Microsoft SharePoint Architectural Models

The SharePoint Online, Microsoft Azure, and SharePoint on-premises configurations that BDMs and architects need to know about

Introduction to Fundamental SharePoint Architectural Models

SharePoint

This series is intended to raise awareness of the different fundamental architectural models through which SharePoint Online and SharePoint On-premises can be consumed. Start with whichever configuration best suits your organizations needs and future plans. Consider and use others as needed.

Four Architectural Models

- **SharePoint Online/SaaS** – You consume SharePoint through a Software as a Service subscription model. SharePoint is always up to date, but you are responsible for managing SharePoint itself.

- **SharePoint Hybrid** – You combine a SharePoint Online subscription with your On-premises SharePoint offering. You can incorporate SharePoint Online services into your overall SharePoint offering, start building SaaS management skills in your organization and move your SharePoint sites and apps to the Cloud at your own pace

- **SharePoint in Azure/IaaS** – You extend your on-premises environment into Microsoft Azure and deploy SharePoint 2016 Servers there. This is recommended for High Availability/Disaster Recovery and Test/Dev environments

- **SharePoint On-premises** – You plan, deploy, maintain and customize your SharePoint environment in a datacenter that you maintain.

IT responsibilities

SharePoint provides the same rich set of capabilities no matter how you architect your deployment. The main difference between these 4 architectures is which IT responsibilities you own, and which you pay Microsoft to support through your subscription.

No matter which architecture is best for your organization, there are 4 core responsibilities that you will always own:

- **Data governance & rights management** – You should classify your sensitive data and ensure it is protected and monitored wherever it is stored and while it is in transit.

- **Client Endpoints** – Establish, measure, and enforce modern security standards on devices that are used to access your data and assets

- **Account & access management** – Establish a profile for "normal" account activity and alert on unusual activity

- **Identity** - Use credentials secured by hardware or Multi-Factor Authentication (MFA) for all identities.

IT Responsibility	SharePoint Online	Hybrid	Azure/ IaaS	On-prem
Data governance & rights management	Customer	Customer	Customer	Customer
Client endpoints	Customer	Customer	Customer	Customer
Account & access management	Customer	Customer	Customer	Customer
Identity	Customer	Customer	Customer	Customer
Network controls	Microsoft	Microsoft/Customer	Customer	Customer
Applications	Microsoft	Customer	Customer	Customer
Directory infrastructure	Microsoft	Microsoft/Customer	Customer	Customer
Operating system	Microsoft	Customer	Customer	Customer
Physical hosts	Microsoft	Microsoft/Customer	Microsoft/Customer	Customer
Physical network	Microsoft	Microsoft/Customer	Microsoft/Customer	Customer
Physical datacenter	Microsoft	Microsoft/Customer	Microsoft/Customer	Customer

■ Microsoft   ■ Customer

More information

Microsoft cloud IT architecture resources

http://aka.ms/clouditarch

Microsoft cloud identity for enterprise architects

http://aka.ms/cloudidarch

Get your organization ready for Office 365 Enterprise

http://aka.ms/O365EntPrep

Microsoft

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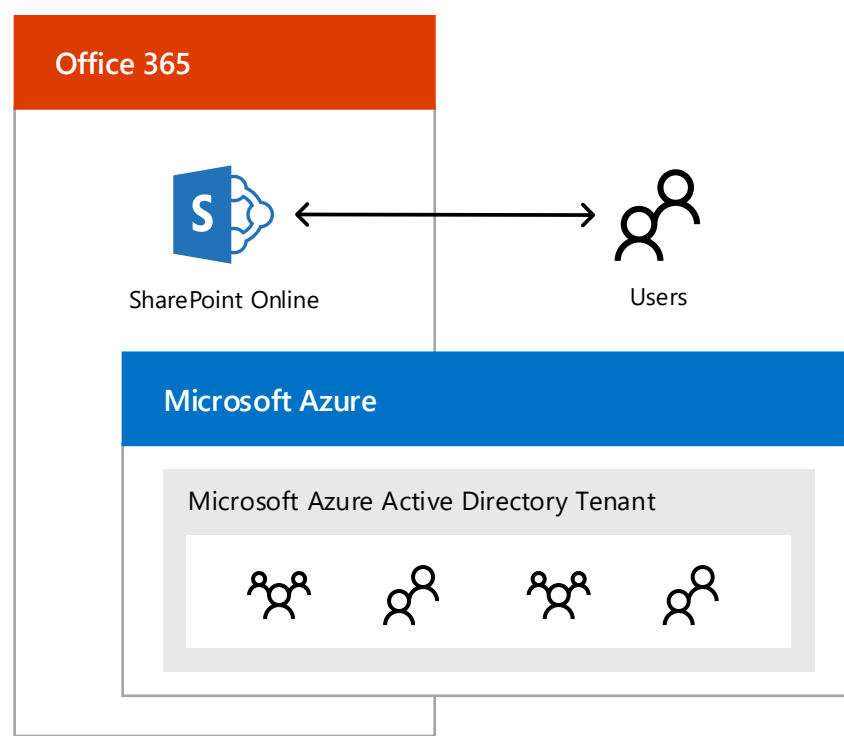
SharePoint Online

Let Microsoft host your user accounts and manage your SharePoint datacenter infrastructure

Overview

- Microsoft hosts and manages the IT infrastructure, you manage your information and users
- Software as a Service (SaaS), rich feature set is always up to date
- Includes a Microsoft Azure Active Directory tenant
- User log on with Microsoft Account from anywhere
- Supports secure client communication (port 443)
- Customizations: Apps for Office and SharePoint
- Dedicated Microsoft data center equipment through Office 365 Dedicated Subscriptions, includes IPSEC-secured VPN, MFA and ITAR-support plan

Architecture tasks

- Plan and design integration with Azure Active Directory
- Ensure network capacity and availability On-premises
- Get third-party SSL certificates if required
- If you have on-premises directory, need to get third-party SSL certificates
- Plan the tenant name, design site collection architecture and governance
- Plan customizations, solutions, and apps for SharePoint Online

Best for...

- When you have minimal On-premises IT infrastructure, no On-premises directory
- Start-ups/small businesses

Licensing requirements

- Subscription model, no additional licenses needed

More information

SharePoint Online Planning Guide for Office 365 for business

http://go.microsoft.com/fwlink/?LinkID=746821

SharePoint Online videos and tutorials

http://go.microsoft.com/fwlink/?LinkId=746836

Sign up for SharePoint Online Plans

http://go.microsoft.com/fwlink/?LinkId=746837

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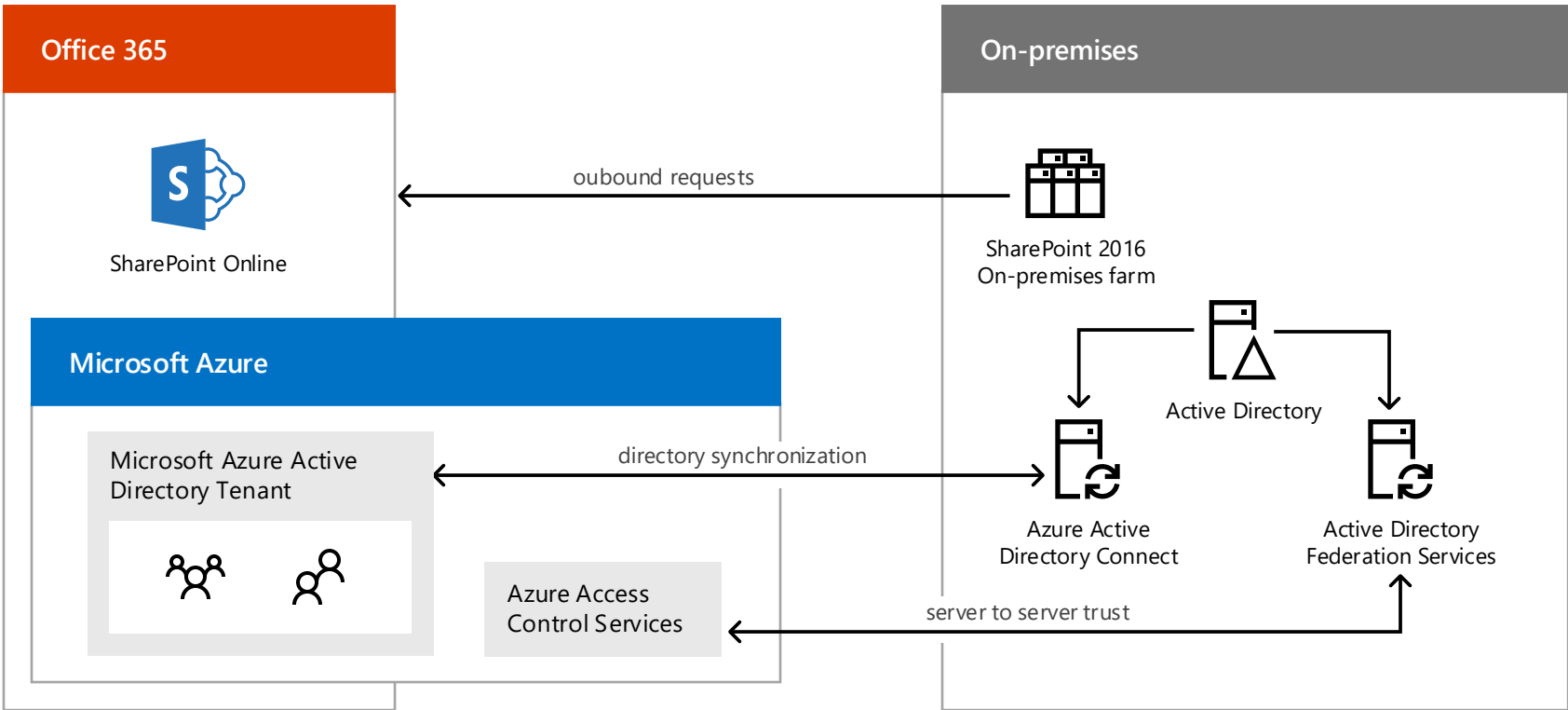
SharePoint Hybrid environment

SharePoint

Add SharePoint Online into your On-premises SharePoint environment, move workloads to the Cloud at your own pace

Office 365

SharePoint Online

On-premises

oubound requests

SharePoint 2016 On-premises farm

Microsoft Azure

Microsoft Azure Active Directory Tenant

directory synchronization

Active Directory

Azure Active Directory Connect

Active Directory Federation Services

Azure Access Control Services

server to server trust

Overview

All the benefits of SharePoint Online in Office 365 plus these integrated capabilities

SharePoint Search	Hybrid SharePoint Search	OneDrive for Business Redirect	Office 365 Cloud Services
• Your users access the Hybrid SharePoint environment from anywhere • Their searches run against the whole SharePoint environment	• Help unify your users' portal navigation experience across SharePoint on-premises and Office 365. • Consolidate your user profiles in Office 365 • Consolidate your followed sites list in Office 365 • Bring tiles from the Office 365 app launcher to SharePoint on-premises	• When you configure OneDrive for Business redirect, all user interaction with their existing OneDrive for Business On-premises is seamlessly redirected to their OneDrive for Business in SharePoint Online in Office 365 • Offload On-premises OneDrive for Business storage overhead to OneDrive for Business in SharePoint Online in Office 365.	• Make Office 365 cloud services available to your SharePoint 2016 On-premises users • Office 365 Video • Delve • App launcher

Best for...

• Customers who want to bring the benefits of the SaaS SharePoint Online service to their organization and then move workloads to the cloud at a pace of their choice.

• External sharing and collaboration instead of setting up an extranet

• Developing cloud skill sets in a safe way that doesn't introduce unnecessary risk to your organization

• Reducing your SharePoint On-premises footprint

• Charting a supported, safe and viable course for your SharePoint environment into the future.

Architecture tasks

- Plan network connectivity between On-premises and SharePoint Online in Office 365
- Plan Server-To-Server trusts and certificates
- Plan the identity synchronization model to be used
- Plan User Profile migration to SharePoint Online in Office 365
- Plan for a dedicated On-premises search farm
- Decide which features to integrate and workloads to move
- Plan for moving your On-premises OneDrive for Business content to OneDrive for Business in SharePoint online before implementing OneDrive for Business redirect.

Licensing requirements

- Office 365 — Subscription model, no additional licenses needed.
- On-premises — Windows Server 2012 R2
- On-premises — SQL Server 2014 SP1
- On-premises — SharePoint 2016 Server License
- On-premises — SharePoint 2016 Client Access License

More information	Plan for SharePoint Server 2016 hybrid	SharePoint Hybrid
	http://aka.ms/Sp2016Hybrid	http://aka.ms/spsochyb

Microsoft

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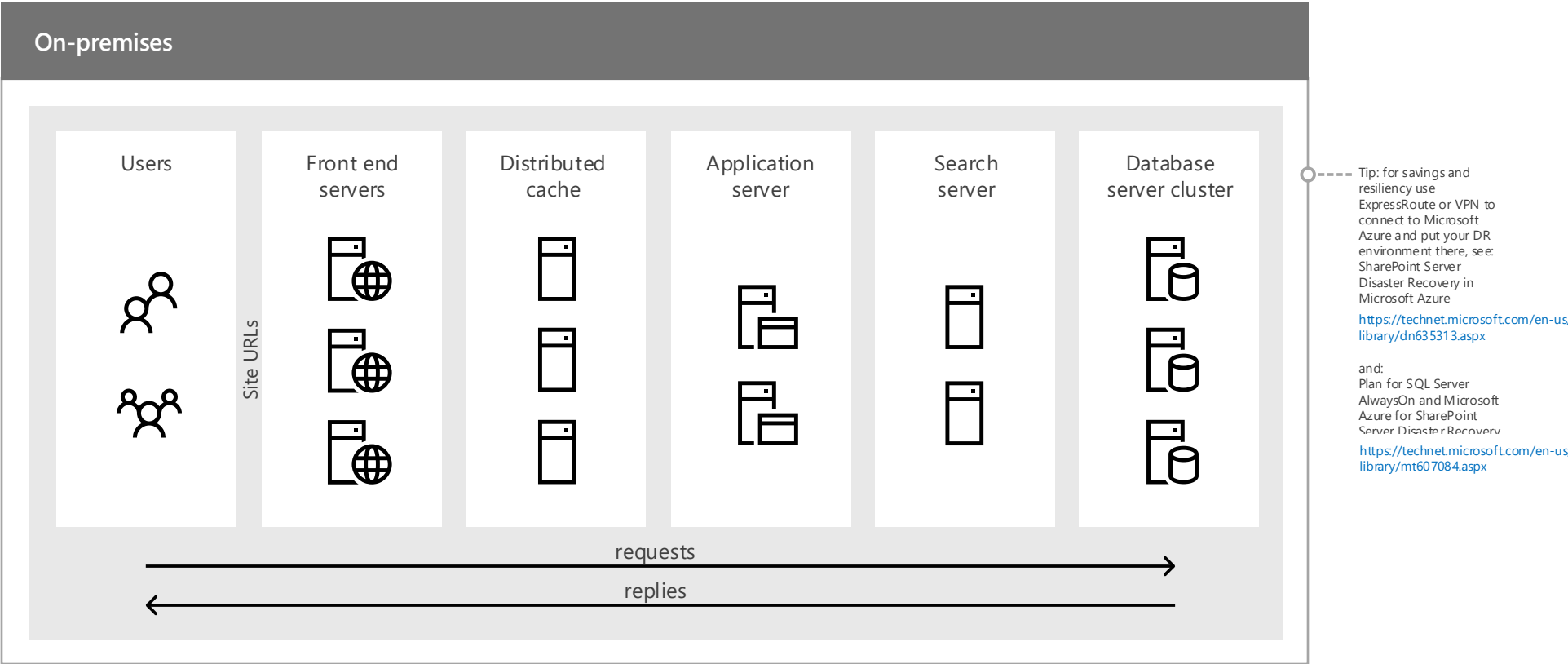
SharePoint 2016 On-premises

SharePoint

Maintain complete control of your environment

On-premises

Users | Front end servers | Distributed cache | Application server | Search server | Database server cluster

Site URLs

requests
replies

Tip: for savings and resiliency use ExpressRoute or VPN to connect to Microsoft Azure and put your DR environment there, see: SharePoint Server Disaster Recovery in Microsoft Azure
https://technet.microsoft.com/en-us/library/dn635313.aspx

and:
Plan for SQL Server AlwaysOn and Microsoft Azure for SharePoint Server Disaster Recovery
https://technet.microsoft.com/en-us/library/mt607084.aspx

Overview

- Traditional model where you plan, deploy, maintain and customize your SharePoint Server 2016 solution stack and all supporting infrastructure
- Software purchased from Microsoft through Enterprise Agreement or Volume licensing
- Microsoft can provide support at a cost through the Microsoft Services and Support organizations

Architecture tasks

- Identify the SharePoint services that your organization needs
- Design a SharePoint farm topology and logical architecture
- Size hardware (physical or virtual) and supporting infrastructure
- Validation testing
- Integration with Active Directory and DNS.
- Design the disaster recovery environment.

Best for...

- Highly customized solutions where it is impractical or too costly to move them to SharePoint Online in Office 365
- In-country farms (when data is required to reside within a jurisdiction).
- Private cloud solutions.
- Legacy solutions with third- party components that depend on hardware and software that are not supported on Microsoft Azure Infrastructure Services.
- Privacy restrictions that prevent synchronization of Active Directory accounts with Microsoft Azure Active Directory (a requirement for Office 365).
- Organizations that desire control of the entire platform and solution.

Licensing requirements

- Windows Server 2012 R2
- SQL Server 2014 SP1
- SharePoint 2016 Server License
- SharePoint 2016 Client Access License

More information

SharePoint Server 2016

http://aka.ms/sp2016TN

Microsoft

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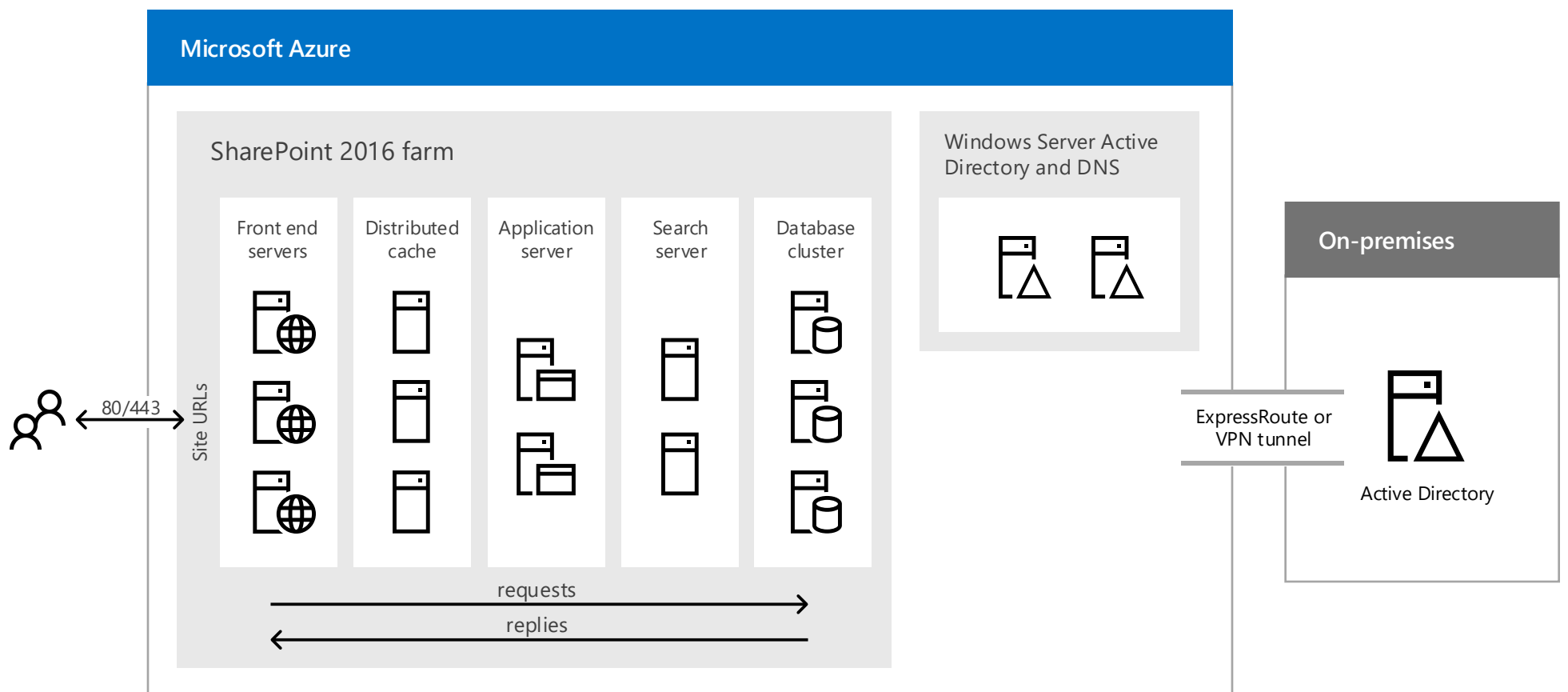
This topic is 5 of 5 in a series   ① ② ③ ④ ⑤

SharePoint 2016 in Microsoft Azure

SharePoint

Offload your servers to Azure IaaS, maintain complete control of your SharePoint 2016 environment

Overview

- Use Azure IaaS to host a SharePoint 2016 farm
- Best native cloud platform for SQL Server and SharePoint
- Computing resources are available almost immediately with no commitment
- Focus on applications, instead of datacenters and infrastructure
- SharePoint solutions can be accessible from the Internet or only accessible from an On-premises environment through ExpressRoute or a site-to-site VPN tunnel
- Customizations are not limited

Architecture tasks

- Design Azure virtual network
- Design domain environment and integration with on-premises servers
- Plan IP addresses and DNS
- Design availability sets and storage accounts
- Design the SharePoint farm topology and logical architecture using MinRole
- Microsoft Azure availability sets and update domains
- Choose virtual machines sizes
- Create a load balanced endpoint
- External Endpoints for public access, if desired
- Design the disaster recovery environment

Best for...

- Public facing sites that use Microsoft Azure AD for accounts and authentication
- Quickly set up and tear down dev, test and staging environments
- Applications that span your datacenter and the cloud
- Cost effective disaster recovery environment
- Farms that require deep reporting or auditing
- Web analytics
- Data encryption at rest (data is encrypted in the SQL databases)

Licensing requirements

- Microsoft Azure subscription
- SQL Server 2014 SP1
- SharePoint 2016 Server License
- SharePoint 2016 Client Access License

More
information

Microsoft Azure Architectures for SharePoint 2013

http://aka.ms/SP2013ArchAzure

Microsoft