

Using Azure Protect Web – Solution Architecture

利用 Azure 服務簡化安全管理



Identity & access management

Azure Active Directory

Multi-Factor Authentication

Role Based Access Control

Azure Active Directory (Identity Protection)



Data protection

Encryption (Disks, Storage, SQL)

Azure Key Vault



Network security

VNET, VPN, NSG

Application Gateway (WAF), Azure Firewall

DDoS Protection Standard

ExpressRoute



Threat protection

Microsoft Antimalware for Azure



Security management

Azure Security Center

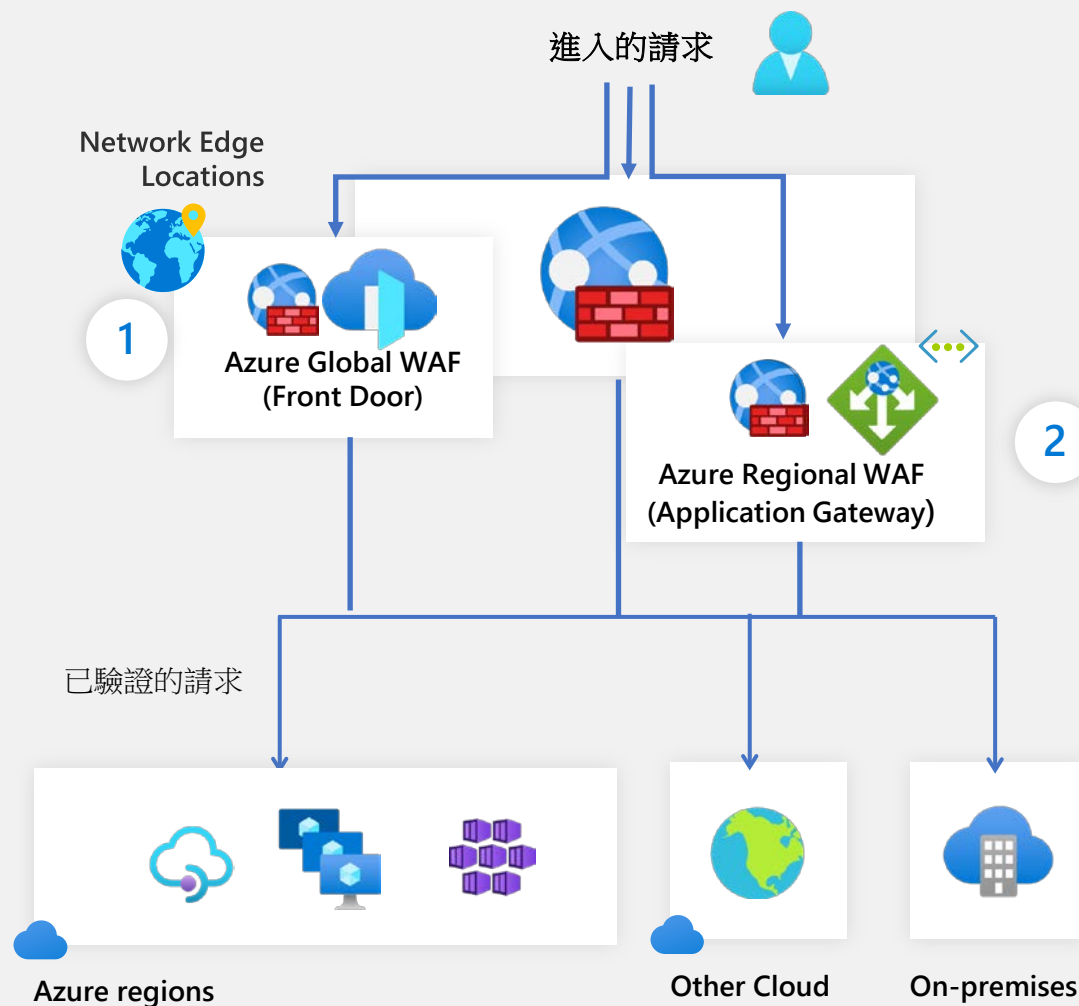
Azure Log Analytics

Azure WAF

保護在 **Azure** 或是任何地方的 **web** 應用程式
受平台託管、易於使用
具高可用性、可擴展性以及高性能
符合企業合規標準

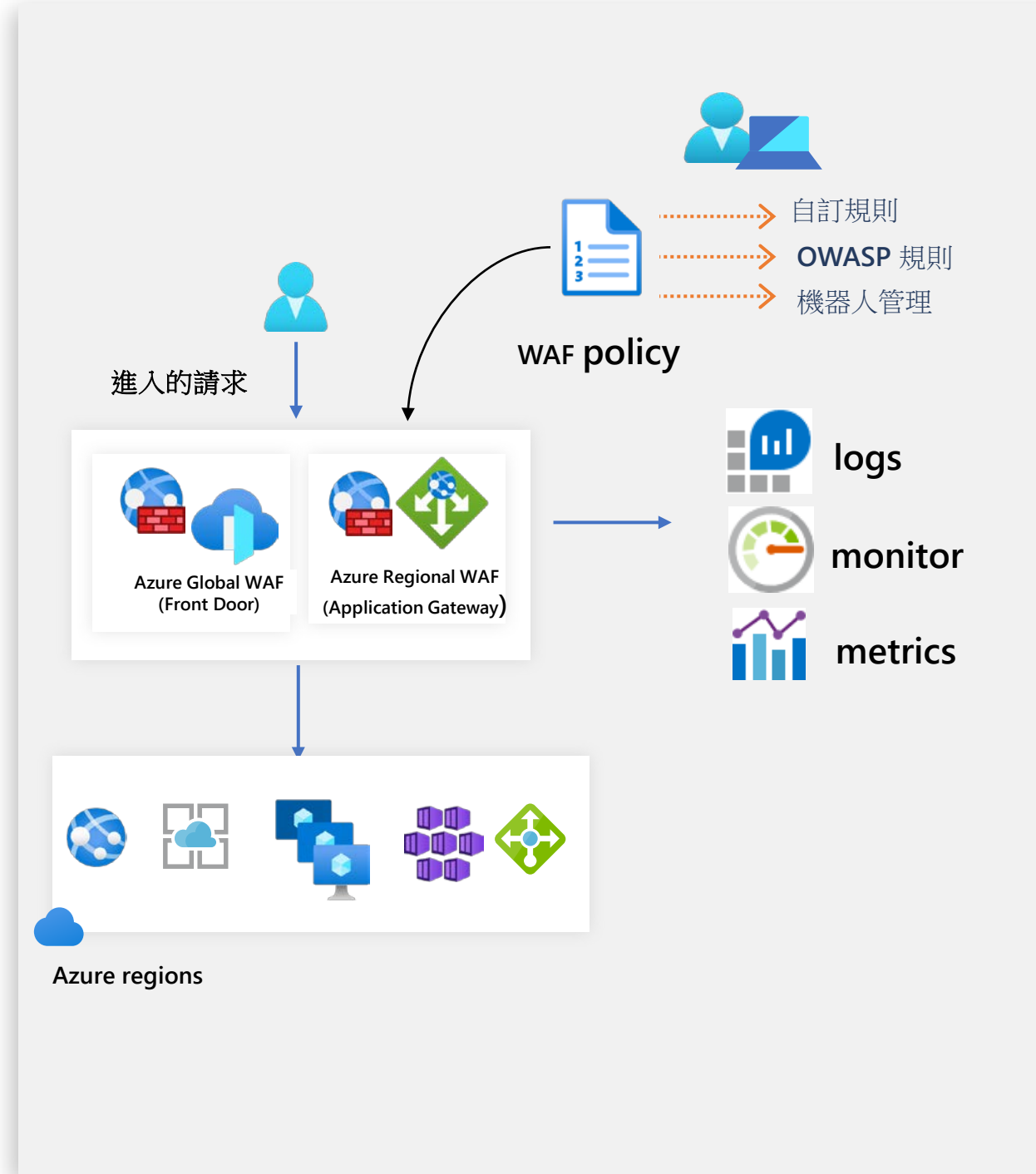
1 與 Azure Front Door 在網路邊緣整合 (network edge)，
結合應用程式加速、快取與保護的功能。

2 與 Application Gateway 整合，保護特定的公開或私人網站



Azure WAF 主要功能

- ✓ 強大的自訂規則引擎
 - Geo-filtering 篩選使用者地區
 - IP restriction 設置 IP 規則
 - http parameters filtering 針對 http 參數過濾
 - size restriction 限制傳送文本大小 (上限更新為 750 MB)
- ✓ 在 **Azure network edge** 設置速率限制條件
- ✓ 預先設置 **OWASP top 10** 攻擊規則 (Rule Set CRS 3.1 added)
- ✓ 與 **Microsoft Threat Intelligence** 整合的機器人保護機制
- ✓ 可與 **Azure Sentinel** 整合
- ✓ 在偵測模式下不產生額外延遲
- ✓ 簡易的設置方式: **Portal, API, PowerShell, Azure CLI, Terraform**



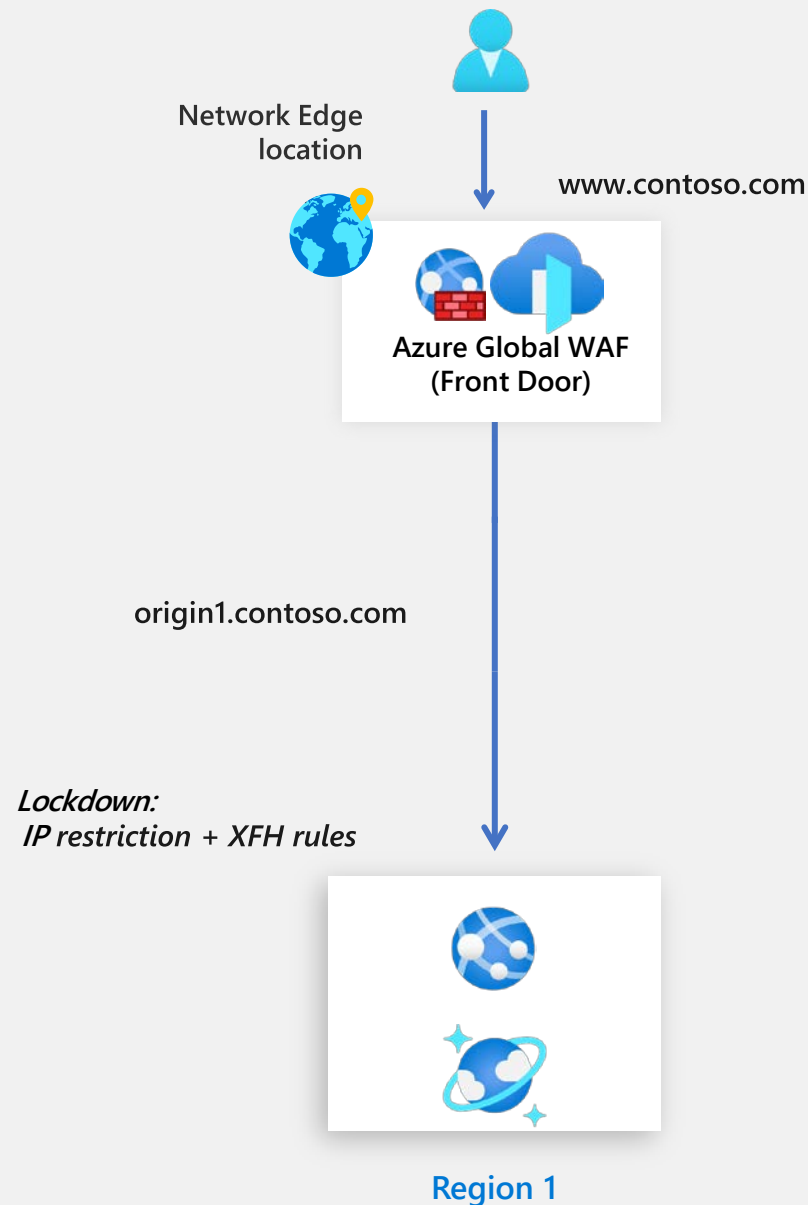
情境 1

WAF 保護裝載於 Azure App Service 上的公開網站

在網路邊緣 (network edge) 透過 Front Door 來啟用 WAF

延遲時間最佳化

鎖定 Web App 只允許來自 Front Door 的流量



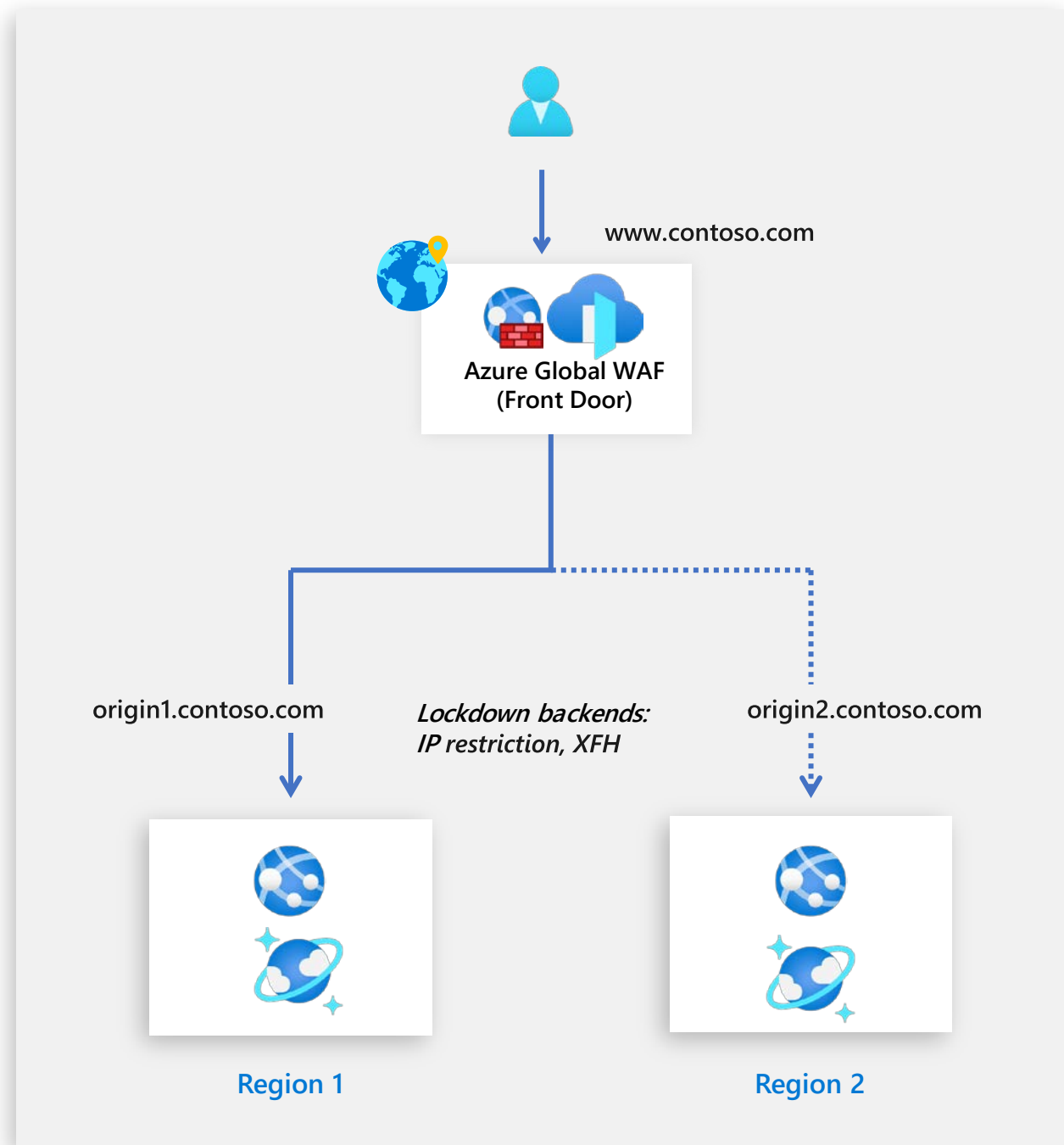
情境 1

WAF 保護裝載於 Azure App Service 上的公開網站

延遲時間最佳化

全球負載平衡

集中的 WAF 政策: 當新增第二個區域 (region) 時不須額外設定



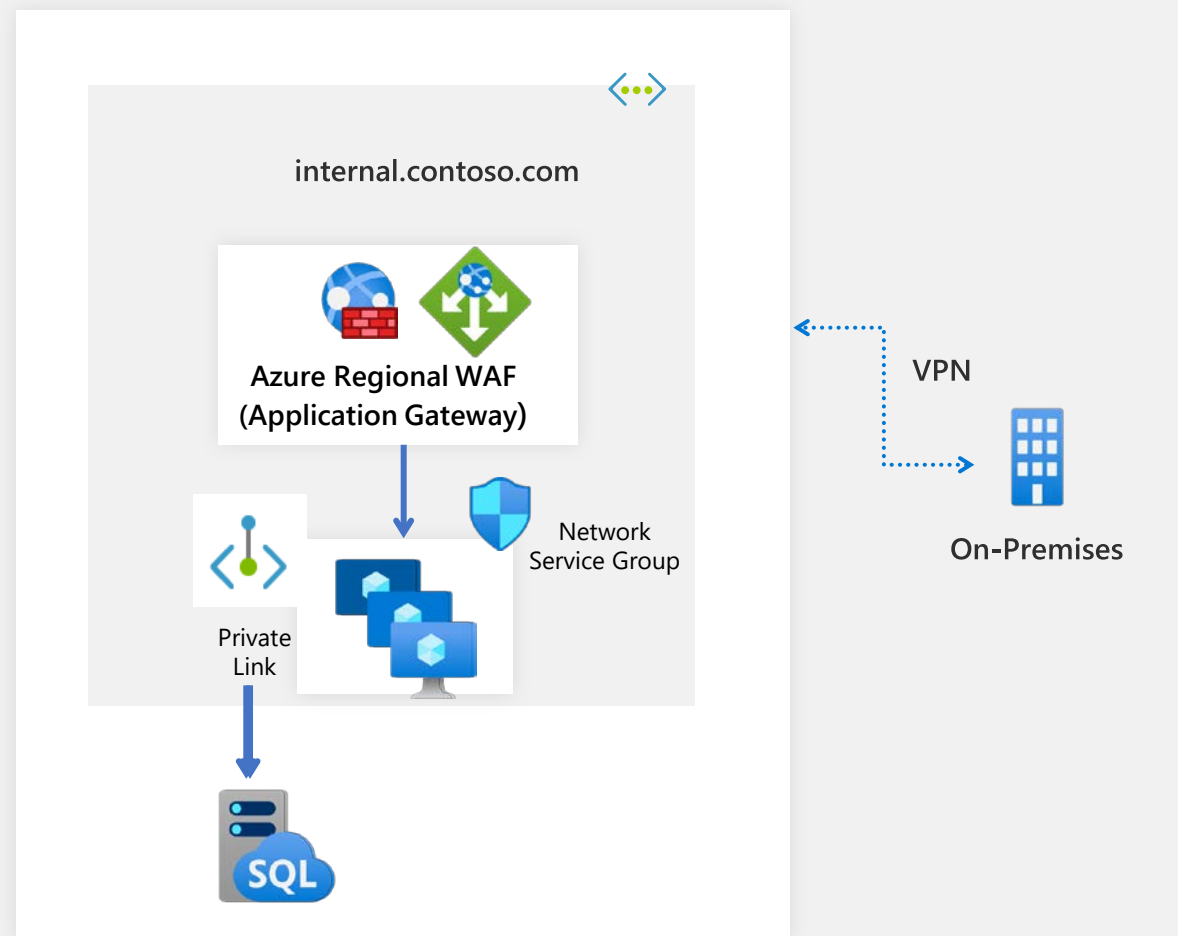
情境 2

WAF 保護在 Vnet 中的私人網站

將特定 WAF 放置於 Vnet 中

在 VMs 間負載平衡

內部使用這透過 VPN 來存取應用



情境 3

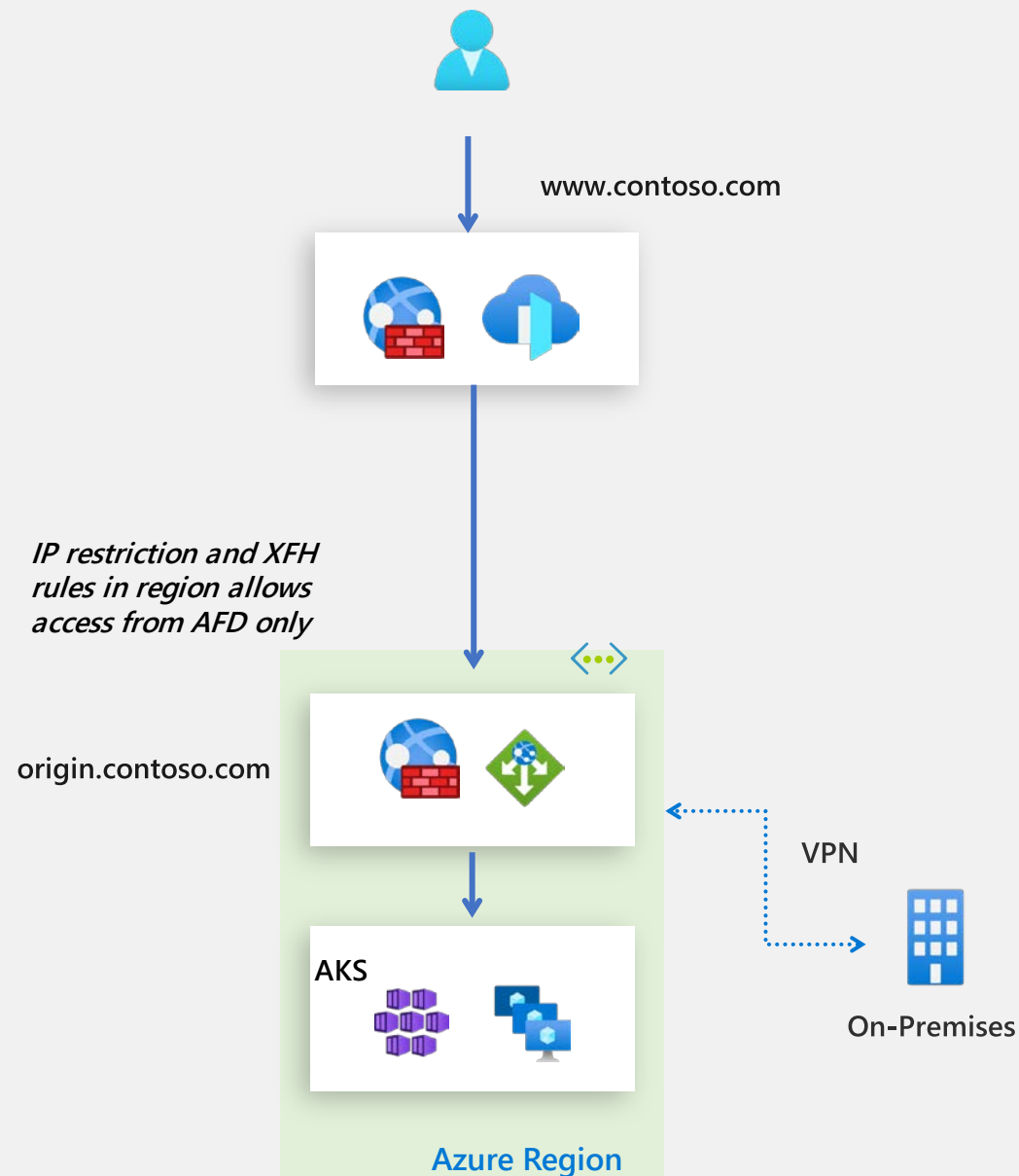
WAF 保護公開以及私人存取的 LOB 應用

WAF 位於網路邊緣 (network edge) 並搭配自訂過濾規則

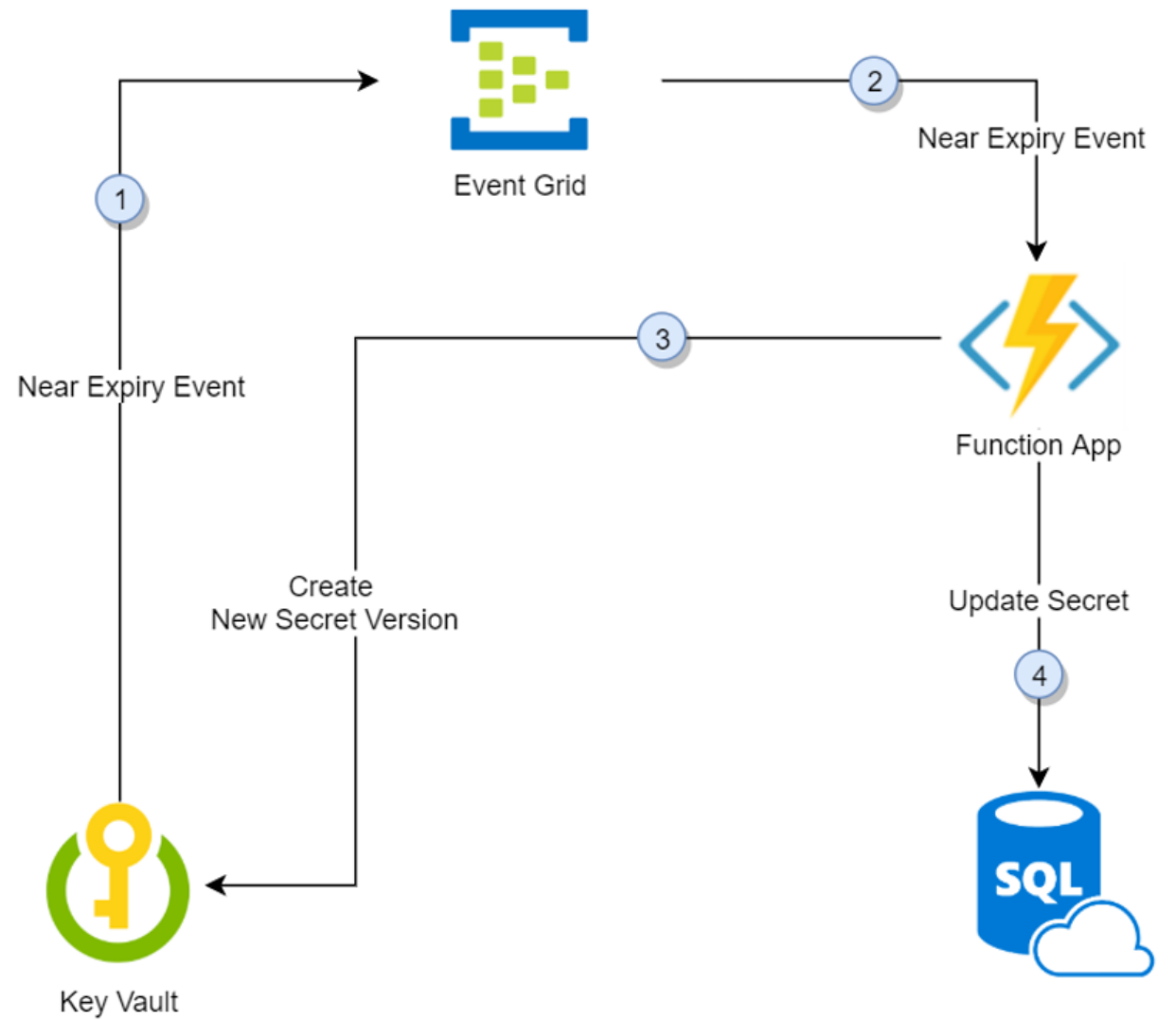
- ✓ 速率限制
- ✓ 地理限制
- ✓ http 參數過濾

WAF 在 region 中:

- ✓ 受控規則集
- ✓ 拒絕網際網路直接連線



Azure Key Vault Secret Rotation



保護您的 web 應用程式和 Api

- 啟用適用於 App Service 的 Azure Defender 保護您的 Azure App Service 方案
- 支援方案: 所有App Service方案，及Azure Function方案 (除了Consumption方案)

Home > Security Center

Security Center | Pricing & settings

Showing subscription 'Ju's Microsoft Azure Internal Consumption'

Search (Ctrl+/)

General

- Overview
- Getting started
- Recommendations
- Security alerts
- Inventory
- Workbooks
- Community

Cloud Security

- Secure Score
- Regulatory compliance
- Azure Defender
- Firewall Manager

Management

- Pricing & settings**
- Security policy
- Security solutions

Pricing & Settings

Configure pricing, data collection and additional settings of your Azure subscriptions and workspaces.

6 MANAGEMENT GROUPS 1 SUBSCRIPTIONS 2 WORKSPACES

Search by name

| Name | Azure Defender plan |
|---|---------------------|
| 72f908bf-06f1-41af-91ab-2d7cd011db47 (1 of 2 subscriptions) | |
| CSS (1 of 1 subscriptions) | |
| CAPS (1 of 1 subscriptions) | |
| TPnD (1 of 1 subscriptions) | |
| Ju's Microsoft Azure Internal Consumption | On (partial) |
| GSMO-MG (0 of 1 subscriptions) | |
| ToBeldentifiedMG (0 of 1 subscriptions) | |
| 12LAworkspace | On |
| judata | On |

Home > Security Center >

Settings | Azure Defender plans

Ju's Microsoft Azure Internal Consumption

Search (Ctrl+/) Save

Settings

- Azure Defender plans**
- Auto provisioning
- Email notifications
- Integrations
- Workflow automation
- Continuous export
- Cloud connectors

Azure Defender provides enhanced security. [Learn more >](#)

Azure Defender off

- ✓ Continuous assessment and security recommendations
- ✓ Azure Secure Score
- ✗ Just in time VM Access
- ✗ Adaptive application controls and network hardening
- ✗ Regulatory compliance dashboard and reports
- ✗ Threat protection for Azure VMs and non-Azure servers (including Server EDR)
- ✗ Threat protection for supported PaaS services

Azure Defender on

- ✓ Continuous assessment and security recommendations
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Azure Defender plan will apply to: 34 resources in this subscription

Select Azure Defender plan by resource type **Enable all**

| Azure Defender for | Resource Quantity | Pricing | Plan |
|----------------------------------|------------------------|--|---------------|
| Servers | 7 servers | \$15/Server/Month | On Off |
| App Service | 2 instances | \$15/Instance/Month | On Off |
| Azure SQL Databases | 2 servers | \$15/Server/Month | On Off |
| SQL servers on machines | 0 servers | \$15/Server/Month \$0.015/Core/Hour | On Off |
| Open-source relational databases | 0 servers | \$15/Server/Month | On Off |
| Storage | 12 storage accounts | \$0.02/10k transactions | On Off |
| Kubernetes | 4 kubernetes cores | \$2/VM core/Month | On Off |
| Container registries | 3 container registries | \$0.29/Image | On Off |

Azure Defender 中的 App Service 有哪些優點？

- 使用雲端規模，來識別將 App Service 執行的應用程式視為目標的攻擊。
- Azure Defender在攻擊行為路由到Azure應用程式之前，即會要求經過數個閘道，並在其中進行檢查和記錄。而此資料會用來識別入侵和攻擊者，並了解後續將使用的新模式。
- 您將立即受益於：
 - **安全資訊(Secure)** -產生安全性建議，並依照指示，修正您的 App Service
 - **偵測(Detect)** -Azure Defender 藉由監視來偵測 App Service 資源的許多威脅：
 - 您的 App Service 所在的 VM
 - 對 App Service 傳送和傳送的要求和回應
 - 底層沙箱環境VM
 - App Service Log

| Recommendation | Unhealthy resources | Resource health | Initiative | Actions |
|---|---------------------------|-----------------|------------|---------|
| FTPS should be required in your API App | 1 of 1 web applications | ASB | ASB | |
| Diagnostic logs should be enabled in App Service | 16 of 16 web applications | ASB | ASB | |
| Ensure API app has Client Certificates Incoming client certificates set to On | 1 of 1 web applications | ASB | ASB | |
| PHP should be updated to the latest version for your web app | 1 of 1 web applications | ASB | ASB | |
| FTPS should be required in your web App | 16 of 16 web applications | ASB | ASB | |
| Web apps should request an SSL certificate for all incoming requests | 15 of 16 web applications | ASB | ASB | |
| Managed identity should be used in your web app | 10 of 16 web applications | ASB | ASB | |
| Web Application should only be accessible over HTTPS | 7 of 16 web applications | ASB | ASB | |
| API App should only be accessible over HTTPS | None | ASB | ASB | |
| CORS should not allow every resource to access your Web Applications | None | ASB | ASB | |
| Remote debugging should be turned off for Web Applications | None | ASB | ASB | |
| TLS should be updated to the latest version for your web app | None | ASB | ASB | |
| TLS should be updated to the latest version for your API app | None | ASB | ASB | |
| Managed identity should be used in your API app | None | ASB | ASB | |
| Remote debugging should be turned off for API App | None | ASB | ASB | |
| Java should be updated to the latest version for your web app | None | ASB | ASB | |
| CORS should not allow every resource to access your API App | None | ASB | ASB | |
| Python should be updated to the latest version for your web app | None | ASB | ASB | |

Azure Defender 可於 App Service 偵測到哪些威脅？

- 威脅(依 MITRE ATT&CK 策略)
 - **攻擊前的威脅** - Azure Defender 可以偵測到多個攻擊者經常用來探查應用程式是否有弱點的弱點掃描器。
 - **初始存取威脅** - 當已知的惡意 IP 位址連接到您的 Azure App Service 介面時，Microsoft 威脅情報可提供這些警示，包括觸發警示。
 - **執行威脅**： Azure Defender 可以偵測到嘗試使用high privilege來執行指令、於Windows App Service 上欲執行 Linux 指令、無檔案攻擊行為、數位貨幣挖掘工具，以及許多其他可疑且惡意的程式碼執行活動。

保護您的 Key Vault

- 啟用適用於 Key Vault 的 Azure Defender

Home > Security Center

Security Center | Pricing & settings

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| 12LAWorkspace | On |
| judata | On |

Management

- Pricing & settings
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Settings | Azure Defender plans

Ju's Microsoft Azure Internal Consumption

Search (Ctrl+/) Save

Settings

- Azure Defender plans
- Auto provisioning
- Email notifications
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- Workflow automation
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- Cloud connectors

| Setting | Azure Defender off | Azure Defender on |
|--|--------------------|-------------------|
| Continuous assessment and security recommendations | ✓ | ✓ |
| Azure Secure Score | ✓ | ✓ |
| Just in time VM Access | ✗ | ✓ |
| Adaptive application controls and network hardening | ✗ | ✓ |
| Regulatory compliance dashboard and reports | ✗ | ✓ |
| Threat protection for Azure VMs and non-Azure servers (including Server EDR) | ✗ | ✓ |
| Threat protection for supported PaaS services | ✗ | ✓ |

Select Azure Defender plan by resource type **Enable all**

| Azure Defender for | Resource Quantity | Pricing | Plan |
|----------------------------------|-------------------|--|--------|
| Servers | Loading... | \$15/Server/Month | On Off |
| App Service | Loading... | \$15/Instance/Month | On Off |
| Azure SQL Databases | Loading... | \$15/Server/Month | On Off |
| SQL servers on machines | Loading... | \$15/Server/Month \$0.015/Core/Hour | On Off |
| Open-source relational databases | Loading... | \$15/Server/Month | On Off |
| Storage | Loading... | \$0.02/10k transactions | On Off |
| Kubernetes | Loading... | \$2/VM core/Month | On Off |
| Container registries | Loading... | \$0.29/Image | On Off |
| Key Vault | Loading... | \$0.02/10k transactions | On Off |
| Resource Manager | Loading... | \$4/1M resource management operations | On Off |
| DNS | Loading... | \$0.7/1M DNS queries | On Off |

適用於 Key Vault 的 Azure Defender 警示

- 保護應用程式和認證，即使您熟悉觸發警示的應用程式或使用者，仍務必檢查每個警示的相關情況。
- 警示會出現在 Key Vault 的 [安全性] 頁面、Azure Defender 儀表板和資訊安全中心的警示頁面中

