



# NTT Global Data Centers EMEA

dcOrbis | Colocation

---

Frankfurt, 23 October 2020

# NTT has brought together 6 global data center leaders

Digital Port Asia, e-shelter, Gyron, Netmagic, NTT Com and RagingWire have come together to form the **third-largest data center provider in the world**.



THAILAND

e-shelter

EUROPE



UNITED KINGDOM



INDIA

NTT Com Asia  
an NTT Communications Company

ASIA PACIFIC



UNITED STATES

# Our global data center platform

We enable our clients' growth and innovation by providing world-class data center capability and services **no matter the location or scale.**



## Global leadership

---

160+ data centers in 20 countries

---

Working with 85 of the Fortune 100

---

Global IP network spanning 160 countries

---

500,000 sqm server space and expanding capacity

---

## Technology expertise

---

Experts in low TCO accompanied by a high level of redundancy with over 16,000 patents granted

---

## Carrier- and partner-neutral

---

Large variety of global and local telecom networks and on-ramps to the major hyperscale platforms.

---

SD-Exchange: flexible connection to data centers and clouds.

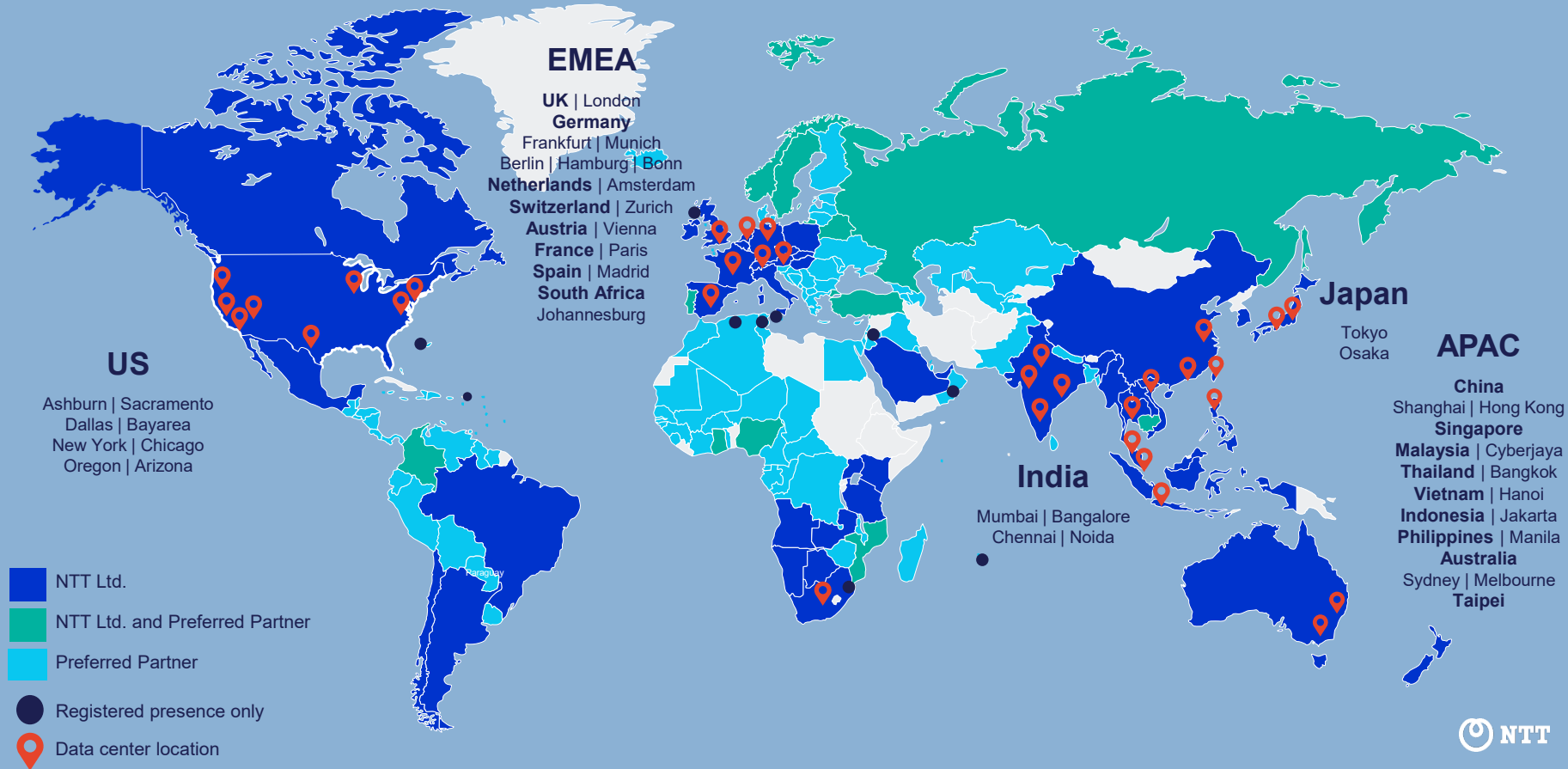
---

Direct access to all major internet exchanges around the globe.

---

# A GLOBAL DATA CENTER FOOTPRINT

20+ countries | 500,000 m<sup>2</sup> server space | SD-Exchange: flexible connection to data centers and clouds



# EMEA DATA CENTER FOOTPRINT



17 data centers provide nearly 130,000 sqm of IT space to house your digital infrastructure, and additional 5 data centers and more than 100,000 sqm are in development

 **AUSTRIA**  
VIENNA 1  
4.2/14.8 MW, 2,800/8,400 SQM

 **GERMANY**  
BERLIN 1  
12/17 MW, 13,000/15,500 SQM  
BERLIN 2 (Q4 2021)  
12/48 MW, 4,808/20,000 SQM

FRANKFURT 1  
62 MW, 60,000 SQM  
FRANKFURT 2  
1,2 MW, 1,900 SQM  
FRANKFURT 3  
52 MW, 23,600/28,000 SQM  
FRANKFURT 4  
10/58 MW, 3,500/24,000 SQM

HAMBURG 1  
0.8 MW, 1,230 SQM

MUNICH 1  
1,2 MW, 1,960 SQM

MUNICH 2  
6/14 MW, 2,800/6,200 SQM

RHINE-RUHR  
4 MW, 2,700 SQM

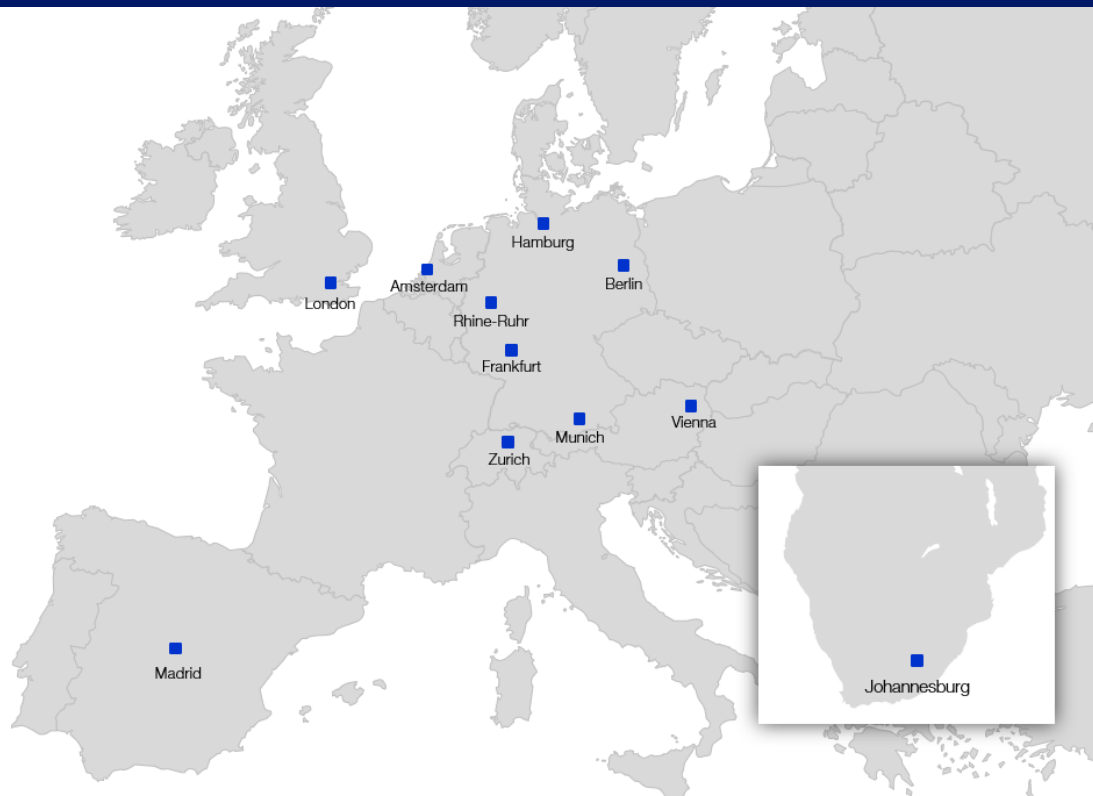
 **NETHERLANDS**  
AMSTERDAM 1  
10.6/46 MW, 2,800/16,000 SQM

 **SOUTH AFRICA**  
JOHANNESBURG 1 (Q4 2021)  
6/12 MW, 5,718 SQM

 **SPAIN**  
MADRID 1 (2022)  
6.4 MW, 3,600 SQM

 **SWITZERLAND**  
ZURICH 1  
10/20 MW, 6,600/11,150 SQM

 **UNITED KINGDOM**  
HEMEL HEMPSTEAD 1  
2 MW, 740 SQM  
HEMEL HEMPSTEAD 2  
5.8 MW, 2,275 SQM  
HEMEL HEMPSTEAD 3  
20 MW, 8,960 SQM  
HEMEL HEMPSTEAD 4 (Q4 2021)  
12/24 MW, 4,800/9,600 SQM  
SLOUGH 2  
1.8 MW, 890 SQM  
SLOUGH 3  
2.7 MW, 1,510 SQM  
LONDON 1 (NOV 2020)  
32/64 MW, 12,800/25,600 SQM





# Germany

# Munich 2

The Munich 2 Data Center is situated in the north of Munich, in Unterschleissheim about 25 km as the crow flies from our Munich 1 site. The Munich 2 Data Center was planned as a dedicated data center new build and is being developed in several building stages.



## Access

30-minute drive from central Munich and Airport

## Building

Structure:	Purpose-built data center building, 2-stories
Server space:	6,200 sqm (Final)
Opening:	2017

## Power & cooling

Power receiving:	Dual path
Critical IT load:	14 MW (Final)
UPS:	2N configuration
Generator:	Diesel in N+1 configuration
Power provision:	Dual feed to each rack
Cooling:	N+1 cooling system

## Security

24/7 on-site security

## Connectivity

Carrier-neutral

Germany

# Munich 2 | building B

The Munich 2 Data Center is situated in the north of Munich, in Unterschleissheim about 25 km as the crow flies from our Munich 1 site. The Munich 2 Data Center was planned as a dedicated data center new build and is being developed in several building stages.



## Access

30-minute drive from central Munich and Airport

## Building

Structure:	Purpose-built data center building, 2-stories
Server space:	6,200 sqm (Final)
Opening building B:	Dec 2020

## Power & cooling

Power receiving:	Dual path
Critical IT load:	14 MW (Final)
UPS:	2N configuration
Generator:	Diesel in N+1 configuration
Power provision:	Dual feed to each rack
Cooling:	N+1 cooling system

## Security

24/7 on-site security

## Connectivity

Carrier-neutral

# EMEA DATA CENTER FOOTPRINT



All our Data Centers fulfill current guidelines and norms and obtained all required certificates

- **ISO9001\***  
Quality Management System for Data Center Operation
- **ISO9001\***  
Quality Management System for Security
- **ISO27001 based on IT baseline security\***  
Information Security Management System
- **ISO50001\***  
Energy Management System
- **EN50600 – Availability Class AC3 certificate \***  
Data Center facilities and infrastructures standard
- **TÜV SÜD – Data Center Level 3 certificate\***  
Level 3 infrastructure standard according TIA-942 appendix
- **PCI-DSS certificate\***  
Payment Card Industry Data Security Standard



\* Scope of Single Certification according to valid Certifications



# PRODUCT AND SERVICE PLATFORM



We provide integrated solutions for the housing of IT and network systems in highly resilient and secure environments

## Rack



Dedicated rack either in the carrier-meet-me-room or colocation space. Racks in the colocation space available from 3 kW up with the ability to go up to 20 kW supporting high-density environments.

## Cage



A cage offers dedicated lockable colocation space with secure steel cage walls in a high-availability environment which can be fitted out according to individual requirements.

## Suite



The suite offers dedicated space with a dedicated fire protection zone that is secure from other customers by walls and has its own power distribution which can be fitted out according to individual requirements.

## Multi service interconnection platform



The multi service interconnection platform is the central switching point for all networking requirements providing internet bandwidth, cloud connect and private connections to other data centers.

## Cross connect & precabling



We provide a wide range of connectivity services for tomorrow's connectivity needs. Precabling provides structured cabling from any space or rack on our campus to the CMMR via fiber connections to enable fast provisioning for all connectivity products.

## Remote hand services



We take over all key tasks of the technical and infrastructure management for high-availability data centers.

## Office space



At selected locations we offer modern office space which is located in the immediate vicinity of the data center area.

# PRODUCT AND SERVICE PLATFORM



SUITE is a dedicated space and can be fitted out according to individual requirements



Illustration: Product Suite

# PRODUCT AND SERVICE PLATFORM



CAGE is a dedicated space from 30 sqm upwards in our colocation areas and can be fitted out according to individual requirements

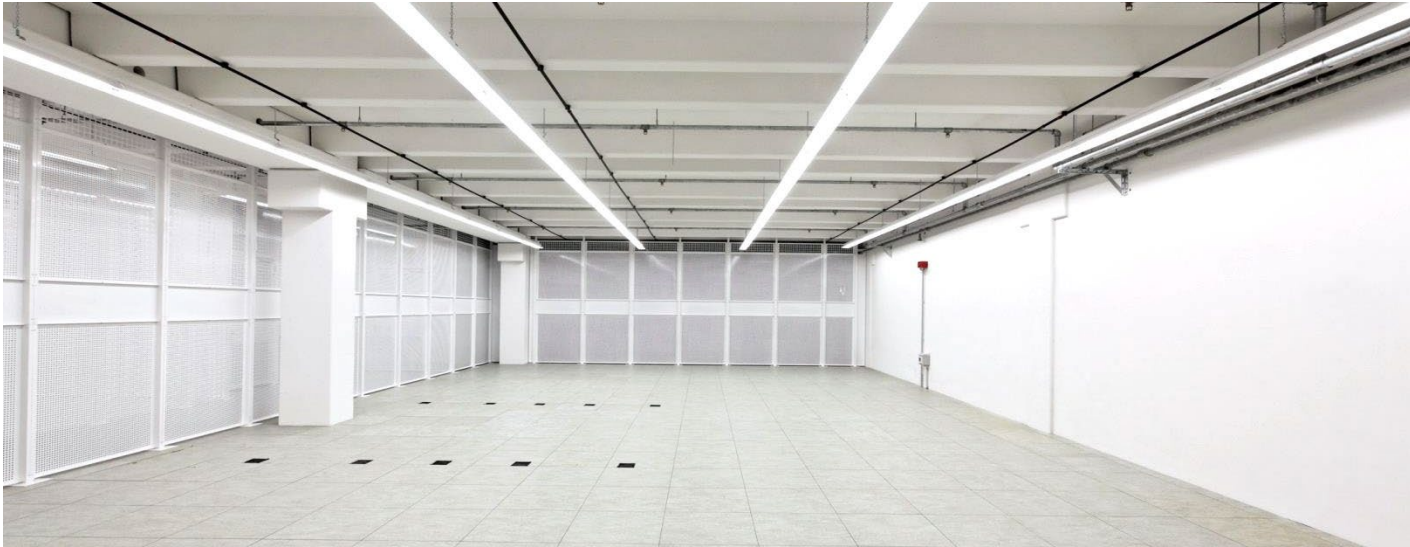


Illustration: Product Cage

# PRODUCT AND SERVICE PLATFORM



COLOCATION RACK is our ready to use colocation product and the smallest space we offer in our Data Centers



Illustration: Product Colocation Rack

# PRODUCT AND SERVICE PLATFORM



Dedicated lockable rack based on NTT product standard in a secured colocation space.  
Rack 800x1.200mm, 47U | Power setup 2x 400V/16A | Rack PDU A+B | Pre-Cabling 6 Port Single Mode



## MRC

Monthly Recurring Charges

Fix

Variable

Bundle: Rent, operator charges and power

Connect Services

Remote Hands



## NRC

Non Recurring Charges

Fix

Setup fee Rack

Connect Services

Implementation/  
Fit-Out Services



# PRODUCT AND SERVICE PLATFORM



We provide integrated solutions for the housing of IT and network systems in highly resilient and secure environments

## Rack



Dedicated rack either in the carrier-meet-me-room or colocation space. Racks in the colocation space available from 3 kW up with the ability to go up to 20 kW supporting high-density environments.

## Cage



A cage offers dedicated lockable colocation space with secure steel cage walls in a high-availability environment which can be fitted out according to individual requirements.

## Suite



The suite offers dedicated space with a dedicated fire protection zone that is secure from other customers by walls and has its own power distribution which can be fitted out according to individual requirements.

## Multi service interconnection platform



The multi service interconnection platform is the central switching point for all networking requirements providing internet bandwidth, cloud connect and private connections to other data centers.

## Cross connect & precabling



We provide a wide range of connectivity services for tomorrow's connectivity needs. Precabling provides structured cabling from any space or rack on our campus to the CMMR via fiber connections to enable fast provisioning for all connectivity products.

## Remote hand services



We take over all key tasks of the technical and infrastructure management for high-availability data centers.

## Office space



At selected locations we offer modern office space which is located in the immediate vicinity of the data center area.

# Connectivity Service Portfolio Overview



## **Core Infrastructure Services**

Pre-Cabling  
(Multi Fiber Connections  
to a central Patch Area)

Cross Connect  
(single fiber connection between  
two end points)



## **Multi service Interconnection Platform Virtual Services**

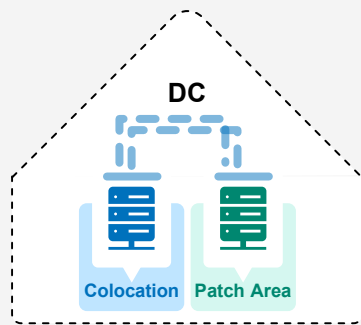
Cloud Connect  
DC Interconnect  
Internet Connect



## **Metro Region High Performance Interconnectivity**

Metro Connect Managed  
(High Availability Dual Site  
Disaster Recovery Solutions)

# Core Infrastructure Services

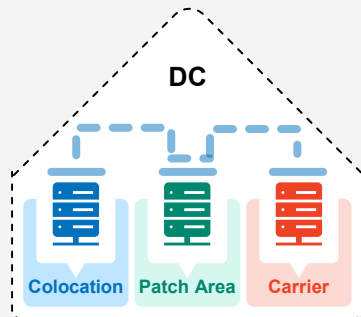


## Pre-Cabling

Provides single mode fiber connectivity from the customer rack to the Patch Area

**Presentation via 19" patch panels, three service types:**

- Patch panel (1U) with 6 Ports
- Patch panel (1U) with 12 Ports
- Patch panel (1U) with 24 Ports



## Cross Connect

- Provides an end-to-end single mode fiber connection between two endpoints in the data center, e.g. from customer rack to carrier rack

# Multi service concept

One Port to go!

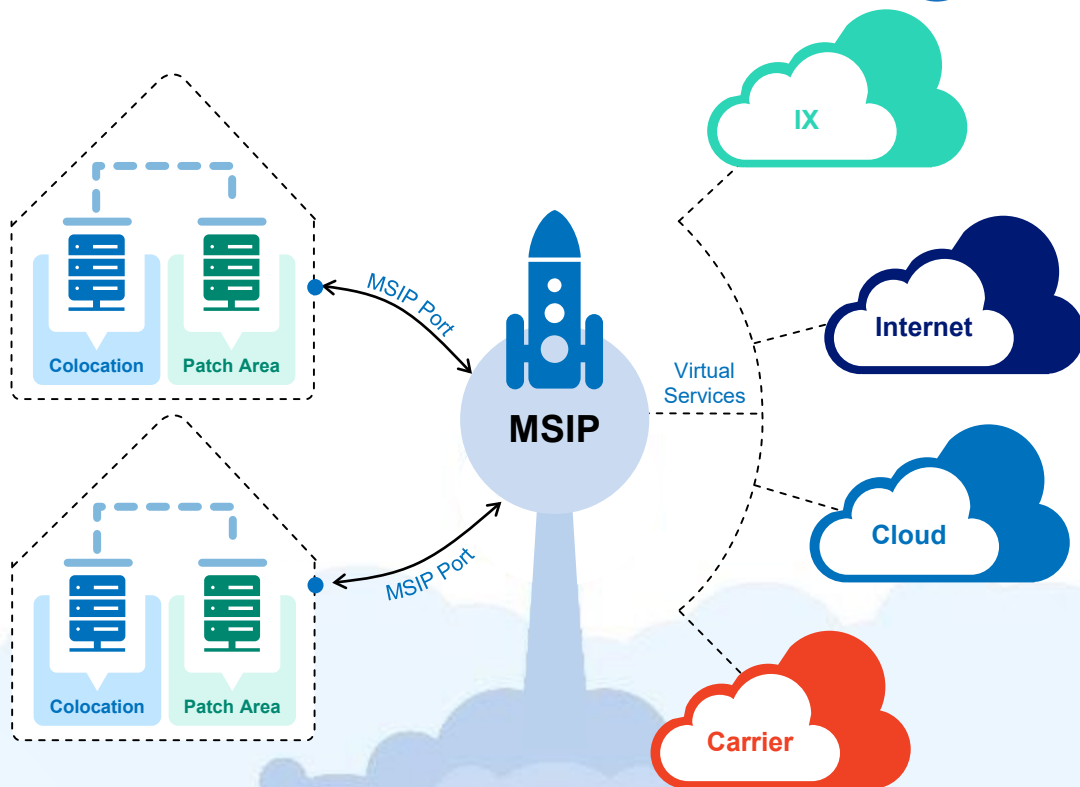


## MSIP Port

- Provides the physical access to the Multi service interconnection platform
- Available as 1, 10 or 100 GE port
- A single port can be used for several logical connections

## Virtual Services

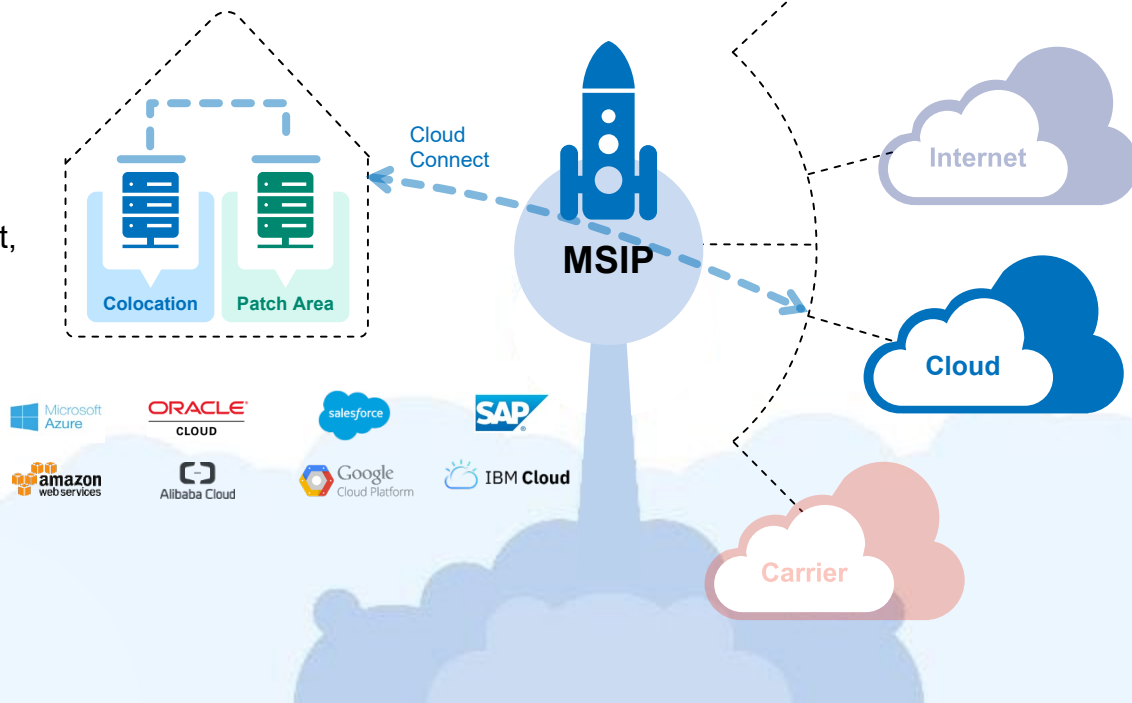
- Cloud Connect (L2, \*L3)
- DC Interconnect (L2)
- Internet Connect (L3)



# Virtual Services – Cloud Connect

Cloud Connect provides dedicated interconnections to leading Public Cloud Providers

- Connections are established through a **virtual private layer 2 network** to the Cloud Provider of your choice
- **Dedicated and scalable bandwidth** to the Cloud Access POPs (Berlin: Microsoft, Frankfurt: AWS, Google, Alibaba, IBM)
- **Enabling direct connectivity** to leading cloud platforms like Azure, AWS, Google, Alibaba, Softlayer, Oracle
- **Reliable performance** bypassing the internet (bandwidth & latency)
- **Flexibility of a public cloud** with the performance of a private cloud

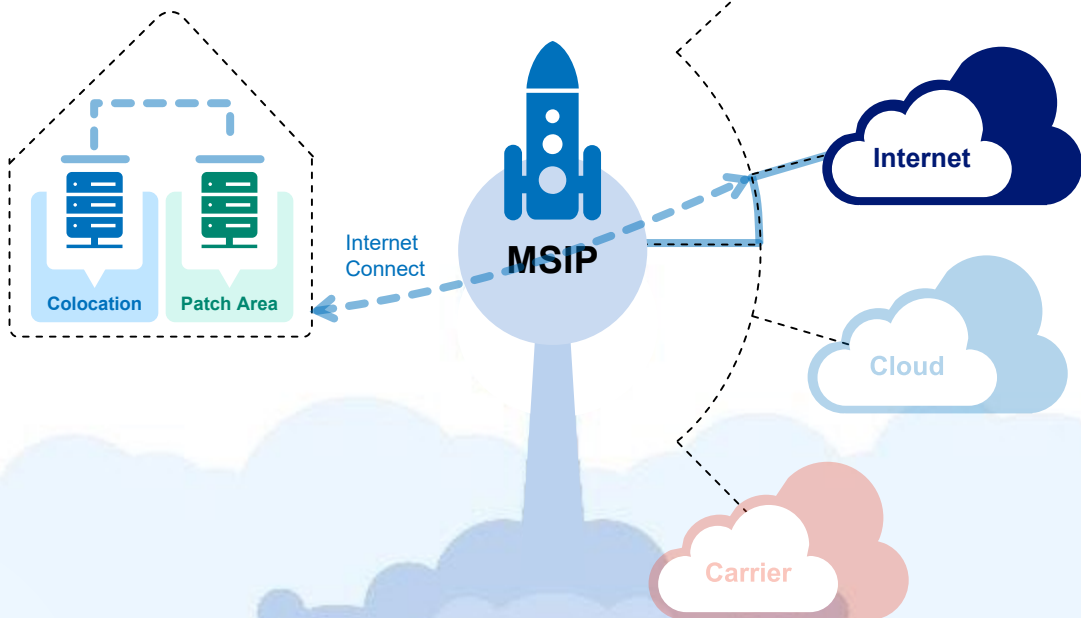




# Virtual Services – Internet Connect

Seamless high-performance access to the internet

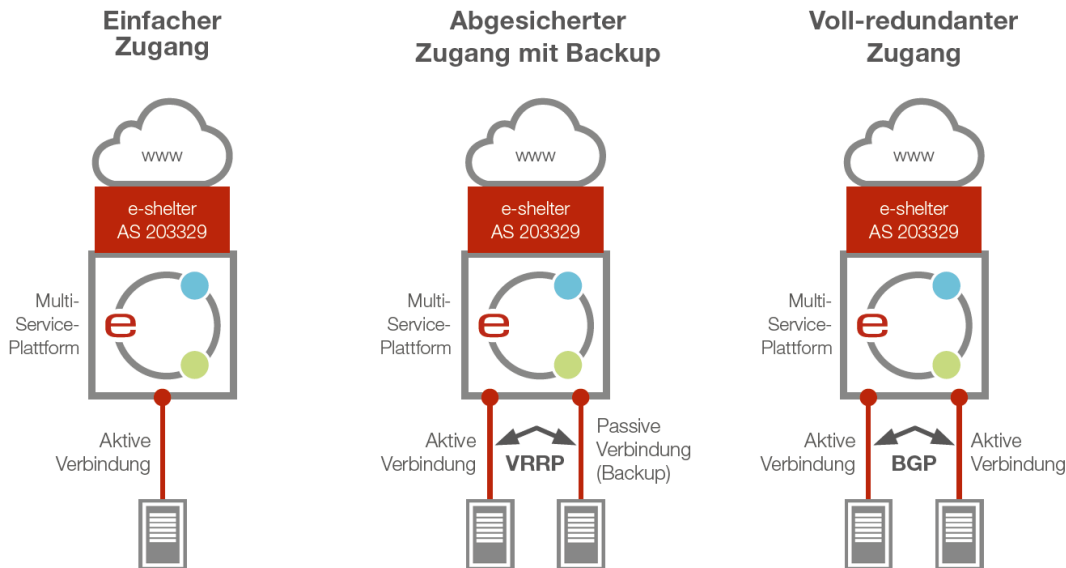
- Fully managed ISP service
- Direct routing to leading tier-1 providers via AS2914/ AS203329 / AS29017
- Connected IX across regions
- Flexible bandwidth options from 100 Mbps to 10 Gbps, flat rate
- IPv4 and native IPv6 via “dual stack interface”
- Various redundancy options



# Virtual Services – Internet Connect

## Seamless high-performance access to the internet

- Fully managed ISP service
- Direct routing to leading tier-1 providers via AS2914/ AS203329 / AS29017
- Connected IX across regions
- Flexible bandwidth options from 100 Mbps to 10 Gbps, flat rate
- IPv4 and native IPv6 via “dual stack interface”
- Various redundancy options

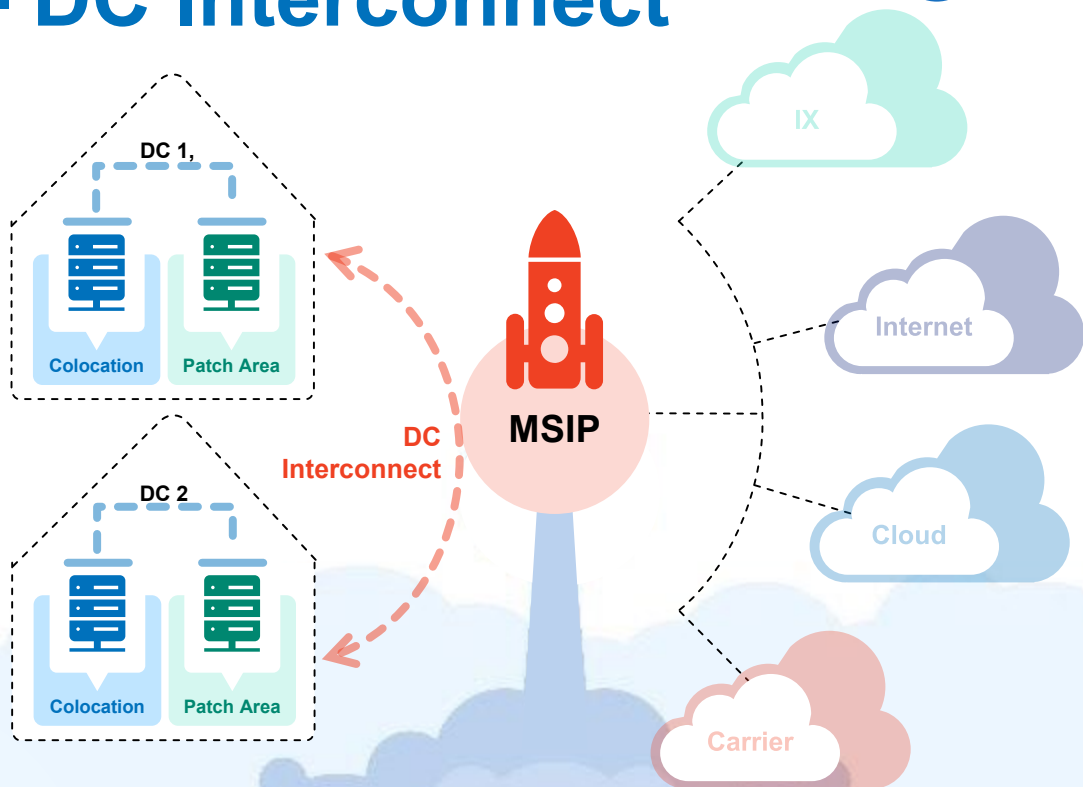


# Virtual Services – DC Interconnect



DC Interconnect enables multiple connections with flexible bandwidth options between any two end-points on the Multi service interconnection platform

- Secure and flexible connections between client spaces across all NTT Ltd global data centers.
- Higher flexibility of the network infrastructure through virtualization
- Enabling geo-redundancy business continuity architectures that meets high availability requirements



# PRODUCT AND SERVICE PLATFORM



We provide integrated solutions for the housing of IT and network systems in highly resilient and secure environments

## Rack



Dedicated rack either in the carrier-meet-me-room or colocation space. Racks in the colocation space available from 3 kW up with the ability to go up to 20 kW supporting high-density environments.

## Cage



A cage offers dedicated lockable colocation space with secure steel cage walls in a high-availability environment which can be fitted out according to individual requirements.

## Suite



The suite offers dedicated space with a dedicated fire protection zone that is secure from other customers by walls and has its own power distribution which can be fitted out according to individual requirements.

## Multi service interconnection platform



The multi service interconnection platform is the central switching point for all networking requirements providing internet bandwidth, cloud connect and private connections to other data centers.

## Cross connect & precabling



We provide a wide range of connectivity services for tomorrow's connectivity needs. Precabling provides structured cabling from any space or rack on our campus to the CMMR via fiber connections to enable fast provisioning for all connectivity products.

## Remote hand services



We take over all key tasks of the technical and infrastructure management for high-availability data centers.

## Office space



At selected locations we offer modern office space which is located in the immediate vicinity of the data center area.



**Together we do great things**