

Fujitsu
expert4you

Willkommen in der Welt
der Hybrid IT-Lösungen

FUJITSU

shaping tomorrow with you





Hybride IT made by Microsoft

Vom Windows Server über
den Azure Stack nach Azure
und zurück!

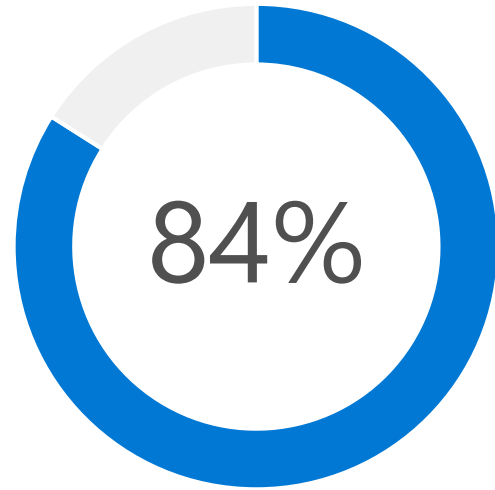
Andreas Wolffs
Technical Strategist
One Commercial Partner
Microsoft Deutschland GmbH

Was Unternehmen wollen:

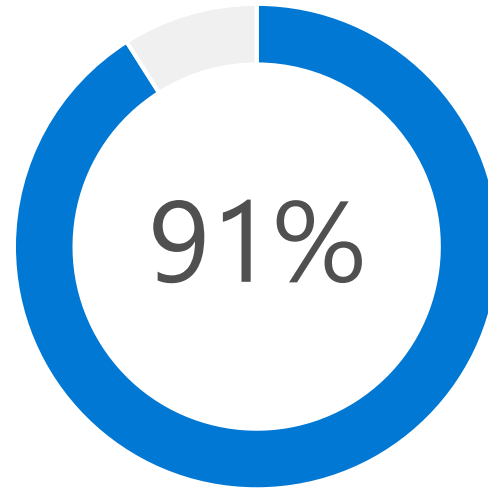
Systeme, die Workloads nahtlos
verteilen

Es beginnt mit einem Betriebssystem, das Lokale
Rechenzentren und die Cloud verbindet

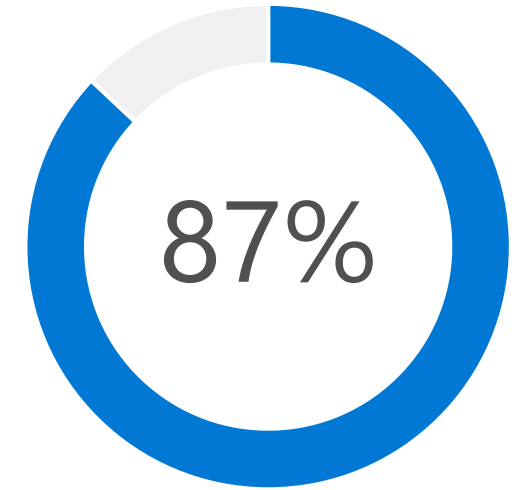
Kunden wollen die Hybrid-Cloud



Unternehmen haben eine Hybride Cloud Strategie – kommend von 55% vor einem Jahr



Unternehmen sehen sich in einer Hybrid-Cloud auf absehbare Zeit²



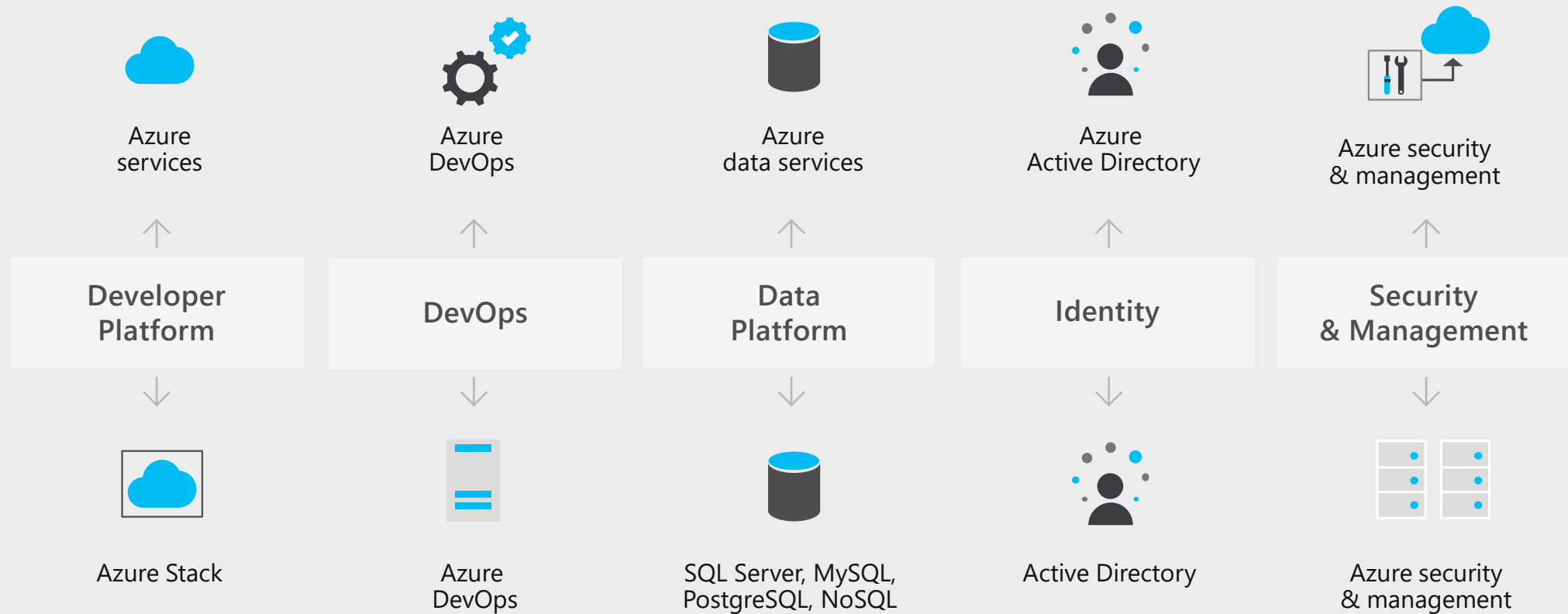
Organizations are planning to integrate on-premises datacenters with public cloud³

Sources:

1. Microsoft study, 2017
2. Microsoft study, 2017
3. Avanade research on IT modernization, April 2017

Azure: Hybrid

Die einzige konsistente, umfassende Hybrid-Cloud



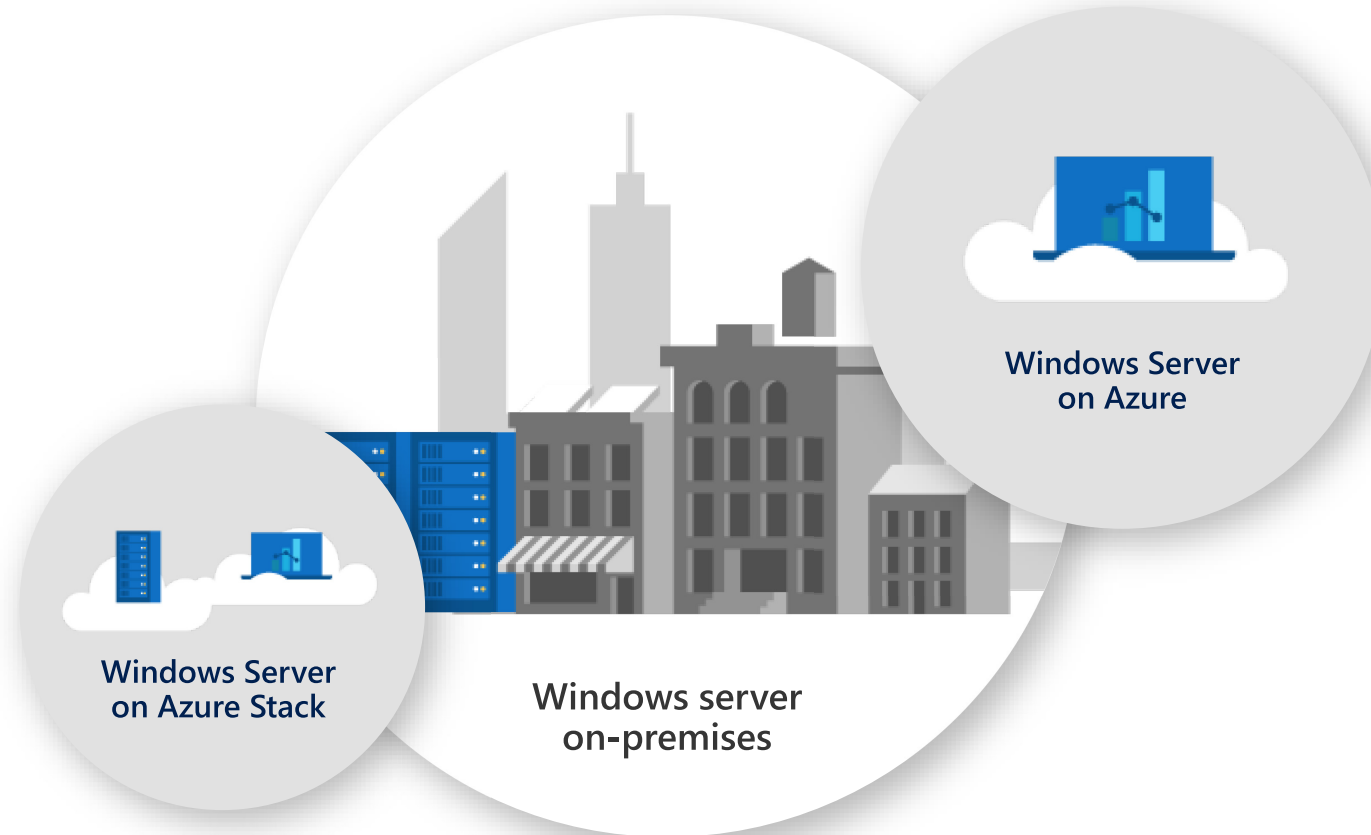


Windows Server 2019

Das Betriebssystem das locale
Rechenzentren und Azure
verbindet

Das Windows-Server Versprechen

Unterstützen Sie, wo immer Sie sind



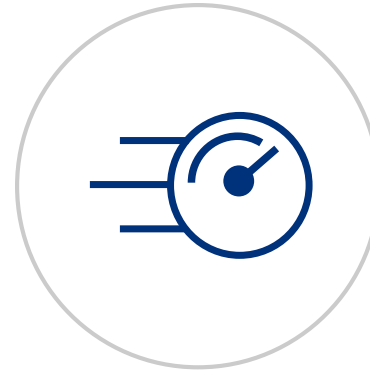
Windows Server 2019



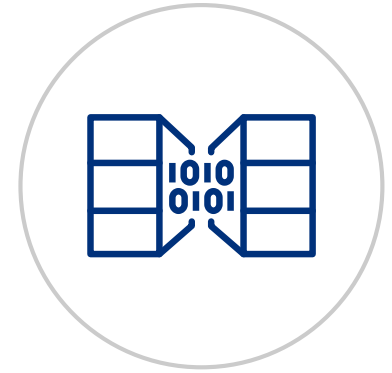
Unique hybrid
capabilities with Azure



Advanced multi-layer
security



Faster innovation
for applications



Unprecedented
hyper-converged
infrastructure

Hybride Rechenzentrums-Plattform

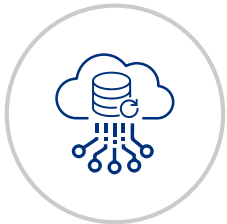
Investitionen maximieren, neue gewinnen mit Windows Server 2019



Das RZ in die Cloud erweitern

Bestehende Investitionen maximieren

Die Notwendigkeit, maßgeschneiderte Lösungen zu entwickeln, wird beseitigt



Eingebaute Hybrid-Management-Funktionen

Eingebaute AAD Verzeichnisintegration

Azure Backup, Azure Site Recovery ...

Speichermigrations-Service

Einfachere Verbindung zu den virtuellen Netzwerken von Azure

Verbesserte Sicherheitskapazitäten

Schützen Sie Ihr Rechenzentrum mit Windows Server 2019



Privilegierte Identitäten verwalten

Geben Sie Administratoren und Systemkomponenten mit Just Enough Administration die benötigten Zugriffsberechtigung



Das Betriebssystem sichern

Sicherheitsverletzungen mit Windows Defender Advanced Threat Protection entdecken und adressieren

Helfen Sie, das Eindringen an einem Host mit Windows Exploit Guard zu verhindern



Sichere Virtualisierung Fabric

Linux in einer geschützten virtuellen Maschine mit Shielded VMs für Linux starten

Schützen Sie den Netzwerkverkehr mit dem Umdrehen eines Schalters mit verschlüsselten Subnetzen

Schnellere Innovation für Anwendungen

Entwickler und IT-Profis in die Lage versetzen, Apps schneller zu erstellen

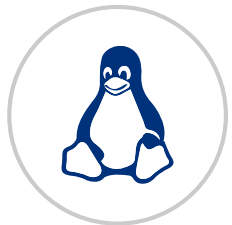


Verbesserte Containerunterstützung

Kubernetes Support—Verbesserung für Compute, Storage und Netzwerk Komponenten eines Kubernetes Cluster

Red Hat Open Shift Container-Plattform

Optimierte Images für Server Core und Nano Server



Besserer Linux Support

Linux-Container auf Windows-Rechner

Unterstützung von Tools wie Open SSH, Curl, Tar

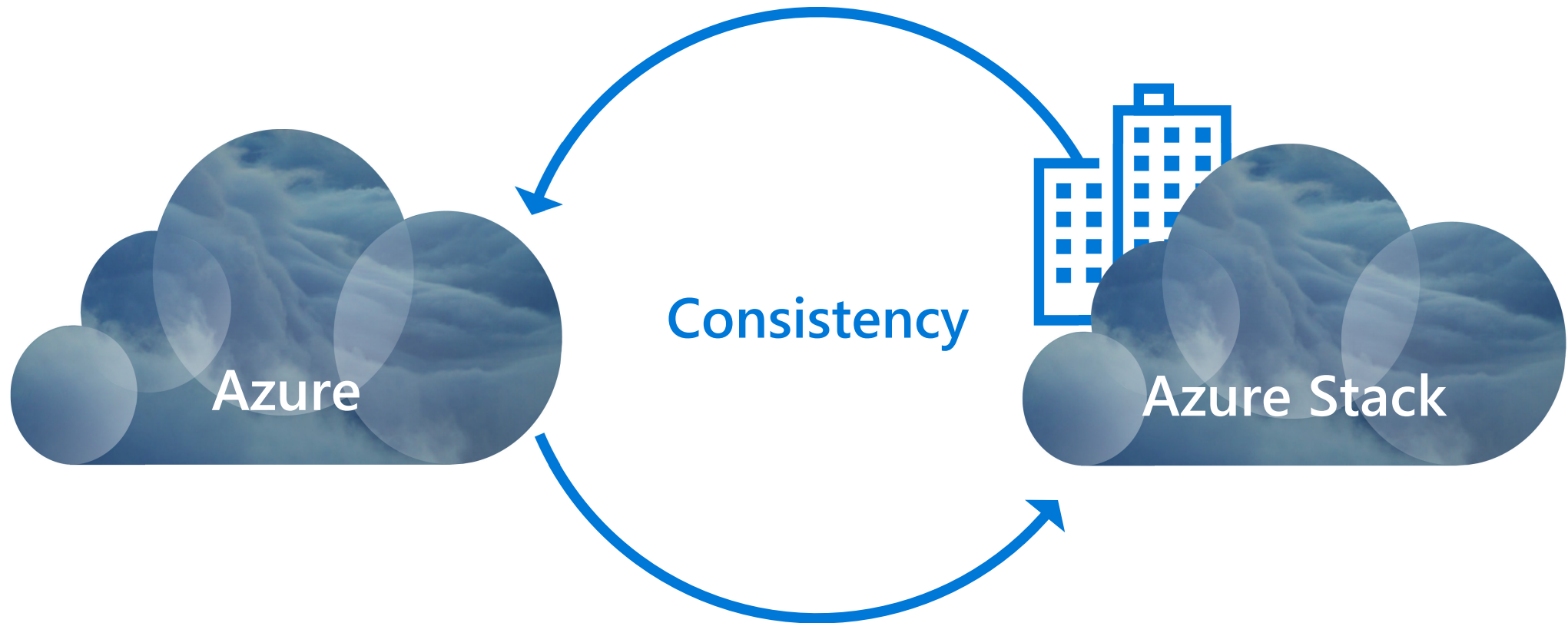
Windows Subsystem for Linux



Azure Stack ist eine Erweiterung von Azure. Es bringt die Agilität und Innovation von Cloud Computing in die Umgebung vor Ort. Unternehmen können nun moderne Anwendungen über Hybrid-Cloud-Umgebungen mit der richtigen Flexibilität und Kontrolle aufbauen.

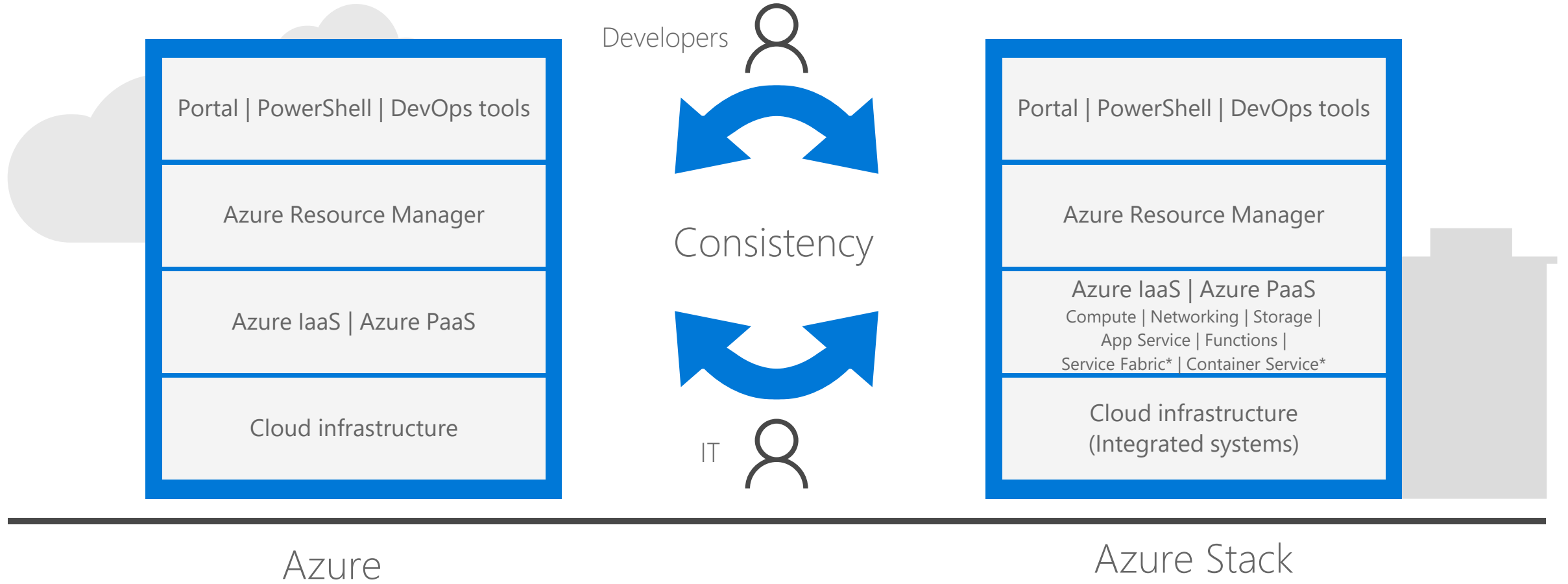
Azure und Azure Stack

Wirklich konsistente Hybrid-Cloud-Plattform



Azure und Azure Stack

Wirklich konsistente Hybrid-Cloud-Plattform



Azure Stack Integrated Systems gibt es von



Cisco
Dell
Fujitsu
HP
Lenovo
Wortmann



54 Regionen
Weltweit

140 Verfügbar in
140 Ländern

Bis zu 1,6 PBit/s Bandbreite in einer Region

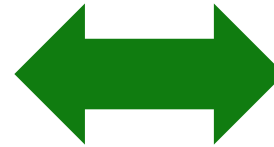


Paired Regions für Geo-Redundanz

Paired Regions bieten

- Isolierung und Replikation
- Region Order Recovery
- Sequenzielle Updates
- Data Residency

North Central US
East US
West US 2
US East 2
US Gov Iowa
Canada Central
North Europe
UK West
Germany Central
South East Asia
East China
Japan East
Australia Southeast
India South
Brazil South (Primary)



South Central US
West US
West Central US
Central US
US Gov Virginia
Canada East
West Europe
UK South
Germany Northeast
East Asia
North China
Japan West
Australia East
India Central
South Central US



Datacenter Infrastructure (54 Regions Worldwide in 140 Countries)

Microsoft's Cloud Portfolio

Status: January 2019 >10k Apps on Azure (+12% against Oct 18)

Software as a Service (SaaS)	OFFICE 365 (17 + 2676) Office Exchange SharePoint Skype For Business OneDrive for Business Delve Teams Project Staffhub Yammer									
	POWER BI (1 + 371) PowerBI									
	LinkedIN Sales Navigator LinkedIN									
Platform as a Service (PaaS)	DYNAMICS 365 (9 + 1401) PowerApps Field Services									
	Flow Customer Services Marketing Financials									
	Customer Insights Operations									
Infrastructure as a Service (IaaS)	WEB & MOBILE (7 + 350)	CONTAINERS (7 + 130)	DATABASIS (11 + 600)	AI & ML (33 + 17)	ANALYTICS (15 + 823)	MIGRATION + MEDIA (15 + 605)	IOT (17 + 26)	DEV-OPS & TOOLS (16 + 595)	IDENTITY & INTEGRATION (9 + 164)	SECURITY (9 + 758)
	App Service Notification Hub API Management Azure Search Azure SignalR Service Web Apps	Batch Service Fabric Container Instances Container Registry Web App for Containers Azure Kubernetes Services (AKS)	SQL Data Warehouse Azure Cosmos DB Azure SQL Database Azure DB for MySQL Azure DB for PostgreSQL Redis Cache	Machine Learning Studio Azure Data Bricks Microsoft Genomics Cognitive Services Language Understanding Data Science Virtual machines	Azure Data Bricks HD Insight Data Factory Stream Analytics Data Lake Analytics Event Hubs	Site Recovery Azure DB Migration Data Box Azure Migrate Media Services Media Analytics	IoT Hub IoT Central Windows 10 IoT Core Services Machine Learning Studio Event Grid Logic Apps	Azure DevOps Projects Application Insights Visual Studio App Center Azure Lab Services Visual Studio Team Services Azure DevTest Labs	Azure Active Directory Multi-Factor Authentication AAD B2C AAD Domain Services Service Bus Logic Apps	Key Vault AAD Domain Services Security Center Azure Advanced Threat protection Azure Information Protection Azure DDOS Protection
	MANAGEMENT (19 + 20)	Cloud Shell	Application Insights	Azure Policy	Azure Resource Manager	Scheduler	Azure Advisor	Azure Cost Management	Azure Monitor	Microsoft Azure Portal
Infrastructure as a Service (IaaS)	COMPUTE (13 + 821)	Linux Virtual Machines Functions	Virtual Machine Scale Sets Virtual Machines	NETWORKING (12 + 389)	Network Watcher Express Route	Content Delivery Network (CDN) Traffic Manager	VPN Gateway Azure DNS	STORAGE (13 + 556)	Storage File Storage	Backup Archive Storage
	Service Fabric			Virtual WAN						

Source: (SaaS) [Office 365](#), [PowerBI](#) & [Dynamics 365](#) + [AppSource](#) / (IaaS & PaaS) [Azure Services](#) + [Azure Marketplace](#)



Microsoft US-East2 Data Center (Virginia, USA)



Microsoft US-East2 Data Center (Virginia, USA)

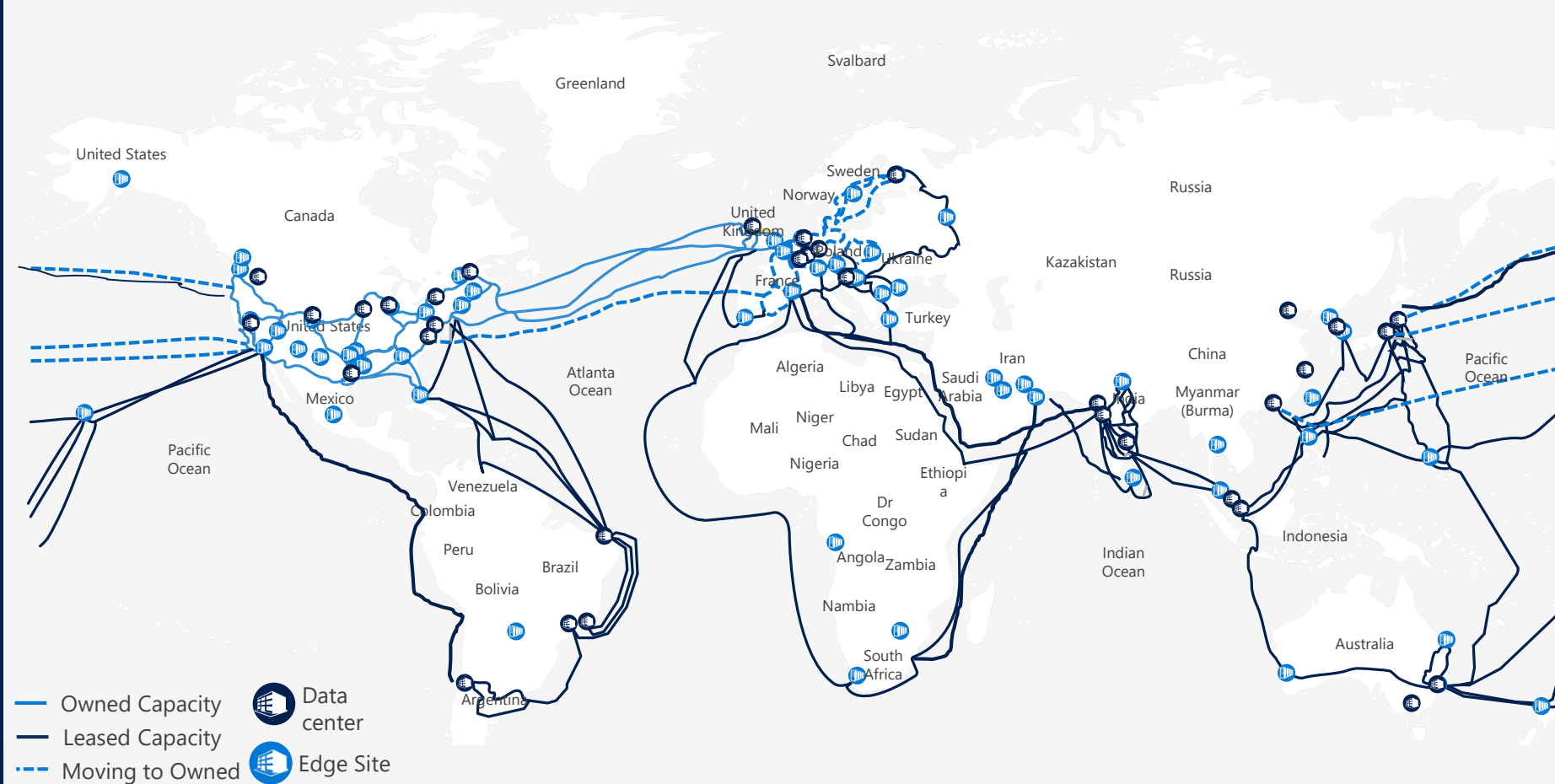


Microsoft US-East2 Data Center EXPANSION

Microsoft Globales Netzwerk

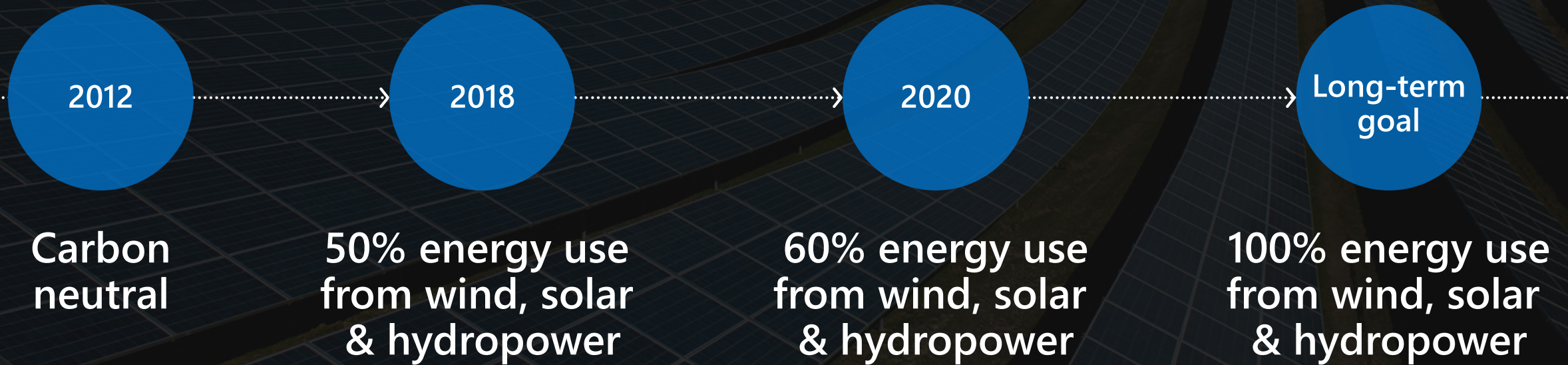
Einer der größten privaten
Netzwerke in der Welt

- 8,000+ ISP sessions
- 130+ edge sites
- 44 ExpressRoute locations
- 33,000 miles of lit fiber
- SDN Managed (SWAN, OLS)



DCs and Network sites not exhaustive

Bekenntnis zur Nachhaltigkeit

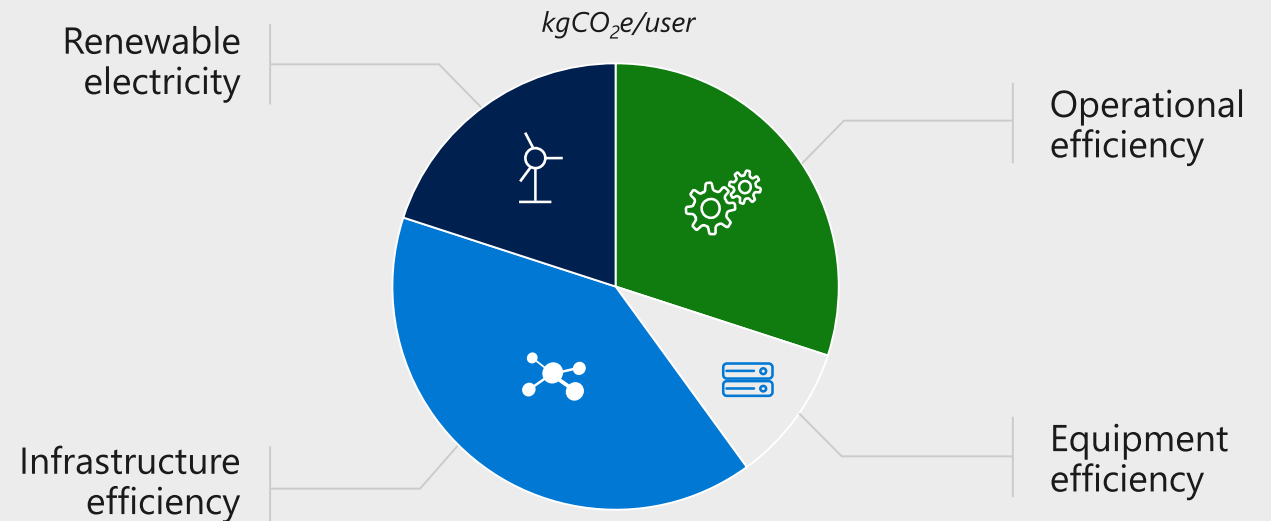


Microsoft Cloud-Dienste sind bis zu 98% CO2-effizienter als herkömmliche Datacenter

For localized deployments, Microsoft Cloud is between **79 to 93% more energy efficient** than a traditional datacenter

When renewable energy is taken into account, carbon emissions (kg/CO₂/user-year) from Azure Compute are **92–98% lower** than a traditional enterprise datacenter

The four key investments that reduce environmental impact:



Azure bietet Bestleistung



Compute
performance

960
CPUs

Largest in public cloud



Memory

24
TB RAM

Largest in public cloud



Remote Storage
(single disk)

160K
IOPs

Fastest in public cloud



Local
storage

3.7M
IOPs

Fastest in public cloud



File storage

100K
IOPs

Fastest in public cloud



VM-VM Networking

30
Gbps Ethernet

100
Gbps InfiniBand

Fastest in public cloud

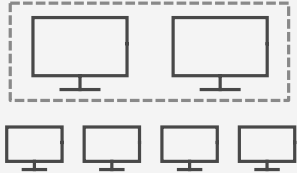
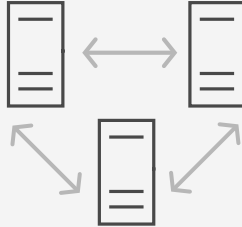
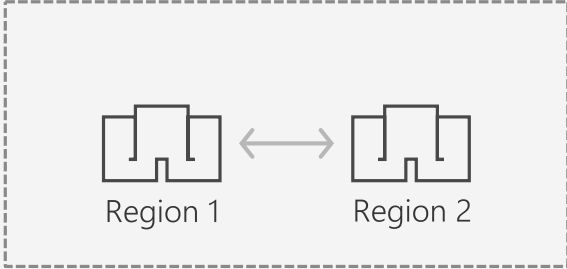


Hybrid Networking

100
Gbps Connectivity

Fastest in public cloud

Die umfassendste Ausfallsicherheit und die beste SLA

INDUSTRY-ONLY	INDUSTRY-LEADING HIGH AVAILABILITY SLA		INDUSTRY-LEADING DISASTER RECOVERY
VM SLA 99.9%	VM SLA 99.95%	VM SLA 99.99%	REGIONS 42
			
SINGLE VM Protection with Premium Storage	AVAILABILITY SETS Protection against failures within datacenters	AVAILABILITY ZONES Protection from entire datacenter failures	REGION PAIRS Protection from disaster with Data Residency compliance

Wenn große Datenmengen nach Azure sollen gibt es die Azure Data Box Familie

Offline Data Transfer



Data Box

- Capacity: 100 TB
- Weight: ~23 KG
- Secure, ruggedized appliance
- Data Box enables bulk migration to Azure when network isn't an option.



Data Box Disk

- Capacity: 8TB ea.; 40TB/order
- Secure, ruggedized USB drives orderable in packs of 5 (up to 40TB).
- Perfect for projects that require a smaller form factor, e.g., autonomous vehicles.



Data Box Heavy

- Capacity: 1 PB
- Weight 225+ KG
- Secure, ruggedized appliance
- **In Preview**
- Same service as Data Box, but targeted to petabyte-sized datasets.

Online Data Transfer



Data Box Gateway

- Virtual device provisioned in your hypervisor
- Supports storage gateway, SMB, NFS, Azure blob, files
- Virtual network transfer appliance (VM), runs on your choice of hardware.



Data Box Edge

- Local Cache Capacity: ~12 TB
- Includes Data Box Gateway and Azure IoT Edge.
- Data Box Edge manages uploads to Azure and can pre-process data prior to upload.



Order



Send



Fill



Return



Upload

Network Data Transfer



Cloud to Edge



Edge to Cloud

Edge Compute



Pre-processing



ML Inferencing

Azure ist eine offene Plattform

50% der virtuellen Maschinen laufen auf Linux



Azure deckt aktuell 91 Compliance-Angebote ab

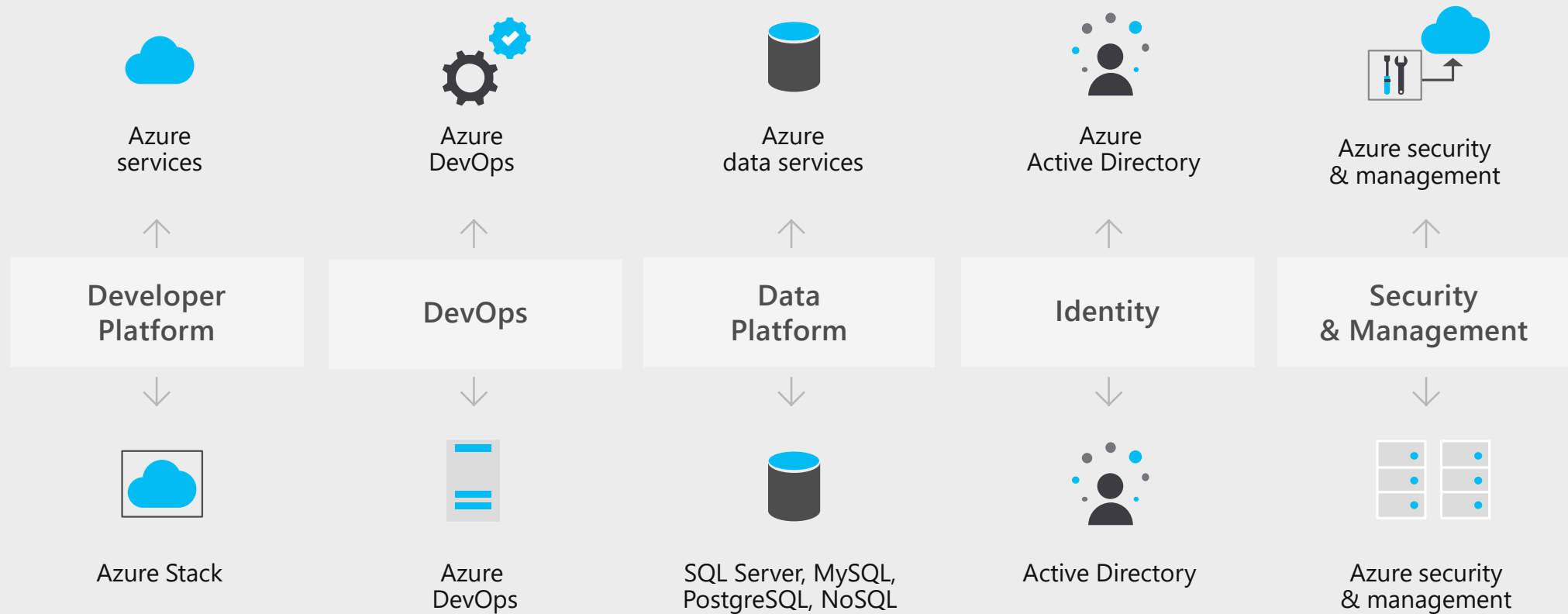
Azure verfügt über die tiefste und umfassendste Compliance-Abdeckung in der Branche

Global	US Gov	Industry		Regional	
• ISO 27001:2013 • ISO 27017:2015 • ISO 27018:2014 • ISO 22301:2012 • ISO 9001:2015 • ISO 20000-1:2011 • SOC 1 Type 2 • SOC 2 Type 2 • SOC 3 • CIS Benchmark • CSA STAR Certification • CSA STAR Attestation • CSA STAR self-assessment • WCAG 2.0 (ISO 40500:2012)	• FedRAMP high • FedRAMP moderate • EAR • ITAR • DoD DISA SRG Level 5 • DoD DISA SRG Level 4 • DoD DISA SRG Level 2 • DFARS • DoE 10 CFR Part 810 • NIST SP 800-171 • NIST CSF • Section 508 VPATs • FIPS 140-2 • CJIS • IRS 1075 • CNSSI 1253	• PCI DSS Level 1 • GLBA (US) • FFIEC (US) • Shared assessments (US) • SEC 17a-4 (US) • CFTC 1.31 (US) • FINRA 4511 (US) • SOX (US) • 23 NYCRR 500 (US) • OSFI (Canada) • FCA + PRA (UK) • APRA (Australia) • FINMA (Switzerland) • FSA (Denmark) • RBI + IRDAI (India) • MAS + ABS (Singapore) • NBB + FSMA (Belgium)	• AFM + DNB (Netherlands) • AMF + ACPR (France) • KNF (Poland) • European Banking Authority (EBA) • FISC (Japan) • HIPAA BAA (US) • HITRUST certification • GxP (FDA 21 CFR Part 11) • MARS-E (US) • NHS IG Toolkit (UK) • NEN 7510:2011 (Netherlands) • FERPA (US) • CDSA • MPAA (US) • FACT (UK) • DPP (UK) • TISAX (Germany)	• Argentina PDPA • Australia IRAP Unclassified • Australia IRAP PROTECTED • Canada Privacy Laws • China GB 18030:2005 • China DJCP (MLPS) Level 3 • China TRUCS/CCCPPF • EU EN 301 549 • EU ENISA IAF • EU model clauses • EU—US privacy shield • GDPR • Germany C5 • Germany IT—Grundschutz workbook	• India MeitY • Japan CS mark gold • Japan my number act • Netherlands BIR 2012 • New Zealand Gov CIO Framework • Singapore MTCS Level 3 • Spain ENS High • Spain DPA • UK cyber essentials plus • UK G-Cloud • UK PASF • Korea K-ISMS • France HDS

<https://aka.ms/AzureCompliance>

Azure: Hybrid

Die einzige konsistente, umfassende Hybrid-Cloud





Vielen Dank für Ihre Aufmerksamkeit!!

