



Cisco 思科演示云dCloud系列培训

如何使用dCloud 来做思科SD-WAN(Viptela)的演示



- 您是否有这样的感触：在日常工作中，我们常常为搭建一套演示环境而奔走操劳；在客户拜访过程中，因缺少简单便捷的演示方式，而无法将思科的语音、视频、BYOD等解决方案更好的展示在客户面前。今天，思科演示云dCloud可以祝您一臂之力，帮您解决以上困扰！

dCloud – 思科的演示云



**思科演示云将其产品解决方案架构的
软件和硬件虚拟化，让思科与合作伙
伴的销售团队在任何地方，任何时间
都可以做产品演示。**

创建一个演示背后所需要的资源

演示



机架

培训

运作测试

配置和脚本生成

电源, 冷却和空间

寻找资金

设备管理

场景设置

软件和相关的许可证

故障排除

单就开发的费用来说平均一个demo就需要美金15万, 随着demo的复杂性需要的费用也会急剧上升

Cisco 思科演示云dCloud

体验思科

使用方式

客户

合作伙伴

思科员工

通过全球的5个数据
中心

立即可用

预先配置

已测试

完整的脚本和视频

按需所用

定制化+保存

共享

协作

可信赖

每个思科架构

每年使用量超过16万

24x5 技术支持

销售助力

自主学习

演示

体验

dCloud Platform



云



协作



数据中心



企业网



万物互联



安全



分析和自动化



服务提供商

dCloud 满足你的要求

<http://dcloud.cisco.com>

As Easy As...



- 思科员工和合作伙伴
- 完整脚本
- 定制化, 本地化, 共享
- 可选的终端 (BYOD)
- 可使用你自己的设备



dCloud
Data Centers

US East
US West
EMEAR
APJ
GC

As Complete As...



- Virtual desktops
- Local clients on laptops
- Room based configuration
- 可添加你本地的服务器
- 多种使用案例

Cisco dCloud 的最新更新

1. dCloud V2 是最新的使用版本, 里面包含了很多最新的feature
2. dCloud GC数据中心的容量已经扩充了一倍, 支持最多200个concurrent sessions
3. dCloud目前提供两种类型的demos, 一种是Instant Demo, 一种是Scheduled Demo
4. dCloud的手机端应用都已经上线, 大家可以在苹果的App Store 和安卓市场下载 (搜索Cisco dCloud)
5. 在FY18财年dCloud 还会推出新的功能Topology builder (也就是自定义demo拓扑图)
6. 同时dCloud 还会放开demo development这一块, 我们希望更多的Third party的developer 能加入到dCloud 里面来, 并且可能的话我们Partner也可以把他们的demo host在dCloud 上面

思科SD-WAN (Viptela)的演示

- **现在就让我们和思科企业网架构的专家 **Xiaozhen**一起开始吧：**
 - 转去 dcloud.cisco.com
 - 使用CCO帐户SSO登陆
 - 选择大中华区GC数据中心
 - 马上就跟随**Xiaozhen**开始思科SD-WAN(Viptela)的学习吧，你可以随时提问题

Call to Action

- Go to: dcloud.cisco.com
- dCloud for demo, lab, PoC, etc.
- Live support 24x5... chat, email, Phone



Cisco SD-WAN Introduction

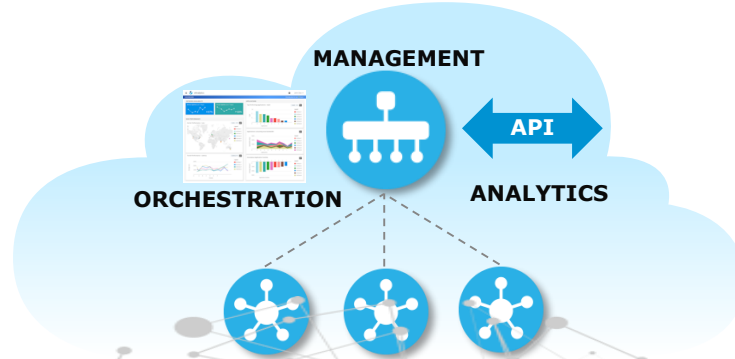
Cisco SD-WAN Architecture



Orchestration Plane



Management Plane
(Multi-tenant or Dedicated)



Control Plane
(Containers or VMs)



Data Plane
(Physical or Virtual)



Data Center

Campus

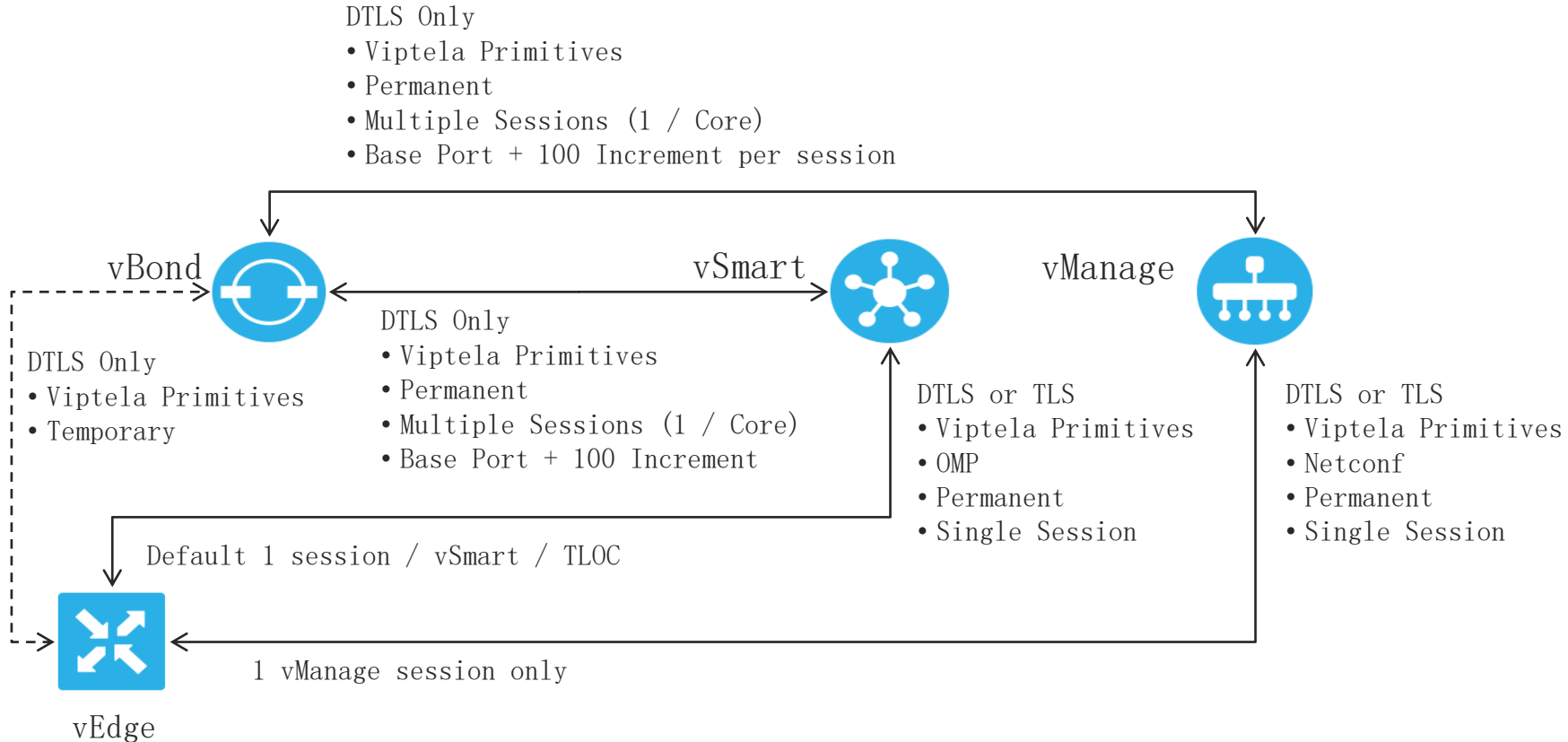
Branch

Home Office

Architecture Details

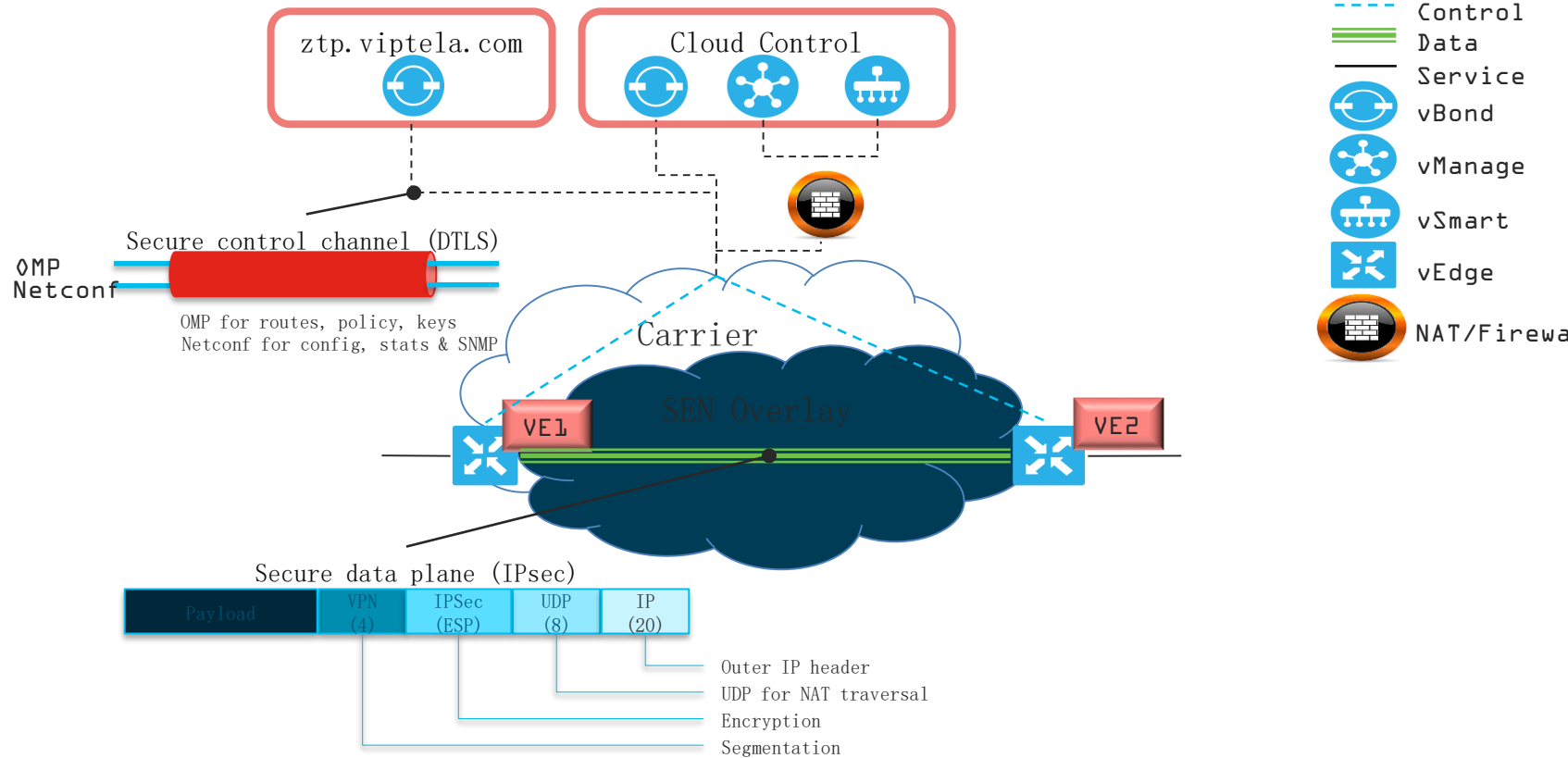
Cisco SD-WAN Architecture

Control Plane Sessions



Cisco SD-WAN Architecture

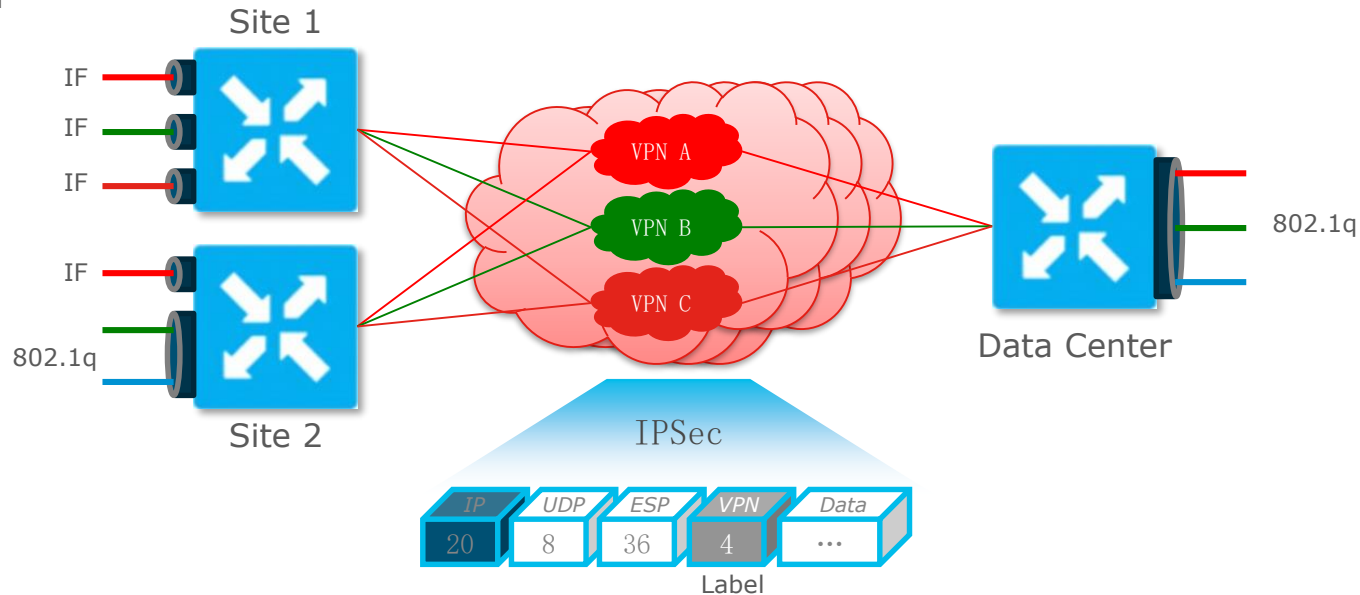
Protocol Use



End-to-End Segmentation

Virtual Private Networks and Mapping

- Isolated virtual private networks across any transport
- VPN mapping is based on physical vEdge Router interface, 802.1Q VLAN tag or a mix of both
- VPN isolation is carried over all transports
 - <https://tools.ietf.org/html/rfc4023>



Definitions

- Transport Side – vEdge Interface connected to the underlay network
 - Always VPN 0
 - Traffic Always tunneled/encrypted, unless split-tunneling is used
- Service Side – vEdge interface connected to customer/user network
 - VPN 1-510 (511/512 Reserved)
 - Traffic forwarded as is from original source
- TLOC – Collection of entities making up a transport side connection
 - System-IP: IPv4 Address (non-routed identifier)
 - Color: Interface identifier on local vEdge
 - Private TLOC: IP Address on interface sitting on inside of NAT
 - Public TLOC: IP Address on interface sitting on outside of NAT
 - Private/Public can be the same if connection is not subject to NAT
- vRoute – Routes learnt/connected on Service Side
 - vRoute tagged with attributes as it is picked up by OMP
- OMP – Overlay Management Protocol

Definitions

- Site-ID – Identifies the Source Location of an advertised prefix
 - Configured on every vEdge
 - Does not have to be unique, but then assumes same location
 - Required configuration for OMP and TLOC to be brought up
- System-IP – Unique identifier of an OMP Endpoint
 - 32 Bit dot decimal notation (an IPv4 Address)
 - Logically a VPN 0 Loopback Interface, referred to as “system”
 - The system interface is the termination point for OMP
- Organization-Name – Defines the OU to match in the Certificate Auth Process
 - OU carried in both directions for authentication b/t control and vEdge nodes
 - Can be set to anything as long as it’s consistent across the Viptela SEN domain

Overlay Management Protocol Overview



- Distance Vector Routing Protocol integrating:
 - Dynamic Routing
 - Encryption Key Distribution
 - Policy Distribution
- Always Deployed in Client/Server Fashion
 - vSmart Controller – Server
 - vEdge Router – Client
- Specifically designed for Overlay Environment
 - Separation of Next-hops, Prefixes and Services
 - WAN Interface (TLOC) Advertisements
 - LAN Routing (vRoute) Advertisement
 - Address-Family Aware (AFI/SAFI)
 - Service Advertisements (AFI/SAFI)
- Best-path Computation and RIB insertion optimally supporting integrated Overlay and Legacy routing

Policy Details

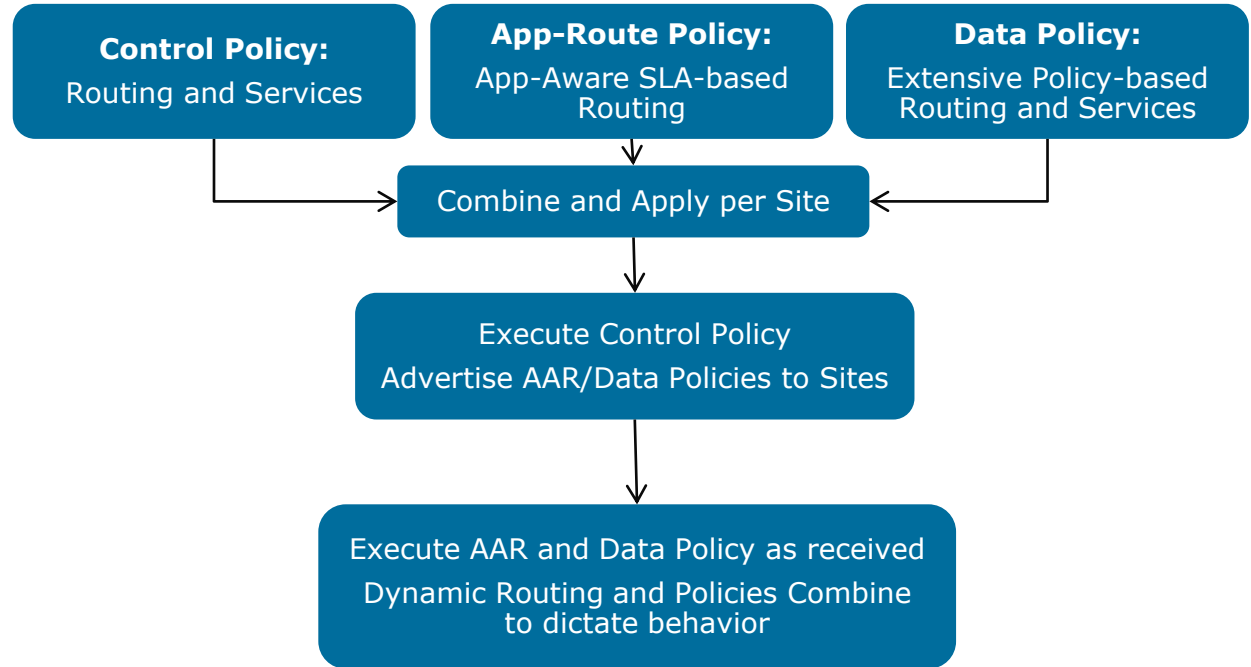
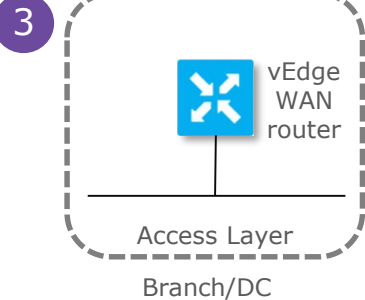
Policy Driven WAN Infrastructure

Policy Augmented Dynamic Routing

1 vManage GUI – Policy Orchestration

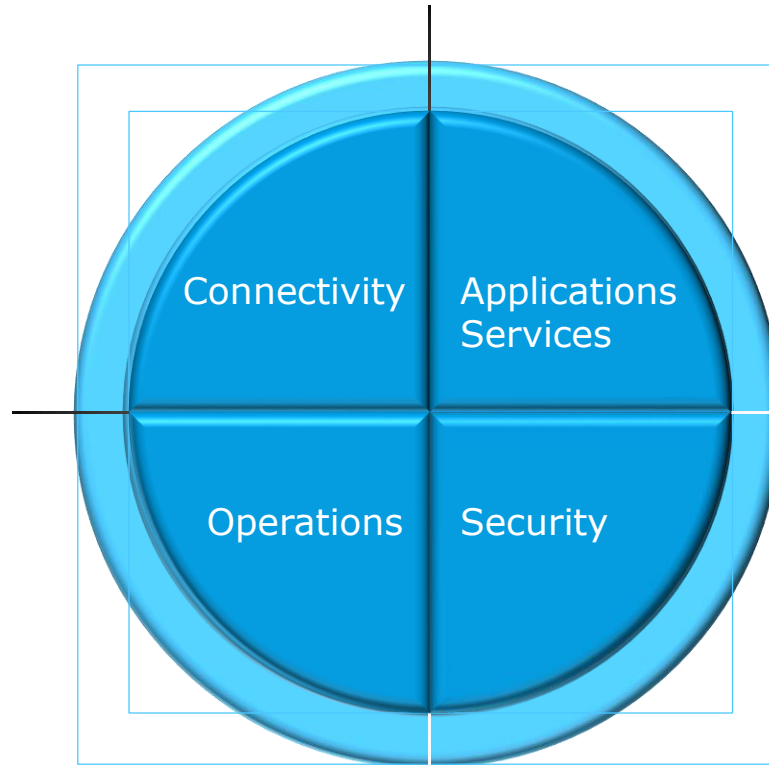


2 vSmart controller – Policy Enforcement/Advertisement



Key Benefits

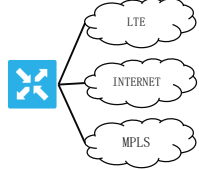
Cisco SD-WAN Functions and Capabilities



Cisco SD-WAN Functions and Capabilities

Connectivity Aspects

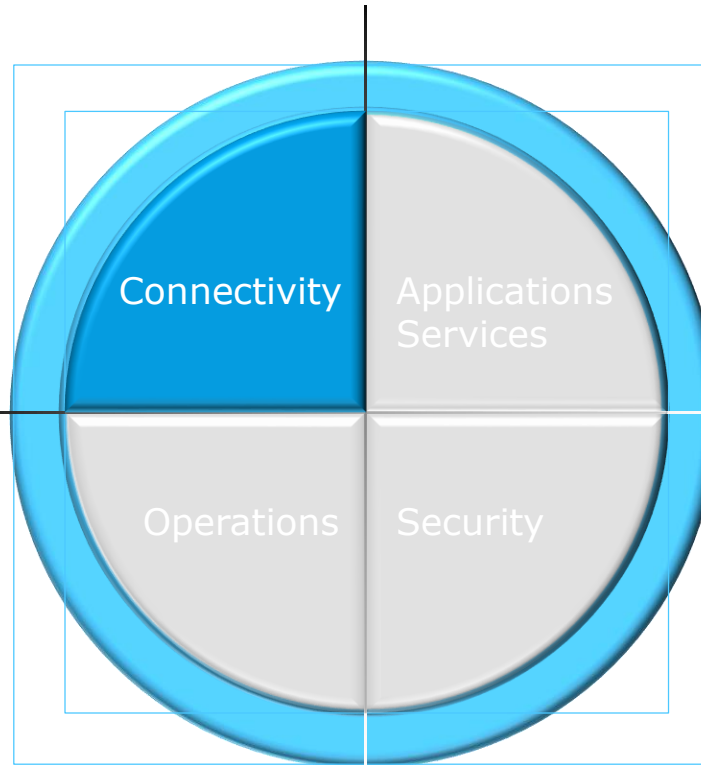
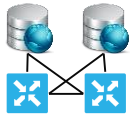
Hybrid WAN



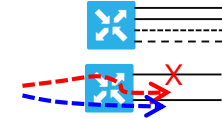
Segmentation/VPNs



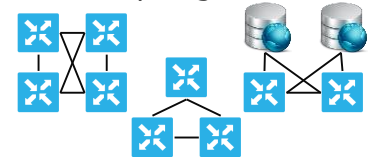
Dynamic Redundancy



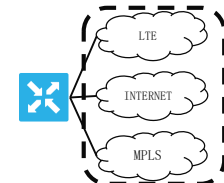
Bandwidth On Demand
Fast Convergence



Dynamic Per-VPN
Topologies



Ubiquitous Data Plane

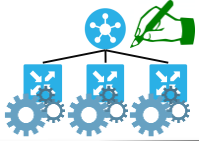


Cisco SD-WAN Functions and Capabilities

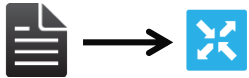
Operations Aspects



Centralized Operations
Distributed Execution



Template-based
Configurations



Programmatic APIs
Open Object Model
NetConf



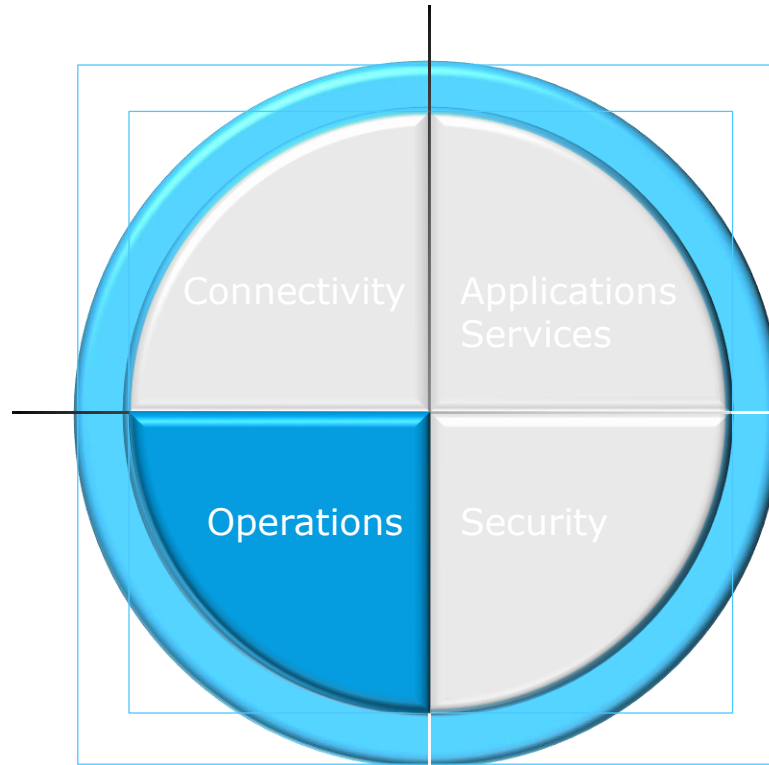
Centralized
Policy Orchestration



Zero Touch Provisioning



Ad-Hoc
Adds/Moves/Changes

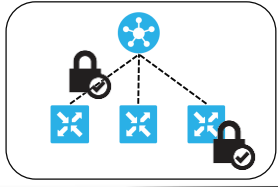


Cisco SD-WAN Functions and Capabilities

Security Aspects



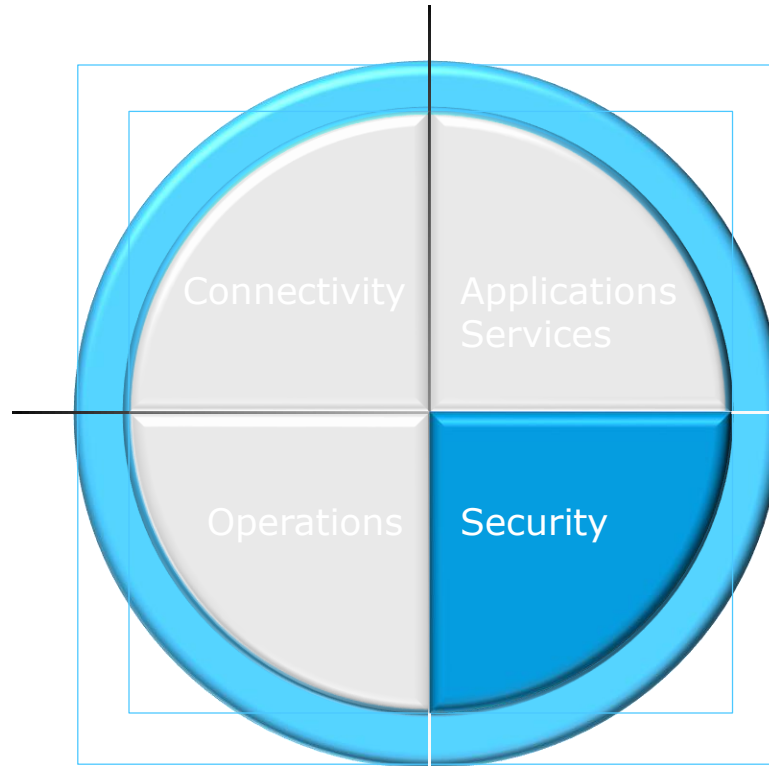
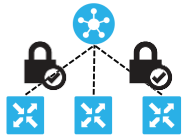
Embedded Security



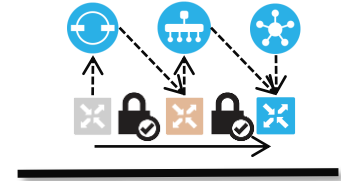
Centralized Device Auth-DB



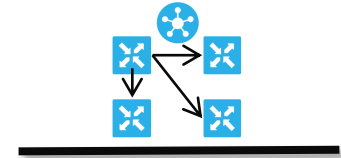
Authenticated/Encrypted Control Plane



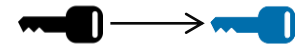
Secure Bring-up



Scalable Data-Plane Encryption



Automatic Key Rollover



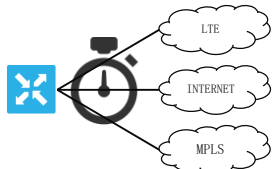
Cisco SD-WAN Functions and Capabilities

Applications and Services Aspects

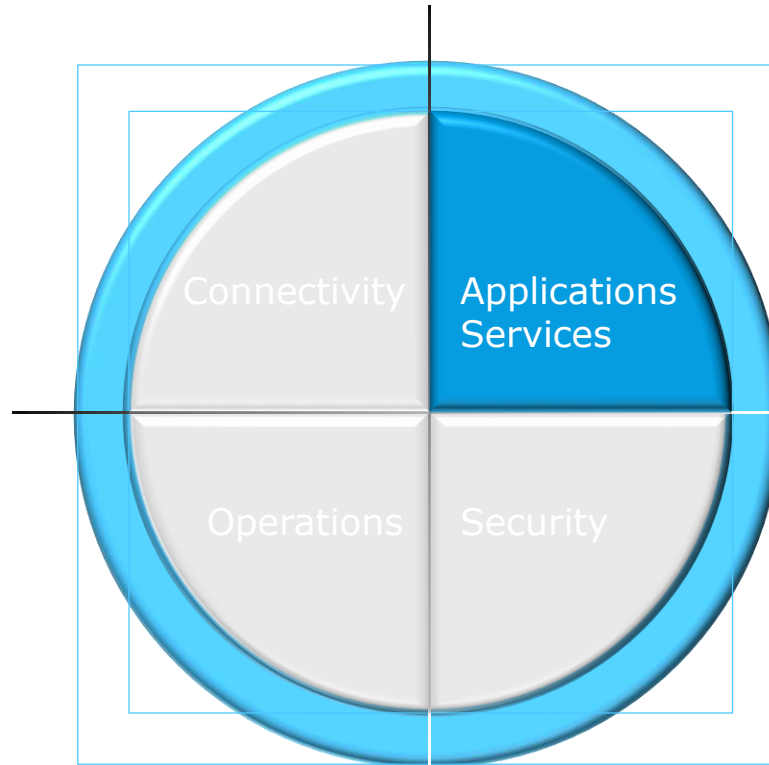
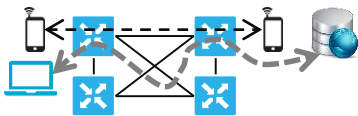
Carrier-style Portfolio



Transport SLA Monitoring



Application-Aware Routing



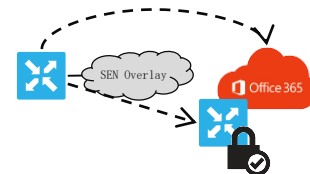
Central Orchestration



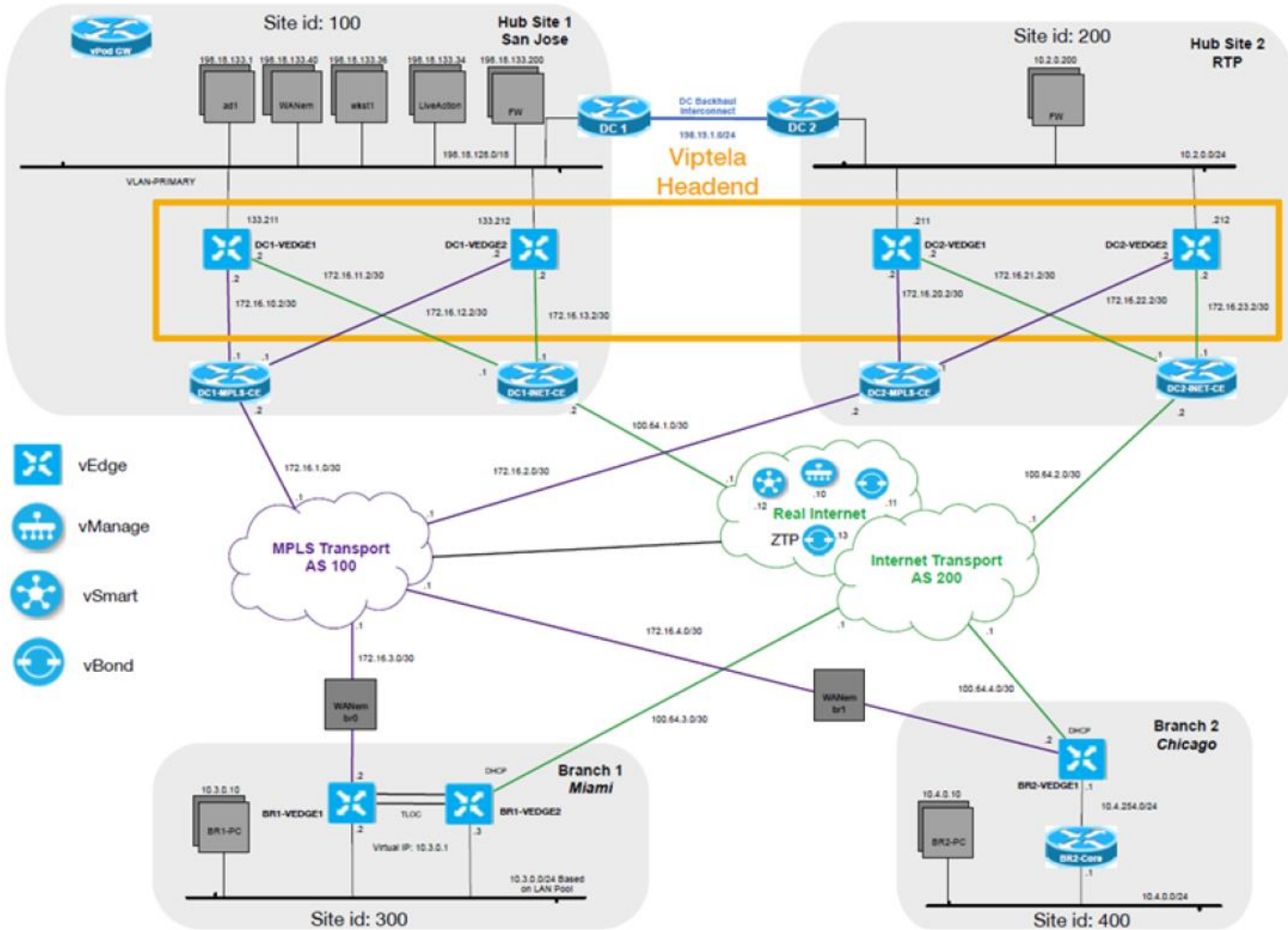
Application Layer Analytics



Cloud Services Integration



Demo



-  vEdge
-  vManage
-  vSmart
-  vBond

Demo

- [Scenario 1: Description](#)
- [Scenario 2: Hub-n-Spoke Policy-based Topology](#)
- [Scenario 3: Service Chaining FW \(M&A\)](#)
- [Scenario 4: Application Firewalling using Centralized Policies](#)
- [Scenario 5: Application Aware Routing](#)
- [Scenario 6: Prefer Data Center DC1 and DC2 for Different Set of Branches for Regional Internet Exit](#)

