DEFENSE INFORMATION SYSTEMS AGENCY
The IT Combat Support Agency

Software Defined ~~Networking~~ Everything

Evolving to the DoD Information Core

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Software Defined Everything (SDx)

- **SDx as implemented means different things to different organizations. Current focus areas are:**

Service Automation

- **Automated provisioning(by design)**
- **Improved end-to-end management and service delivery**
- **Dynamic Bandwidth reallocation and scheduling**
- **Less time connected in the "box"/ VM**

Programmability

Lower Total Cost of Ownership

Open Standards/Systems

Availability

Security

- **Reduction in requirement for direct equipment access by personnel and management systems**
- **Control plane separation from data plane**

DoD Information Core

TODAY: DoD Information Network (DoDIN)

The *globally interconnected*, end-to-end set of information capabilities for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel.

GOAL: DoD Information Core (DoDIC)

The *globally orchestrated*, end-to-end set of information capabilities for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel.

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Automated Provisioning Capability

A Key Enabler for Software Defined Everything

Automated Provisioning Capability Bottom Line

FASTER

Automated Provisioning (AP) provides the ability to drastically reduce provisioning times through customer based service provisioning.

LOWERS COSTS

Automation results in a significant reduction in Tier I, II technicians and provisioning personnel which reduces O&M/DWCF requirements.

EXPANDS SERVICES

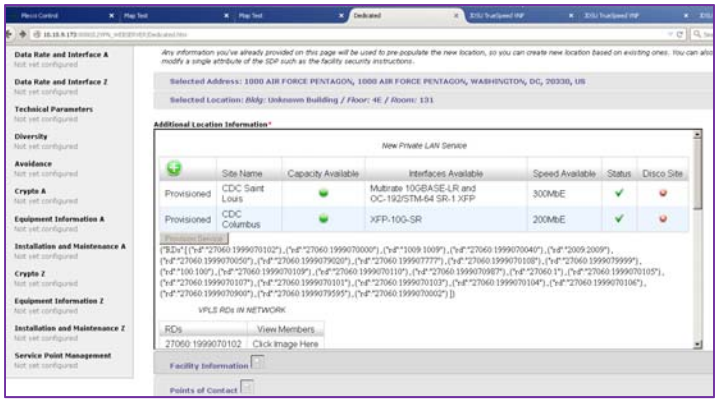
Automated Provisioning enables vendor neutral centralized control services in:

- Legacy and Non-Standard Infrastructure
- Mission Partner Environment (MPE)
- Wide Area Networks
- Campus Area Networks
- Local Area Networks

Keys Points for the Automated Provisioning Capability

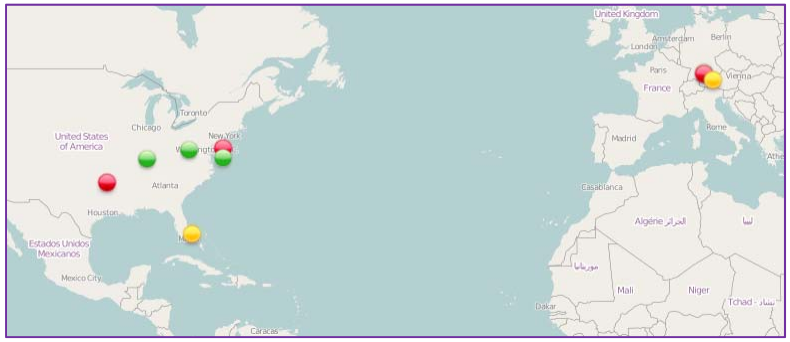
Customer order through DDOE/Storefront

- Provisioning goal (hardware available): 7 days
- Actual installation time: 30+ days
- Demonstrated with automation: **2 minutes!!**
- Capabilities are provisioned **ON DEMAND**



DWCF Labor Hours per action reduced

- 5x Reduction of Tier I, II & provisioning labor hours for start, change, or disconnect



Automation = What/Where Knowledge

- J6/Planners/Operators get current capabilities
  - Actionable for real time execution
- DISA service managers get real time capabilities
  - Actionable to pre-deploy more capacity

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DoD Information Core Capability

Software Defined Everything Implementation

DoD Information Core Bottom Line

ENCRYPT

HARDEN

ENHANCE C2

PRESERVE:

L1: 100G DWDM

L2: IPT-PE (MPLS)

- **DoDIN is the configuration of interconnected Networks.**
- **DoDIC is C2 of the entire Information Core (Networks, Compute, Storage, and Security).**
- **Eliminates circuit mentality. Focus shifts to services.**
- **Implement with new Backbone Autonomous System**
  - **Focus on Carrier Ethernet Services**
  - **Focus on hardening an active control plane**
  - **Focus on Customer based On Demand Provisioning**
  - **Focus on Service Level Agreement and mission partner flow visibility down to the service level (i.e. user experience level)**
  - **Prove reliability of DoDIC's ability to support legacy TDM transmission over Ethernet**

SDx Big Picture

CORE PROBLEM SDN SOLVES
AGILITY

OPEX/HARDWARE CAPEX
NetOps

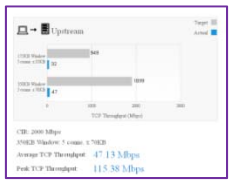
DEV OPEX/SOFTWARE
DevOps

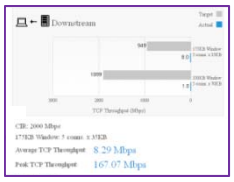
EFFECTS OPERATIONAL IMPROVEMENTS

AVAILABILITY

DEPLOYMENT COMPLEXITY

PROVE SLA RELIABILITY

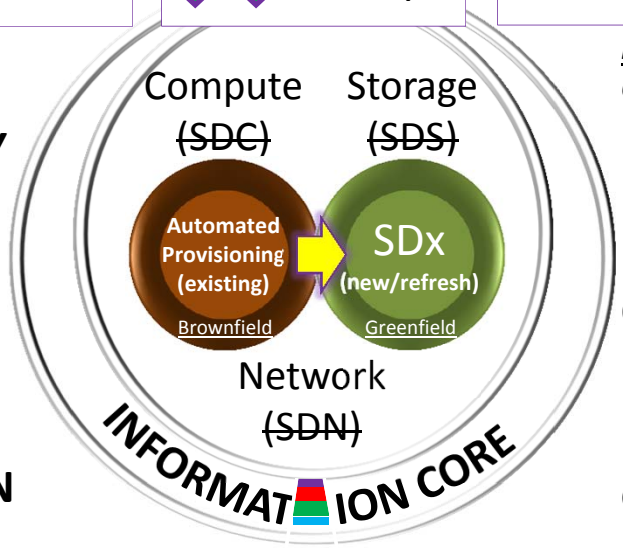




EFFECTS FISCAL BUDGETARY REDUCTIONS

NETWORK CONSOLIDATION

LABOR REDUCTION



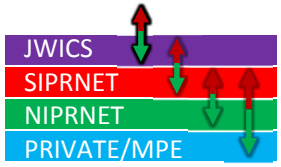
EFFECTS SERVICE IMPROVEMENTS

AUTOMATED PROVISIONING

GEO-DISTRIBUTED CDC

DYNAMIC MPE CAPABILITY

GLOBAL C2/VISIBILITY OF ALL SDx CONTROLLERS (THROUGH CLASSIFICATION)



NOW IN THE REALM OF POSSIBLE

CAPABILITY DEVELOPMENT

EVERY DEVICE IS A SENSOR (EDIAS)

- End to End (E2E) Visibility of EVERY device
- On Demand Tap at EVERY device

CONTINUITY OF GOVERNMENT (COG)

- COG Simulation/ Rehearsal
- Dept./Agency Level Coop

GOVERNMENT CIRCUIT PROVISIONING

- On Demand Last Mile
- On Demand Cloud Services
- MPE -> Other Departments

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Demonstrations

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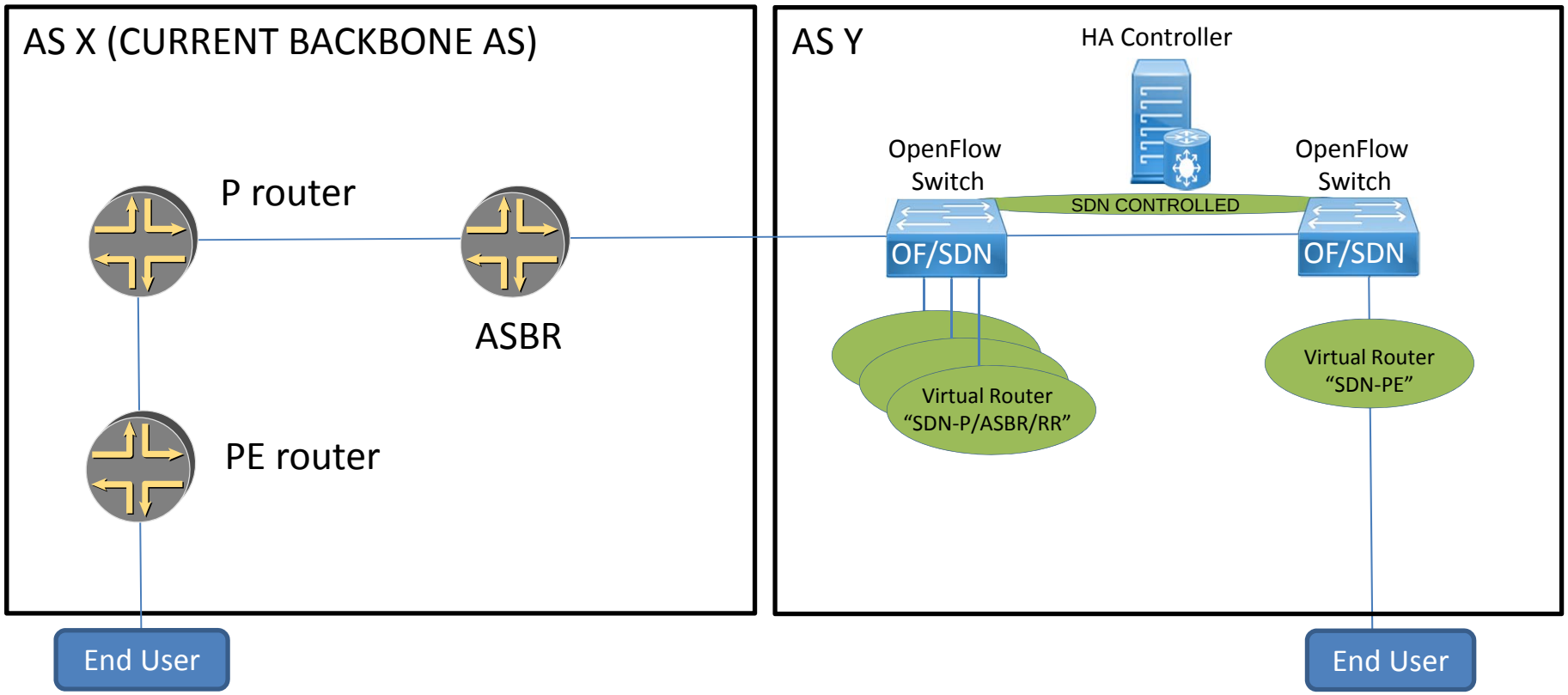
NEW GLOBAL SDx BASED AUTONOMOUS SYSTEM (AS)

IPT-PE(MPLS) MIGRATION INTO SDN INFORMATION CORE



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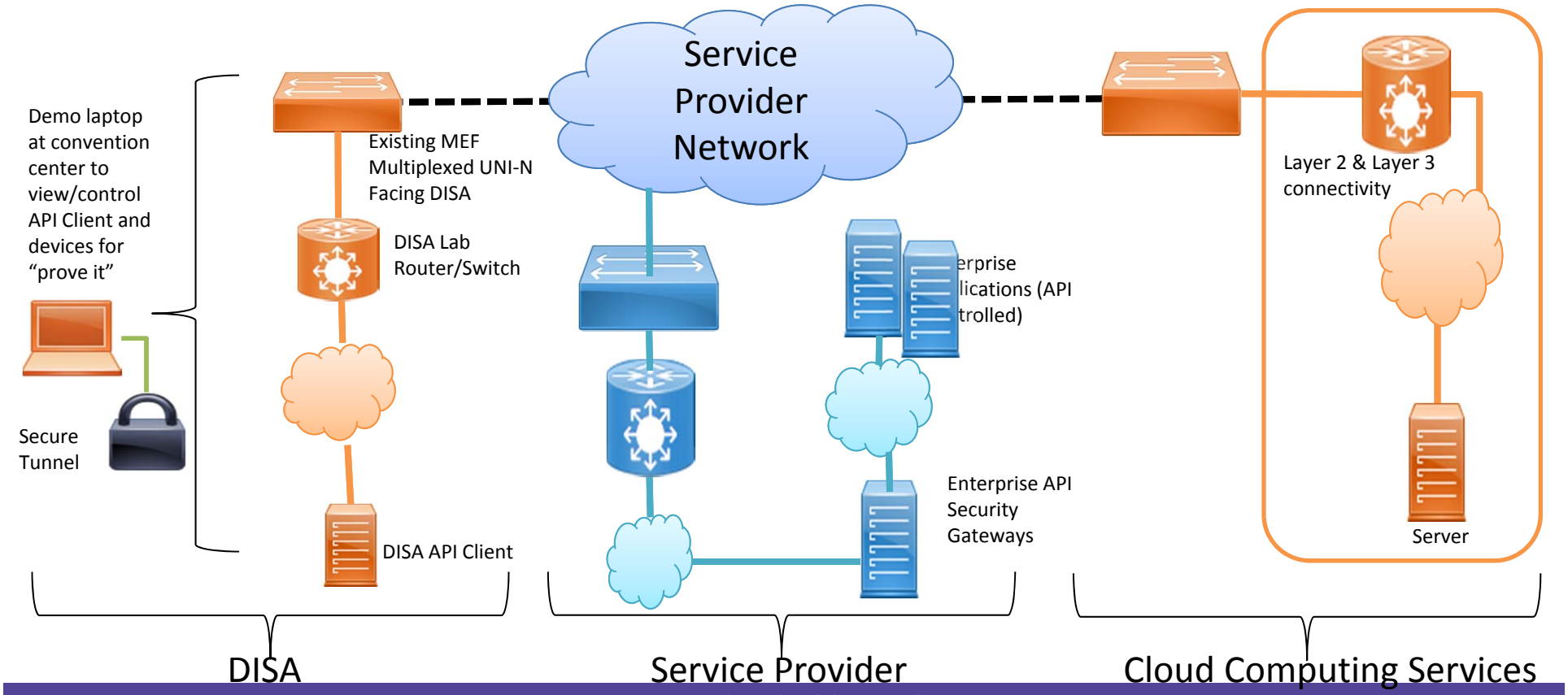
ON DEMAND CLOUD / LAST MILE

On Demand Cloud / Last Mile



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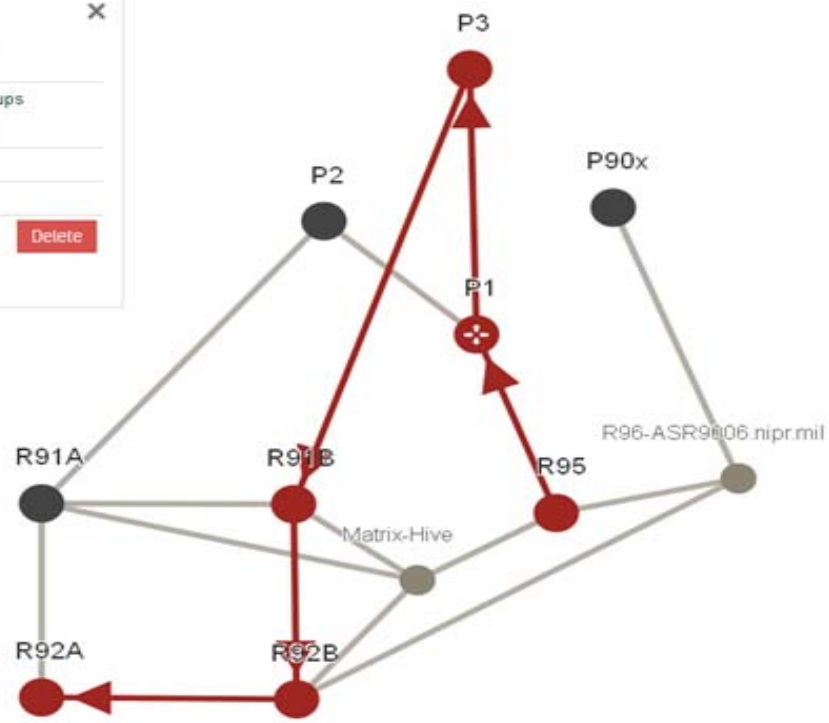
HAYWIRE

Haywire - Policy Verification



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UNITED IN SERVICE TO OUR NATION