



Microsoft ExpressRoute

Your Expressway to Azure



Florian Klaffenbach

Cloud Solutions Architect at msg services ag

Microsoft Cloud Platform Advisor & Most Valuable Professional

Areas of Expertise

- Microsoft Azure
- Microsoft Azure Pack und Stack
- Microsoft File- & Storageservices
- Microsoft Hyper-V & System Center VMM

Certifications

- Microsoft Certified
- CompTIA Certified
- Altaro Certified
- ITIL Certified



Privat

- 31 Jahre
- Living in Berlin

Communityarbeit

- President Windows Server User Group Berlin
- Founder Community Labs
- Co-Chairman Microsoft Azure Community Deutschland
- Member des Hyper-V Community Deutschland inner Circle
- Blogger @ www.datacenter-flo.de & TechNet

Contacts:

- Twitter: @FloKlaffenbach
- Mail: Flo@Datacenter-Flo.de
- Business: Florian.Klaffenbach@msg-services.de

Persönlichkeiten werden nicht durch schöne Reden geformt, sondern durch Arbeit und eigene Leistung.

Zitat: Albert Einstein

Florian Klaffenbach

Cloud Solutions Architect at msg services ag

Microsoft Cloud Platform Advisor & Most Valuable Professional



Implementing Azure Solutions



Book Description

Microsoft Azure has numerous effective solutions that shape the future of any business. However, the major challenge that architects and administrators face are implementing these solutions appropriately.

Our book focuses on various implementation scenarios that will help overcome the challenge of implementing Azure's solutions in a very efficient manner and will also help you to prepare for Microsoft Architect exam. You will not only learn how to secure a newly deployed Azure Active Directory but also get to know how Azure Active Directory Synchronization could be implemented.

To maintain an isolated and secure environment so that you can run your virtual machines and applications, you will implement Azure networking services. Also to manage, access, and secure your confidential data, you will implement storage solutions. Toward the end, you will explore tips and tricks to secure your environment.

By the end, you will be able to implement Azure solutions such as networking, storage, and cloud effectively.

Autoren

Florian Klaffenbach – MVP Cloud & Datacenter Management & Cloud Platform Advisor

Jan-Henrik Damaschke – MVP Cloud & Datacenter Management

Oliver Michalski – MVP Azure & Cloud Platform Advisor

Out goal for today?



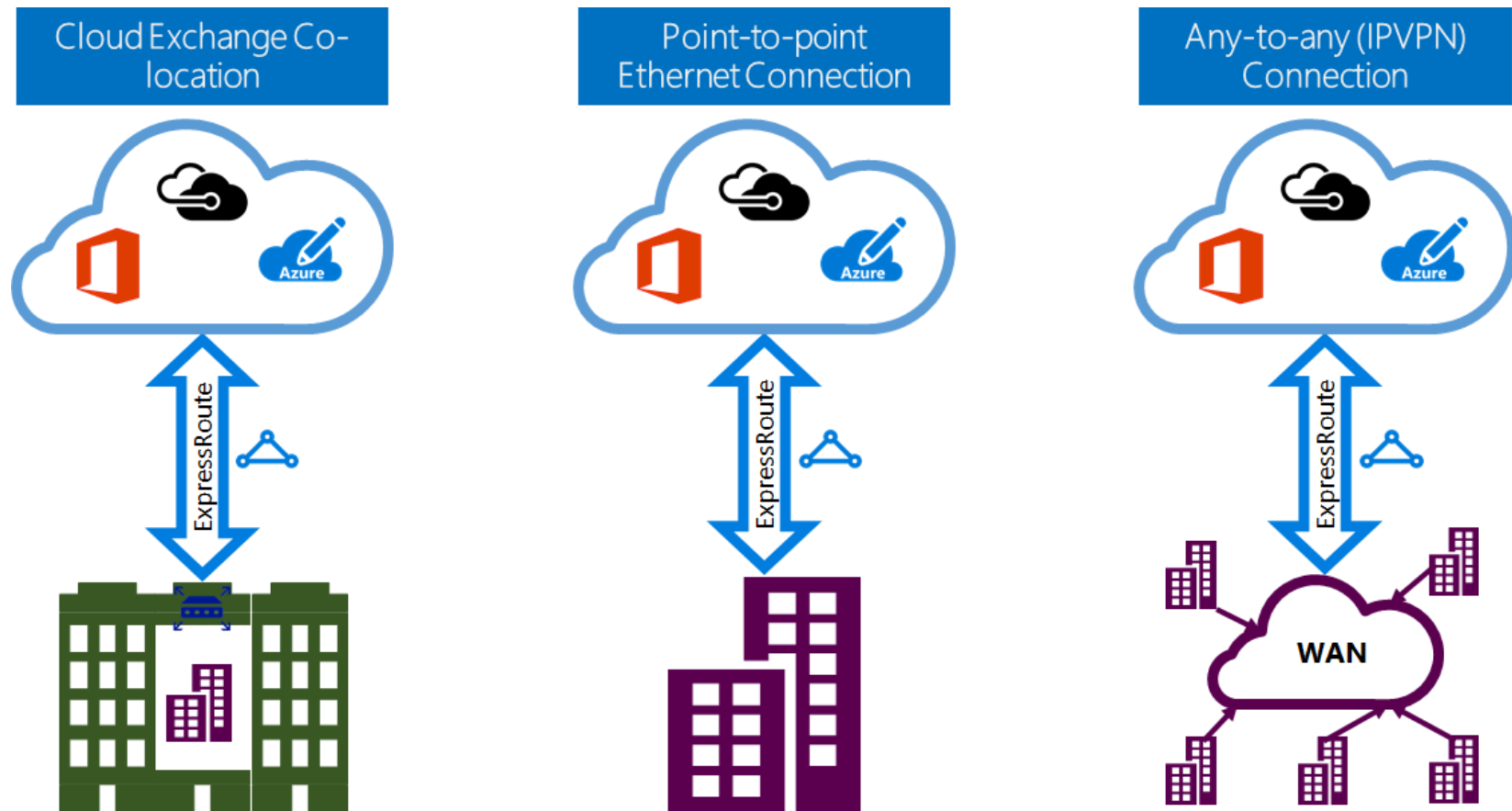
Quelle: https://img.clipartfox.com/26c26d0ea9c6fc185e9a7b298374a88d_you-are-stupid-clipart-clipart-for-thinking_1148-1149.jpeg

On what technology ExpressRoute is based on?

- Based on Multi Protocol Label Switching (MPLS) or IPVPN
- Privat VLAN within Internet Service Provider (ISP) network
- Based on Border Gateway Protocol Routing (BGP)
- Microsoft provides Network to Network Connect (NNI) with MPLS of your ISP

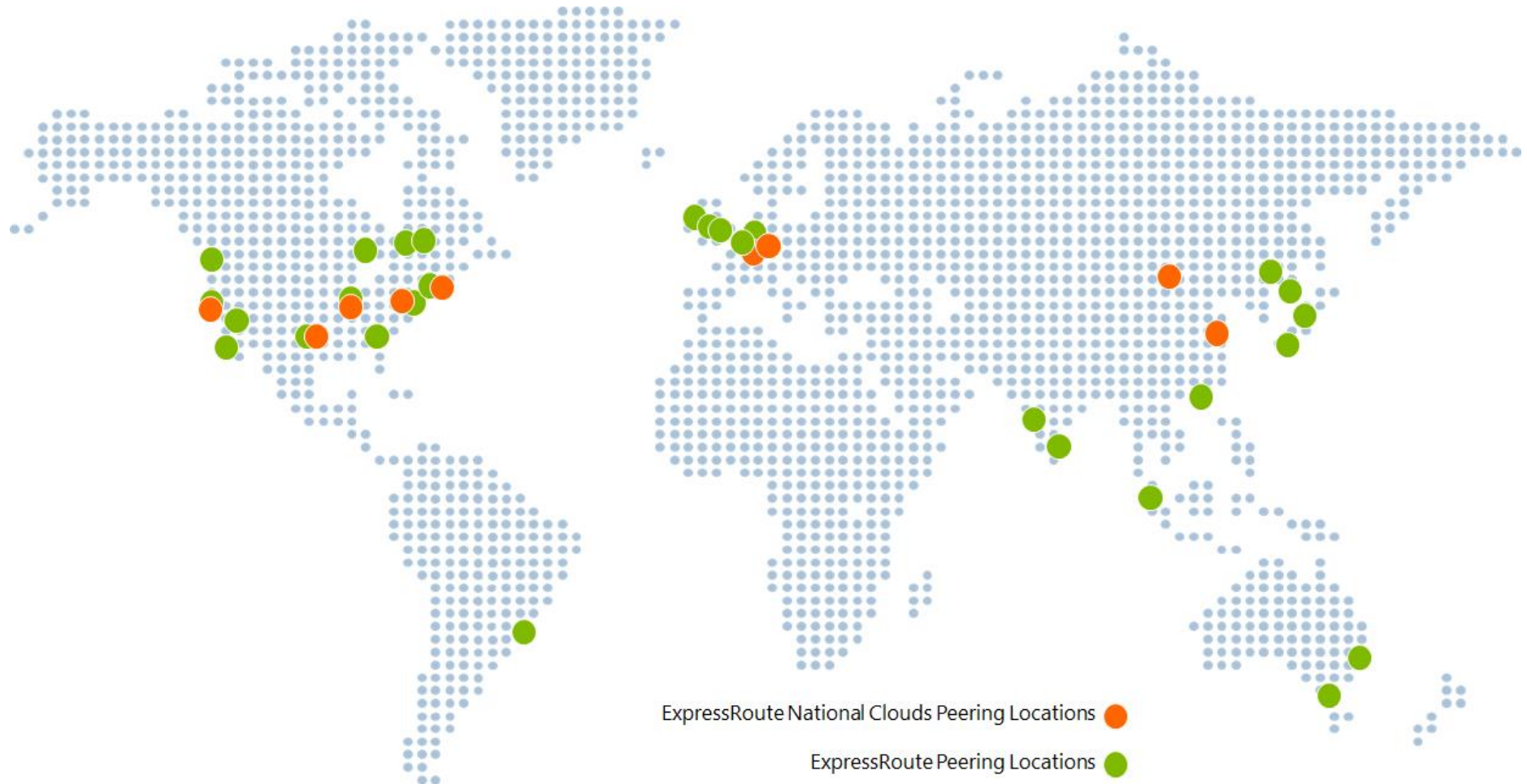


Which types of ExpressRoute connections are available?



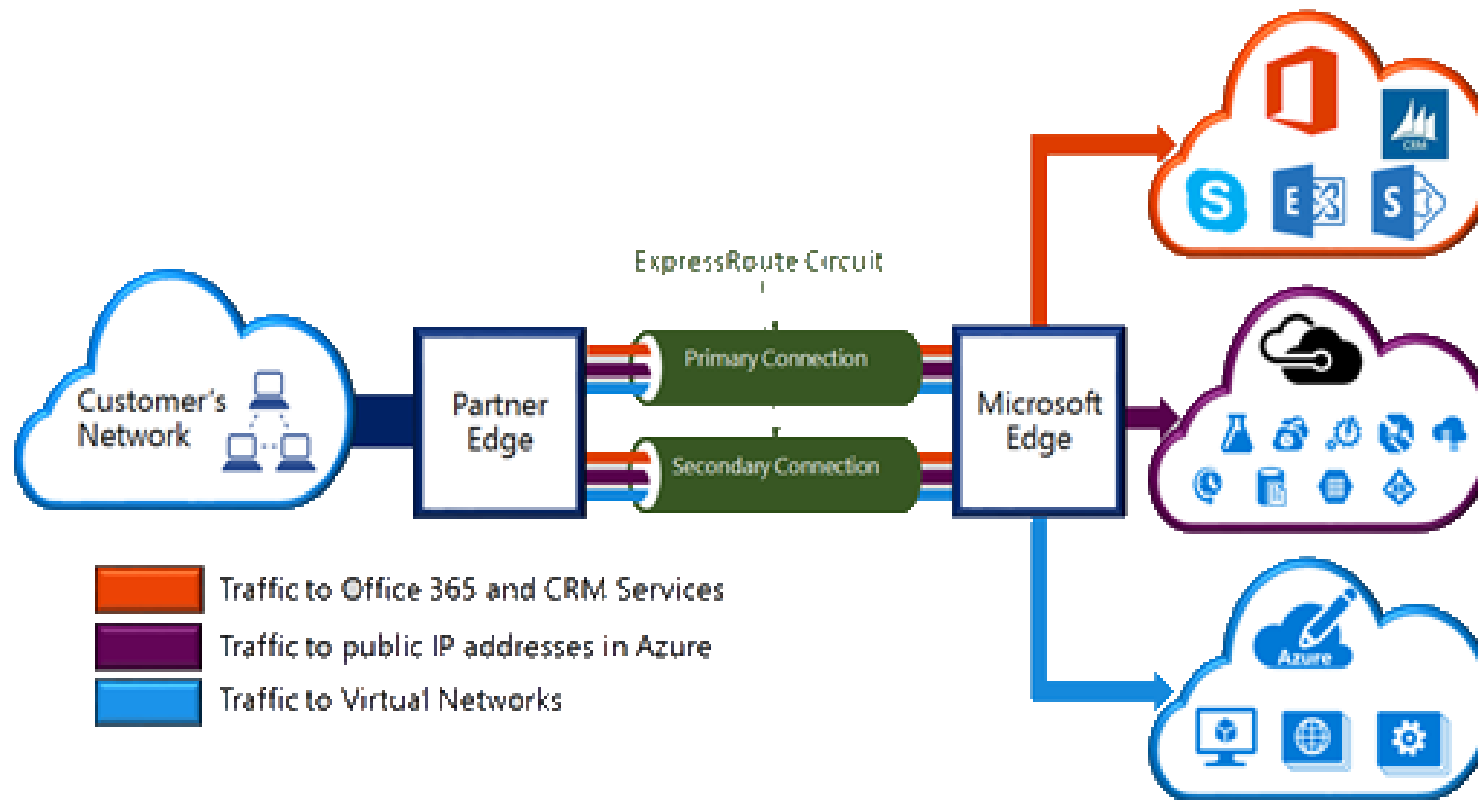
Source: <https://azure.microsoft.com/de-de/documentation/articles/expressroute-introduction/>

Where are the Azure ExpressRoute Edge Sites?



Source: <https://azure.microsoft.com/en-us/documentation/articles/expressroute-locations/>

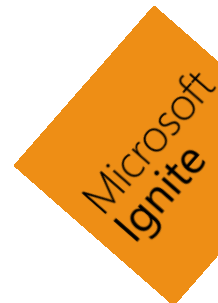
Welche Services bietet Microsoft über ExpressRoute an?



Source: <https://azure.microsoft.com/de-de/documentation/articles/expressroute-introduction/>

Key facts about ExpressRoute?

- 20+ Service Partner (Over all datacenters)
- 50 Mbit/s – 10 Gbit/s (depending on ISP)
- QoS & Failover in other Azure regions possible
- Depending on SKU up to 10.000 Peerings at the same time on one circuit
- Full QoS & Routing capable until Microsoft Edge Site
- Guaranteed bandwidth provided by Microsoft & your ISP
- Latency reduction by direct routing without Internet
- More secure than VPN



Up to 10Gbit/s direct connect to
VMs with ExpressRoute
Performance Gateway!!!

Was müsst ihr bei der Planung beachten

- Wo befindet sich euer Büro und eure User?
- Kommt ihr mit eurem Footprint mit einer ExpressRoute Location hin?
- Welche Bandbreite benötigt ihr?
- Mit welchen Teilen von Azure möchte ich peeren?
- Welche IP Ranges habe ich vergeben?

What do you need for your deployment?

- Which provider do I need to choose?
- Which peering location do I need?
- How many bandwidth do we have negotiated?
- What is my ASIN?
- Which IP range did I get for deployment?
- Which VLAN do I need to select?

Important!!! As soon as you deploy the ExpressRoute Circuit, !!!

Stellt immer erst das MPLS und Routing auf ISP Seite fertig und dann erstellt den ExpressRoute Circuit in einer Live Activation mit dem ISP!!!

Private peering
WH-AWE-ER01

Save Discard Delete

* Peer ASN ⑩
9999

* Primary subnet ⑩
213.56.34.15/30

* Secondary subnet ⑩
203.66.34.15/30

* VLAN ID ⑩
99

Shared key

* Circuit name
DCF-ER01

* Provider ⑩
Equinix

* Peering location ⑩
Amsterdam

* Bandwidth ⑩
50Mbps

* Tier ⑩
Standard Premium

* Data metering ⑩
Unlimited Metered

☒ Allow classic coexistence ⑩

Subscription
Visual Studio Premium with MSDN

* Resource group
DataCenter-Flo

Location
West Europe

☐ Pin to dashboard

Create

Was möchte mein ISP von mir wissen?

- Euer ISP benötigt den Service key

The screenshot displays the Azure portal interface for an ExpressRoute circuit. At the top, the circuit is identified as 'DCF-ER01' with the label 'ExpressRoute circuit'. Below this, there are 'Settings' and 'Delete' icons. A prominent blue banner contains an information icon and the text: 'Initiate the provisioning process with your service provider.' Below the banner, an 'Essentials' section is expanded, showing a list of attributes and their values:

Resource group	DataCenter-Flo	Provider	Equinix
Circuit status	Enabled	Provider status	Not provisioned
Location	West Europe	Peering location	Amsterdam
Subscription name	Visual Studio Premium with MSDN	Bandwidth	50 Mbps
Subscription ID	[REDACTED]	Service key	0f37cff5-6c6f-44f6-8f90-8cf0314d7d47

DEMO

Aktuell für Microsoft im Feld zum Thema ExpressRoute



Gerald Buchholz

Microsoft Global Black Belt – Azure ExpressRoute & Networking
Tätig bei Microsoft Corp.



Florian Klaffenbach

Cloud Solutions Architect & Lead Consultant Microsoft Infrastructure
Tätig bei msg services ag – erster Azure ExpressRoute Service Integration in Deutschland

Aufgaben:

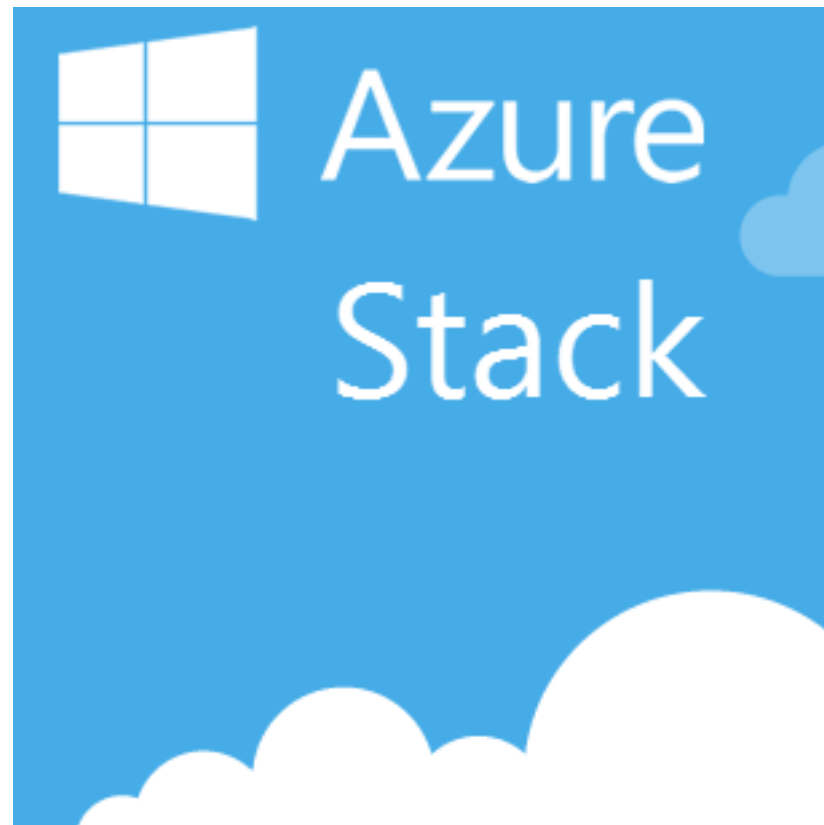
- ISP Beratung & Onboarding
- Erweiterung des ExpressRoute Netzwerks in DACH
- Marketing & Knowhow Aufbau
- Presales & Sales Support für Microsoft, Kunden & Partner
- Implementation der Lösung

But what if I'm far away from an Azure Datacenter?





and take



msg services ag

Max-von-Eyth-Str. 3, 85737 Ismaning
Deutschland

Tel.: +49 89 96101-0

Fax: +49 89 96101-2535

info@msg-services.de

www.msg-services.de



Neue Perspektiven für Ihre IT