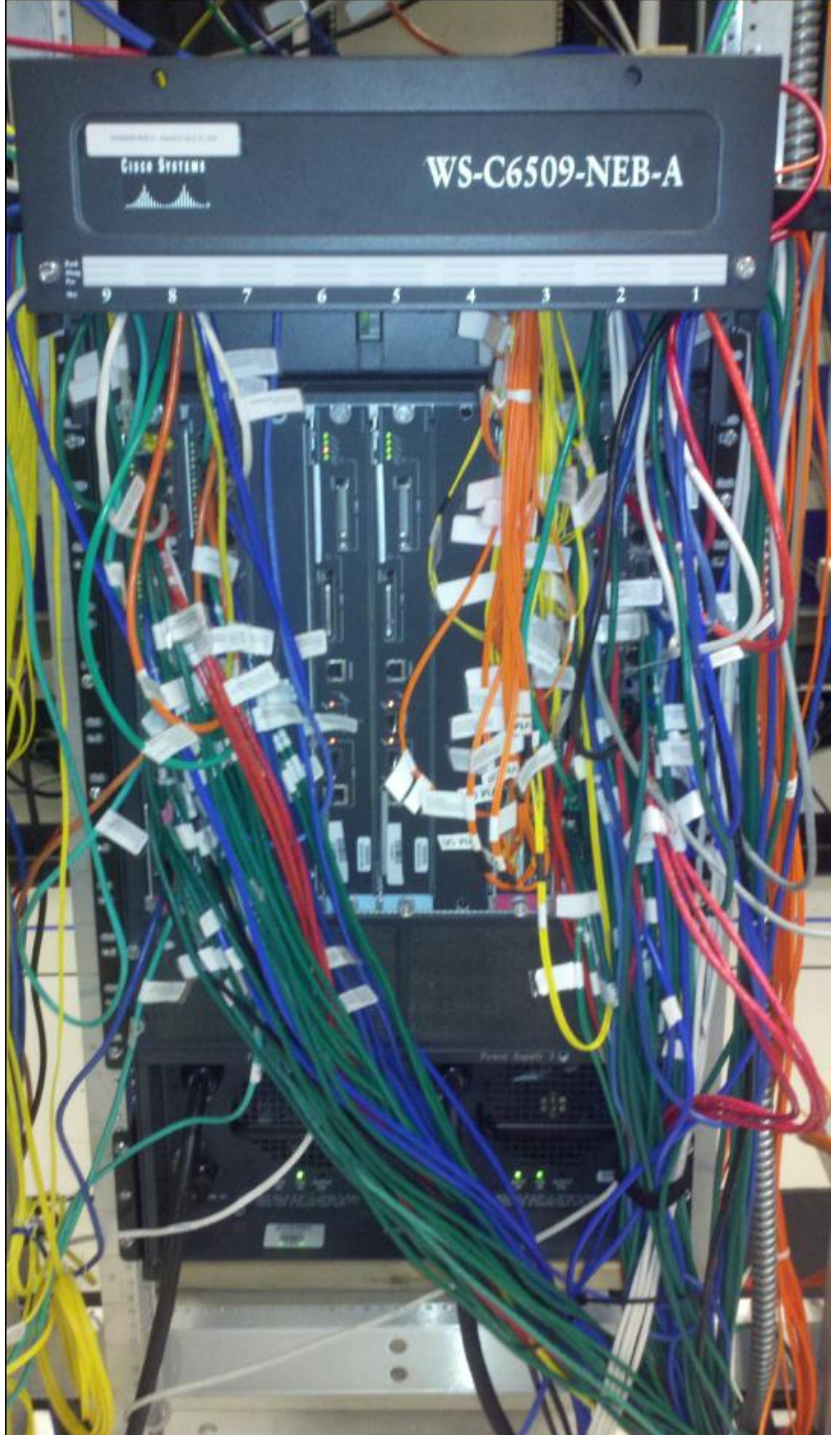
What is the core network?

It’s this…


Pleasant Street Campus
Chenell Drive
Smokey Bear Drive Campus
WAN
Data Center
Safety
Voice
Internet
HHS
DoT
OIT
OOB Management
Brown – Pleasant Street
110 Smokey Bear
Governor's Office
Annex (Downtown)
Firewall
Internet Router
NHES
27 Hazen R1
27 Hazen R2
WAN
Internet Router
Hazen Drive Campus
State of NH Department of Information Technology
Core Network Upgrade Project
Created:5/31/2011
Last edited: 1/10/2012
Page Name: MPLS Core
Page 4 of 18
Document Name: Core Network Upgrade Drawing -1-03-2012.vsd

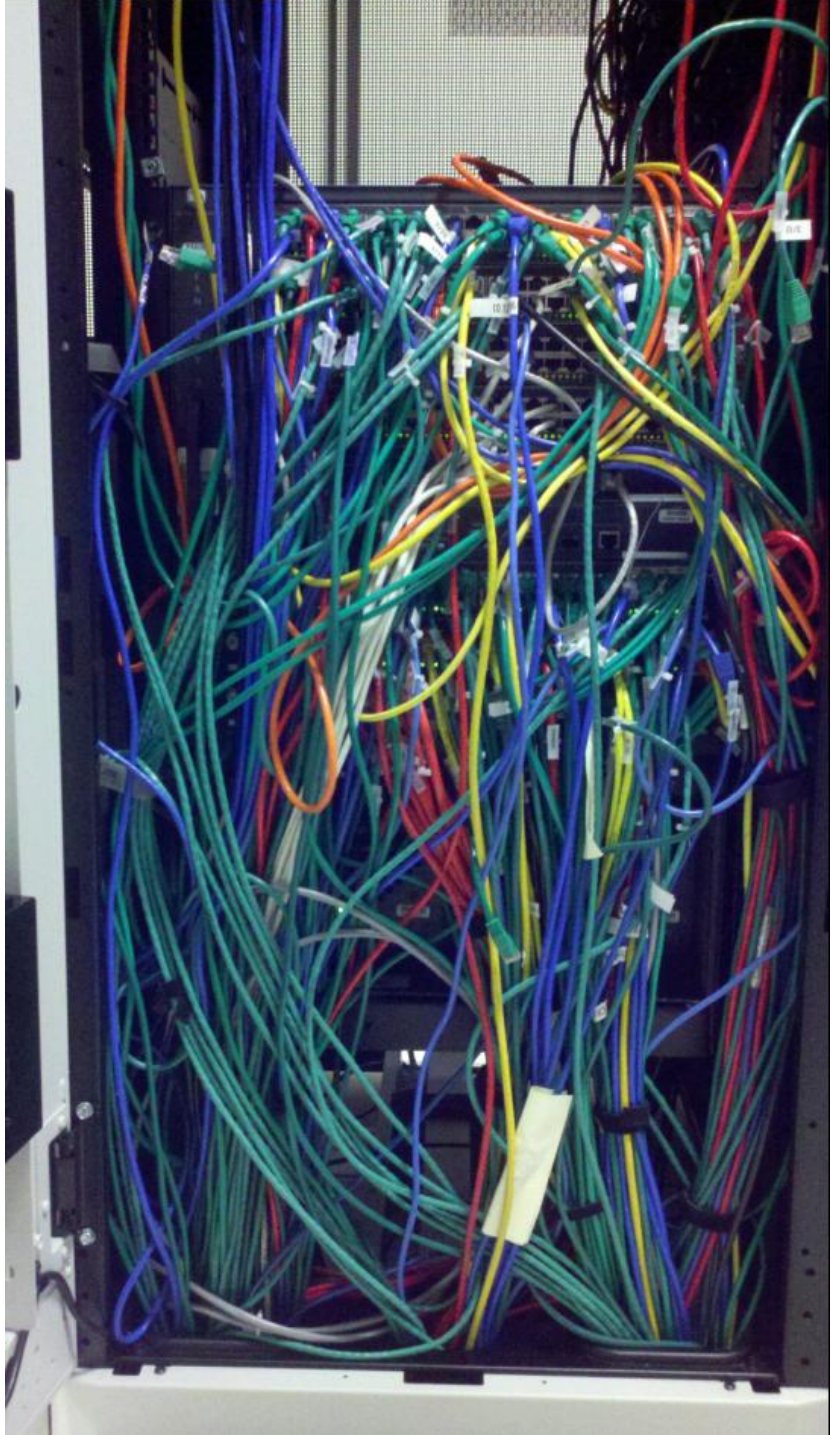
What is the core network?

And this…


Cisco Systems
WS-C6509-NEB-A
9 8 7 6 5 4 3 2 1

What is the core network?

And this…



What is the core network?

Fed by this…


WEBSNH1LIVE
WEBSNH1PRD

What is the core network?

And this…


IBM

What is the Core Network

- Essentially the core network is what connects all the users to core services.
  - Core services include:
    - Core applications such as NHFIRST
    - e-mail (where it is provided centrally)
    - Connectivity to the Internet
    - Connectivity to other agencies
    - Connectivity to remote locations across the Wide Area Network (WAN).

What is the Core Network

- Essentially the core network is what connects all the users to core services.
  - It is wiring that runs from building to building
  - It is the routing that identifies where traffic is to go
  - It provides a secure path from location to location and into and out of the State.
  - It is monitored by Intrusion Protection Devices as well as a Threat Aggregation Platform.

Why are we upgrading it?

- The current core network was purchased for Y2K and is 14 years old.
- Presently the network contains no redundancy.
- The requirement to move data at higher and higher speeds has maxed out our current infrastructure.

How will it change?

- Speeds today of 10MB to 1000MB (1GB)
- Backup windows are approaching and in some cases encroaching on production hours
- Priority for traffic doesn't exist

- New Speeds of 10MB to 10,000MB (10GB)
- With higher speeds we should see shortened backup windows.
- The new network will give necessary traffic priority where required

How are we replacing it?

- The first steps included finding locations and power for all the equipment.
  - Given that the core network has so much cabling it would be difficult to move it to a new location in the data center.
  - The team decided to move the existing racks forward 5 feet and place the new behind it.
  - This is how that went…


State of NH Core Upgrade
Rack Move 06-23-12
Ben Posner
Don Amendum
Dave
Hunger
Teressa Corson
Frank Catanese
Al Fraser
Derek Fraser

How are we replacing it?

How are we replacing it?

- Next Steps
  - Rack and stack equipment
  - Install and configure
  - Stress and failover test
  - Join old core to new core
  - Perform POC on 3 core applications
  - Perform POC on 3 DMZ applications
  - Perform POC on 3 agency moves to the new core

Next Steps

- Final Testing
- Delivery of As-Built documentation
- System acceptance and sign-off
- Vendor portion goes into maintenance
- State continues rollout until all migration of servers, services are completed

Core Network Upgrade

Questions?