

**Security in Microsoft Azure**

**Virtualization and Cloud Computing**



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# Assignment- Briefly discuss how Microsoft Azure provides security?

**Security is integrated into every aspect of Azure. Azure offers you unique security advantages derived from global security intelligence, sophisticated customer-facing controls, and a secure hardened infrastructure. This powerful combination helps protect your applications and data, support your compliance efforts, and provide cost-effective security for organizations of all sizes.**

## Introduction:

We know that security is job one in the cloud and how important it is that you find accurate and timely information about Azure security. One of the best reasons to use Azure for your applications and services is to take advantage of its wide array of security tools and capabilities. These tools and capabilities help make it possible to create secure solutions on the secure Azure platform. Microsoft Azure provides confidentiality, integrity, and availability of customer data, while also enabling transparent accountability.

## Azure- An Intro:

Azure is a public cloud service platform that supports a broad selection of operating systems, programming languages, frameworks, tools, databases, and devices. It can run Linux containers with Docker integration; build apps with JavaScript, Python, .NET, PHP, Java, and Node.js; build back-ends for iOS, Android, and Windows devices.

Azure public cloud services support the same technologies millions of developers and IT professionals already rely on and trust. When you build on, or migrate IT assets to, a public cloud service provider you are relying on that organization’s abilities to protect your applications and data with the services and the controls they provide to manage the security of your cloud-based assets.

Azure’s infrastructure is designed from facility to applications for hosting millions of customers simultaneously, and it provides a trustworthy foundation upon which businesses can meet their security requirements.

In addition, Azure provides you with a wide array of configurable security options and the ability to control them so that you can customize security to meet the unique requirements of your organization’s deployments. This document helps you understand how Azure security capabilities can help you fulfill these requirements.

## Azure security documentation

**Azure includes the following levels of Securities.**

### Fundamentals

Includes Azure security technical capabilities, Shared responsibilities for cloud computing, Security controls for Azure services, etc.

### Developers

Includes Secure development best practices, Develop a secure web app, Microsoft Threat Modeling tool, etc.

### Benchmarks and recommendations

Includes Azure cloud security benchmark, Azure Security Center recommendations, etc

### Secrets and keys

Includes What is Azure Key Vault?, Set and retrieve a secret, What is Azure Dedicated HSM?, etc.

### Data protection

Includes Data Encryption-at-Rest, Data security and encryption best practices, Storage security, etc.

### Identity management

Includes Choose the right authentication method, Securing your identity infrastructure, Security best practices

### Security monitoring

Includes Onboard your subscription to Security Center, Just-in-time virtual machine access, Working with security policies

### IoT security monitoring

Includes Introducing Azure Security Center for IoT, Azure Security Center for IoT architecture, Get started with Azure Security Center for IoT, etc.

### Security analytics

Includes What is Azure Sentinel preview?, Onboard Azure Sentinel preview, Get started with Azure Sentinel preview, etc.

### Threat protection

Includes Security alerts in Azure Security Center, Advanced Threat Protection for Azure Storage, Advanced Threat Protection for Azure SQL Database, etc.

### Logging and auditing

Includes Azure logging & auditing, Management and monitoring overview, etc.

### Network security

Includes Security overview, Security best practices, DDoS Protection

### Infrastructure security

Includes Azure facilities, premises, & physical security, Network architecture, Customer data protection, etc.

### Virtual machine security

Includes Security overview, Best practices for IaaS workloads, Security configuration recommendations

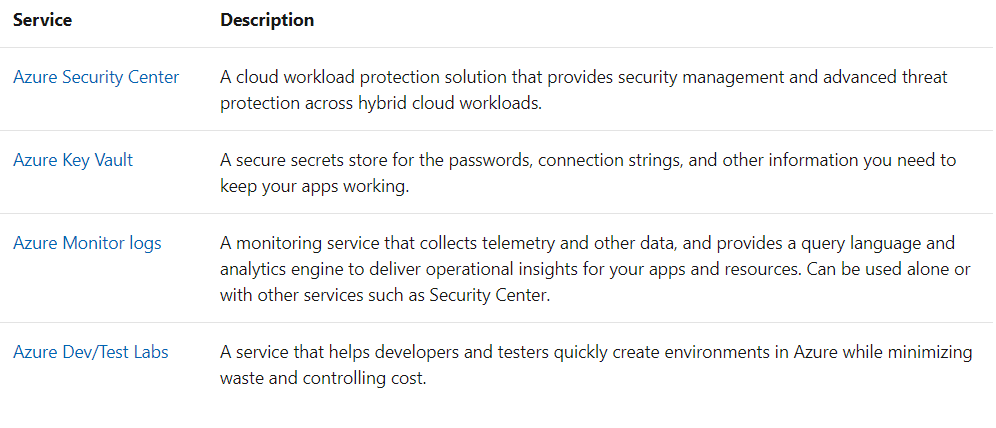
### Database security

Includes Data security, Best practices for PaaS databases, Security checklist

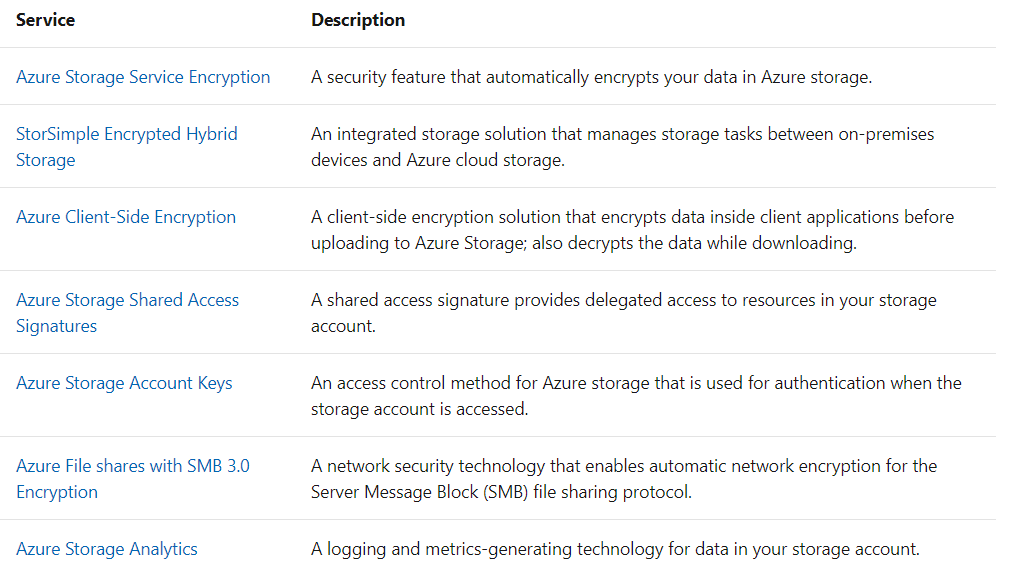
### Governance and compliance

Includes Azure Policy service, Azure Blueprints service, etc.

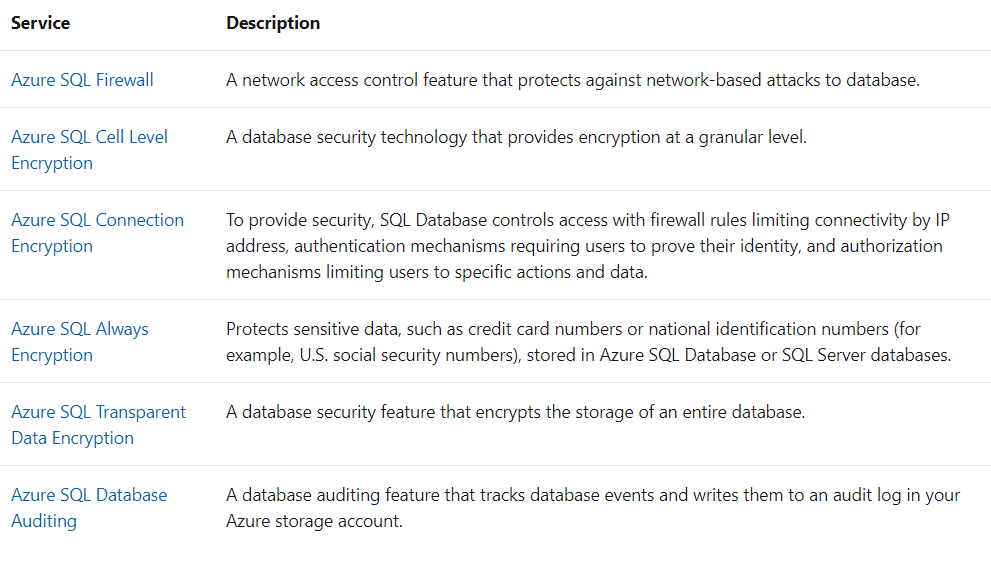
## General Azure security



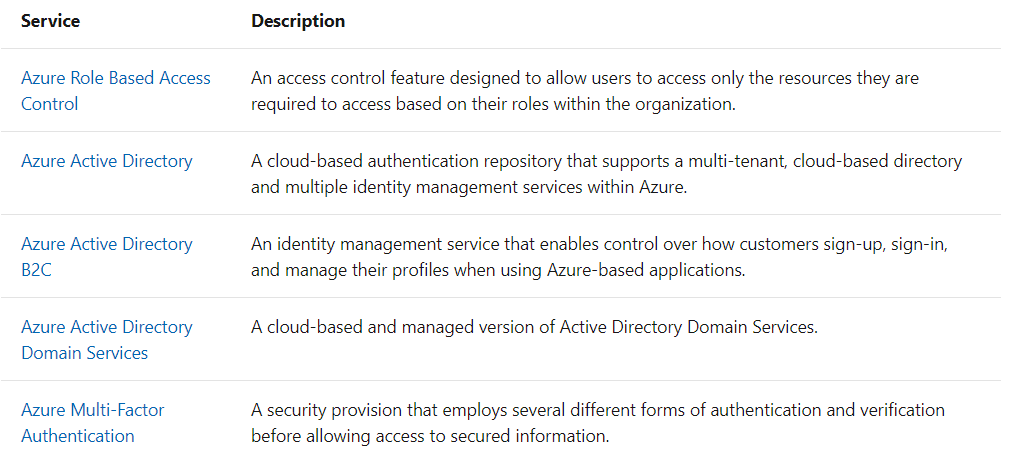
## Storage security



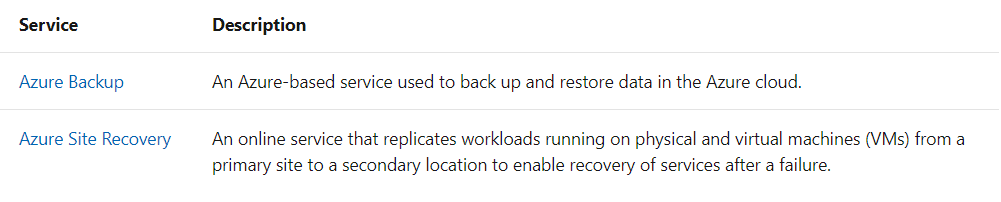
## Database security



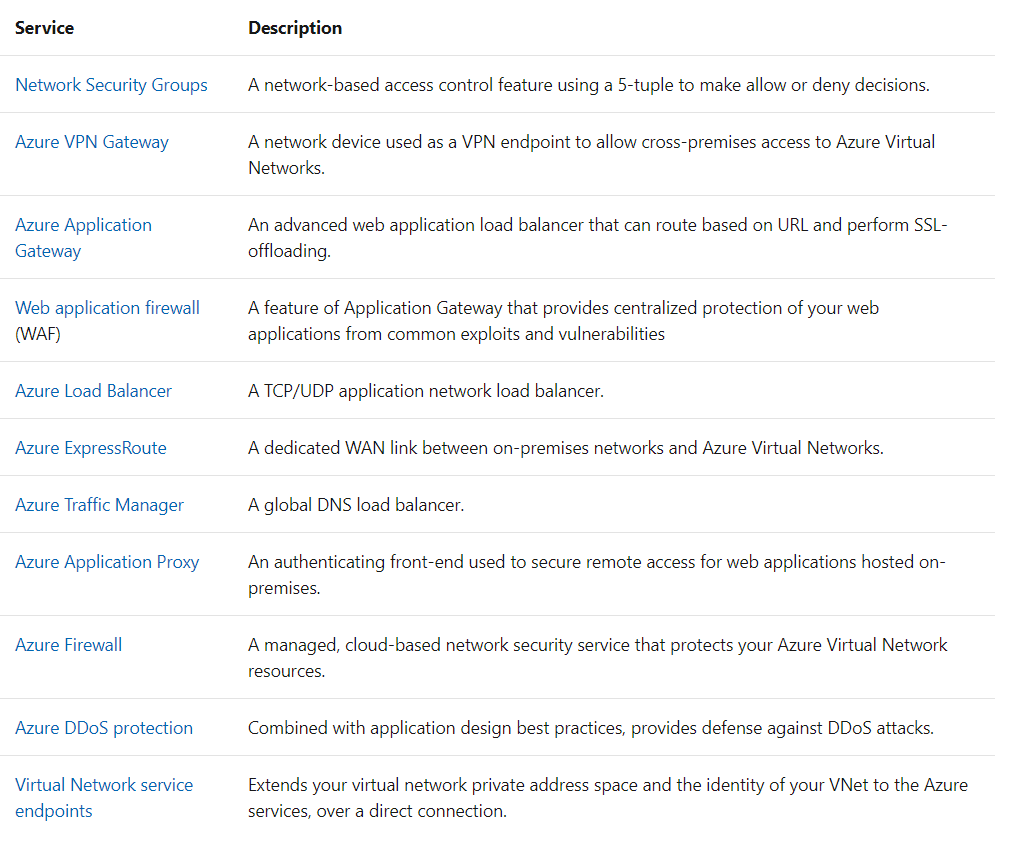
## Identity and access management



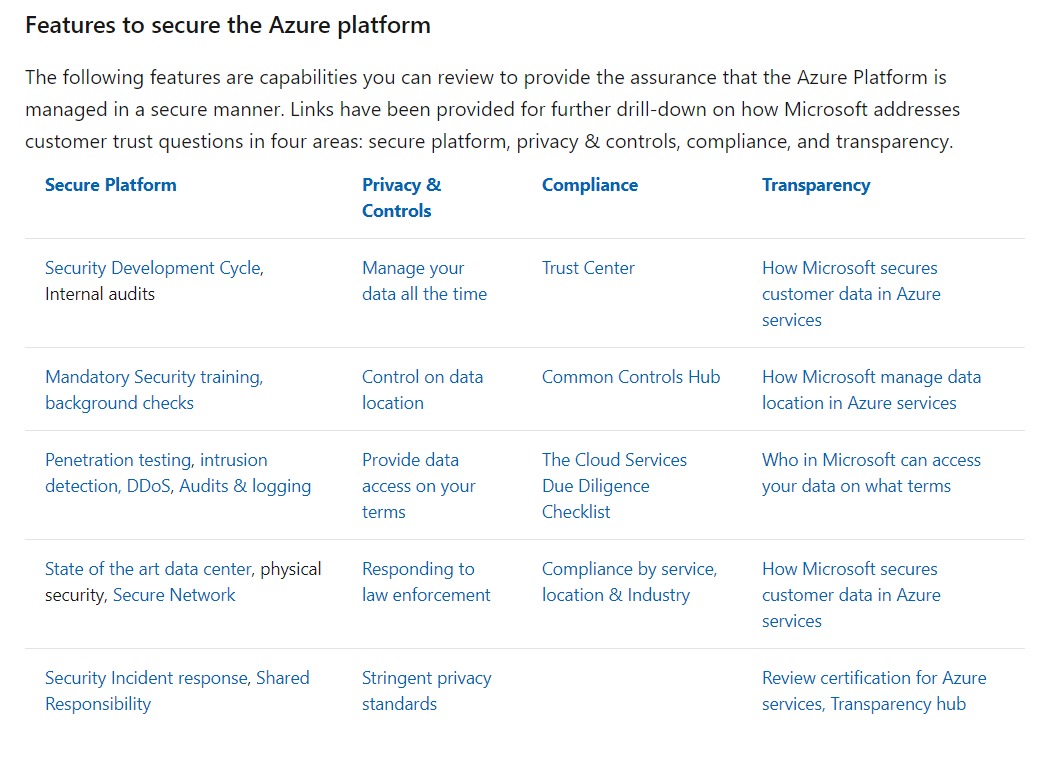
## Backup and disaster recovery



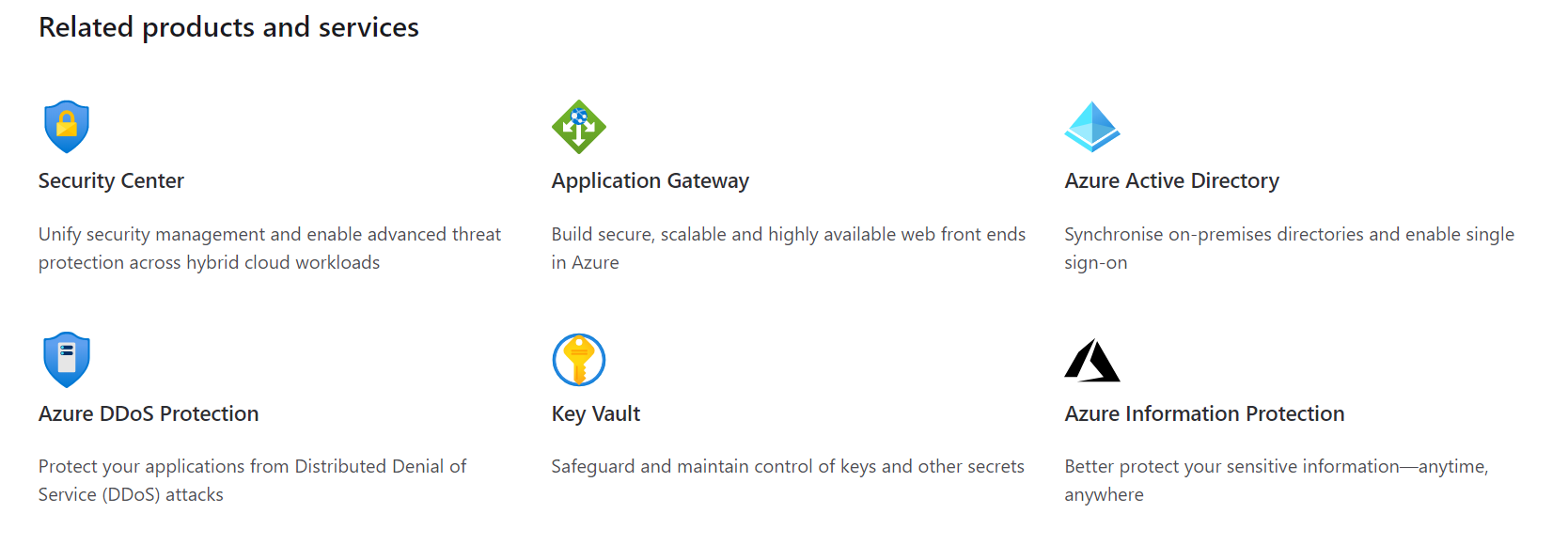
## Networking



## Summary of Azure security capabilities

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## Product and Services



## References:

* <https://docs.microsoft.com/en-us/azure/security/fundamentals/services-technologies>
* <https://docs.microsoft.com/en-us/azure/security/>
* <https://docs.microsoft.com/en-us/azure/security/fundamentals/overview>
* <https://docs.microsoft.com/en-us/azure/security/fundamentals/overview#features-to-secure-the-azure-platform>