

# *Requirements and Framework of VPN-oriented Data Center Services*

*<http://datatracker.ietf.org/doc/draft-so-vdcs/>*

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# *What Is VDCS*

- ⊕ VPN-oriented Data Center Services (VDCS) are the extensions to the existing L2 and L3 VPN services into cloud data centers and to control the virtual resources sharing functions
  - ⊗ Strictly maintaining the secure, reliable, and logical isolation characteristics of VPN
  - ⊗ Making the data center resources as additional attributes to VPNs
  - ⊗ Allowing end-to-end VPN-based service management
  - ⊗ VPN having the control on how and what data center resources to be associated with the VPN

This draft describes the characteristics of those services, the service requirements, and the corresponding requirements to data center networks.

# *VDCS Service Definition and Requirements*

## ⊕ VPN-oriented DC computing services

- ⊗ Virtual Machines (VMs) and/or physical servers in a virtualized carrier data center being attached to a customer VPN
- ⊗ Requirements: auto-provisioning, VM and server instantiation and removal, VM migration policy control, VM monitoring

## ⊕ VPN-oriented DC storage services

- ⊗ disk space, either virtual or actual blocks of hard drives in data centers, being added to a customer's VPN
- ⊗ Requirements: content replication control, storage space auto-provisioning, storage migration policy control, content life cycle management

# *Other Requirements*

## ✚ Intra-DC Network Requirements

### ✚ Requirements when VPNs are extended into DC using VPN Gateway

- Traffic separation per VPN and per service
- DC virtual resource assignment control and reporting
- Dynamic configuration and provisioning control of DC virtual resources
- QoS support

## ✚ Virtual Resources Management Requirements

### ✚ DC virtual resources include physical servers and VMs, disk spaces, memories, intra-DC network connections and bandwidth.

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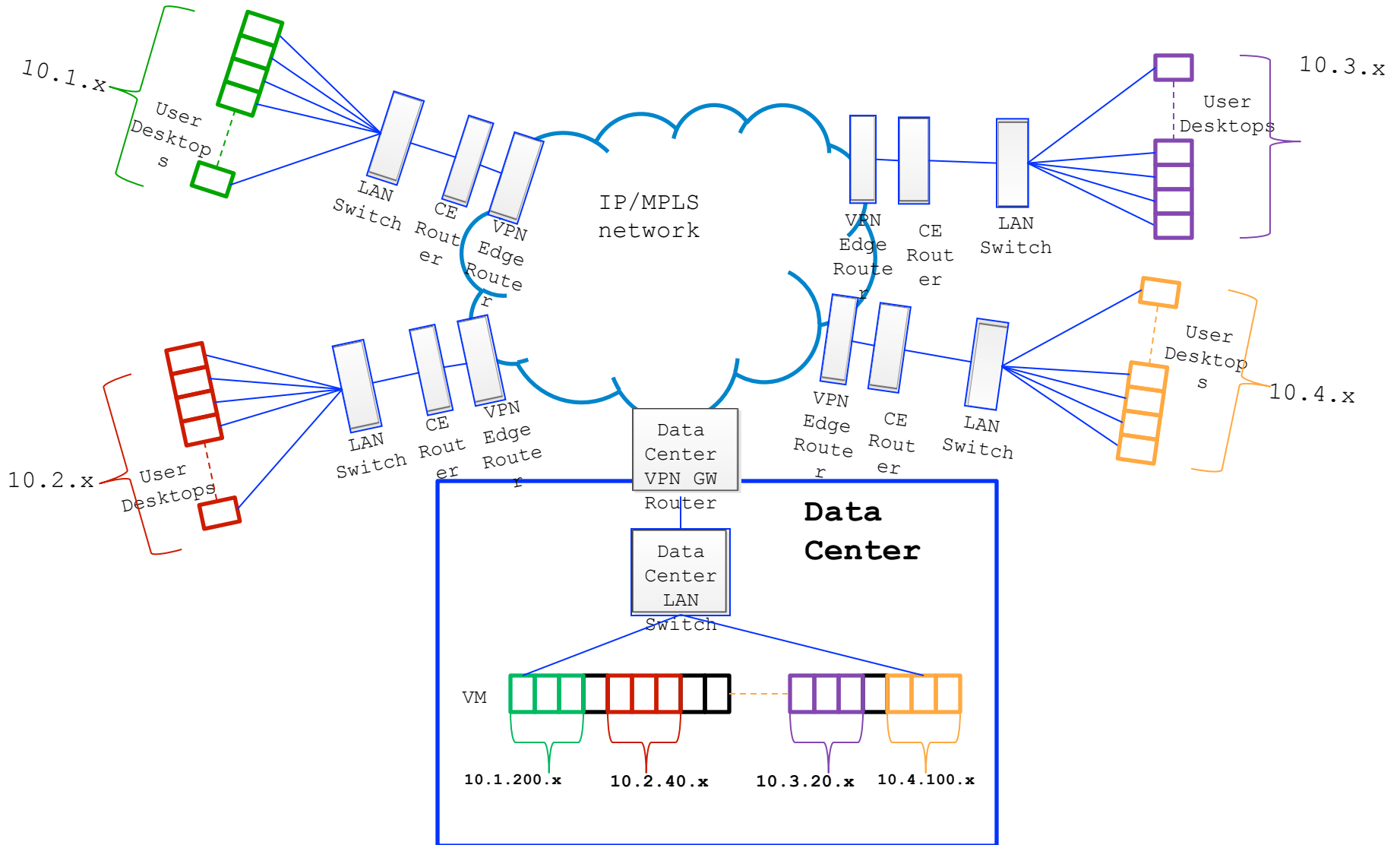
- Resource partition and assignment
- Resource accessibility control and management

# *Other Requirements*

- ⊕ Security requirements
- ⊕ Auto-configuration requirements
- ⊕ OAM requirements
- ⊕ And etc.

# L3-VDCS Physical Framework

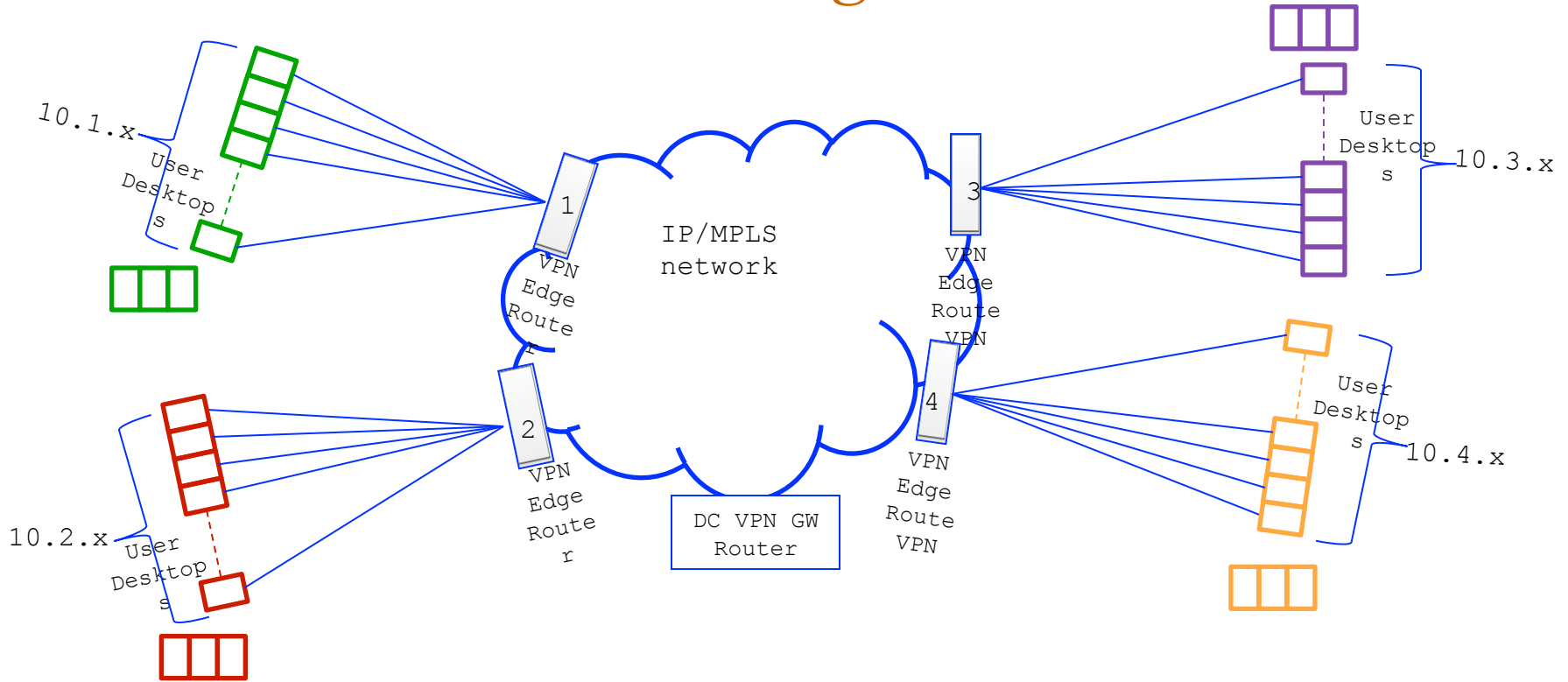
– Virtual Machines attached to VPN





# *L3VDCS Logical View*

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For end users of a VPN client, they see the VMs in data center as if  
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# *Next Steps*

- ❖ As this drafts gets longer, it may need to be broken into two separate drafts: requirements draft and framework draft
- ❖ Welcome feedbacks and solution development cooperation
- ❖ Still looking for a WG for the progression of
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