bbv Software Services AG

Roland Krummenacher
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Microsoft Azure
Von 0 auf 100

Stark in **Beratung, Engineering, Lösungen** und **Ausbildung.**

Kompetenz

bbv Software Services bietet erstklassiges Software Engineering. Von der fundierten Analyse bis zur effizienten Qualitätssicherung begleiten wir Sie auf dem Weg zur erfolgreichen Software.

Unsere erfahrenen Mitarbeiter unterstützen Sie in den Bereichen:

Kennzahlen

- ca. 180 Mitarbeiter
- über 1‘600 Projekte bei mehr als 180 Kunden
- Umsatz 2013: 36.9 Mio. CHF
- Büros in Luzern (Firmensitz), Zug, Zürich, Bern und München
- Gründung: 1995; Aktiengesellschaft, 100% im Besitz der Eigentümer

Kunden

Industrie

Schindler, Siemens, Roche, Ypsomed, ACS, Ascom, BKW FMB Energie, Bystronic, Diebold, eao, Esec, Frama, Garaventa, Komax, Leister, Maxon Motor, Oerlikon

Versicherungen

CSS Versicherung, Swiss Re, Swiss Life, Mobiliar, SUVA, Concordia, Visana

Banken & Finanzdienstleister

Postfinance, UBS, SIX Swiss Exchange, derivative partners, Quartal Financial Solutions AG, Bank for International Settlements Motor, Curabill, Oerlikon

Öffentliche Verwaltung/ bundesnahe Betriebe

Swisscom, SBB, Institut für Gestiges Eigentum, Hochschule Rapperswil, HTA Luzern, Stadt Zürich Polizeidepartement, Stadt Zürich OIZ, BIT

Handel, Dienstleistungen, Softwarehersteller

Ex Libris, ARP Gruppe, Jelmoli, Multimedia Solutions, Identitas, Löwenfels Partner, Ruf Informatik, Bison

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Blumenrain 10
6002 Luzern

Stark in **Beratung, Engineering, Lösungen** und **Ausbildung.**

Beratung
- Projektmanagement
- Agile Entwicklungsmethoden
- User Centered Design
- Technologie- und Architektur-Assessments
- Qualitätssicherung

Engineering
- Projektleiter
- Softwareentwickler und Architekten
- Requirements Engineers
- Usability-Experten
- Technologie-Experten
- Gesamte Entwicklungsteams

Nutzen Sie unsere Erfahrung zu aktuellen Themen und Best Practices:
TDD/ATDD, Tools (z.B. Git) ALM oder Management 3.0.

Wir entwickeln für Sie nach agilen Methoden:
Alle bbv-Mitarbeiter sind zertifizierte CSM, CSP und/oder CSPO.

Lösungen
- Apps/Mobile Anwendungen
- Web-/Desktop Anwendungen
- Informationssysteme
- Embedded Lösungen

Ausbildung
- Neue Technologien und Methoden
- Best Practices
- bbv-academy, inhouse-Schulungen
- Team- und 1:1-Coachings

Stellen Sie hohe Ansprüche:
Alle bbv-Mitarbeiter haben eine fundierte IT-Ausbildung. Zusätzlich investiert bbv jedes Jahr 20 Arbeitstage in Weiterbildung pro Mitarbeiter.

Unsere Experten für Sie im Einsatz:
Die bbv agile Coaches begleiten Sie vom Readiness Assessment bis zur Umsetzung der Methoden Scrum, XP und Kanban.

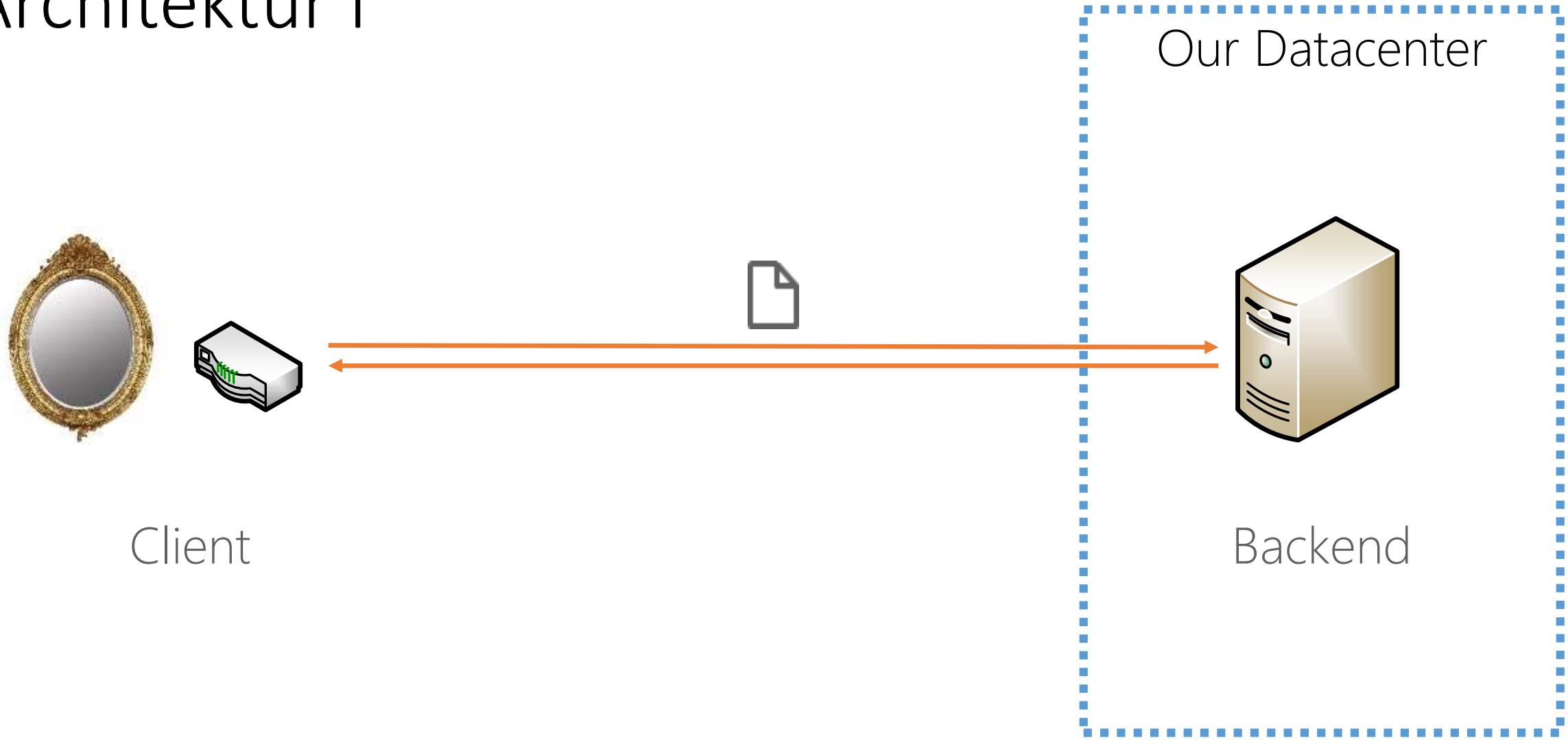
The Flatterist

www.Flatterist.com

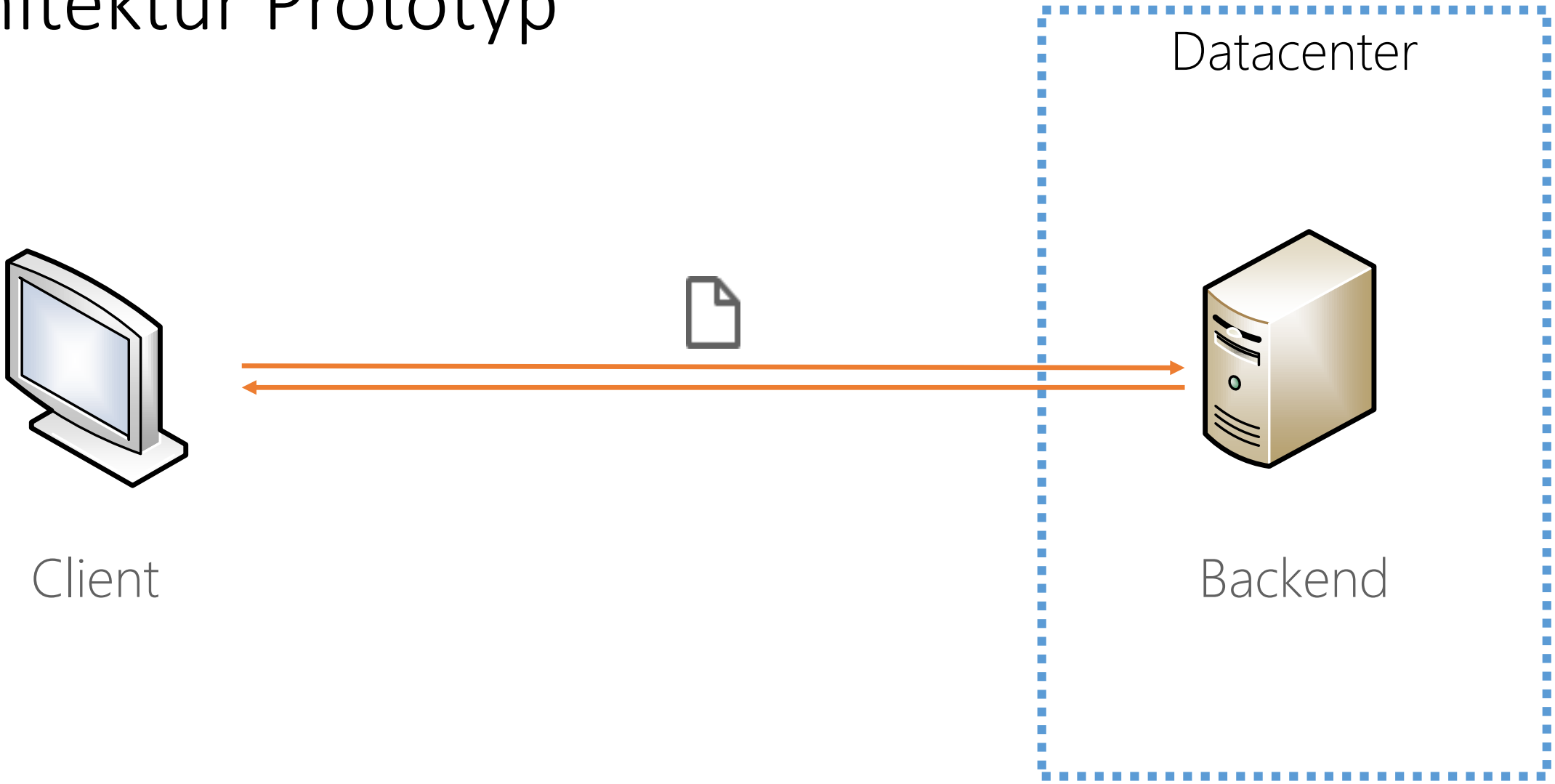
Anforderungen

- Marktpotential/Mengengerüst: 500+ Mio. Exemplare
- Komplimente: Crowd-Sourcing / Community
- Bilderkennung
- Benutzerzugeschnittene Komplimente
- Standard vs. Premium Nutzer
- «Send a compliment»
- Open API

Architektur I



Architektur Prototyp



Azure Datencenter

Grafik: Microsoft

Bild: Global Foundation Services

Bild: Global Foundation Services

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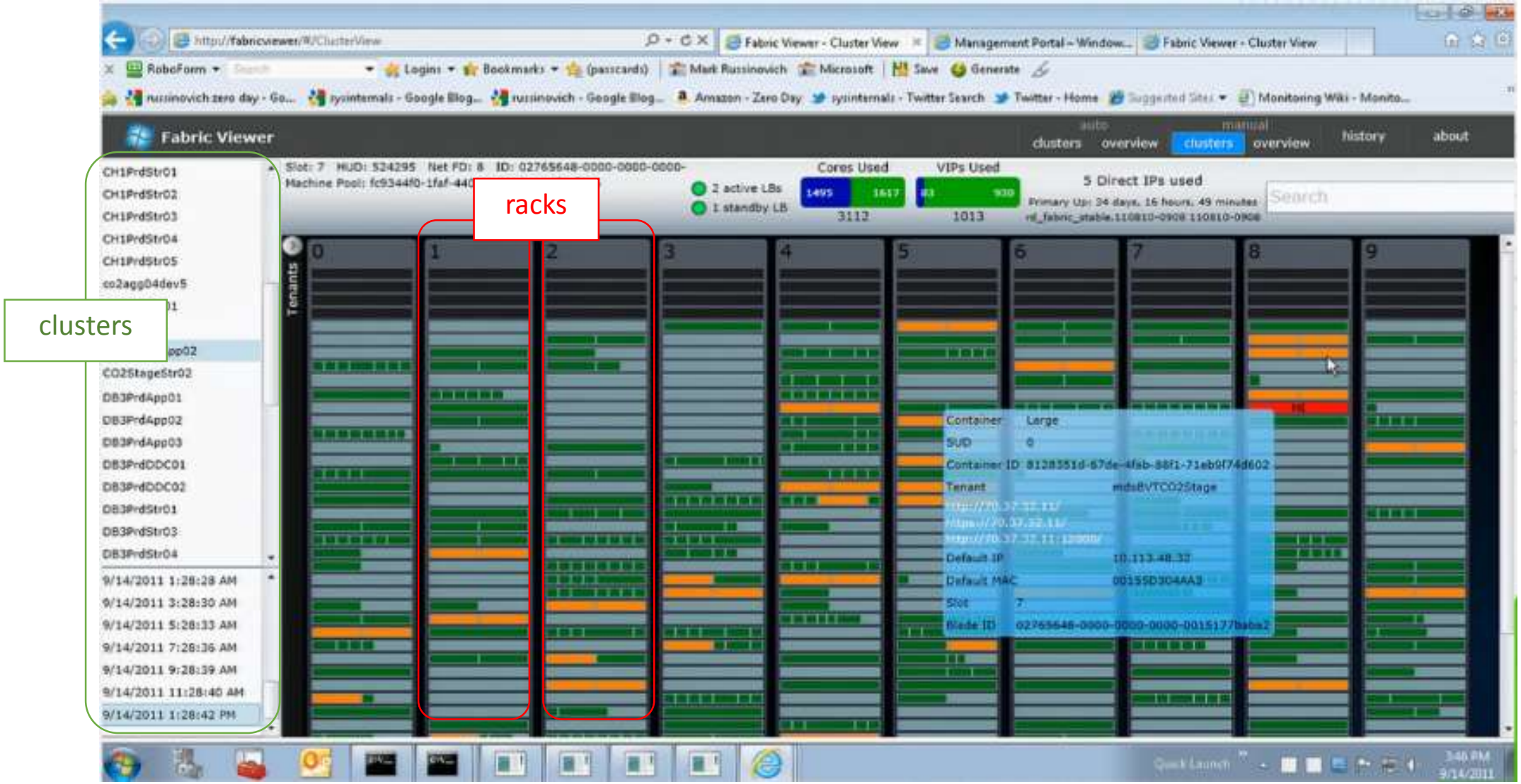
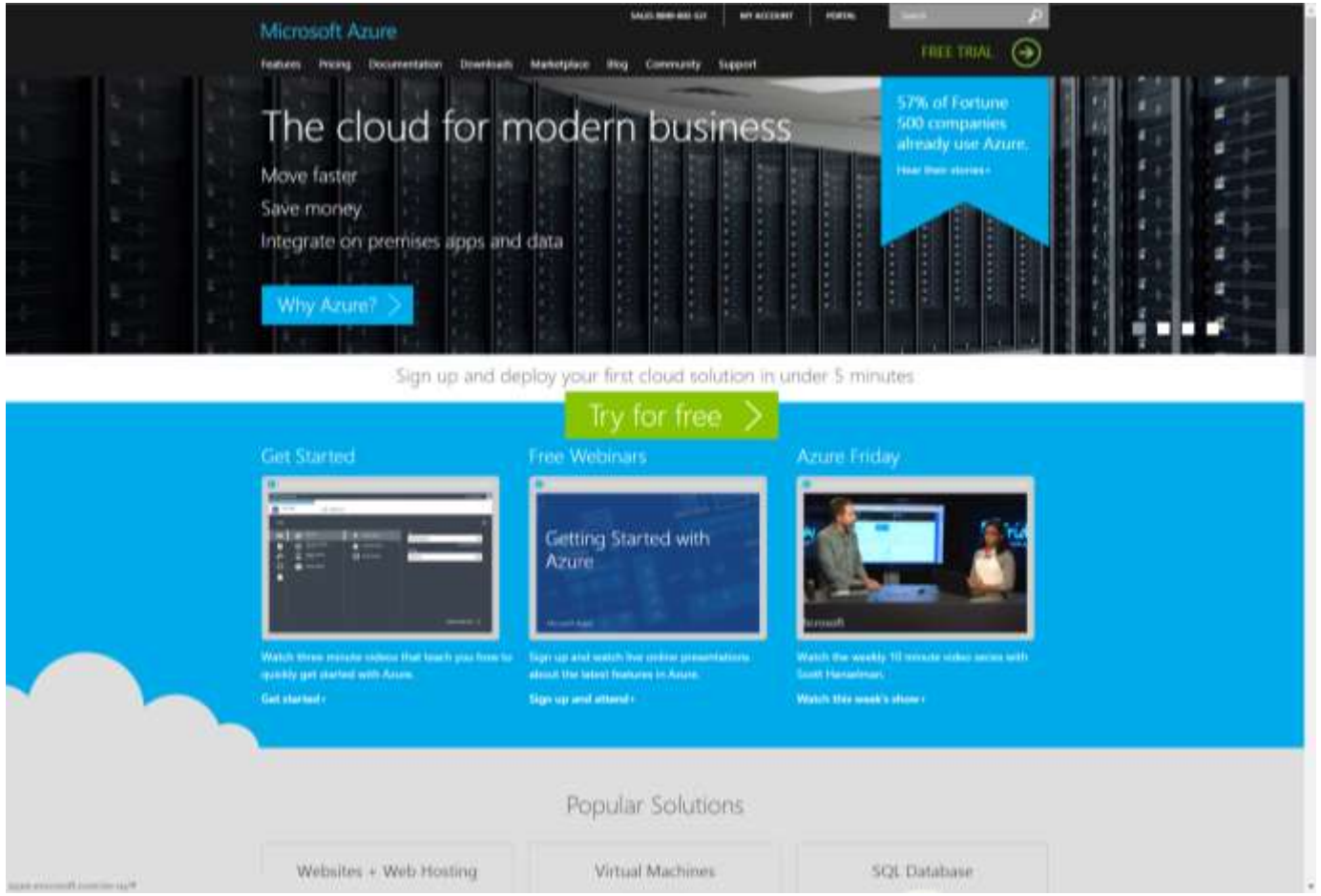
Fabric Viewer



Das Azure Kundenportal

- Erstellen und Verwalten von Azure Subscriptions
- Preise und Details zu den einzelnen Services
- Downloads von SDKs
- Dokumentation, Beispiele, Whitepapers, Tutorials, Videos, etc.
- Azure Marketplace
- Support
- Zugang zum Azure Management Portal



http://azure.microsoft.com

Das Microsoft Netzwerk

Bild: Microsoft

What is Microsoft Azure?

Microsoft Azure

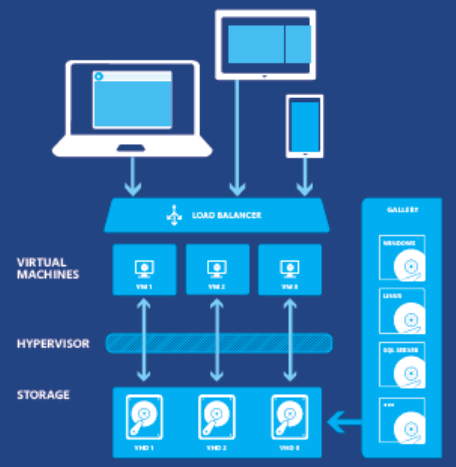
Azure is an open and flexible cloud platform that enables you to quickly build, deploy, and manage applications across a global network of Microsoft-managed datacenters.

You can build applications using any language, tool, or framework. And you can integrate your public cloud applications with your existing IT environment.

Search **azure.microsoft.com, MSDN, or TechNet** for keywords found in this poster

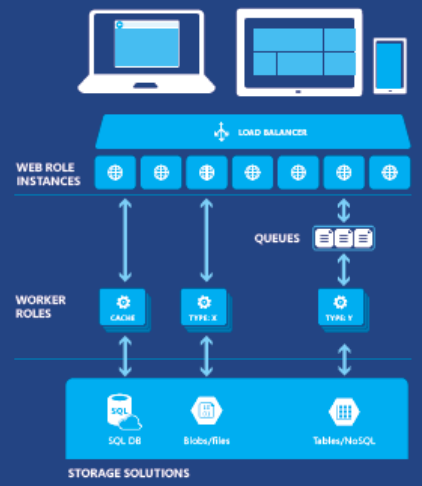
Virtual Machines

VMs are basic cloud building blocks. Get full control over a virtual machine with virtual hard disks. Install and run software yourself. Configure multiple machines with different roles to create complex solutions. VMs are nearly identical to conventional (real) servers, and are the easiest way to move existing workloads to the cloud.



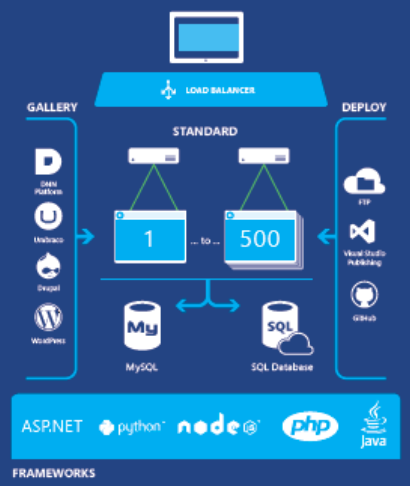
Cloud Services

Easily access and manage these general-purpose VMs. We maintain and update each VM as needed with system updates. You configure the VM size as needed, and scale out as many copies as needed. Two types of VMs: worker roles and web roles—worker roles are made for computing and running services. The web role is simply a worker role with IIS already installed and configured.



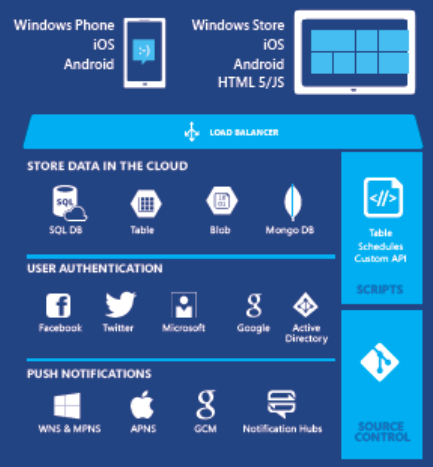
Websites

Use these for pure web apps. The underlying system software is hidden from you and managed for you. Focus only on your web code. First, choose a web technology from the gallery, then develop with your framework, and finally, deploy from your source control. Use the data platform of your choice. Develop 1 site or 500. Scale can be automated—by schedule, usage, or by a quota trigger.



Mobile Services

Mobile Services allows you to quickly implement data and authentication capabilities. With Mobile Services, easily create a common web API to store data and execute business logic. Apps on any device call the API, and users are authenticated by third party providers. Apps can also receive notifications when events occur. Worry less about data and authentication, and focus on your service.



Catalog of Services

COMPUTE

- **Virtual Machines** — Get full control over a server in the cloud, and maintain it as your business requires.
- **Cloud Services** — Create and scale Internet-facing web roles and worker roles that perform background tasks.
- **Scheduler** — Create jobs that call services in and outside of Azure, and specify when and how often those jobs run.
- **Remote App** — Deploy Windows client apps in the cloud, run them remotely, and access them from any device.
- **Batch** — DESCRIPTION GOES HERE

NETWORKING

- **Virtual Network** — Provision and manage VPNs in Azure and securely link to your on-premises IT infrastructure.
- **Express Route** — Connect on-premise and cloud datacenters directly through dedicated, non-Internet lines.
- **Traffic Manager** — Load-balance incoming global traffic across multiple services running in multiple datacenters.

WEB

- **Websites** — Get started with web apps for free. Scale as you go. Build using a range of tools and languages.

MOBILE

- **Mobile Services** — Add backend capabilities to mobile apps, with native client support on most device platforms.
- **API Management** — Publish APIs to developers, partners and employees securely and at scale.
- **Notification Hubs** — Deliver millions of cross-platform push notifications from any application backend, on-premises or in the cloud.

DATA

- **Search** — Provide search in your website or application without having to set up or manage your own search index.

STORAGE

- **Storage Blobs** — Store and retrieve unstructured binary data, up to 500 terabytes per account. Access via REST protocol.
- **Storage Tables** — Store data in this schema-less, NoSQL key/attribute store. Access using REST or OData protocols.
- **Import / Export** — Save bandwidth costs and ship an encrypted hard drive to Microsoft to transfer data to or from blob storage.
- **Files** — Set up a \\server\share in the cloud supporting the SMB 2.1 protocol. Access it from your cloud applications.
- **SQL Database** — Manage relational data with built-in high availability.
- **StorSimple** — Seamlessly extend on-premises primary storage, backup, and disaster recovery with no end user or application changes.
- **DocumentDB** — Store and retrieve millions of JSON objects from a highly scalable, NoSQL document database.
- **Redis Cache** — Make applications scale and be more responsive under load by keeping data closer to application logic.

ANALYTICS

- **HDInsight** — Provision and integrate big data easily with tools including Microsoft Office. Based on Apache Hadoop.
- **Machine Learning** — Mine historical data with compute power to predict future trends or behavior.
- **Stream Analytics** — Real-time stream processing to find trends.
- **Data Factory** — asdfasdf asdf asdf asfd
- **Event Hubs** — Ingest, persist and process millions of events per second from millions of devices.

BACKUP

- **Backup** — Transfer scheduled backups of your local server data to Azure using Windows PowerShell cmdlets.
- **Site Recovery** — Coordinate replication and recovery of System Center 2012 private clouds to a secondary location.

MEDIA & CDN

- **Media Services** — Build workflows to create, manage, and distribute on-demand media and live streaming events.
- **CDN** — Increase performance by caching blobs or static content at physical nodes globally.

HYBRID INTEGRATION

- **Storage Queues** — Decouple pieces of your application so they can communicate asynchronously and scale independently.
- **Service Bus** — Use this messaging channel to connect cloud applications to on-premises applications, services, and systems.
- **BizTalk Services** — Build EDI services and Enterprise Application Integration (EAI) solutions in the cloud.
- **Hybrid Connections** — Connect Azure websites or mobile apps to on-premises resources without a VPN or dedicated line.

IDENTITY & ACCESS

- **Active Directory** — Provide identity and access management including directory services, identity governance, and security.
- **MultiFactor Authentication** — Safeguard access to data and applications while employing a simple sign-in process.

MANAGEMENT

- **Automation** — Create durable PowerShell Workflow scripts to automate long-running, error-prone and frequently repeated tasks in Azure.
- **Operational Insights** — DESCRIPTION GOES HERE.
- **Management Portal** — Use an HTML user interface over the internet to provision, control, and monitor your services.

DEVELOPMENT

- **Visual Studio Online** — Host code, plan and track projects, and collaborate with team members to deliver better software.
- **Application Insights** — Analyze usage, detect issues and solve them to improve performance and ensure availability of web applications.

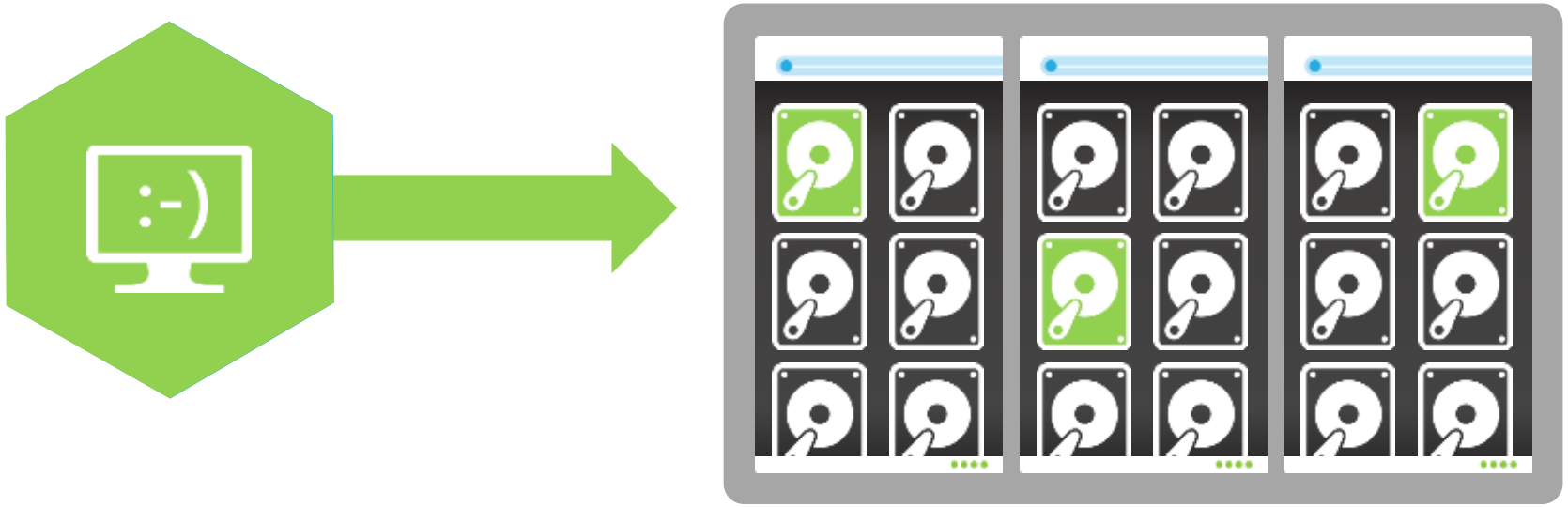
COMMERCE

- **Marketplace** — Find and manage services and datasets, directly from the Management Portal.
- **VMDepot** — Find free open source VM images that you can download and run in Azure Virtual Machines.

Azure Storage

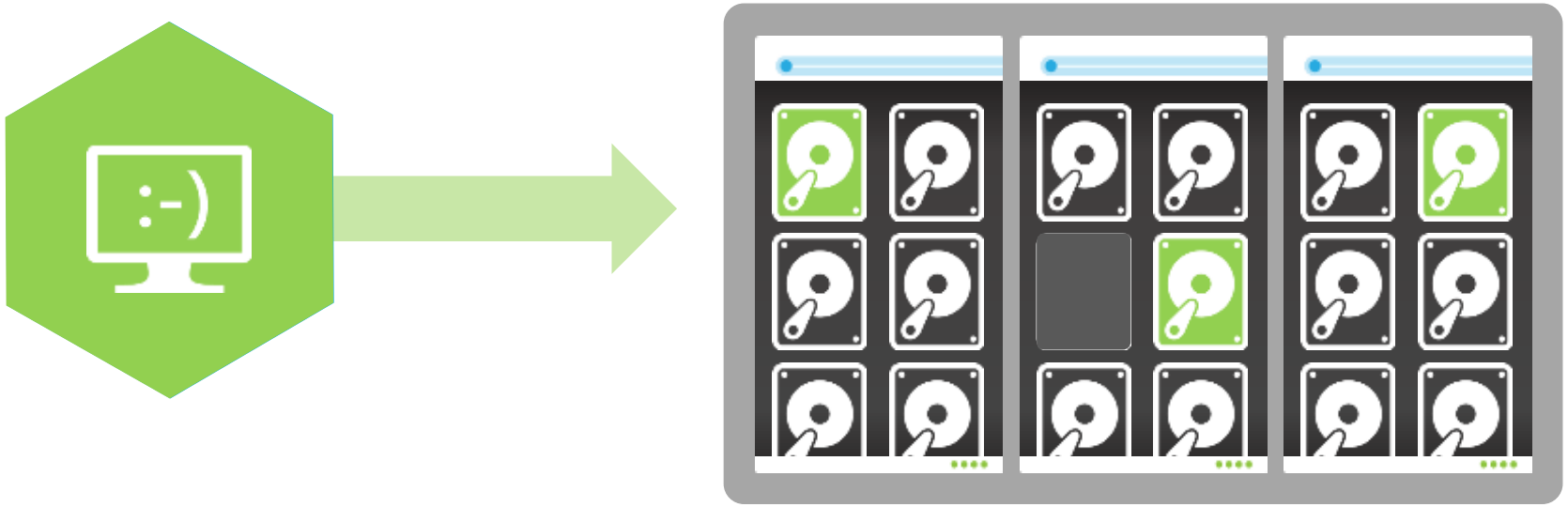
- Cloud Storage - Anywhere and anytime access
    - Blobs, Tables, Queues and Files
- Highly Durable, Available and Massively Scalable
    - Easily build “internet scale” applications
    - More than 30 trillion stored objects
    - 1 Million request/sec on average
- Pay for what you use
- Exposed via easy and open REST APIs
- Client libraries in .NET, Java, Node.js, Python, PHP, Ruby

Storing Data on Microsoft Azure



Microsoft Azure
Storage

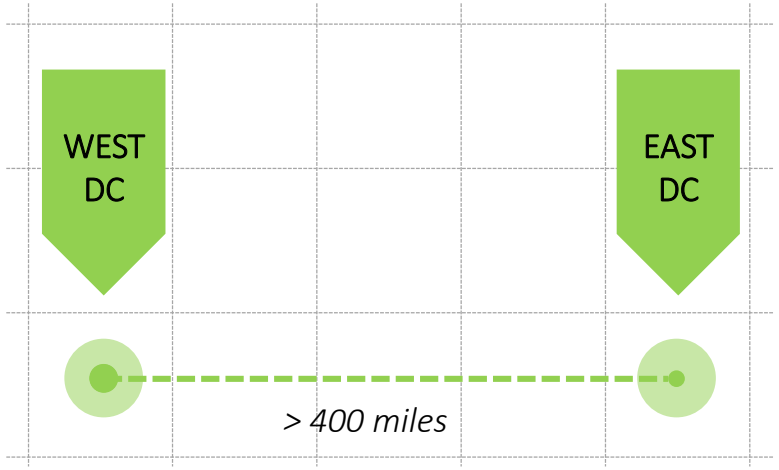
Storing Data on Microsoft Azure



Microsoft Azure Storage

Highly Durable Storage

Increased Availability with Replication

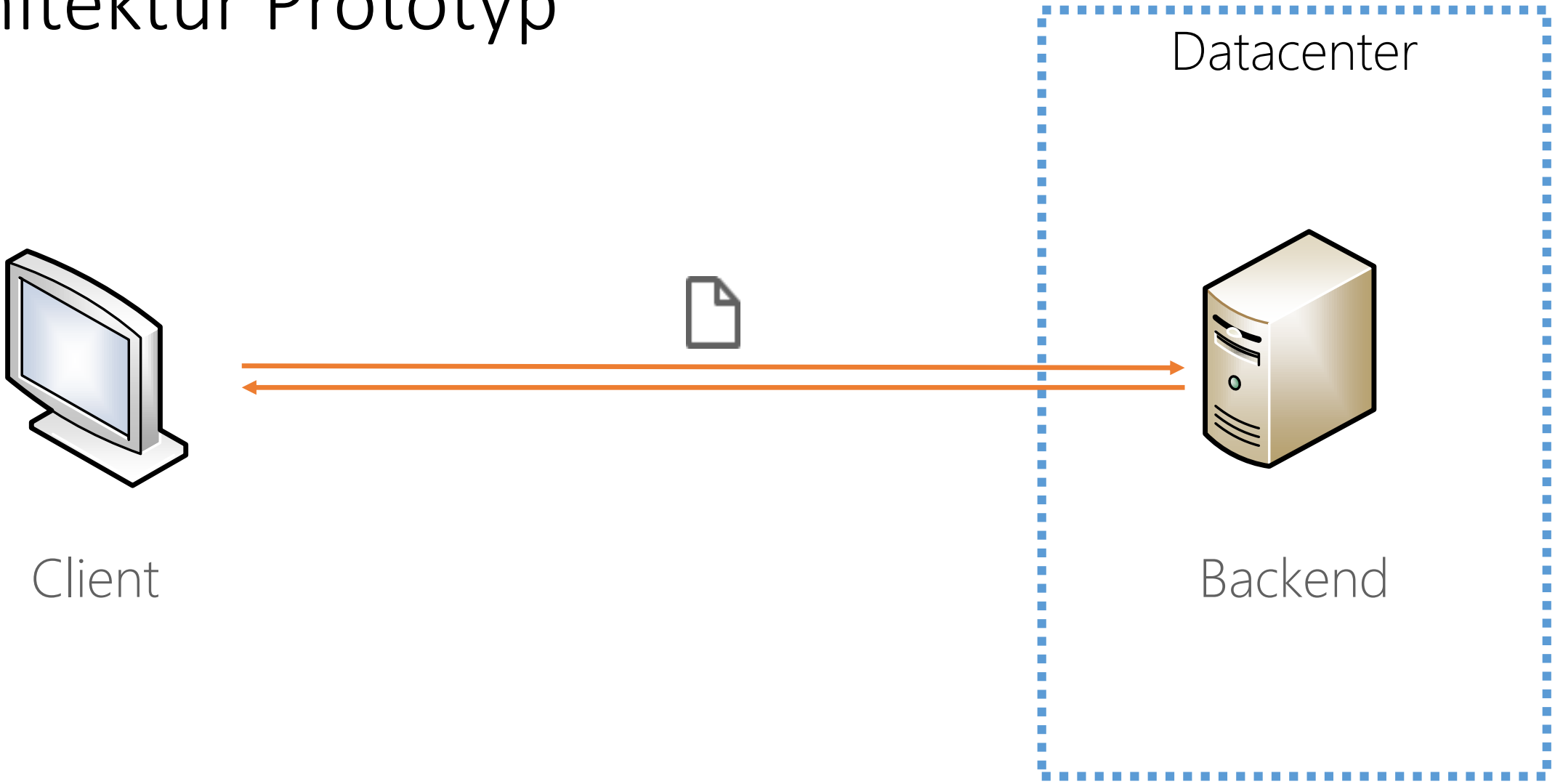


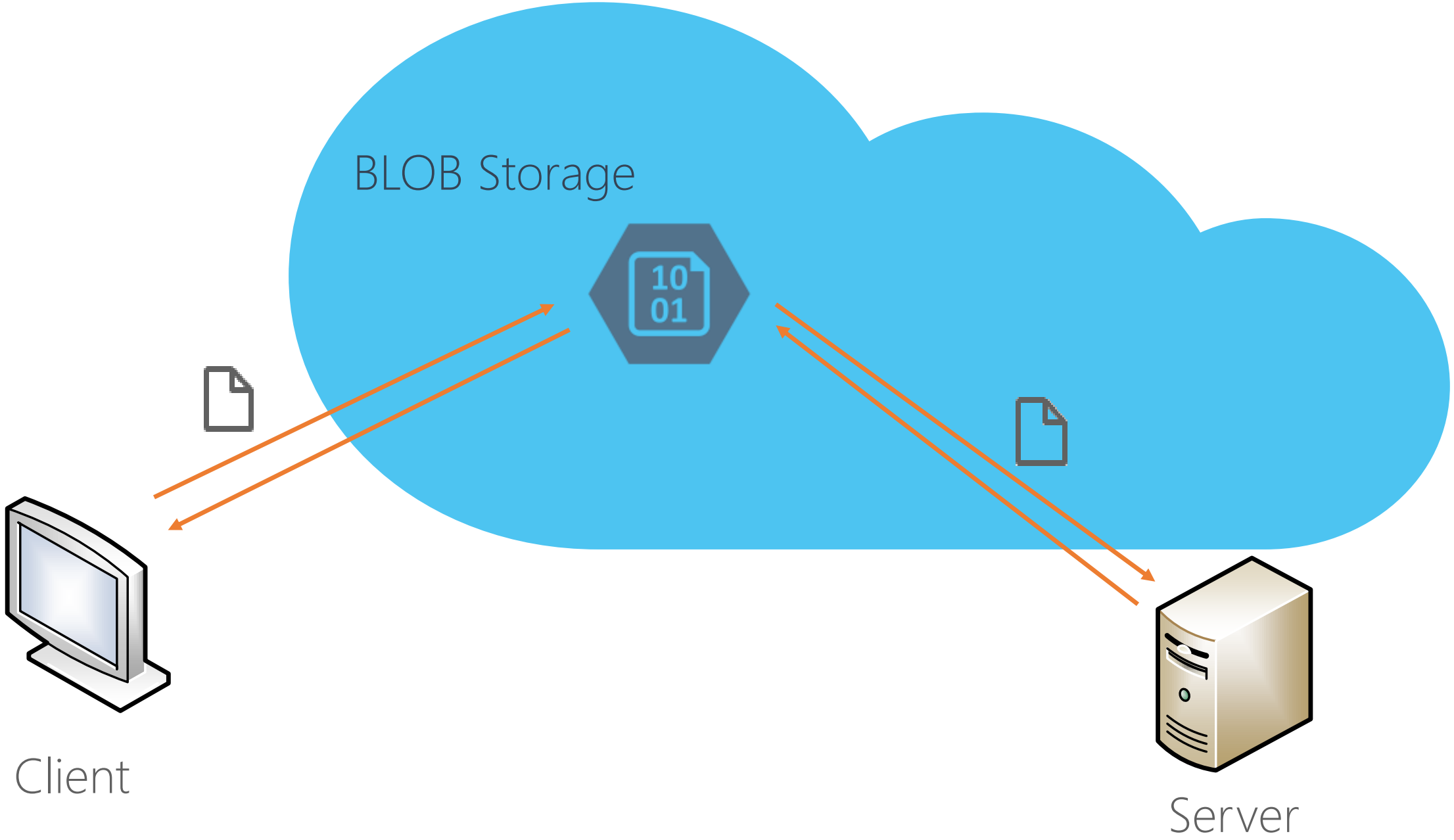
continuous storage
geo-replication

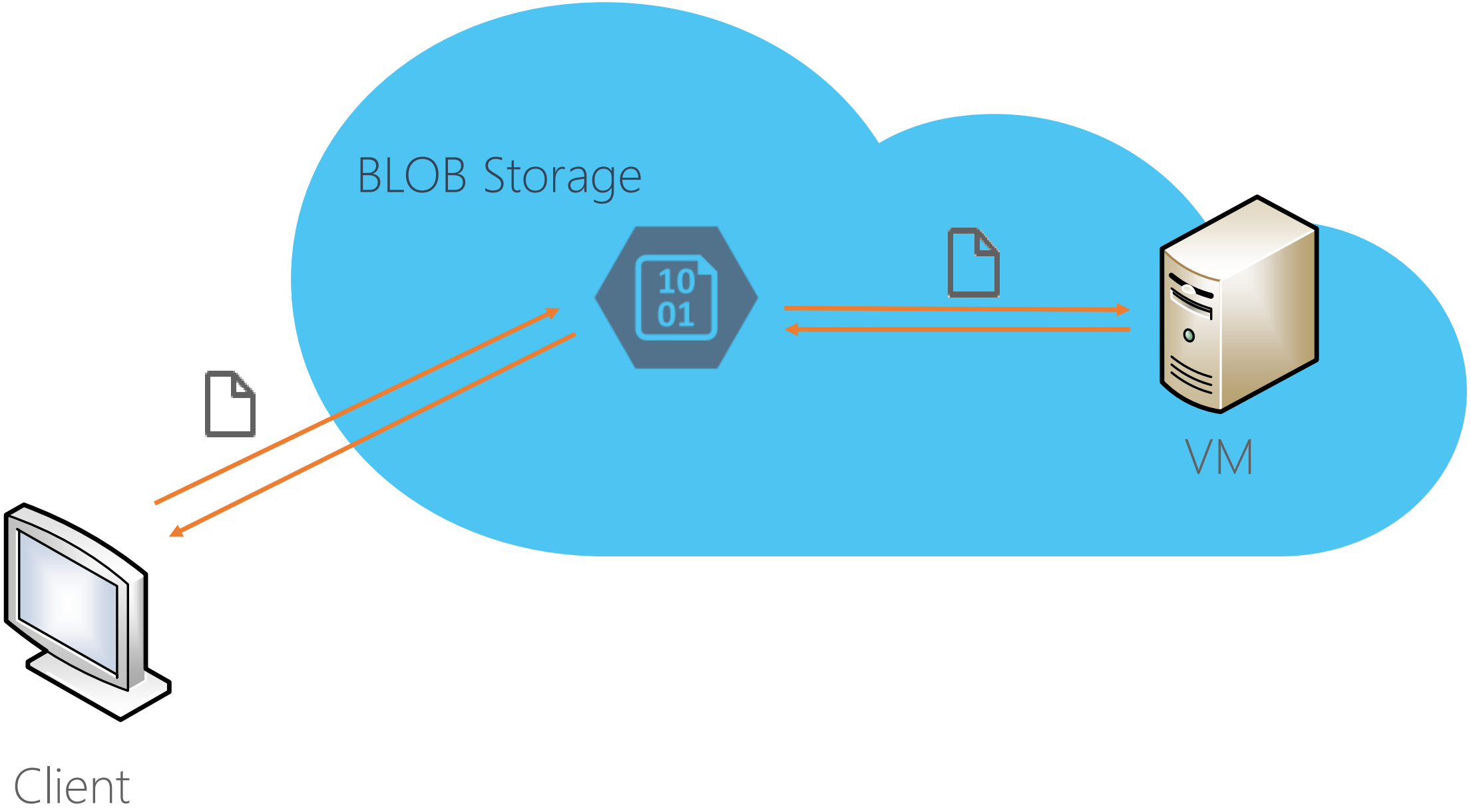
Geo-Replicated Storage

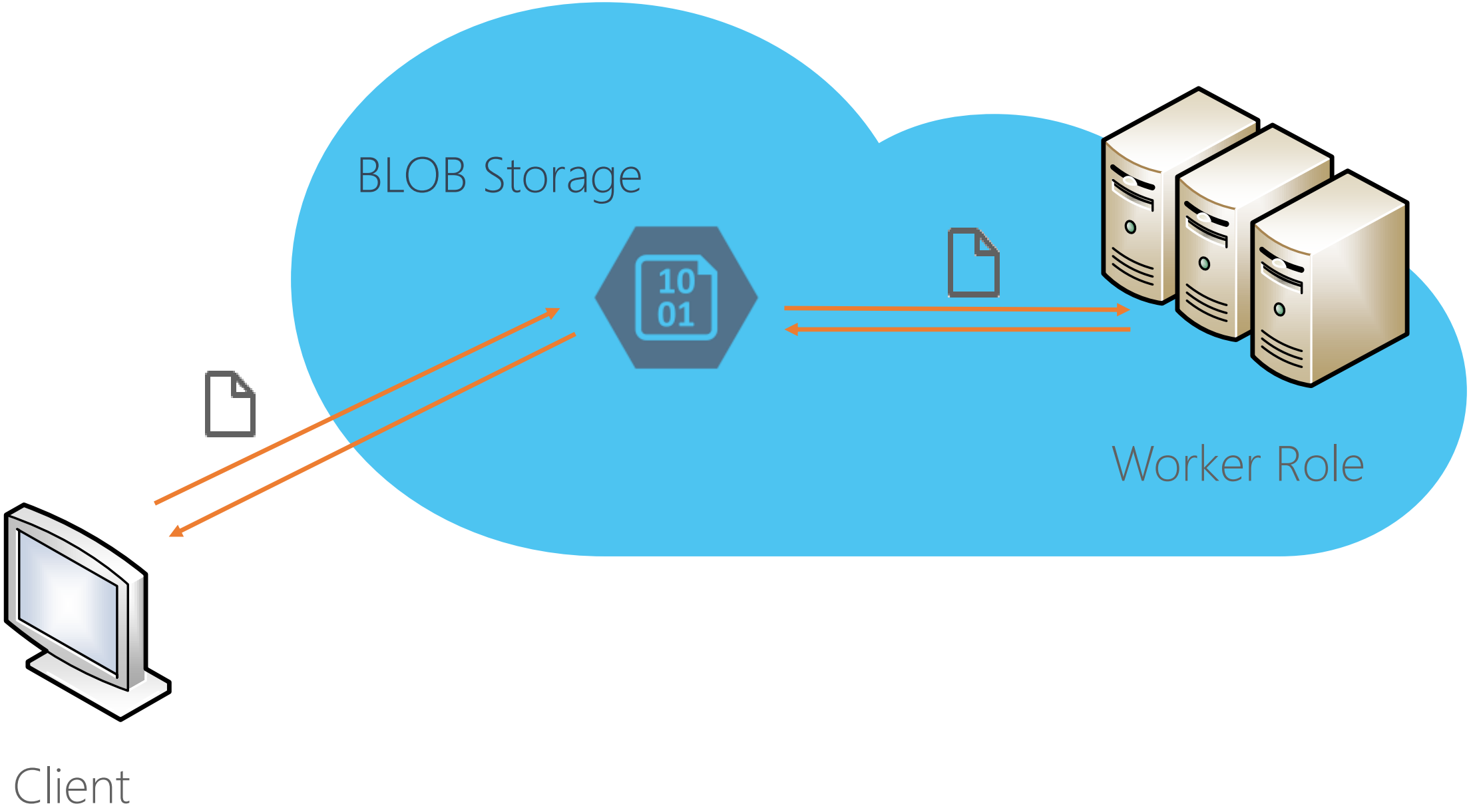
Microsoft Azure
Storage

Architektur Prototyp

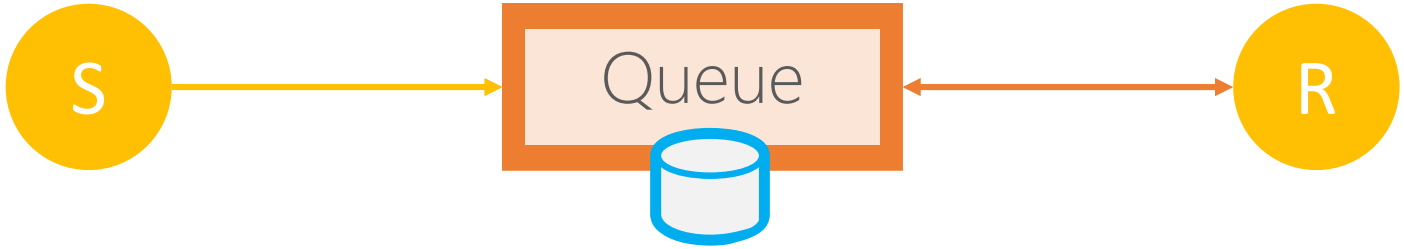



BLOB Storage
10
01
Client
Server


BLOB Storage
10
01
VM
Client


BLOB Storage
10
01
Worker Role
Client

Queues



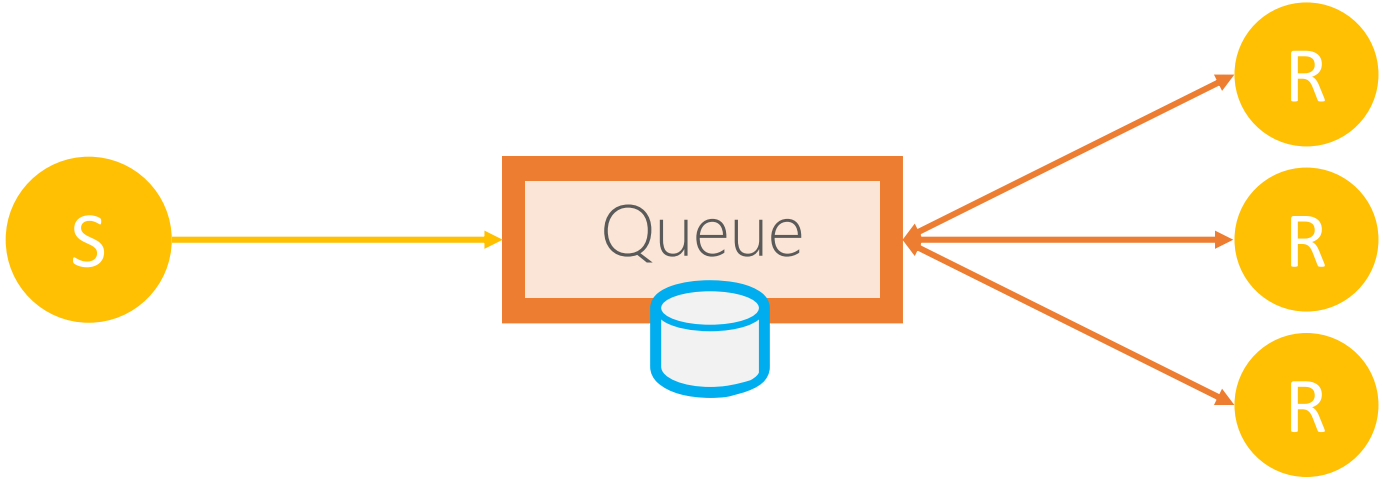
Load Leveling

Receiver receives and processes at its own pace. Can never be overloaded. Can add receivers as queue length grows, reduce receiver if queue length is low or zero. Gracefully handles traffic spikes by never stressing out the backend.

Offline/Batch

Allows taking the receiver offline for servicing or other reasons. Requests are buffered up until the receiver is available again.

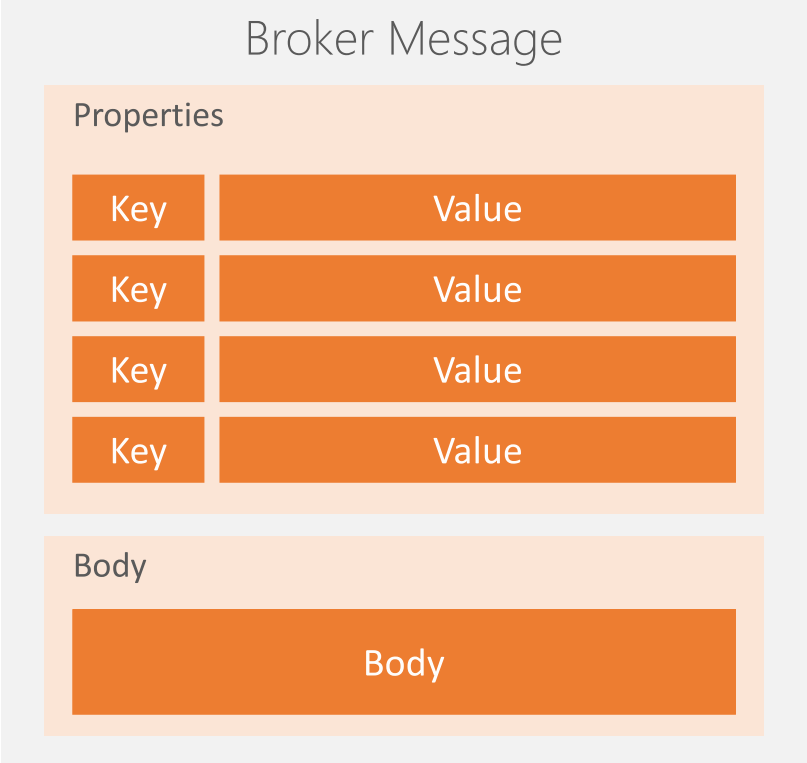
Queues



Load Balancing

Multiple receivers compete for messages on the same queue (or subscription). Provides automatic load balancing of work to receivers volunteering for jobs.
Observing the queue length allows to determine whether more receivers are required.

Messages



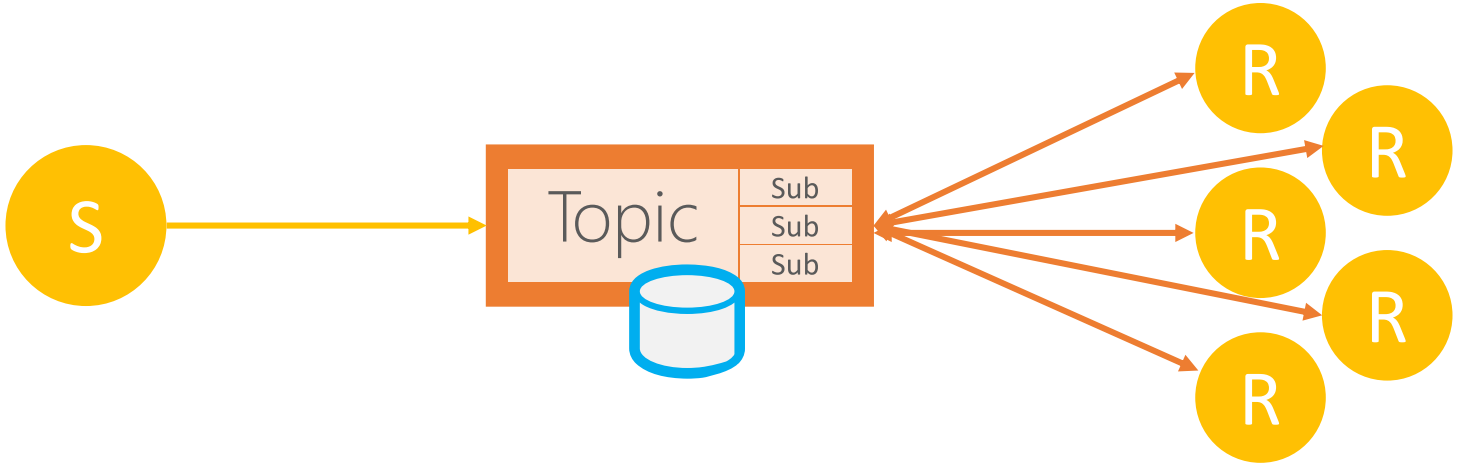
Brokered messaging properties are not SOAP headers

Properties are key/value pairs that may very well carry payloads

It's not uncommon to have messages with empty message bodies

Message bodies are useful for a single opaque payload not exposed to the broker (e.g. encrypted content)

Topics

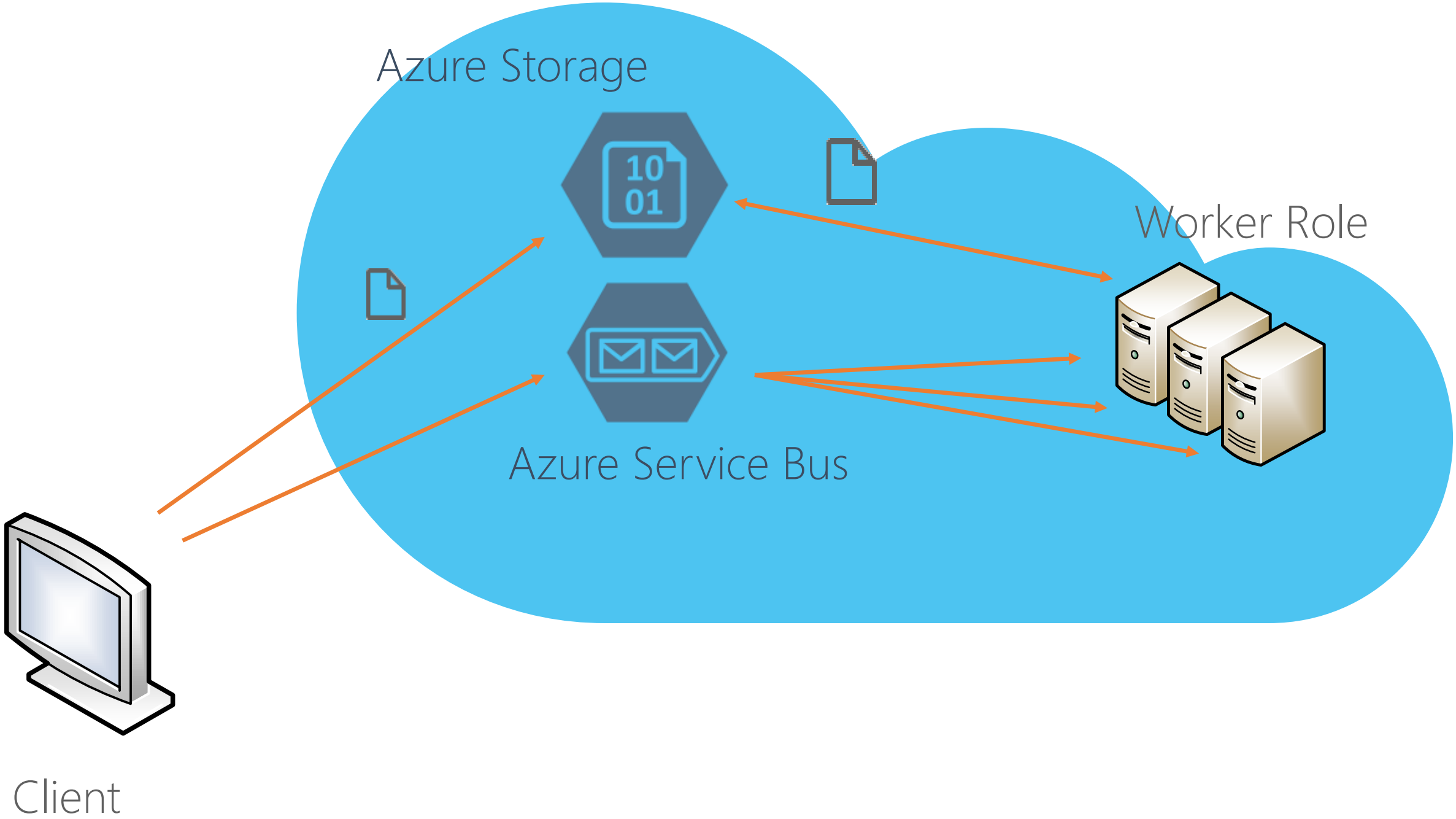


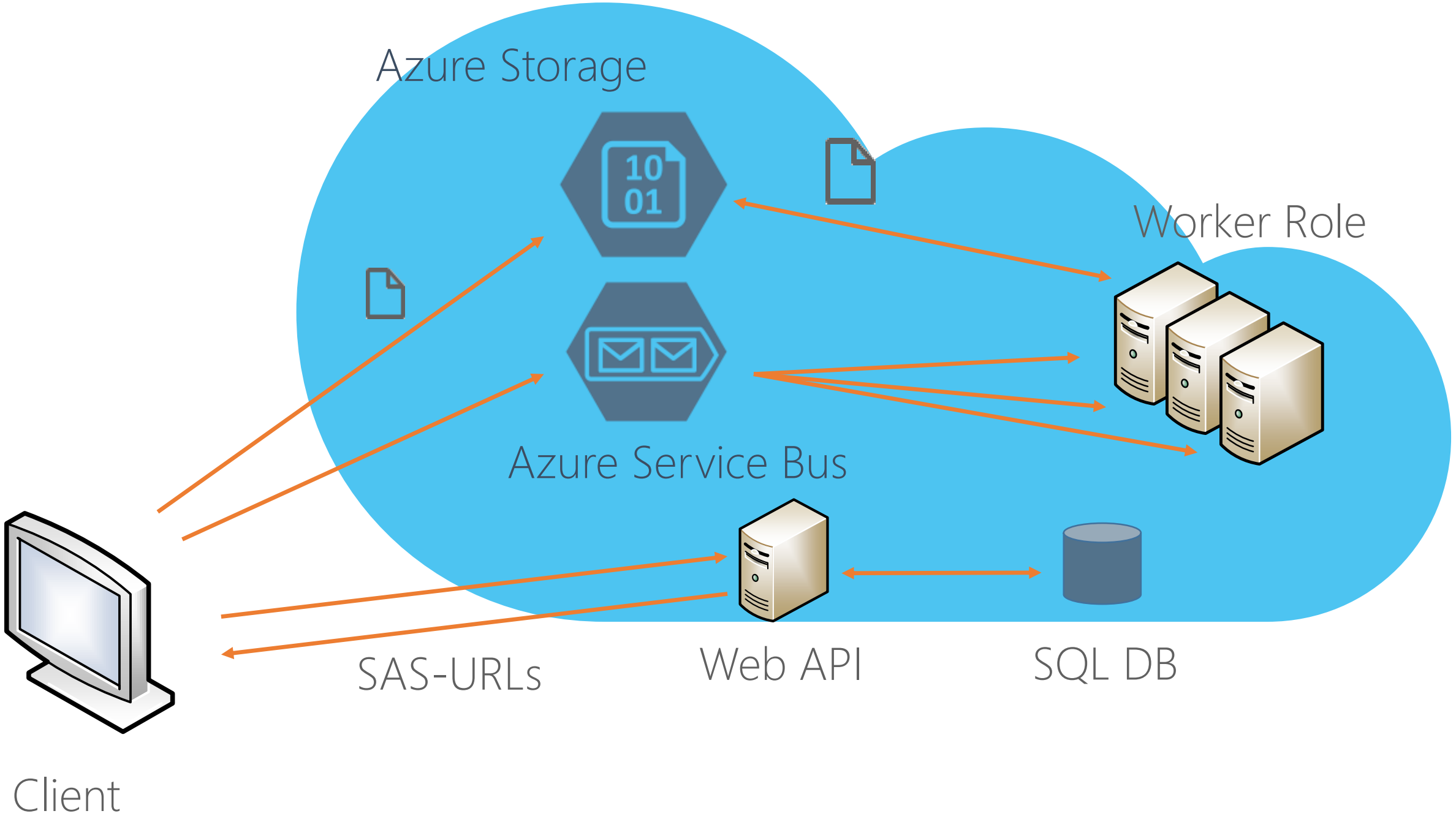
Message Distribution

Each receiver gets its own copy of each message. Subscriptions are independent. Allows for many independent 'taps' into a message stream. Subscriber can filter down by interest.

Constrained Message Distribution (Partitioning)

Receiver get mutually exclusive slices of the message stream by creating appropriate filter expressions.


Azure Storage
10
01
Worker Role
Azure Service Bus
Client


Azure Storage
10
01
Worker Role
Azure Service Bus
SAS-URLs
Web API
SQL DB
Client

Fazit

Azure Dienste

- sind **einfach**
- sind **elastisch** und **skalierbar**
- sind **hochverfügbar**
- sind **sicher**
- sind **offen**
- sind **global**
- eignen sich hervorragend für **On-Premise-** bzw. **hybride** Applikationen

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