Microsoft Dynamics 365

Azure ExpressRoute for Dynamics 365 Finance & SCM

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Agenda

- ExpressRoute Overview
- ExpressRoute Use Cases
- ExpressRoute Technical Details
- ExpressRoute Provisioning steps
- Questions

ExpressRoute Overview

What is Azure ExpressRoute?

Azure **ExpressRoute** lets you create dedicated, readily available, highly reliable, low latency connections between Azure datacenters and your on-premises locations. An **ExpressRoute** circuit is a logical connection between a customer's on-premises network and Microsoft cloud services such as Microsoft Azure and Dynamics 365 through a connectivity provider

For Dynamics 365, connectivity can be from an **any-to-any (IP VPN)** network, or a **Ethernet cross-connection** through a connectivity provider at a colocation facility.

Key Benefits of using ExpressRoute:

- Layer 2/3 connectivity between client's on-premises network and the Microsoft Cloud through a connectivity provider
- Global connectivity to Microsoft services across all regions with the ExpressRoute premium add-on
- High availability and High Resilience
- Built-in redundancy in every peering location for higher reliability
- Faster speeds

Is ExpressRoute more secure?

- ExpressRoute is not encrypted so technically can't be called more secure but because it's a private network it is more resilient
- ExpressRoute for D365 is through Microsoft Peering, so ExpressRoute is still exposed to Microsoft network which has several customers. This makes a client's connection still exposed (similar to Public network) and a Firewall maybe needed to ensure connection is secure

ExpressRoute for Dynamics 365 F&SCM Use Cases

Use Case: Manufacturing & Distribution Company – Asia Locations Requirements

Customer is upgrading to Dynamics 365 Finance & SCM application

Customer's D365 Landscape

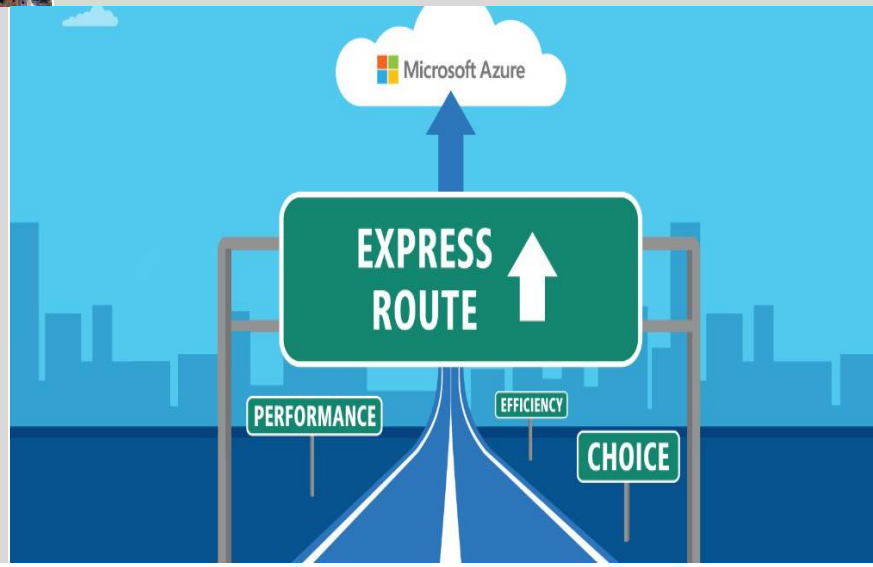
- 1 Legal Entity (11 Operating Units)
- 6 Manufacturing Facilities
- 13 inventory locations in scope (including 3PLs in Asia and virtual warehouses for consignment and drop ship operations)

Asia Warehouses

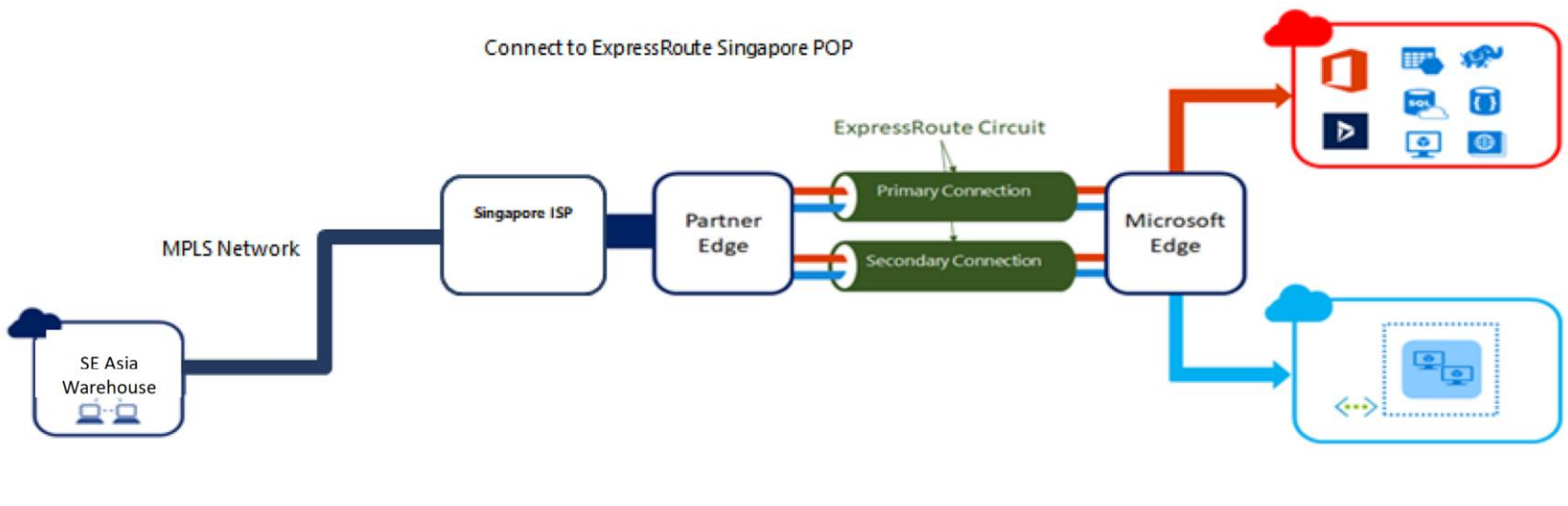
- Warehouses located in South East Asia has latency ranges between 300 – 450 ms to East US Datacenter
- Scale Unit cannot be considered as it does not support Landed Cost Functionality

ExpressRoute Implementation

- Implement ExpressRoute from SE Asia warehouses to East US Datacenter
- ExpressRoute does not have a Geopolitical location in the region
- ExpressRoute implementation will have to go through Singapore which is a Geopolitical location for ExpressRoute.



Customer's ExpressRoute Implementation



In order to get the optimal latency from the SE Asia warehouses to the Dynamics 365 application hosted in the US East datacenters, Customer is considering to leverage **ExpressRoute**.

The ExpressRoute implementation will have to go through Singapore which is a Geopolitical location for ExpressRoute. Following are the steps to achieve this:

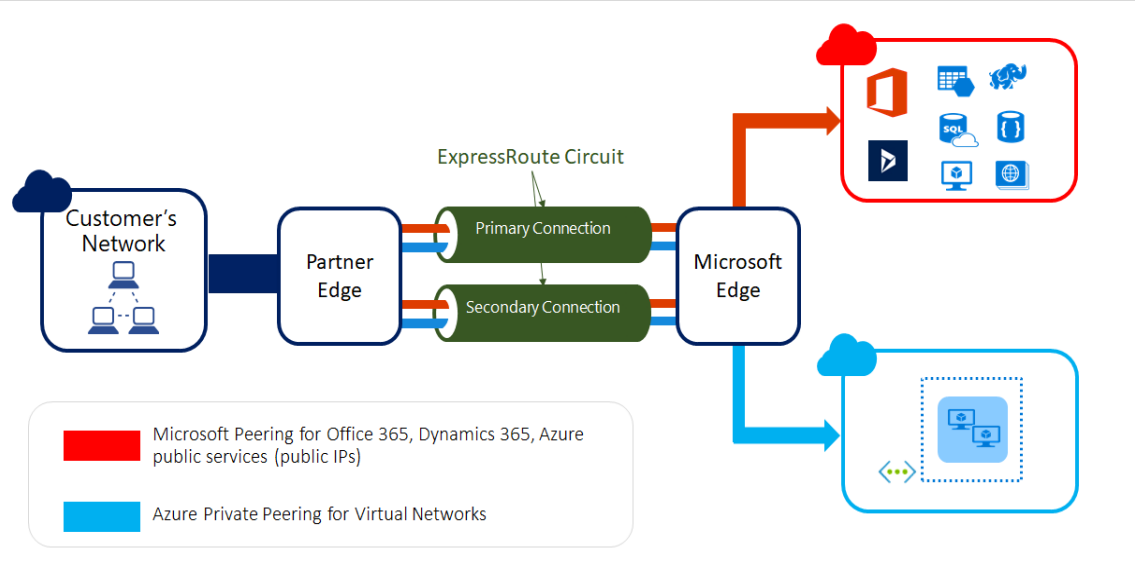
1. Southeast Asia Local ISP to connect to ExpressRoute Singapore through Equinix or Global Switch Tai Seng
2. Connection from Singapore will then be linked to ExpressRoute gateway to circuit to get on the Microsoft Azure network
3. ExpressRoute Premium will be required as customer VNET is not at the same geopolitical region with the peering region

Connectivity locations and the Service Providers

Location	Address	Local Azure Regions	Service Providers
Singapore	Equinix SG1	Southeast Asia	Aryaka Networks, AT&T NetBond, British Telecom, China Mobile International, Epsilon Global Communications, Equinix, InterCloud, Level 3 Communications, Megaport, NTT Communications, Orange, SingTel, Tata Communications, Telstra Corporation, Verizon, Vodafone
Singapore2	Global Switch Tai Seng	Southeast Asia	CenturyLink Cloud Connect, China Unicom Global, Colt, Epsilon Global Communications, Equinix, Megaport, PCCW Global Limited, SingTel, Telehouse - KDDI

ExpressRoute Technical Details

Typical ExpressRoute connection



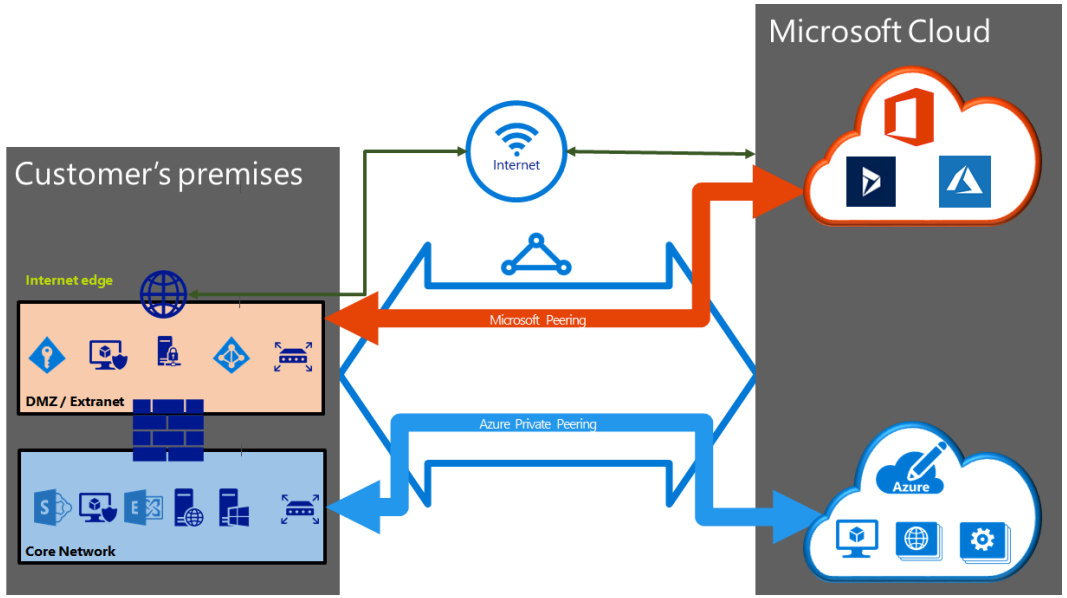
Dynamics 365 and Common Data Service (CDS) environments are hosted on Azure and therefore customers benefit from the underlying ExpressRoute support for Azure resources. Customers can connect to its service endpoints if their router filter includes the Azure regions the Dynamics 365/CDS environments are hosted in.

Typical ExpressRoute connection works as shown on the diagram on the left. Following are the main aspects of establishing ExpressRoute connection from Customer's Network to the Azure Data Centers:

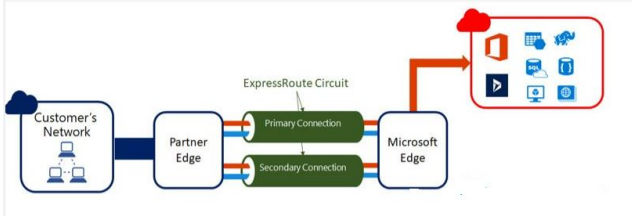
- Customers will work with their local ISP to connect to the ExpressRoute Connectivity Provider
- Customer's local ISP to connect to ExpressRoute through the available Service Provider in the region where client is located
- Connection from the customer's local azure region will then be linked to ExpressRoute gateway to ExpressRoute Circuit to get on the Microsoft Azure network
- ExpressRoute Premium will be required if the customer VNET is not at the same geopolitical region with the peering region
- The Microsoft Edge (as shown in the diagram) describes the edge routers on the Microsoft side of the ExpressRoute circuit.

ExpressRoute Peering

ExpressRoute circuits can include two independent peering: Private peering and Microsoft peering

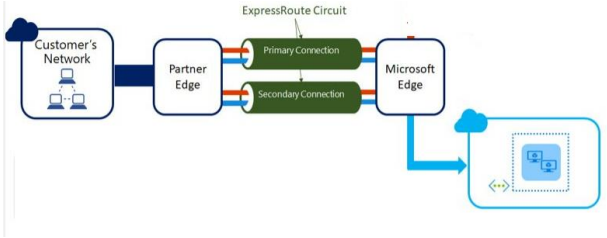


Microsoft Peering



- Microsoft Peering allows connectivity to the public IP space in both Azure PaaS and Microsoft 365
- Dynamics 365 Finance & SCM application can be connected through ExpressRoute via Microsoft Peering
- Bi-directional connectivity is established between client's WAN and Microsoft cloud services through the Microsoft peering routing domain

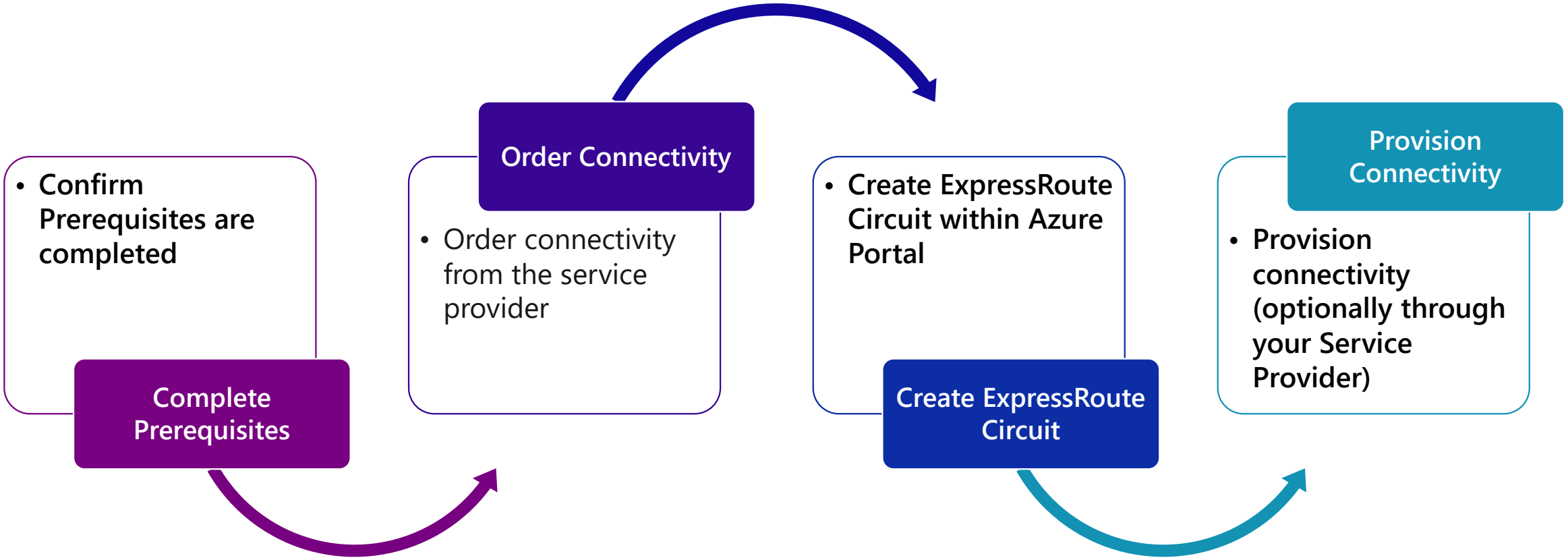
Private Peering



- Azure compute services, namely virtual machines (IaaS) and cloud services (PaaS) that are deployed within a virtual network, can be connected through the private peering domain
- Azure services such as Logic Apps, Azure Data Lake, Synapse etc. can be connected through ExpressRoute via Azure Private Peering
- This peering lets you connect to virtual machines and cloud services directly via their private IP addresses

ExpressRoute Provisioning Steps

ExpressRoute Service Provisioning steps



ExpressRoute connectivity Prerequisite

Prerequisite to provisioning ExpressRoute:

Azure Subscription:

- A typical Dynamics 365 customer will have an Azure subscription already available. Same subscription can be leveraged to subscribe to ExpressRoute

Geo Location Information:

- Datacenter that your Dynamics 365 Finance & Operations apps are located
- The region where the End Users will be connecting from

Order Connectivity

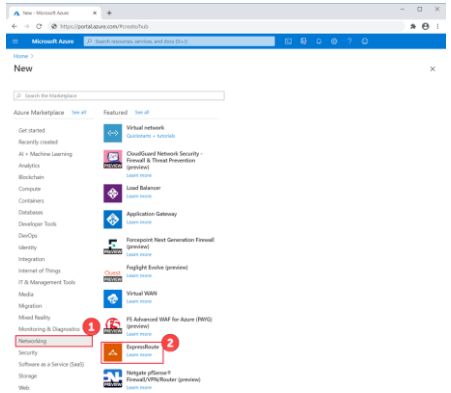
Order connectivity from the service provider. This process varies. Contact your connectivity provider for more details about how to order connectivity

- ✓ Select the ExpressRoute partner: Based on the Geo Location information you have gathered, find the right connectivity partner in that region. Click ExpressRoute connectivity partners and locations to get a list of all Service Providers spread across the globe
- ✓ Select the peering location: Based on the locations from where the Dynamics 365 apps will be accessed and the Datacenter for your Dynamics 365 application, you will have to select the peering location most convenient and efficient for the ExpressRoute connectivity
- ✓ Select the bandwidth: ExpressRoute circuit bandwidth is duplex. If you purchase 200 mbps ExpressRoute circuit, you are procuring 200 mbps for ingress traffic and 200 mbps for egress traffic. Based on the bandwidth requirement, select the relevant bandwidth for your ExpressRoute circuit.
- ✓ Select the billing model: Click Azure ExpressRoute Pricing to explore various Billing models for ExpressRoute and select the Billing model that will work for your purpose

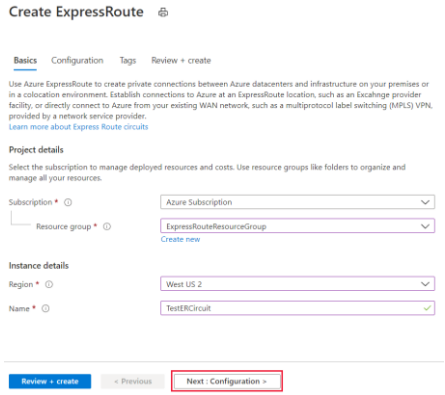
Create ExpressRoute Circuit

Once you verify that the ExpressRoute partner is ready to provision connectivity. Your ExpressRoute circuit is billed from the moment a service key is issued. Use the instructions in [Create an ExpressRoute circuit] to create your circuit.

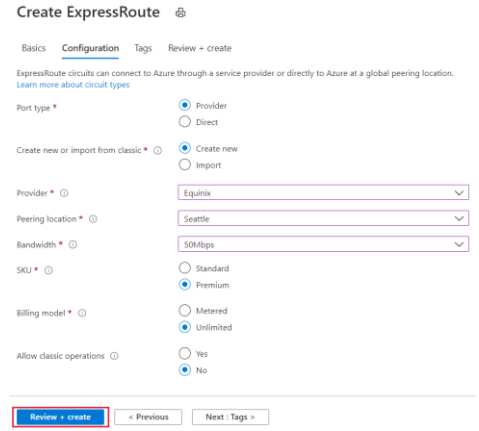
1. Create ExpressRoute resource in Azure Portal



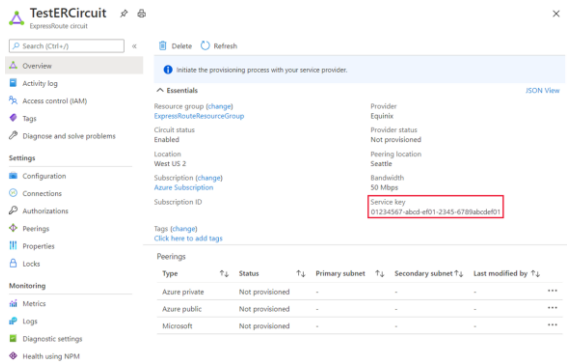
2. Provide the Resource Group, Region, and Name for the circuit



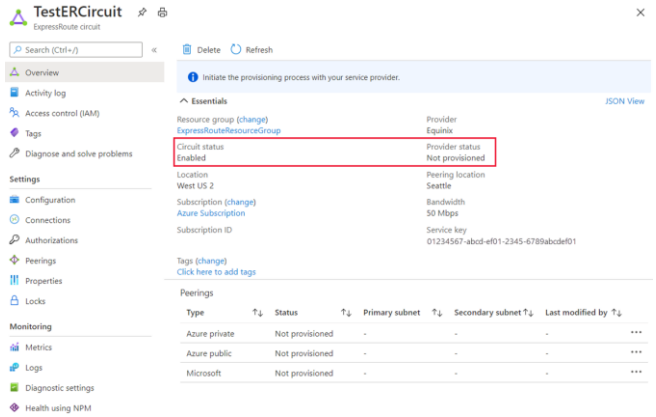
3. Provide Configuration Details



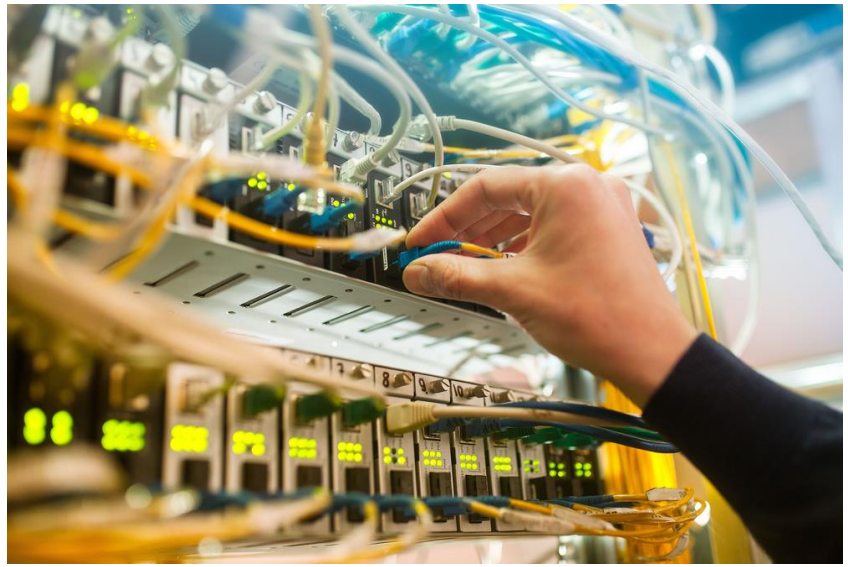
4. View the Properties for ExpressRoute Circuit



5. Enable ExpressRoute circuit and send Service key to Conn. Provider



Service provider provisions connectivity



Once the ExpressRoute Circuit has been provisioned, follow the below steps:

- ✓ Provide the service key (s-key) to the connectivity provider.
- ✓ Provide additional information needed by the connectivity provider (for example, VPN ID).
- ✓ If the provider manages the routing configuration, provide the necessary details.

You can ensure that the circuit has been provisioned successfully by verifying the ExpressRoute circuit provisioning state using PowerShell, the Azure portal or, CLI.

Once the Service provider establishes the connectivity, they will also configure the routing domain for your circuit.

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Thank You