Troubleshooting tools

Useful tools

General troubleshooting guide

- For general troubleshooting actions on either hardware or software issues, log in to Prism and run a health check.
- Collect logs from Prism or the CVM to support for further analysis.
- Users can log in to the CVM to manually perform an NCC health check on specific components.
- Check XCC logs if the issue can't be determined by checking Prism.
- For hypervisors using Hyper-V 2016 or 2019, logs can be found at **Event Viewer** under **Applications and Service Logs**.

Note: For more information about using commands for problem determination, refer to course ES42023B - ThinkAgile HX Series: general troubleshooting and PD map.

Hypervisor architecture comparison

Item	AHV	EXSi	Hyper-V
Disk	PCI passthrough using ISCSI	VMDirectpath I/O using ISCSI	Disk passthrough
Network	Open Vswitch (OVS) architecture and VXLAN handles DHCP requests	• Local vSwitch • External vSwitch	• Internal virtual switch • External virtual switch

Note: For detailed information about Nutanix, refer to https://portal.nutanix.com/#/page/docs/details?targetId=Web-Console-Guide-Prism-v55:app-system-maximums-r.html.

Diagnostics VMs

Nutanix provides a diagnostics capability using diagnostics.py which allows partners and customers to run performance tests on the cluster. This is a useful tool for pre-sales demonstrations of the cluster and for identifying the source of performance issues in a production cluster. Diagnostics should also be run as part of the setup process to ensure that the cluster is running properly before the customer takes ownership.

The diagnostic utility deploys a VM on each node in the cluster. Users can log in to any CVM to perform the diagnostic check. The diagnostics VMs collect all the data on a cluster and send the results back to a single system.

The diagnostics test produces the following data:

- Sequential write bandwidth
- Sequential read bandwidth
- Random read IOPS
- Random write IOPS

Because the test creates new cluster entities, it is necessary to run a cleanup script afterwards.

Note: For more information, refer to: https://portal.nutanix.com/#/page/docs/details?targetId=Advanced-Admin-AOS-v55:app-diagnostics-test-run-t.html.

Syscheck utility

Syscheck runs a load on a cluster and evaluates its performance characteristics. This tool provides pass or fail feedback on all the checks. The current checks are network throughput and direct disk random write performance. Syscheck tracks the tests on a per node basis and prints the results at the conclusion of the test.

Perform the following procedure to run the syscheck utility on AOS clusters.
Step 1: Log in to the CVM
Step 2: Run the following command:

```
nutanix@cvm$ /usr/local/nutanix/syscheck/bin/syscheck
```

After executing the command, a message will be displayed listing all the test considerations. When prompted, type yes to run the check.
The test will return either a pass or fail result.
The latest result will be placed in the `/home/nutanix/data/syscheck` directory. An output TAR file will also be placed in the `/home/nutanix/data/` directory every time a user runs this utility.

Reference pages

- Nutanix Bible https://nutanixbible.com/
- Nutanix Command-Line Interface Reference https://portal.nutanix.com/#/page/docs/details?targetId=Command-Ref-AOS-v51:Nutanix-Command-Line-Interface-Reference
- HDD/SSD Troubleshooting https://portal.nutanix.com/#page/kbs/details?targetId=kA0600000008USrCAM
- Nutanix Platform overview https://portal.nutanix.com/#/page/docs/details?targetId=Web-Console-Guide-Prism-v55:app-about-nutanix-complete-cluster-c.html

Summary

This course enabled you to:

- Describe Nutanix Core
- Describe the Prism architecture and nCLI
- Describe the NCC installation and upgrade procedures
- Describe the AHV, ESXi, and Hyper-V architecture
- Describe the useful tools and troubleshooting actions used to work with Nutanix

After completing this course, students can take course ES42023B - ThinkAgile HX Series: general troubleshooting and PD map for more information about collecting logs and problem determination.