CenturyLink® Cloud Connect: VPNLynk to AWS

Direct, Secure, Private Connection to AWS

Content

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Purpose

The purpose of this document is to provide an end-to-end walk through for a customer setting up Hosted Direct Connect for the first time via CenturyLink's Cloud Connect.

Information contained is provided to serve as a supplement to AWS documentation linked throughout this document. Users should check the provided links to obtain the most up-to-date information and for more details pertaining to AWS processes.

Disclaimer: The material in this guide is for informational purposes only and is taken from AWS's website material. All AWS related configuration information is based off of the AWS Console configuration instructions from the AWS website.

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1) Background Information

What is AWS Direct Connect (https://aws.amazon.com/directconnect//)
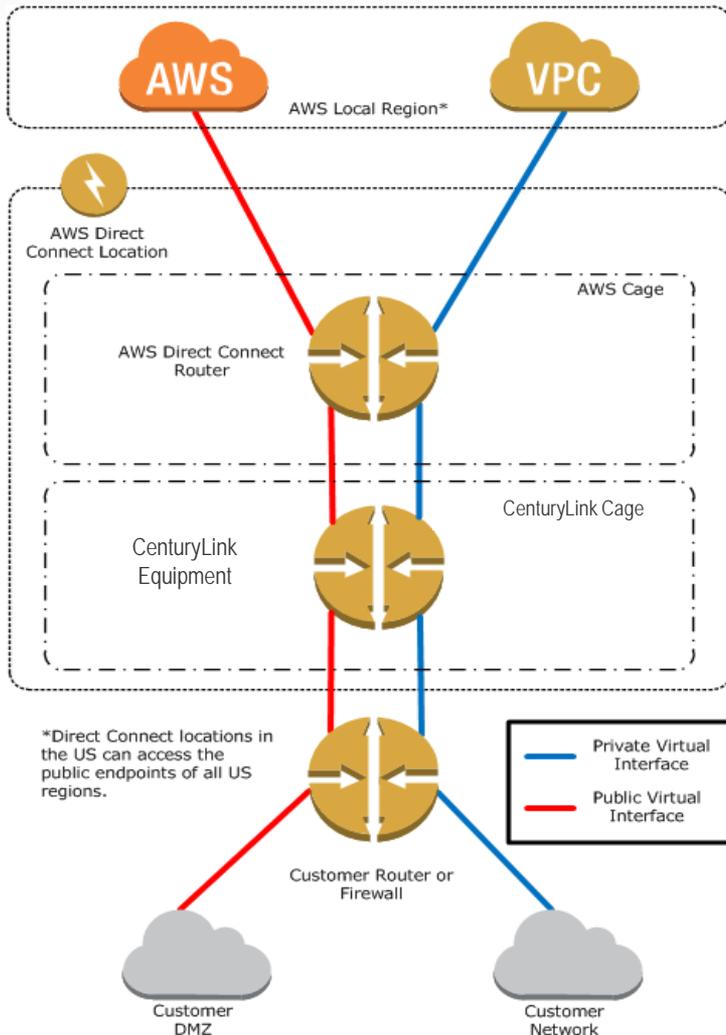
AWS Direct Connect links your internal network to an AWS Direct Connect location.

One end of the connection is connected to your network, the other to an AWS Direct Connect router.

With this connection in place, you will have a virtual interface connected directly to the AWS cloud service, bypassing the public Internet. Note: CenturyLink provides diverse connections from the MPLS network into the AWS Region you choose.

An AWS Direct Connect location provides access to Amazon Web Services in the region it is associated with, as well as access to other US regions.

For example, you can provision a single connection to any AWS Direct Connect location in the US and use it to access public AWS services in all US Regions.

2) Background Information

Getting Started with AWS Direct Connect (https://aws.amazon.com/directconnect/getting-started/)

- **This document is for a hosted Virtual Interface (VIF) via AWS Direct Connect.**

- **The supporting service ordered from CenturyLink is VPNLynk Cloud Connect service to AWS.**

- **The 3rd option in the 3 scenarios below (screenshot from the AWS Direct Connect Getting Started webpage – link above) is applicable to this CenturyLink service type.**

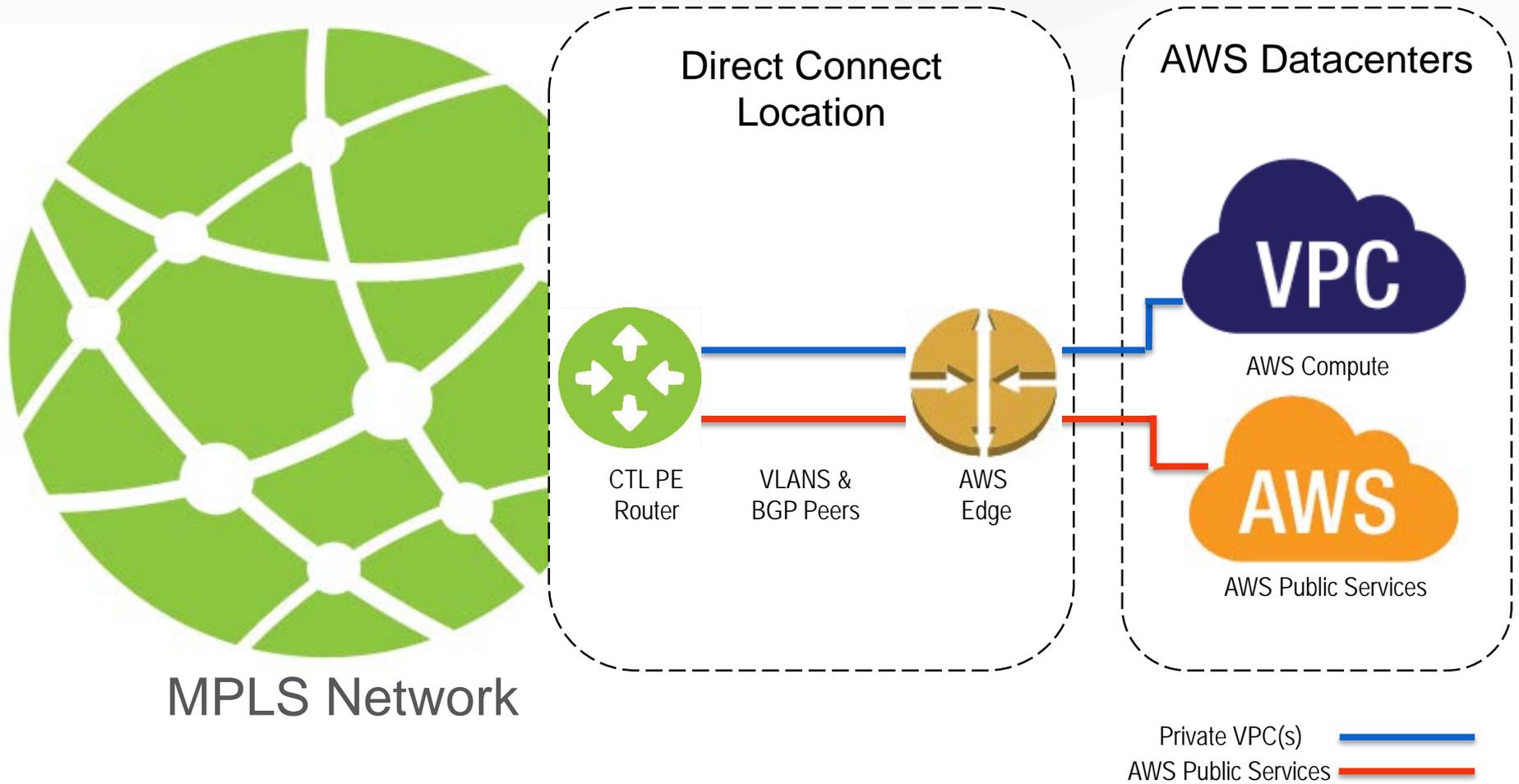## Getting started with AWS Direct Connect

AWS Direct Connect enables you to directly interface your on-premises network with a device at an AWS Direct Connect location. The following procedures demonstrate the common scenarios to get set up with an AWS Direct Connect connection. You can also refer to the article How do I provision an AWS Direct Connect connection? in the Knowledge Center.

You can set up an AWS Direct Connect connection in one of the following ways.

Scenario	Method
Present at AWS Direct Connect Location	Connect directly to an AWS device from your router at an AWS Direct Connect location using 1Gbps or 10Gbps connection.
Connect from your premises	Work with a partner in the AWS Partner Network (APN) or a network provider that will help you connect a router from your data center, office, or colocation environment to an AWS Direct Connect location. The network provider does not have to be a member of the APN to connect you.
Connection via AWS Direct Connect Partner	Work with a partner in the AWS Partner Network (APN) who will create a hosted connection for you. Sign up for AWS, and then follow the instructions to accept your hosted connection.

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3) Topology - Hosted Cloud Connect for AWS Direct Connect

MPLS Network

Direct Connect Location

CTL PE Router | VLANS & BGP Peers | AWS Edge

AWS Datacenters

VPC
AWS Compute

AWS
AWS Public Services

Private VPC(s) ——————
AWS Public Services ——————

- Any NAT configuration that is required due to the use of any AWS Public Services will be the responsibility of the customer.

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4) Roles and Responsibilities

Roles and Responsibilities

STEPS REQUIRED TO SET UP AWS DIRECT CONNECT CONNECTIVITY	END CUSTOMER	CENTURYLINK	AWS
SET UP CONNECTIVITY TO AWS DIRECT CONNECT LOCATION			
Order CenturyLink Hosted Cloud Connect service(s) to AWS Direct Connect	X		
Decide on the type of VIF required (public or private)	X		
Create Virtual Circuit to AWS and Hosted Virtual Interface (VIF) within AWS		X	
Monitor Virtual Circuit to AWS		X	
SET UP BGP PEERING BETWEEN CENTURYLINIK PE AND AWS EDGE DEVICE			
Configure BGP Peering on CTL PE Device facing AWS (at 2 Direct Connect locations – same region)	X		
Configure BGP Peering on AWS side via Portal facing CTL (at 2 Direct Connect locations – same region)	X		
LINK SERVICES ON AWS TO THE HOSTED VIRTUAL INTERFACE			
Accept Hosted Virtual Interfaces (VIF) via AWS Console	X		
Create & link Virtual Interface, Virtual Private Gateway, Direct Connect Gateway etc.. As applicable via AWS Console	X		

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5) Customer requests CenturyLink Cloud Connect service

- To order a CenturyLink Cloud Connect to AWS Direct Connect, contact your CenturyLink Account Representative

- Information needed by CenturyLink to complete the connection:

  - ❑ AWS Account ID

  - ❑ AWS service(s) you are connecting to
    - ❑ Public Virtual Interface (VIF) Requirements
    - ❑ Virtual Private Cloud (VPC) / Virtual Interface (VIF) Requirements
      - ❑ Identify how many VPC's/VIF's you need connectivity to
        - ❑ Each VPC/VIF requires a separate logical connection with VPNLynk Cloud Connect from CenturyLink
      - ❑ Determine the amount of bandwidth needed on the VPNLynk connections to AWS
        - ❑ Note: Maximum bandwidth per VPNLynk is 3Gb

  - ❑ Which AWS Region do you require connectivity to

  - ❑ What contractual term length is desired (1yr, 3yr, 5yr etc…)

6) CenturyLink Provisions Cloud Connect to AWS

- **Upon network order submission, CenturyLink will provision two diverse VPNLynk connections to the desired AWS region. CenturyLink will supply you with a Hosted Virtual Interface (VIF) at each Direct Connect location within your AWS accoun.**

- **CenturyLink completes configuration, and provides Customer with necessary information that you will need to document the services that have been configured on the AWS side via the AWS console:**
    - Appropriate IP subnet(s)
    - Autonomous System Number (ASN) Info
        - AS Number
        - BGP Authorization Keys
    - VLAN IDs

The customer is responsible for any/all NAT configurations required for AWS public services.

- CenturyLink will create hosted Virtual Interfaces with applicable Layer 3 IP and BGP configurations. You will be responsible for accepting the Hosted VIFs within your AWS Account upon order completion. (see next page)

- Upon provisioning completion by CenturyLink, you will receive the configuration information from CenturyLink provisioning with instructions as to order completion, activation scheduling, etc.. As applicable to your order.

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7) Accepting the AWS Hosted Virtual Interface

(https://docs.aws.amazon.com/directconnect/latest/UserGuide/accepthostedvirtualinterface.html)

- For instructions on how to accept the AWS Hosted Virtual Interfaces (VIFs) within the AWS Console, please navigate to this link → accept your hosted virtual interface   (summary below)

AWS Documentation » AWS Direct Connect » User Guide » AWS Direct Connect Virtual Interfaces » Accepting a Hosted Virtual Interface

Accepting a Hosted Virtual Interface

Before you can begin using a hosted virtual interface, you must accept the virtual interface. For a private virtual interface, you must also have an existing virtual private gateway or Direct Connect gateway.

To accept a hosted virtual interface

1. Open the AWS Direct Connect console at https://console.aws.amazon.com/directconnect/.

2. If necessary, change the Region in the navigation bar.

3. In the navigation pane, choose **Virtual Interfaces**.

4. Select the virtual interface.

5. Select the confirmation check box and choose **Accept Virtual Interface**.

6. (Private virtual interface) In the **Accept Virtual Interface** dialog box, select a virtual private gateway or Direct Connect gateway, and choose **Accept**.

7. After you've accepted the hosted virtual interface, the owner of the AWS Direct Connect connection can download the router configuration file. The **Download Router Configuration** option is not available for the account that accepts the hosted virtual interface.

❑ Reference the AWS User Guide for any issues/questions as you proceed.

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8) Additional AWS Direct Connect Resources

Overview	https://aws.amazon.com/directconnect/
AWS Latest User Guide	https://docs.aws.amazon.com/directconnect/latest/UserGuide/Welcome.html
VPC Endpoints	http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/vpc-endpoints.html
Pricing	https://aws.amazon.com/directconnect/pricing/ • There are different price rates for traffic to the local AWS region and remote AWS regions
FAQ	https://aws.amazon.com/directconnect/faqs/
How to configure	http://docs.aws.amazon.com/directconnect/latest/UserGuide/getstarted_sub1g_provider.html
AWS Direct Connect Limits	https://docs.aws.amazon.com/directconnect/latest/UserGuide/Welcome.html#directconnect_limits
Notes	• Traffic to/From AWS is rate limited to a maximum of 3Gb when using a hosted Virtual Interface. Higher bandwidths are available from CenturyLink and AWS via Dedicated Cross Connect solutions. See your CenturyLink account team for more details. • A single CenturyLink VPNLynk Cloud Connect will support a single Hosted Virtual Interface to a single VPC or a single Direct Connect Gateway. To support additional VIFs/VPCs/Direct Connect Gateways, please order additional Cloud Connect VPNLynk connectors at no charge.

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