**interoute**
from the ground to the cloud

# ENTERPRISE DIGITAL PLATFORM

*A software defined digital platform, breaking the boundaries of traditional cloud and networks.*

**44gt Red IRIS 2017**

## Virtual Data Centre

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# The core network of Europe

Founded in 2002

€2Bn Pan European fibre optic network

Relied on by 25 of the top 30 service providers in the world

# Interoute today

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Employees: 2000+

Revenue: €700 million*

Customer Services delivered
in 132 countries

**Network**
70,000 route kilometres
24 City Networks
10 Subsea Landing Stations

**Cloud**
17 Virtual Data Centre locations
15 Data Centres
33 Colocation Centres around the world

**Unified Communications**
10 global SIP locations
3 Conferencing & Collaboration gateway sites
Carrying 2 billion minutes a month

*On a pro forma basis, after giving effect to the Easynet

acquisition, Interoute would have had total revenue of over

€700 million in the twelve months ended 30 June 2015.

# External validation

**interoute**
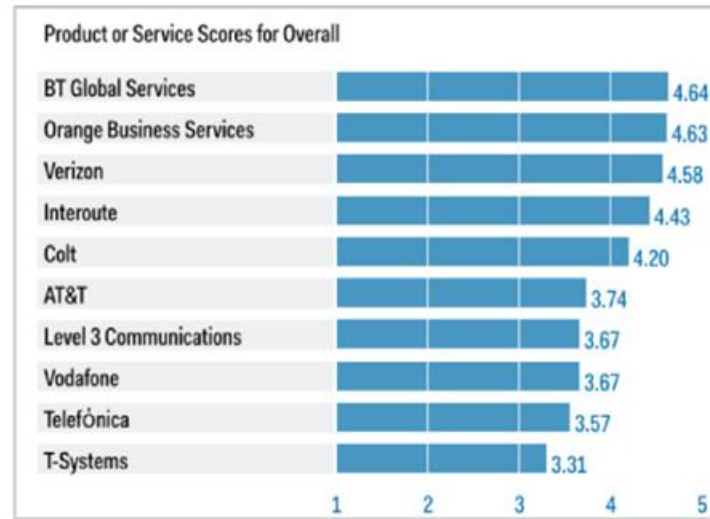*from the ground to the cloud*

## Gartner.

2016 Magic Quadrant
Managed Hybrid Cloud Hosting,
Europe



Gartner MQ Managed Hybrid Cloud Hosting, Europe,
June 2016

## Gartner.

Critical Capabilities
For Network Services,
Pan European

### Product or Service Scores for Overall

| | |
|---|---|
| BT Global Services | 4.64 |
| Orange Business Services | 4.63 |
| Verizon | 4.58 |
| Interoute | 4.43 |
| Colt | 4.20 |
| AT&T | 3.74 |
| Level 3 Communications | 3.67 |
| Vodafone | 3.67 |
| Telefónica | 3.57 |
| T-Systems | 3.31 |

Gartner Critical Capabilities for Network Services, Pan
European. January 2016

**UKcloud AWARDS 2016 ★ WINNER**

**global carrier Awards 2016 Winner Best Cloud Innovation** *Interoute*

**FROST & SULLIVAN 2016 BEST PRACTICES AWARD EUROPEAN CLOUD SERVICES GROWTH EXCELLENCE LEADERSHIP AWARD**

**IT EUROPA EUROPEAN IT & SOFTWARE EXCELLENCE AWARDS 2015 WINNER**

- ISO 9001
- ISO 14001
- OHSAS 18001
- ISO 20000
- ISO 22301
- ISO 27001
- PCI DSS (9 &12)
- ISAE/SSAE
  (SOC1 & 2)3402
- BSI Grundschultz
- FINMA
- SSAE 16 TYPE II
- CAS / DNSP (PSN)
- UK G-Cloud
  (Official Sensitive)
- ITIL FRAMEWORK

# Interoute key milestones

| 2002/03 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|
| Interoute's €2 billion pan-European Next Gen Network goes live.<br><br>Acquisition of eBone network assets, including City Networks.<br><br>Acquisition of Virtue. | First IP services for enterprises launched on network.<br><br>Interoute moves into Central/ Eastern Europe with purchase of CeCom. | Interoute moves its NOC to Prague, centralising operations and supporting 15 languages.<br><br>VIA/PSI acquired, adding enterprise hosting services and Data Centres to Europe's largest network. | Interoute extends to the border of Turkey, with the acquisition of TPN, a Bulgarian operator.<br><br>Interoute Wins Capacity Pan-European Wholesale Carrier of the Year for the first time. | Interoute turns EBITDA positive in 3Q 2007.<br><br>London city network increased with 51 Degrees acquisition.<br><br>Nordic presence expanded with PI.SE acquisition in Sweden. | Enterprise revenues overtake Service Provider revenues.<br><br>Dramatic expansion of IP network.<br><br>Malta's major operator, GO, lands on the Interoute network, in Sicily. | Interoute turns cash-flow positive and generates €40 million EBITDA positive.<br><br>Network expands to Moscow and Istanbul. Tunisia, East Africa and South Africa land on the Interoute network.<br><br>Interoute only European operator to be certified by Microsoft for Lync SIP Trunking. |

| 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| Interoute makes profitability.<br><br>Interoute named WCA Best Regional Operator.<br><br>Interoute acquire KPN's Dark Fibre network in Germany.<br><br>Interoute selected to be Telefonica's European network. | Interoute acquires Visual Conference Group, adding Video Conferencing to the Interoute Unified Communications portfolio.<br><br>Interoute acquires Quantix Cloud services application management provider.<br><br>Interoute awarded the Frost and Sullivan Best European Unified Communications Provider. | Interoute acquires Commendo Networks in Denmark strengthening it's Nordics presence.<br><br>Interoute Virtual Data Centre (VDC) launched and wins Data centre Dynamics innovation award. | Interoute SmartPoint video conference launched.<br><br>Interoute named a leader in Gartner Magic Quadrant for European Managed Hosting.<br><br>Interoute named IaaS Telecoms Provider of the Year by Frost & Sullivan.<br><br>Interoute establishes major Network Operations Centre in Sofia. | Interoute named a leader in Gartner Magic Quadrant for European Cloud Enabled Managed Hosting.<br><br>Interoute acquires Vtesse networks in the UK.<br><br>Interoute VDC launches 13th global Virtual Data Centre Zone.<br><br>Interoute wins Capacity "Best Pan-European wholesale Carrier" award for the 6th time. | Interoute VDC launches 14th global Virtual Data Centre Zone.<br><br>Interoute Cloud Connect launched, providing converged local infrastructure as a service with advanced network acceleration.<br><br>Interoute acquires Easynet creating one of Europe's largest independent ICT Providers.<br><br>Interoute wins Capacity's pan European Wholesaler provider award for 7th time. | Interoute named Best Cloud Provider at UK Cloud Industry Awards.<br><br>Interoute VDC expands to 17 Zones adding sites in USA, Asia and Europe.<br><br>Interoute recognised as a leader in Gartner Managed Hybrid Cloud Hosting Magic Quadrant for the 4th year.<br><br>Interoute supports UEFA with ICT services for the 2016 UEFA EUROS. |

# Some of our customers

# Enterprise Digital Platform

The Enterprise Digital platform is entirely software defined from customer site to virtual datacentre.

Our unique cloud fabric binds together the virtual data centre and network edge.

**Virtual Data Centre**
Global IaaS platform

**Cloud Fabric**
Software defined global network

**Edge**
Software defined WAN & NFV

# Enterprise Digital Platform



**Virtual Data Centre**
Global IaaS platform

Cloud Fabric
Software defined global network

Edge
Software defined WAN & NFV

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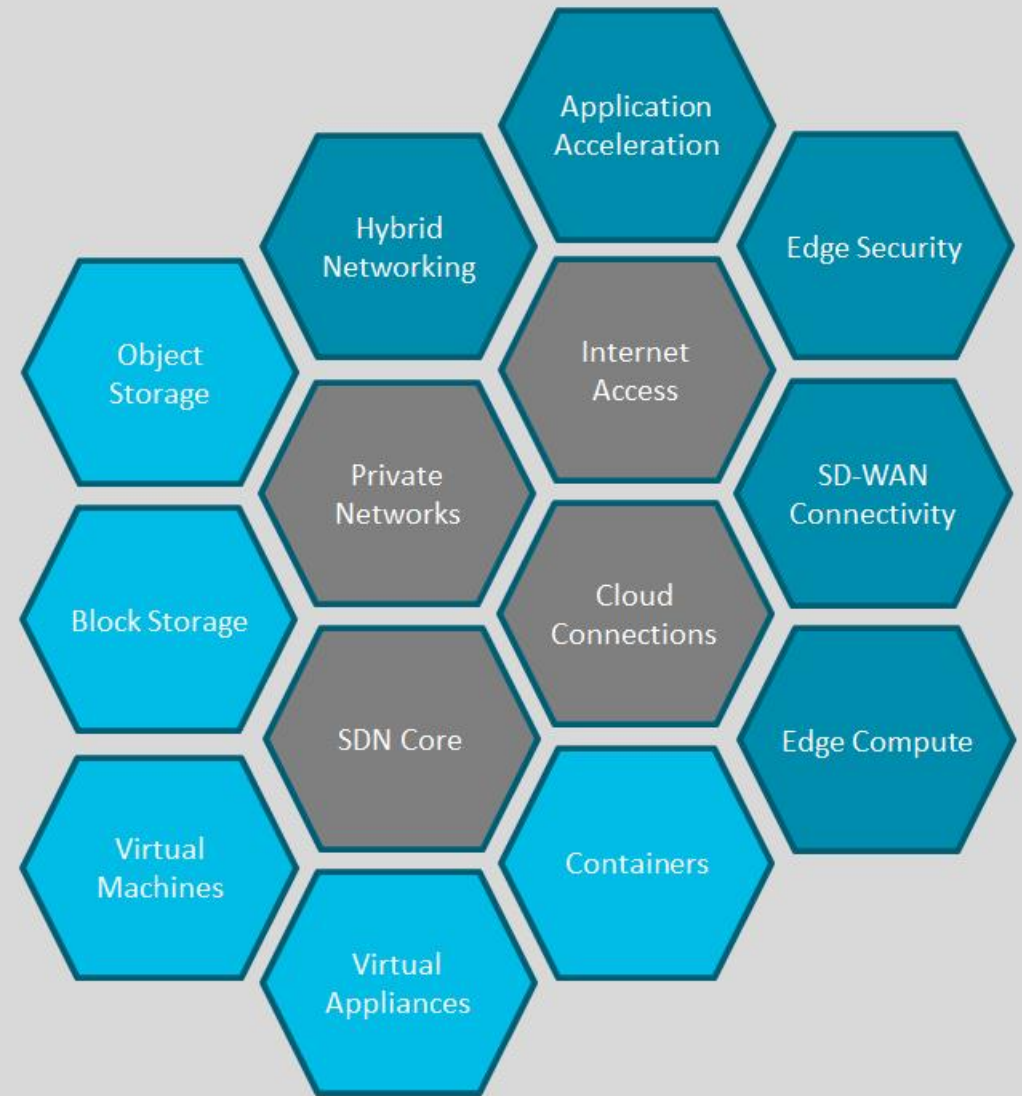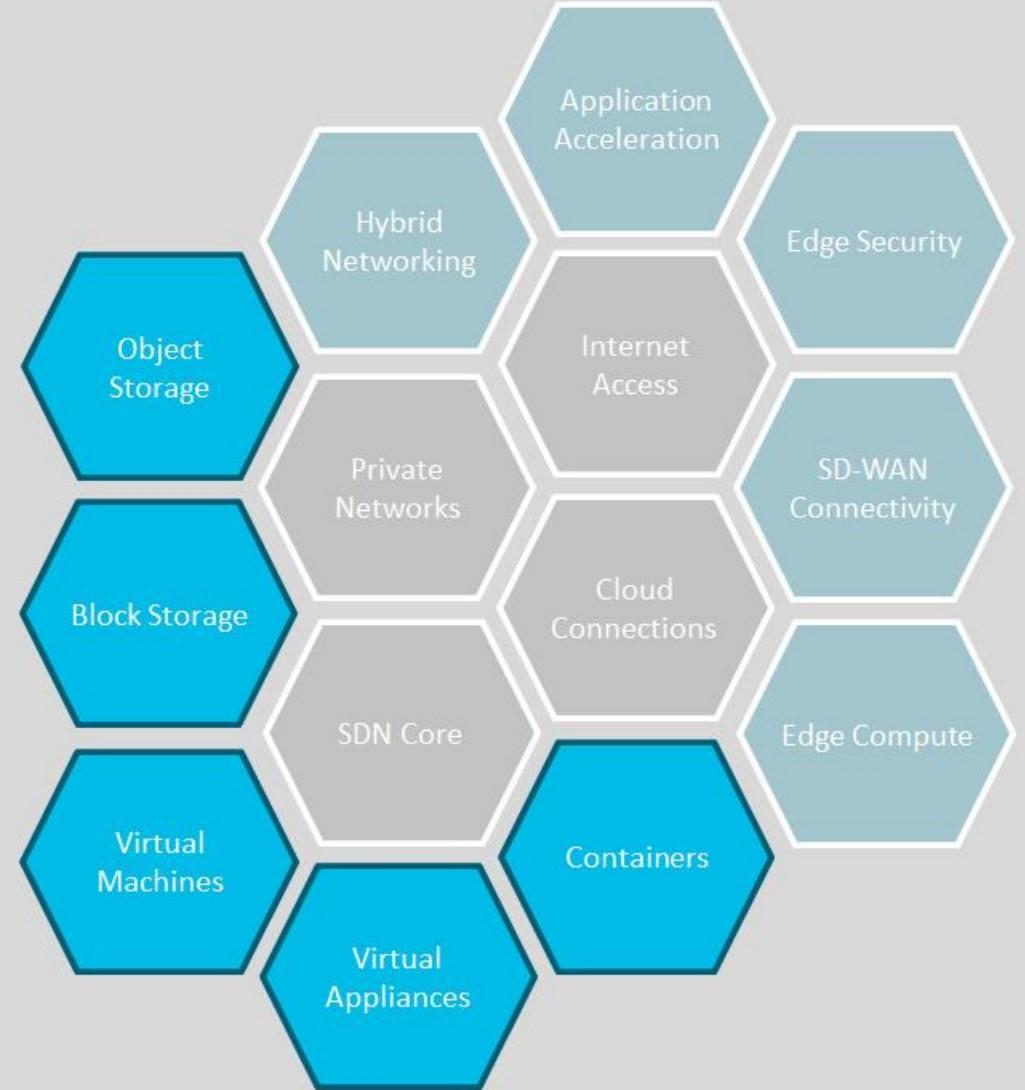
**Network Statistics**

- 70,000km of Lit Fibre
- 15 Data Centres
- 17 Virtual Data Centres
- 33 Colocation Centres
- 24 City Networks
- 126 Cities Connected
- 29 Countries
- 10 Subsea Landing Stations
- 15 Languages Supported

USA

Europe

Asia

# Cloud adoption

The move to the cloud comes with four main routes

**Re-hosting (lift & shift)**
New platform, same design
Servers in Colo

**Re-platforming (lift & reshape)**
New platform, updating design
Virtual Machines in VDC

**Repurchasing (replace)**
Entirely new platform
SaaS integration

**Refactoring (rewriting)**
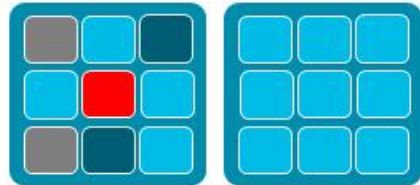Redevelop architecture for new platform
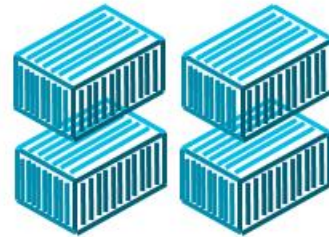Containers in VDC
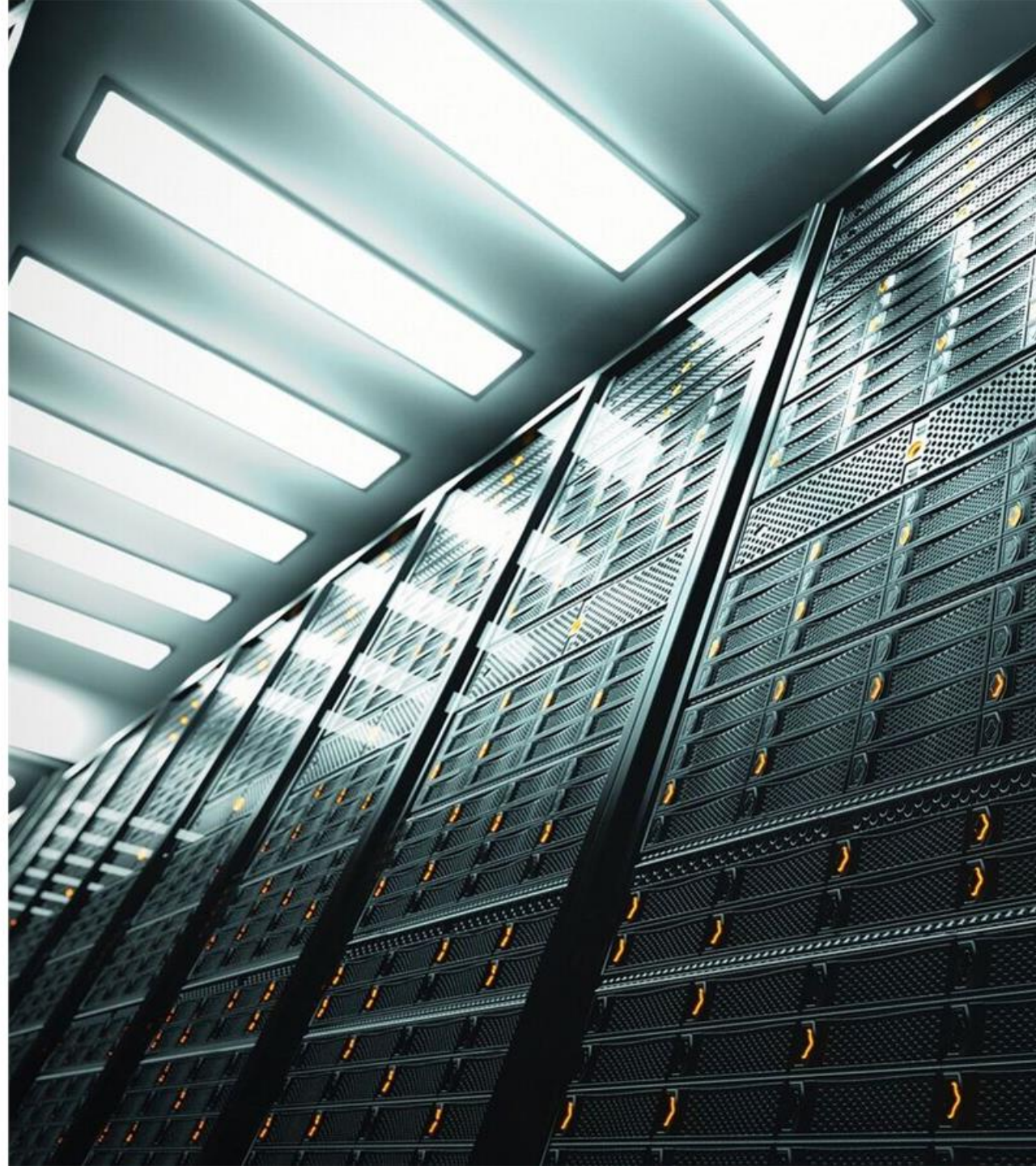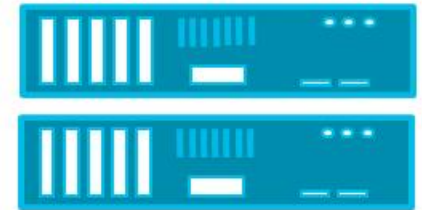
# Virtual Data Centre
## Compute
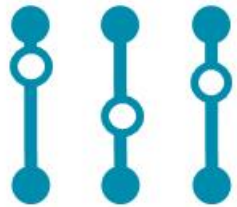
Any CPU, RAM and disk configuration

No noisy neighbours Dedicated compute hosts available
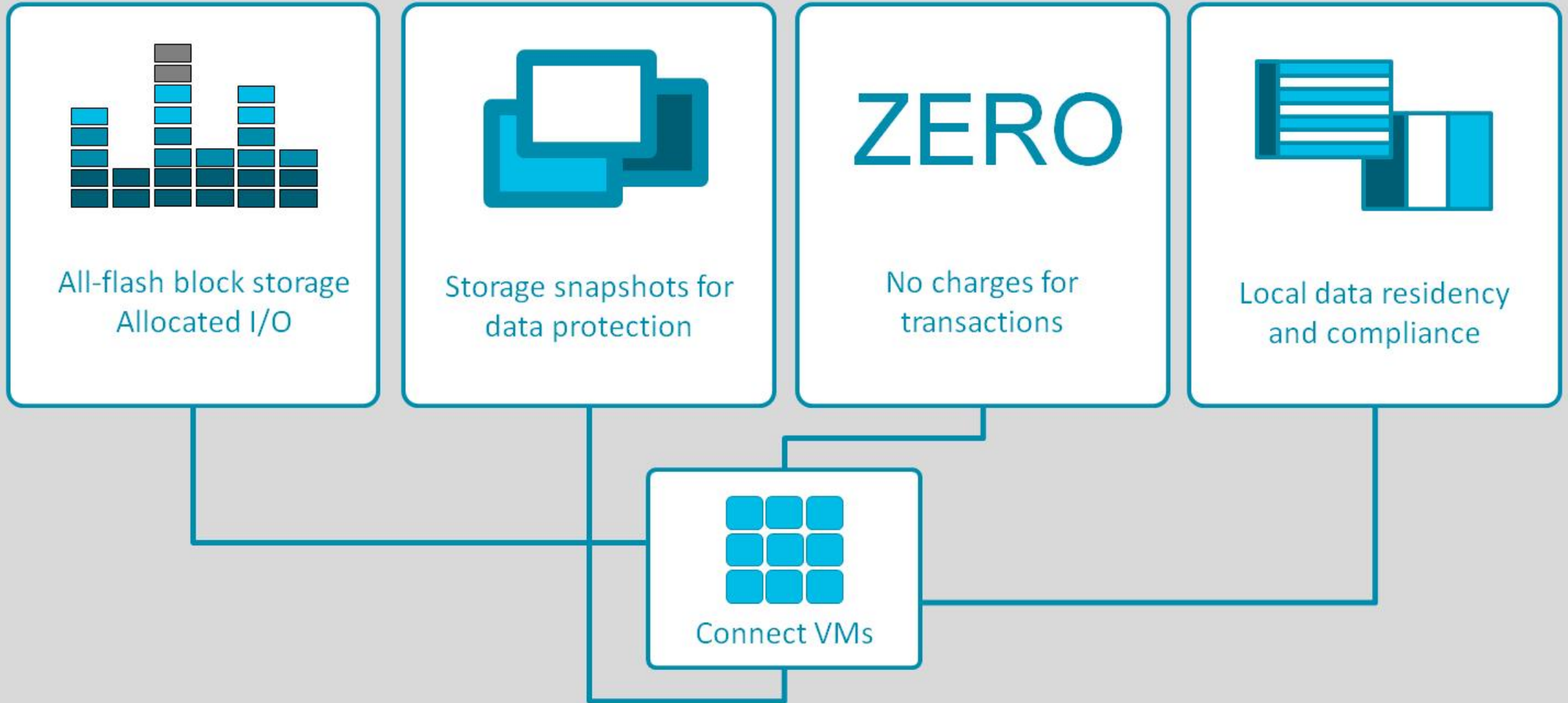
Containers facilitate AGILE development

Free connections for colocation & Physical Hosting
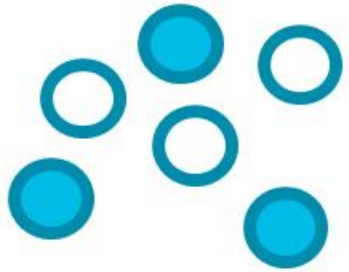
Direct Cloud Fabric Integration

# Virtual Data Centre
## Enterprise Block Storage (EBS)

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All-flash block storage
Allocated I/O

Storage snapshots for
data protection

**ZERO**

No charges for
transactions

Local data residency
and compliance

Connect VMs

# Simple Pricing Structure

A single charging rate across all zones and regions.

Network bandwidth and no charges for storage transactions.

Pay only for RAM, CPU & Storage with hourly billing.

Utility (PAYG) for flexible compute requirements.

Discounts for fixed term commitments.

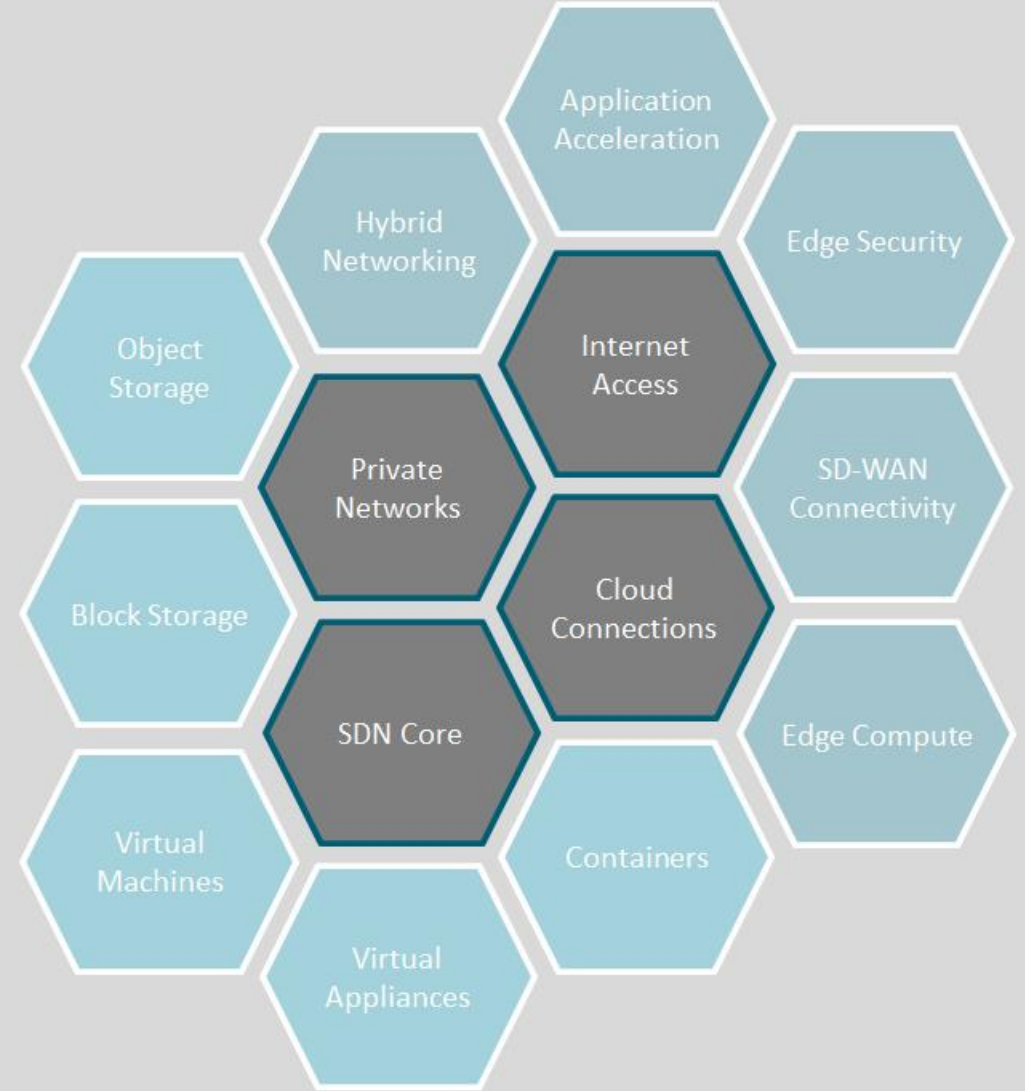# Enterprise Digital Platform

**Virtual Data Centre**
Global IaaS platform

## Cloud Fabric
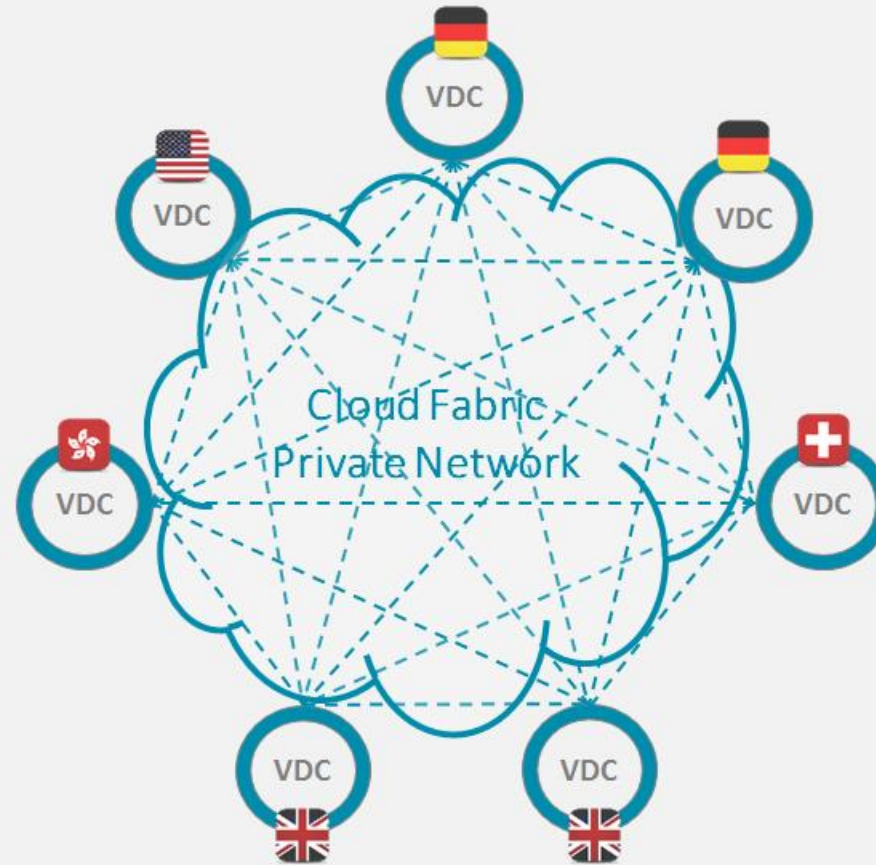Software defined global network

**Edge**
Software defined WAN & NFV

# UNIQUE CLOUD FABRIC

Unique software defined integration of IaaS with hyperscale, low latency network.

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# Cloud Fabric
## Unique Private cloud security



Private, not public networking connecting all services in VDC.
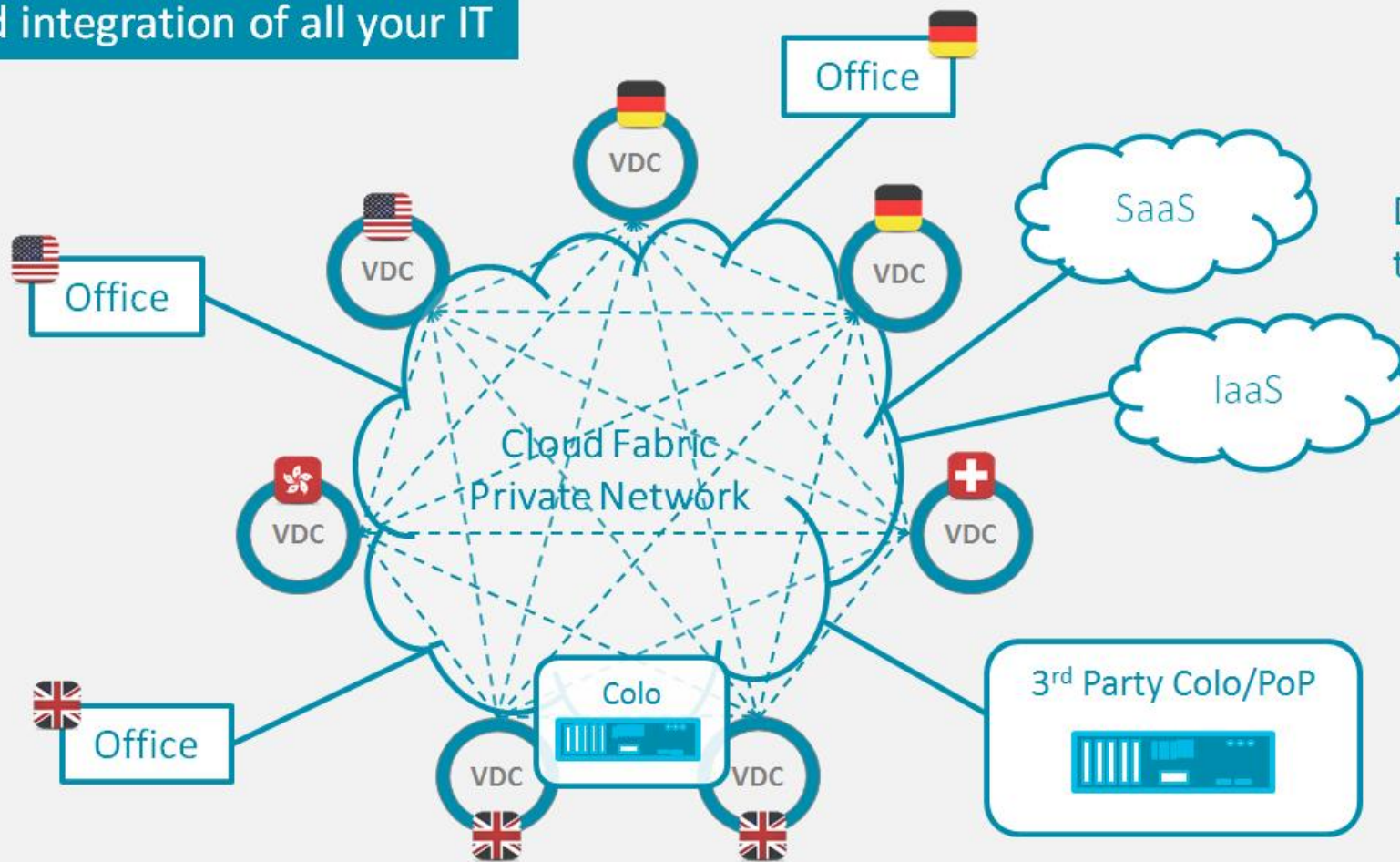
Security boundary between each customer that has never failed a security audit.

Easy configuration – just enable the zone relationships through UI or API.

# Cloud Fabric

## Unique Hybrid cloud integration of all your IT

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Office

VDC

VDC

VDC

Office

SaaS

Direct connections to 3rd party clouds.

Connect your offices with Interoute Edge in 132 countries.

IaaS

VDC

Cloud Fabric Private Network

VDC

Office

Colo

VDC

VDC

3rd Party Colo/PoP

Connect your existing data for free centres at over 300 locations with Interoute Connect.

Deploy physical devices with sub-millisecond latency to VDC in 33 colocation sites.

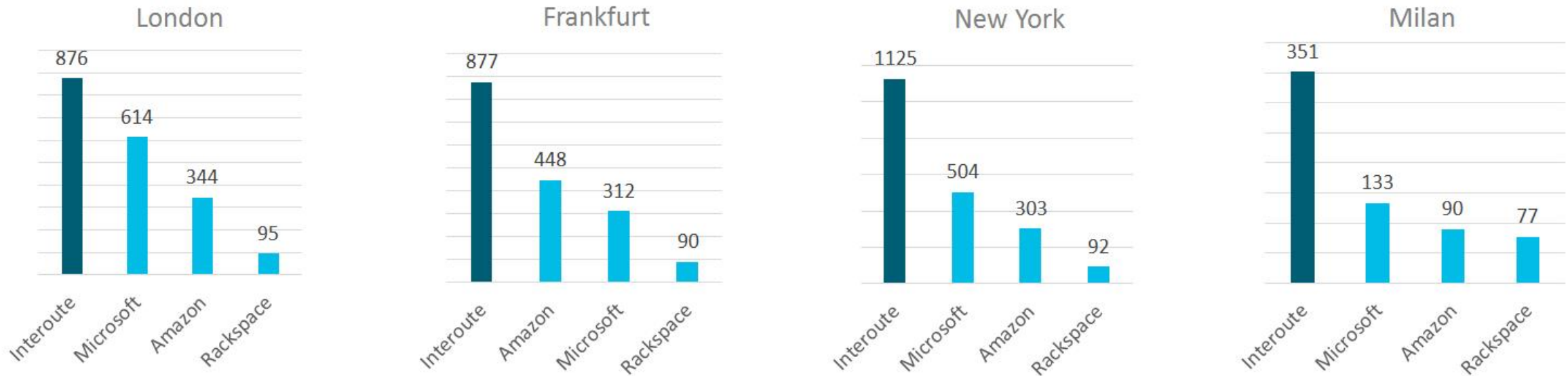Build hybrid solutions, catering for legacy, on-premises and cloud.

# Cloud Fabric
## Better Application Performance

CLOUD
SPECTATOR

Apache server download performance in Mbps. Tests were carried out between virtual machines running in Cloud Spectator data centers and endpoint virtual machines running in the data center of an independent cloud provider in the location city.



**London**

| | |
|---|---|
| Interoute | 876 |
| Microsoft | 614 |
| Amazon | 344 |
| Rackspace | 95 |

**Frankfurt**

| | |
|---|---|
| Interoute | 877 |
| Amazon | 448 |
| Microsoft | 312 |
| Rackspace | 90 |

**New York**

| | |
|---|---|
| Interoute | 1125 |
| Microsoft | 504 |
| Amazon | 303 |
| Rackspace | 92 |

**Milan**

| | |
|---|---|
| Interoute | 351 |
| Microsoft | 133 |
| Amazon | 90 |
| Rackspace | 77 |

Deliver a better user experience.

Use less infrastructure and lower costs.

Benefit from an end-to-end SLA.

# Standard Support

Unlike most cloud services, support is included as standard.

Direct access to our support teams via chat, email or phone.

We support the orchestration, compute, network and storage technology platforms.

Guidance on operating and deploying virtual infrastructure in VDC.
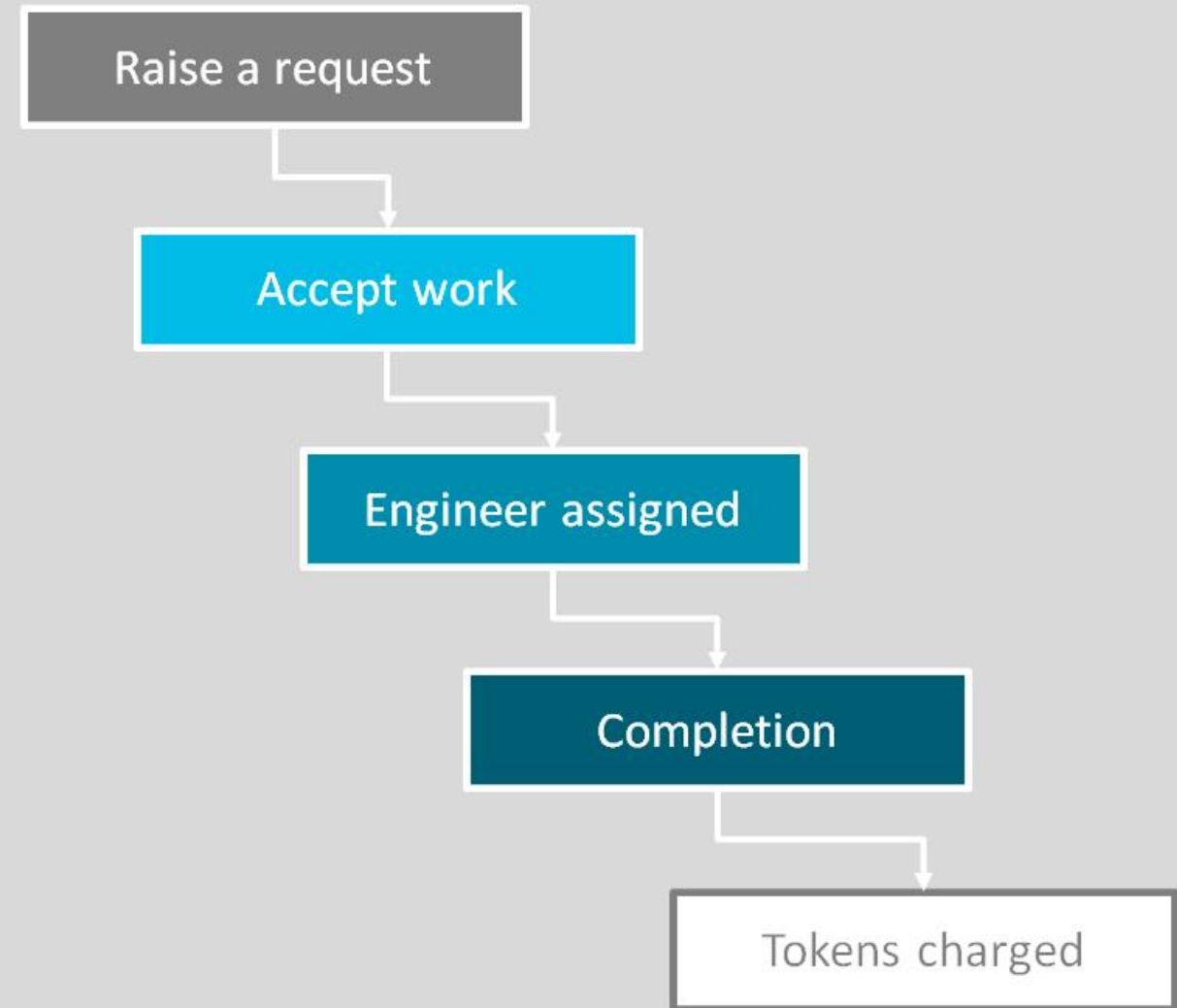
# Assist Model
## Engineer Assistance on Demand

Assist provides a simple framework for customers to access technical skills available within Interoute on demand and uses a token based charging model.

**Incidents**
Customers can raise requests to help resolve an incident for systems, even if they aren't formally supported by us. If it's a request that we can support, we'll take on the work.
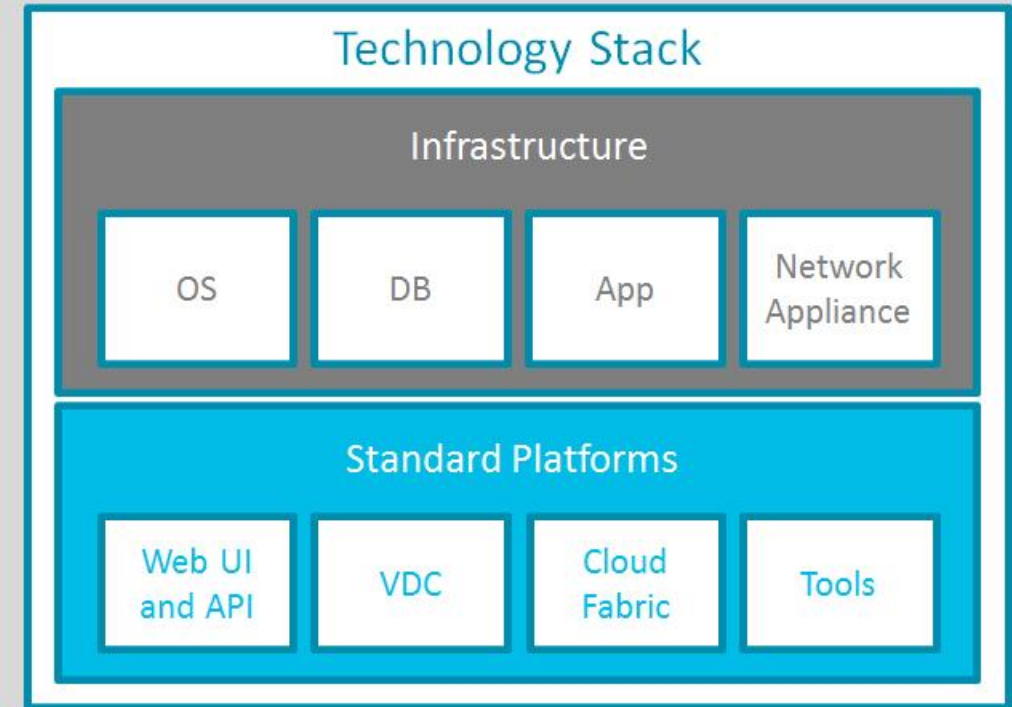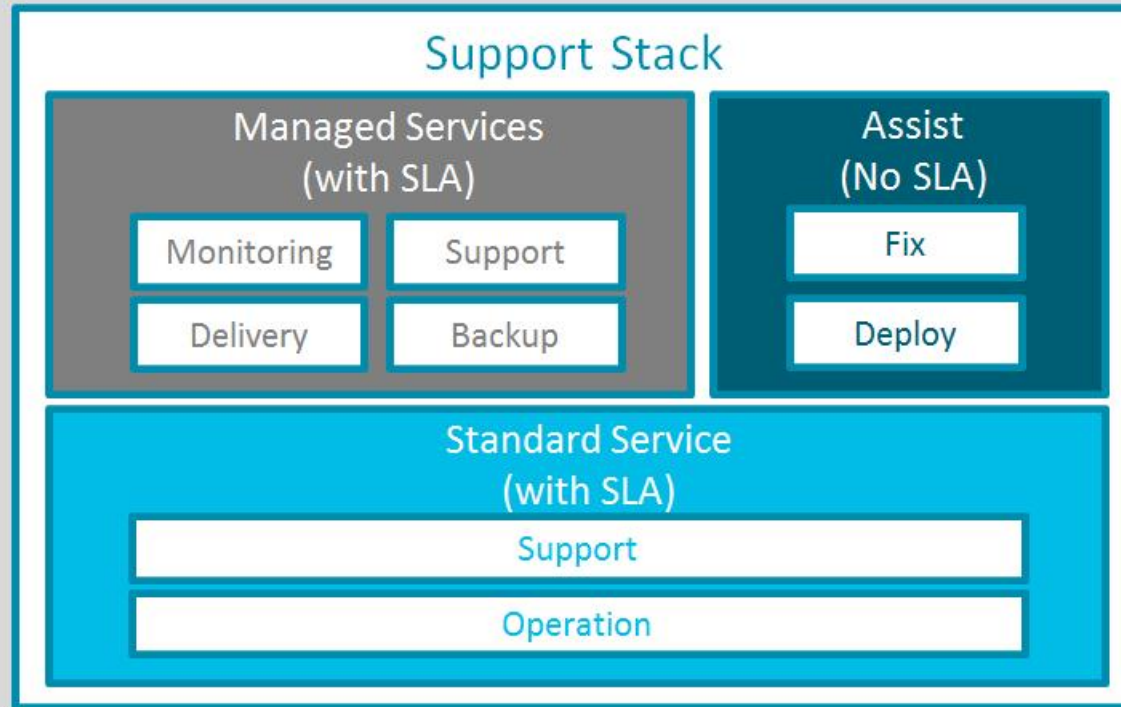
**Deployments**
The Assist service can be used for the deployment of new services from servers and databases to monitoring and backup.

Raise a request

Accept work

Engineer assigned

Completion

Tokens charged

# Assist Model
## Engineer Assistance on Demand

### Support Stack

**Managed Services (with SLA)**

| Monitoring | Support |
|---|---|
| Delivery | Backup |

**Assist (No SLA)**

Fix

Deploy

**Standard Service (with SLA)**

Support

Operation

### Technology Stack

**Infrastructure**

| OS | DB | App | Network Appliance |
|---|---|---|---|

**Standard Platforms**

| Web UI and API | VDC | Cloud Fabric | Tools |
|---|---|---|---|

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TOOLS

# Reporting and vTools Monitoring

An intuitive dashboard reports the real-time status of your services

Alerts and notifications can be tuned and customised for your needs.

Trouble tickets and email notifications are automatically generated in the MyServices Portal.

API Integration with service management portals available.

# Backup & Recovery Tools

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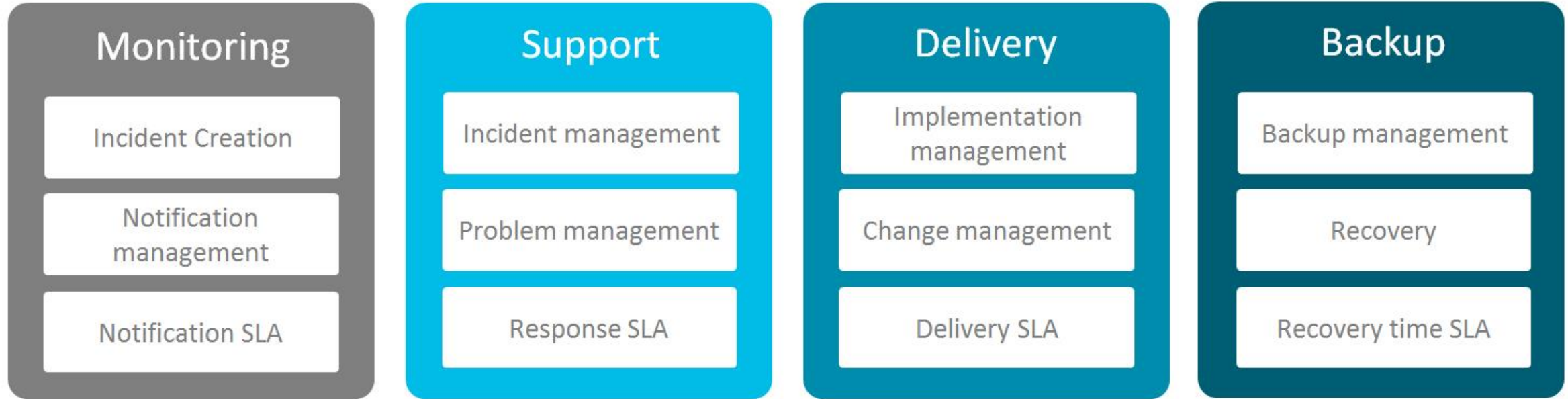| Protection Case | Retention & Schedule | Recover | Control |
|---|---|---|---|
| VM change management & roll back | **UI VM Snapshots**<br>Most recent snapshot<br>On demand snapshot | In minutes | VDC UI or API |
| Block storage volume change management & roll back | **UI Storage Snapshots**<br>Most recent snapshot<br>On demand snapshot | In minutes | VDC UI or API |
| Regular backup with granular file and folder recovery | **vTools Backup**<br>Range of retention policies<br>Daily backup | Size dependent | vTools UI |
| Regular protection of block storage volumes | **EBS Protected Storage Tier**<br>Retained for 48 hours<br>Snapshot every 4 hours | < 2 hours | Support request for recovery |

SUPPORT & MANAGED
SERVICES

# Managed Services Overview
## Complete flexibility

| Monitoring | Support | Delivery | Backup |
|---|---|---|---|
| Incident Creation | Incident management | Implementation management | Backup management |
| Notification management | Problem management | Change management | Recovery |
| Notification SLA | Response SLA | Delivery SLA | Recovery time SLA |

Modular services – select the modules you need, such as backup and monitoring, or bundle together for a fully managed service.

Flexible delivery – select only the systems you require managed services for, such as firewalls, databases and production servers.

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# Managed Services -Extended Support



**Gartner.**

## Operating Systems

Windows Server
Redhat Linux
Centos Linux
Ubuntu Linux
Core OS

## Applications

Apache Tomcat
Apache HTTP
Microsoft IIS
Microsoft Active Directory
Microsoft Exchange

## Virtual Appliances

Juniper VSRX
Palo Alto Firewall
CheckPoint Firewall
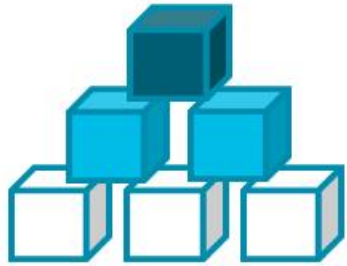F5 Local Traffic Manager
F5 DNS
Silverpeak
VDC vFiler

## Databases

Microsoft SQL Server
MySQL
PostgreSQL
MongoDB
Oracle Database



2016 Gartner Magic Quadrant
Managed Hybrid Cloud Hosting, Europe

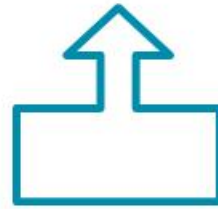**interoute**
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# Managed Services - Operation



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Deploy technology

Implement
configuration changes

Apply software
updates

Manage capacity

# INTEROUTE VDC

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Better security

Simple integration

Faster applications

Flexible managed services

# ENTERPRISE DIGITAL PLATFORM.

*The Enterprise Digital Platform is a software defined, network and multi-cloud platform. A single solution that delivers integrated public, private and hybrid IaaS with global private networking. Security is inherent, not complex. Everything is interconnected, not isolated. Developers can think outside the box - building distributed solutions that bring applications closer to users and deliver superior performance. Existing technology investments can be integrated, without re-factoring applications. Simply plug them in.*

*Why use a single bottleneck "direct connect" network connection to an isolated, remote IaaS platform? Why deploy applications so far from users that performance suffers? Why restrict developers to work within the constraints of traditional data centres or typical IaaS zones? Why struggle with migration and use complex workarounds to integrate existing technology platforms?*

*Change the way you think about cloud.*