

### COREVIEW HYBRID AGENT DEPLOYMENT GUIDE

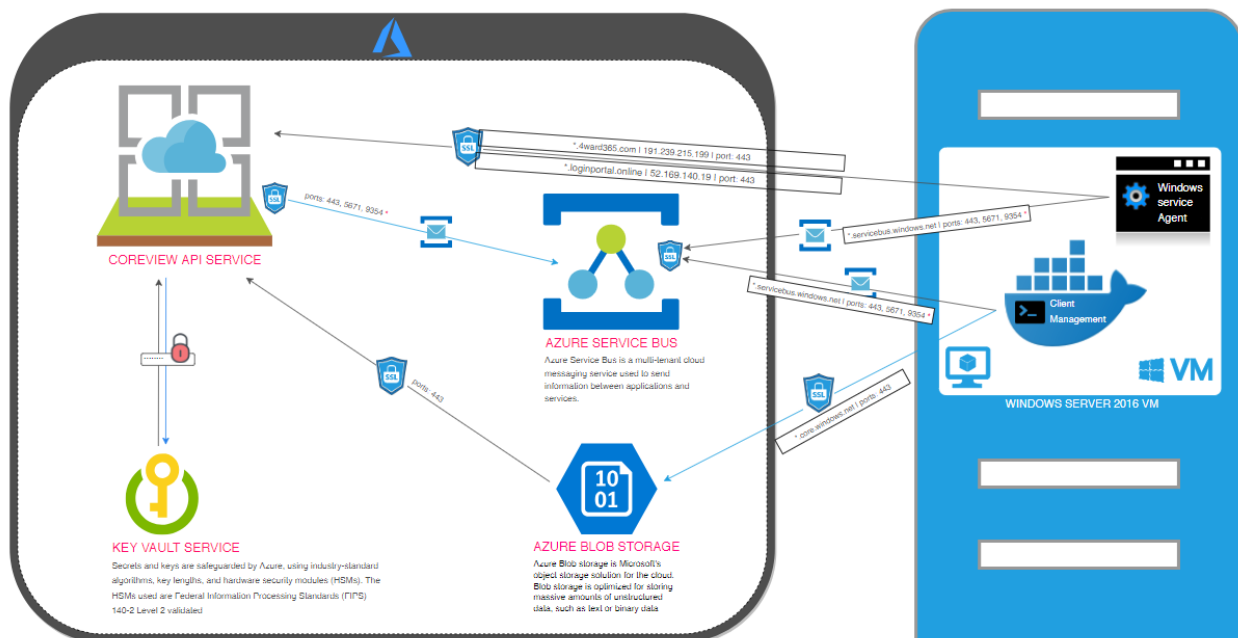
This document is designed to provide our customers with information on the requirements, prerequisites and the steps and tasks required to successfully deploy the CoreView Hybrid Agent in your organization as well as the initial configuration of the *On Premises* capability in your CoreView tenant.

The audience for this document and the performance of the activities described herein would typically require the participation of one or more of your organization’s senior technology staff that support enterprise services. *It is critically important that the appropriate individuals within your organization review the information provided in this document and reach out to CoreView with any questions prior to scheduling a deployment.*

#### 1. Overview

The CoreView Hybrid Agent is a key technical component of CoreView’s platform, which allows our customers to rely on CoreView as a “single pane of glass” for the management of cloud-only accounts, on-premises only accounts or synchronized accounts. The Hybrid Agent capability in CoreView is an optional add-on feature that is available for an annual subscription. If you are interested in our *On Premises* capability, please contact your CoreView Account Director.

#### CoreView OnPremises Architecture overview



## 2. Infrastructure Requirements

The following requirements apply to the key infrastructure components that support CoreView *On Premises* functionality. **All the prerequisites must be completed and validated before a deployment meeting can be conducted.**

| Architecture Component     |                         | Minimum Requirement               |
|----------------------------|-------------------------|-----------------------------------|
| <b>Hybrid Agent Server</b> | Hardware <sup>1</sup>   | Virtual or Physical Wintel Server |
|                            | CPU                     | 2 Core                            |
|                            | RAM                     | 8 Gb                              |
|                            | Storage                 | 200 Gb                            |
|                            | OS                      | Windows Server 2016               |
|                            | Domain Member           | Optional                          |
| <b>Active Directory</b>    | Topology                | Single Forest; Multi-Domain       |
|                            | Functional Level        | Windows 2003                      |
| <b>Azure AD Connect</b>    | Synchronization         | Version 1.1.880                   |
| <b>Exchange Services</b>   | CAS Server <sup>2</sup> | Exchange Server 2013              |
| <b>Docker</b>              | Version                 | > 17.06.2-ee-16                   |

**Note: Windows Server 2016 is the only supported operating system. Attempting to use Windows Server 2019 will end in failure.**

## 3. Network / Firewall Requirements

The following requirements apply to network traffic that supports CoreView's *OnPremises* functionality. Please note that these network requirements pertain only to traffic between the on-premises agent and CoreView or the Microsoft Azure Service Bus infrastructure.

The CoreView On-premises Agent will also need to communicate with the customer's Active Directory and, optionally, a select Exchange Server.

### Customers registered in CoreView commercial datacenters:

| Network Components | Target                     | Hostnames                            | Port Requirement            |
|--------------------|----------------------------|--------------------------------------|-----------------------------|
| Windows Services   | à CoreView API Service     | *.4ward365.com                       | 443 (TCP)                   |
| Windows Services   | à CoreView API Service     | *.loginportal.online                 | 443 (TCP)                   |
| Windows Services   | à Azure Service Bus        | *.windows.net                        | 443, 5671, 9354 (TCP, AMQP) |
| Windows Services   | à Azure Container Registry | *.azurecr.io                         | 443                         |
| Hybrid Agent       | à Azure Service Bus        | *.windows.net                        | 443, 5671, 9354 (TCP, AMQP) |
| Hybrid Agent       | à Azure Blob Storage       | *.windows.net<br>*.usgovcloudapi.net | 443 (TCP)                   |
| Hybrid Agent       | à AD Domain Controller     | TBD by Customer                      | 443 (TCP)                   |

<sup>1</sup> The hybrid agent should be installed on a standalone virtual or physical server and not coexist with other business services.

<sup>2</sup> Under Exchange 2013 and higher, each Exchange Server is also a CAS server. The CoreView Hybrid Agent must be configured to point to a specific Exchange server, and not a Virtual IP (VIP).

|              |   |                          |                 |               |
|--------------|---|--------------------------|-----------------|---------------|
| Hybrid Agent | à | Exchange PowerShell Host | TBD by Customer | 80, 443 (TCP) |
|--------------|---|--------------------------|-----------------|---------------|

### Customers registered in CoreView Gov datacenters:

| Network Components | Target | Hostnames                | Port Requirement    |                             |
|--------------------|--------|--------------------------|---------------------|-----------------------------|
| Windows Services   | à      | CoreView API Service     | *.4ward365.com      | 443 (TCP)                   |
| Windows Services   | à      | CoreView API Service     | *.coreview.com      | 443 (TCP)                   |
| Windows Services   | à      | Azure Service Bus        | *.usgovcloudapi.net | 443, 5671, 9354 (TCP, AMQP) |
| Windows Services   | à      | Azure Container Registry | *.azurecr.us        | 443                         |
| Hybrid Agent       | à      | Azure Service Bus        | *.usgovcloudapi.net | 443, 5671, 9354 (TCP, AMQP) |
| Hybrid Agent       | à      | Azure Blob Storage       | *.usgovcloudapi.net | 443 (TCP)                   |
| Hybrid Agent       | à      | AD Domain Controller     | TBD by Customer     | 443 (TCP)                   |
| Hybrid Agent       | à      | Exchange PowerShell Host | TBD by Customer     | 80, 443 (TCP)               |

For additional information on the requirements for accessing the Azure Service Bus, please refer to the following resource:  
<https://blogs.msdn.microsoft.com/servicebus/2017/11/07/open-port-requirements-and-ip-address-whitelisting/>

## 4. Security Requirements

The following security requirements apply to CoreView's *OnPremises* functionality.

| Type  | Minimum Permissions                                      |
|---|--|
| CoreView Configuration                                | TenantAdmin  |
| Hybrid Agent Deployment                               | Local or Domain Administrator                            |
| Active Directory Service Account                      | Domain Administrator                                     |
| <a href="#">Exchange Service Account</a>              | Organization Administrator Role                          |
| <a href="#">Exchange PowerShell Virtual Directory</a> | Set to Basic or Windows Authentication – See note below. |

\*When configuring the PowerShell virtual directory for remote access there two methods to configuring for authentication. If SSL is enabled on the virtual directory either through inheritance or directly Basic Auth must be enabled. If SSL is not enabled then Windows Authentication should be set.

If SSL has been configured you must include HTTPS within the connectionURI on the portal page. If Windows Authentication is enabled then you must use HTTP on the connectionURI.

## 5. Software Requirements

The following software requirements apply to CoreView's *OnPremises* functionality.

| Software or Services   | Minimum Requirement |
|------------------------|---------------------|
| CoreView SaaS Solution | SKUs                |
| CoreView Hybrid Agent  | Version             |
| Docker                 | Installation Guide  |

CoreAdmin, ONPREM

> 1.0.3

<https://docs.microsoft.com/en-us/virtualization/windowscontainers/quick-start/set-up-environment?tabs=Windows-Server>

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## 6. Record Key Information

Please make a note of the following key information as this is needed later.

- ▶ The AD Service Account Name is: \_\_\_\_\_
- ▶ The Exchange Service Account Name is: \_\_\_\_\_
- ▶ The FQDN for AD is: \_\_\_\_\_
- ▶ The FQDN for Exchange is: \_\_\_\_\_

## 7. Deployment Prerequisites

The following checklist of activities must be completed prior to deploying the Hybrid agent. The execution of these steps should follow any procedures or processes that may be required by your organization. The steps below must be completed at least forty-eight (48) hours before the installing the agent.

- Review the information contained in this document and reach out to CoreView with any questions.
- Create the required service accounts for Active Directory and Exchange and grant those accounts the necessary permissions, listed in *Section 5*, above.
- Stand-up the Hybrid Agent Server, ensuring that it meets the specifications listed in *Section 3*, above.
- Log onto the Hybrid Agent Server using an account with the necessary permissions to perform the following command in a PowerShell prompt:

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## Validate AD Connectivity:

```
$ADConnectionUri = "<Active_Directory_FQDN>"
$AdUsername = "Username_created_for_the_agent"
$AdPwd = "Password_created_for_the_agent"
$Pwd = $AdPwd | ConvertTo-SecureString -AsPlainText -Force
$Credentials = new-object -typename System.Management.Automation.PSCredential -argumentlist $AdUsername, $Pwd
$Credential = Get-Credential -Credential $Credentials
$Session = New-PSSession -ComputerName $ADConnectionUri -Credential $Credential -Name "OnPrem-AD-Session"
```

## Successful Result Message

| Id | Name            | ComputerName    | ComputerType  | State  | ConfigurationName    | Availability |
|----|-----------------|-----------------|---------------|--------|----------------------|--------------|
| 1  | OnPrem-AD-Se... | cvlab-dc1.co... | RemoteMachine | Opened | Microsoft.PowerShell | Available    |

## Validate Exchange Connectivity:

```
$EXConnectionUri = "http://<ExchangeServerFQDN>/PowerShell/"
$EXUsername = "Username_created_for_the_agent"
$EXPassword = "Password_created_for_the_agent"
$EXPwd = $EXPassword | ConvertTo-SecureString -AsPlainText -Force
$ExPsCredentials = new-object -typename System.Management.Automation.PSCredential -argumentlist $EXUsername, $EXPwd
$EXCredential = Get-Credential -Credential $ExPsCredentials
$exSession = New-PSSession -ConfigurationName Microsoft.Exchange -Credential $EXCredential -ConnectionUri $EXConnectionUri -Authentication Kerberos
```

## Successful Result Message

| Id | Name     | ComputerName    | ComputerType  | State  | ConfigurationName  | Availability |
|----|----------|-----------------|---------------|--------|--------------------|--------------|
| 1  | Session1 | cvlab-excl.c... | RemoteMachine | Opened | Microsoft.Exchange | Available    |

## Verify Docker installation:

Using a **Local Administrator account only**, verify the docker installation by downloading the base image executing the following command in a PowerShell session:

```
docker pull mcr.microsoft.com/dotnet/framework/runtime:4.7.2-20200512-windowsservercore-ltsc2016
```

Ensure that the network requirements listed in *Section 4*, above, have been met and tested.

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## 8. Hybrid Account permissions

These is the list of commands that the hybrid user needs to use to work properly:

- Get-ADDomainController
- Get-ADForest
- Get-ADDomain
- Get-Group
- Get-ADGroup
- New-ADGroup
- Remove-ADGroup
- Set-ADGroup
- Set-ADAccountPassword
- Get-DistributionGroup
- Add-DistributionGroupMember
- New-DistributionGroup
- Remove-DistributionGroup
- Remove-DistributionGroupMember
- Set-DistributionGroup
- Get-User
- Get-ADUser
- New-ADUser
- Set-AdUser
- Set-User
- Get-Recipient
- Get-RemoteMailbox
- Enable-RemoteMailbox
- Set-RemoteMailbox
- Get-ADObject
- Move-ADObject
- Rename-ADObject
- Set-ADObject
  
- Unlock-ADAccount

## 9. Hybrid agent installation on CoreView Gov datacenter

Installing the hybrid agent for a customer registered on CoreView gov datacenter is requesting few additional steps. Once installed with the Executable shared by your CoreView account manager, you need to:

- Open Windows Services and stop CoreView Agent service
- Open File Explorer and navigate in C:\Program Files (x86)\CoreView Agent
- Open Forward365.Service.PowershellService.Agent.exe.config file in edit with notepad (as an administrator)
- Search and change the value for keys:

- 
- CentralAuthApiUrl -> <https://uslogin.coreview.com>
  - BackendApiUrl -> <https://usgovapi.4ward365.com/api/>

The result is

```
<addkey="CentralAuthApiUrl" value="https://uslogin.coreview.com"/>  
<addkey="BackendApiUrl" value="https://usgovapi.4ward365.com/api"/>
```

## Frequently Asked Questions

**Q. Can I use an IP address in place of a FQDN?**

A. Yes. However due to SSL certificate requirements, encrypted communications require the use of FQDN.

**Q. Do I need to configure both Active Directory and Exchange?**

A. You do not need to configure both. You can choose either or both.

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### Compliance Notice

CoreView seeks to conform with the standards set forth by the [International Organization for Standardization](#) (ISO), as well as the standards published as part of the [IT Infrastructure Library](#) (ITIL).

**ISO/IEC Compliance:** [19941:2017](#), [1:2012](#), [2000-1:2018](#), [20000-11:2015](#)

### Version Control

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