Deploying a Single Node Cluster of Azure Stack HCI on ThinkAgile MX
Planning / Implementation

This document describes the deployment process of a single node cluster on Azure Stack HCI. Azure Stack HCI support for single node cluster was recently released by Microsoft in order minimize the hardware costs for locations that don`t require a high resiliency. The feature was announced on May 24, 2022, at the Microsoft Build event.

This document provides an overview of the Azure Stack HCI single node cluster support, steps in the deployment process, requirements, and considerations for this deployment type.

For setting up the Azure Stack HCI cluster it is necessary for the node to have access to a windows domain. Once the connection is in place we can already go forward with the installation.
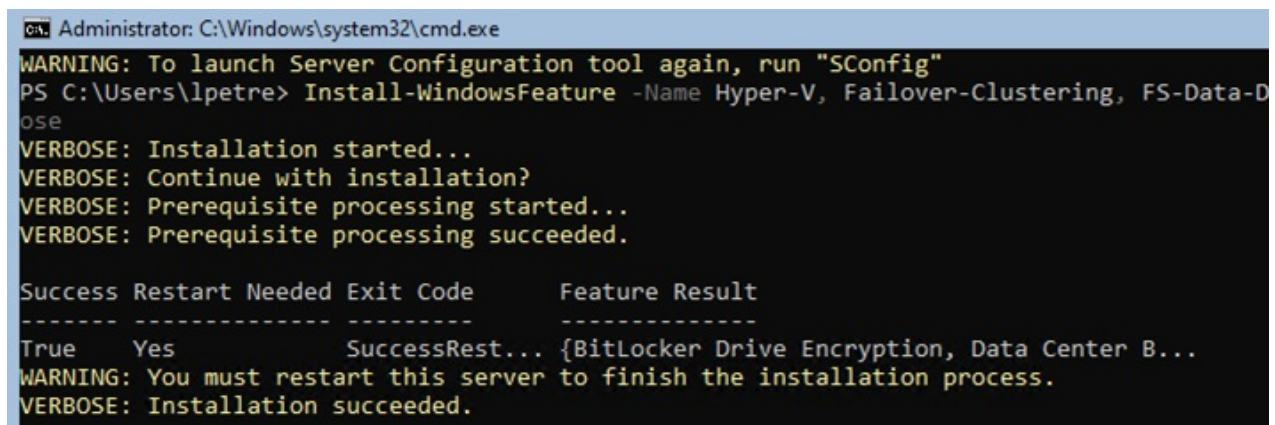
Installation

Once the Azure Stack HCI operating system is running the cluster installation can be started.

At this moment the one node cluster can only be created over powershell (it can still be managed from Windows Admin center).

Before creating the cluster, the appropriate features needs to be installed by running the following command:

```
Install-WindowsFeature -Name Hyper-V, Failover-Clustering, FS-Data-
Deduplication, Bitlocker, Data-center-Bridging, RSAT-AD-Powershell,
NetworkATC -IncludeAllSubFeature -IncludeManagementTools -Verbose
```

The output is shown in the following figure.

Figure 1. Feature Installation

Once the features are installed the cluster can be created by running the following command:

```
New-Cluster -Name ClusterName -Node nodename -NoStorage
```

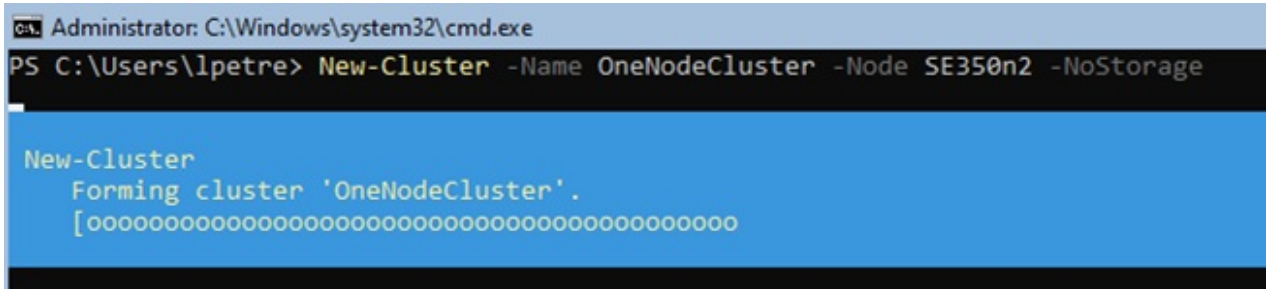The output is shown in the following figure.

Figure 2. Cluster Creation

And then Storage Spaces Direct Can be enabled by using typing in the following:

```
Enable-ClusterS2D -verbose
```

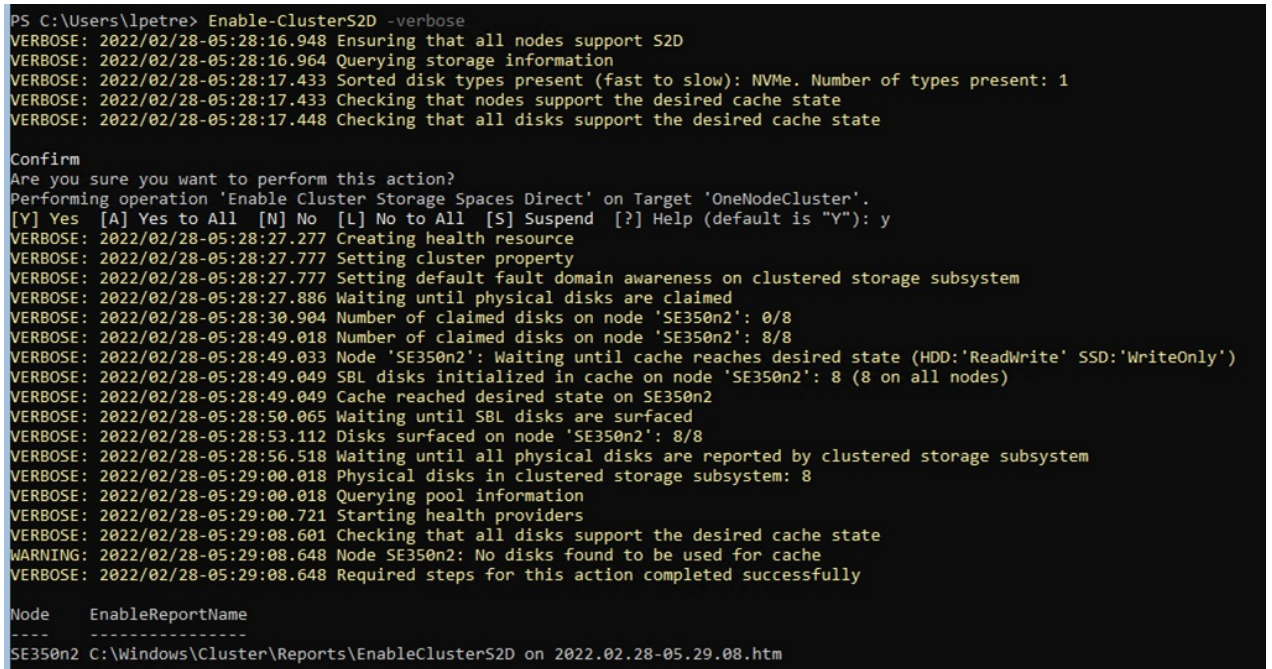The output is shown in the following figure.

Figure 3. Enabling S2D

Cluster Management

After the cluster was created it can be managed like any other cluster, by using Windows Admin Center, Failover Cluster Manager or with PowerShell commands.
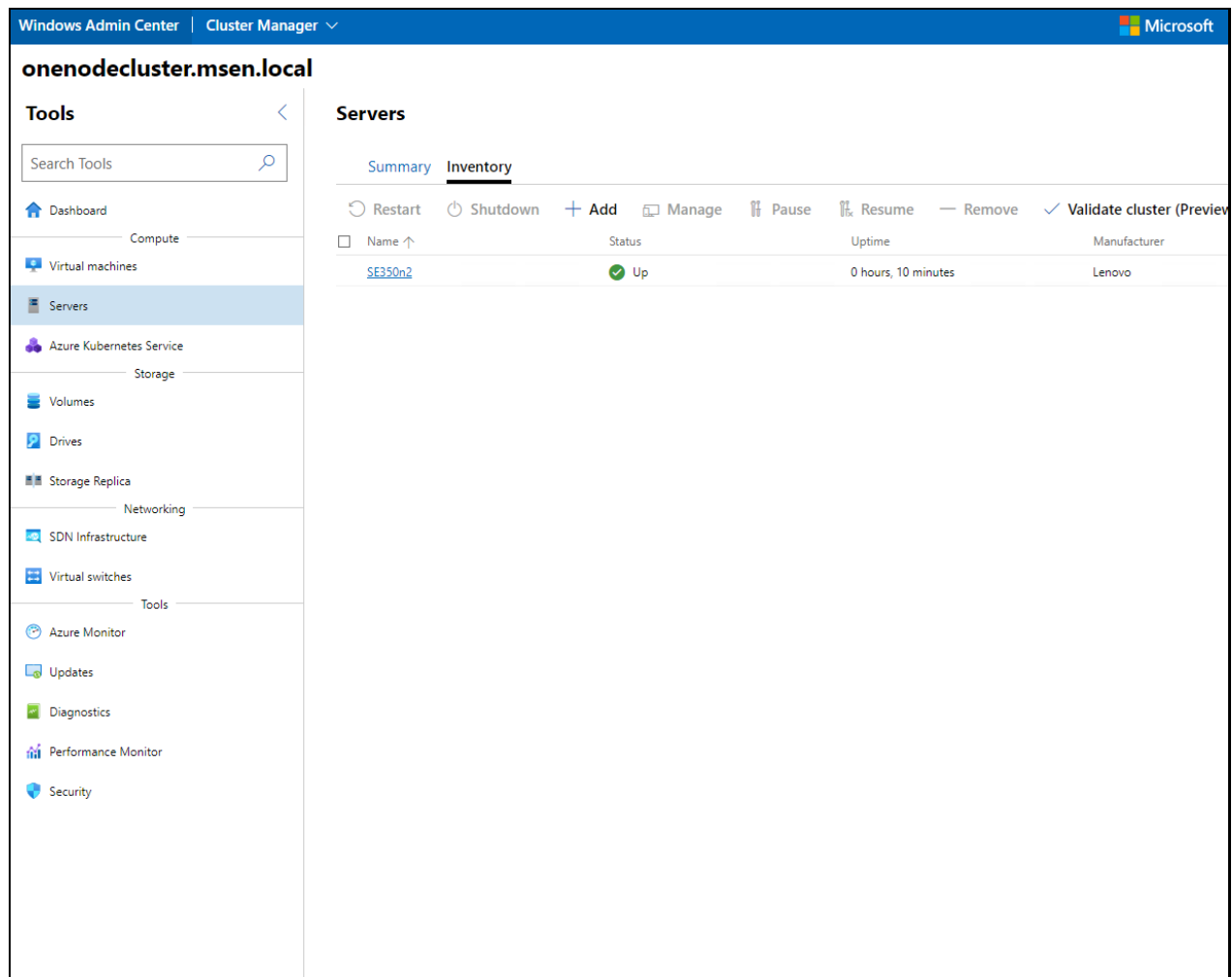

Figure 4. WAC management

Notes and considerations

Before deploying a one node cluster special analysis must be done so that it will be deployed for services that can tolerate downtime in case of a prolonged power failure or physical issues that might occur.

Cluster aware updates is one of the services that is not available on a one node cluster as it requires more than one node to in the cluster to be beneficial.

For an updated list of limitations please access the following link:
https://docs.microsoft.com/en-us/azure-stack/hci/concepts/single-server-clusters#known-issues

Resources

For more information, see these pages:

- Announcing Azure Stack HCI support for single-node clusters
  https://techcommunity.microsoft.com/t5/azure-stack-blog/announcing-azure-stack-hci-support-for-single-node-clusters/ba-p/3408431
- Azure Stack HCI documentation: Deploy Azure Stack HCI on a single server
  https://docs.microsoft.com/en-us/azure-stack/hci/deploy/single-server

Related product families

Product families related to this document are the following:

- ThinkAgile MX Series for Microsoft Azure Local

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