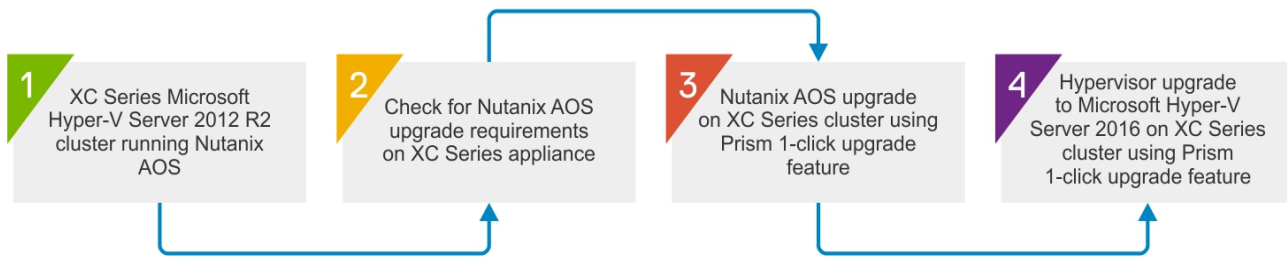


Upgrading XC Series to Windows Hyper-V 2016

XC Series supports upgrading Hyper-V 2012 R2 environments to Hyper-V 2016 using 1-click upgrade from Prism without any downtime on Nutanix AOS 5.5 and later versions.



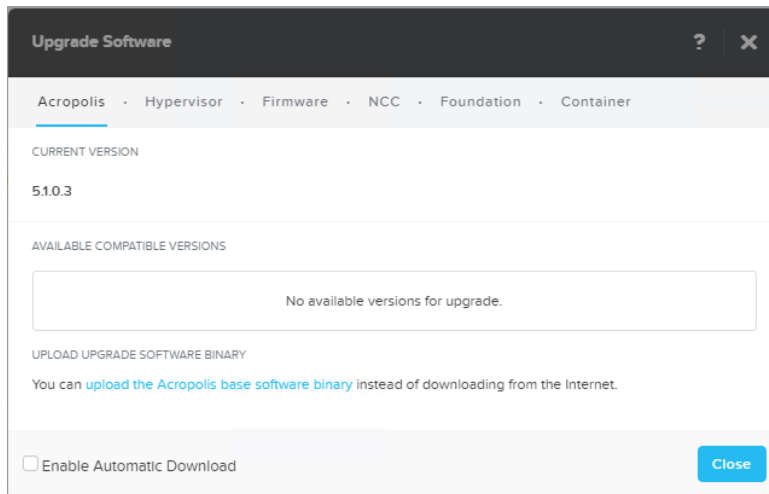
XC Series Windows Hyper-V 2016 upgrade

Test methodology used for Hyper-V 2016 upgrade:

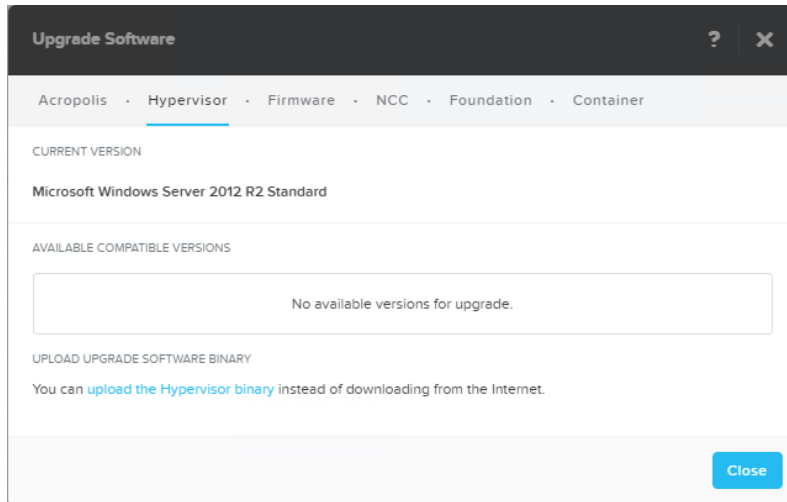
- Multiple user VMs running simultaneous read write I/O operations
- VMs running Microsoft SQL Server
- I/O utilities: IO Meter, Diskspd

1

Start with an XC Series Microsoft Hyper-V Server 2012 cluster running Nutanix AOS.



Nutanix AOS version



Microsoft Windows Server OS

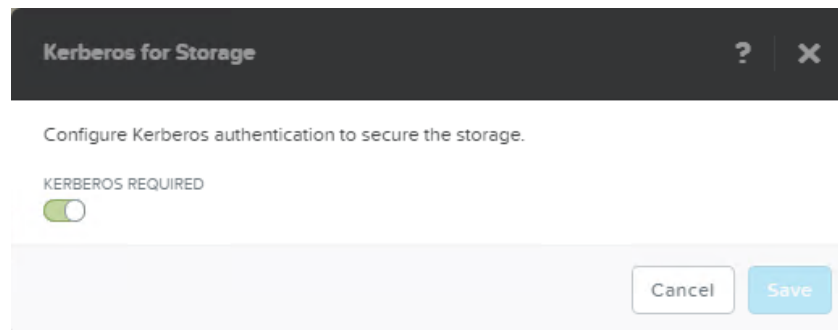
VM NAME	HOST	IP ADDRESSES	CORES	MEMORY CAPACITY	STORAGE	CPU USAGE	CONTROLLER READ IOPS	CONTROLLER WRITE IOPS	CONTROLLER ID BANDWIDTH	CONTROLLER AVG IO LATENCY	BACKUP AND ...	FLASH MODE
Idle VM	XC430XPRES-1-CL7delimstab.local/Hyper-V	10.10.90.75	4	15.63 GiB	23.59 GiB / 1.04 TiB	0%	0	1	10 KBps	174 ms	No (?)	No
MSFT SQL Server 2012	XC430XPRES-1-CL7delimstab.local/Hyper-V	10.10.90.83	1	15.63 GiB	51.57 GiB / 1.59 TiB	9%	5187	1743	110.9 MBps	111 ms	No (?)	No
MSFT Windows 10	XC430XPRES-2-CL7delimstab.local/Hyper-V	10.10.90.81	1	15.63 GiB	15.87 GiB / 1.49 TiB	31%	9326	3113	99.53 MBps	2.31 ms	No (?)	No
MSFT Windows 2012 R2	XC430XPRES-3-CL7delimstab.local/Hyper-V	10.10.90.82	1	15.63 GiB	25.44 GiB / 1.49 TiB	11%	4334	2257	223.62 MBps	179 ms	No (?)	No
MSFT Windows 2012 R2 Backup	XC430XPRES-4-CL7delimstab.local/Hyper-V	10.10.90.84	1	15.63 GiB	23.32 GiB / 2.68 TiB	9%	5489	1839	117.28 MBps	1.01 ms	No (?)	No

I/O statistics using Prism VM screen

2

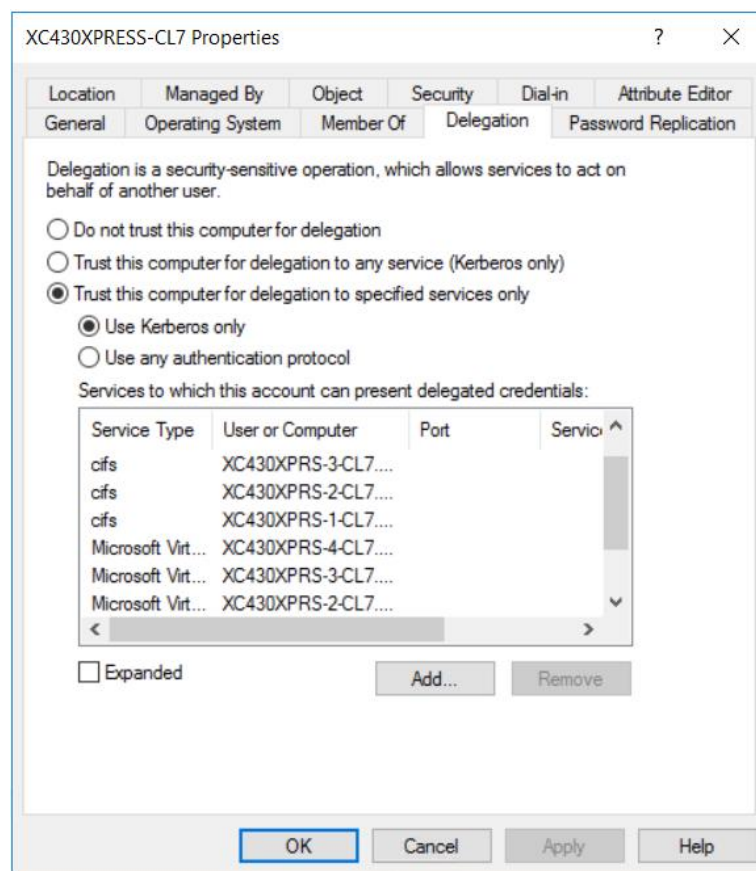
Verify AOS upgrade prerequisites are satisfied

1. Enable Kerberos from Prism.



Kerberos management setting

2. Configure **Delegation** manually on the Domain Controller.

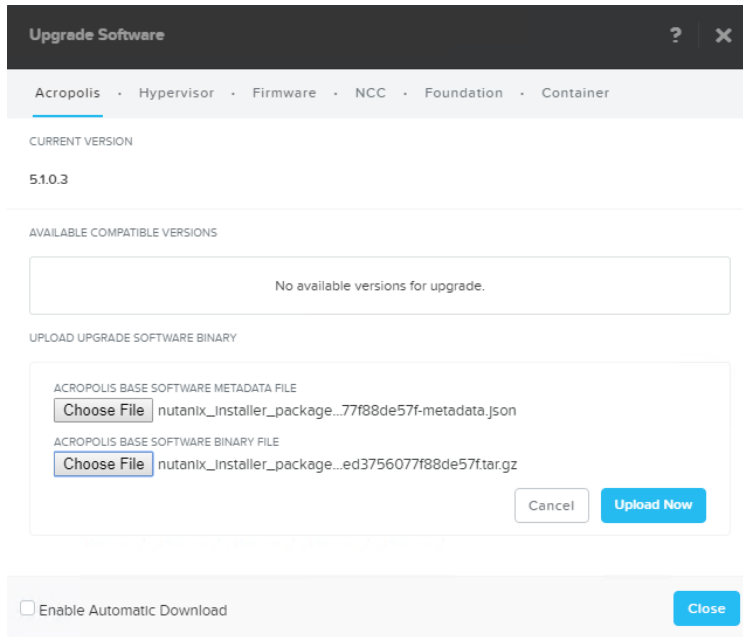


Delegation for Nutanix Cluster Object

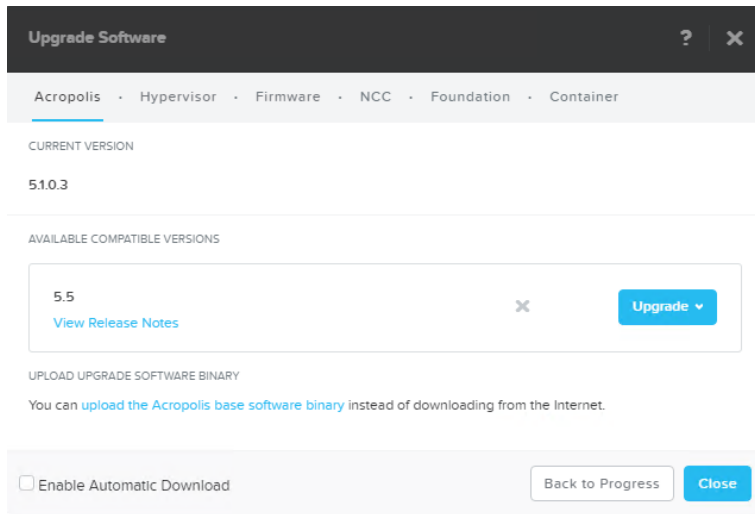
3

Nutanix AOS upgrade on XC Series cluster using Prism 1-click upgrade feature

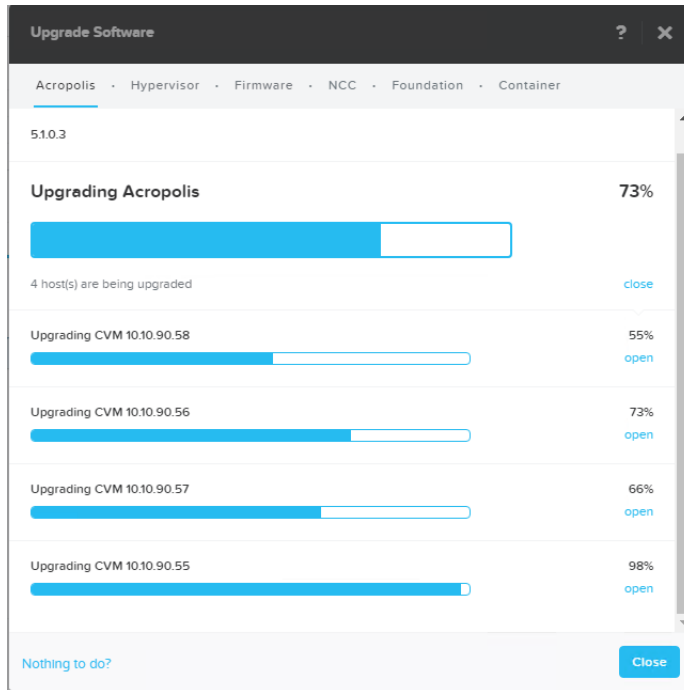
1. Upload Acropolis base software metadata file.
2. Upload Acropolis base binary file.
3. Upgrade.



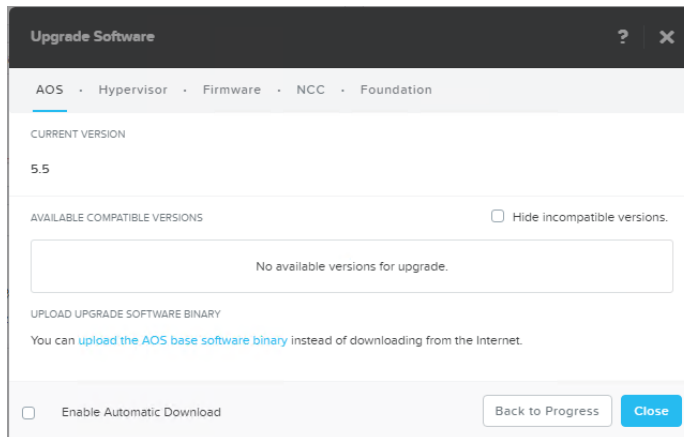
Upload of Acropolis base software binary



Nutanix AOS upgrade start



Nutanix AOS upgrade progress

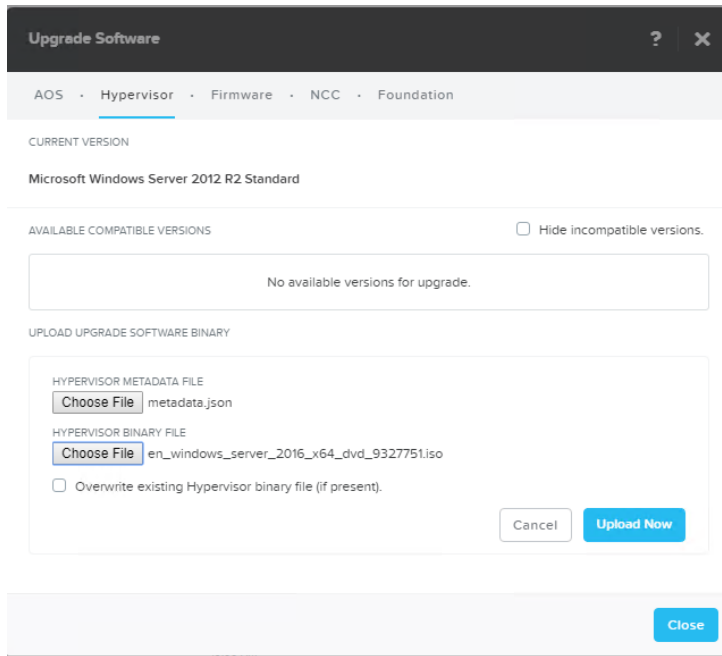


Successful Nutanix AOS upgrade

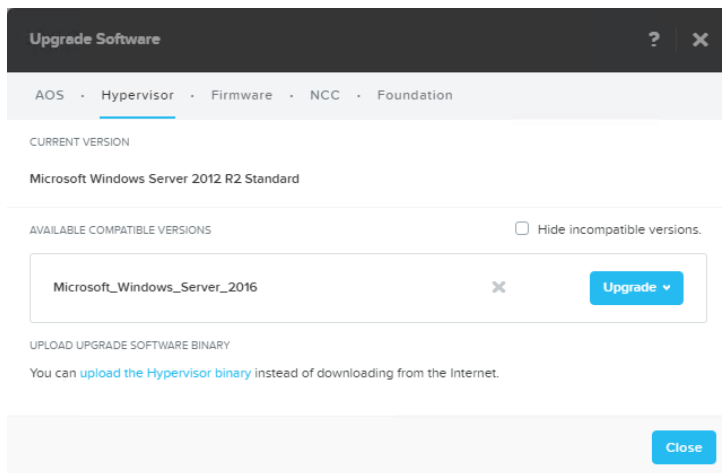
4

Hypervisor upgrade to Hyper-V 2016 on XC Series cluster using Prism 1-click upgrade feature

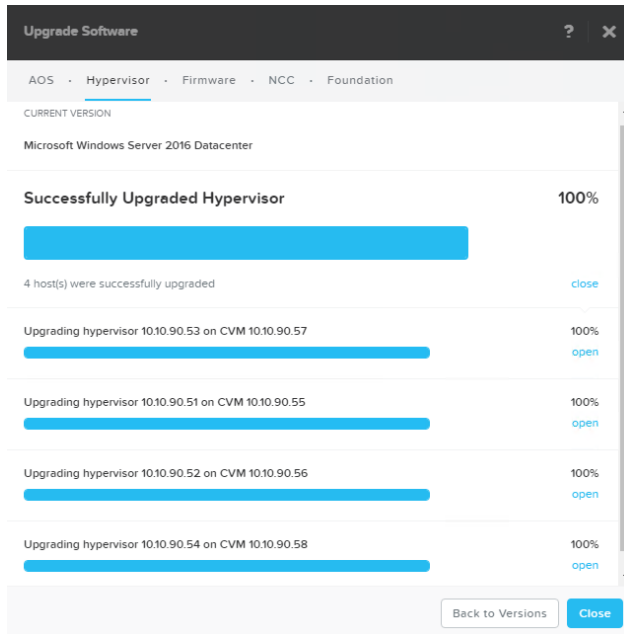
1. Run Nutanix cluster checks and verify all PASS.
2. Upload Hypervisor metadata file.
3. Upload Hypervisor binary file.
4. Upgrade.



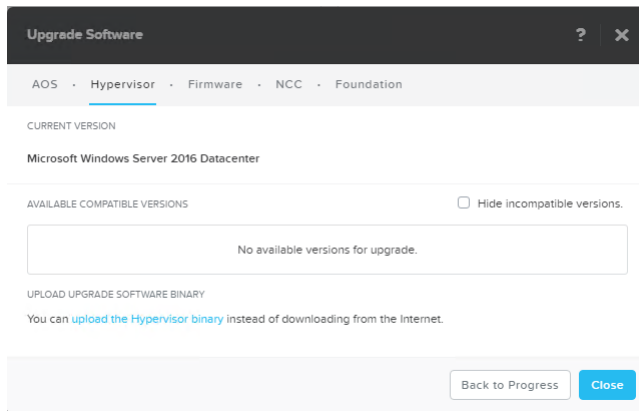
Hypervisor binary upload



Hypervisor upgrade start



Hypervisor upgrade progress



Successful Hypervisor upgrade

Conclusion

The 1-click upgrade is a unique customer experience that results in no downtime as you upgrade your XC Series environments to Windows Server 2016.

The images below from Nutanix Prism shows that all user VMs are running and I/O operations from user VMs are still active after a successful Hypervisor upgrade.

Not secure | https://10.10.90.59:9440/console/#page/vms/table

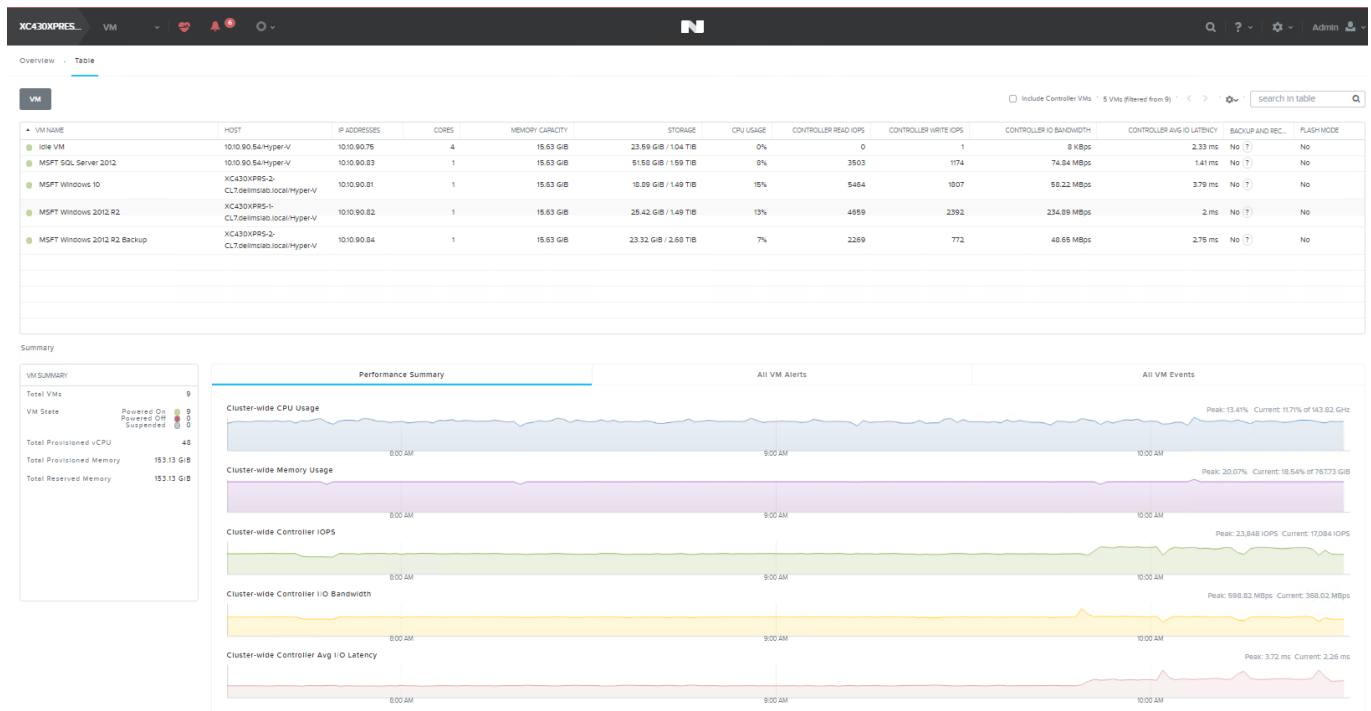
XC430XPRES... VM

Overview - Table

VM Include Controller VMs - 5 VMs (filtered from 9) search in table

VM NAME	HOST	IP ADDRESSES	CPUS	MEMORY CAPACITY	STORAGE	CPU USAGE	CONTROLLER READ IOPS	CONTROLLER WRITE IOPS	CONTROLLER I/O BANDWIDTH	CONTROLLER AVG I/O LATENCY	BACKUP AND REC.	FLASH MODE
Idle VM	XC430XPRES-4-CL7deimslab.local/Hyper-V	10.10.90.75	4	15.63 GiB	23.59 GiB / 1.04 TiB	0%	0	0	2 KBps	1.2 ms	No	No
MSFT SQL Server 2012	XC430XPRES-4-CL7deimslab.local/Hyper-V	10.10.90.83	1	15.63 GiB	51.58 GiB / 1.59 TiB	10%	4183	1392	89.21 MBps	1.44 ms	No	No
MSFT Windows 10	XC430XPRES-2-CL7deimslab.local/Hyper-V	10.10.90.81	1	15.63 GiB	18.87 GiB / 1.49 TiB	14%	5545	1829	58.99 MBps	3.78 ms	No	No
MSFT Windows 2012 R2	XC430XPRES-1-CL7deimslab.local/Hyper-V	10.10.90.82	1	15.63 GiB	25.44 GiB / 1.49 TiB	11%	4029	2009	195.34 MBps	2.44 ms	No	No
MSFT Windows 2012 R2 Backup	XC430XPRES-2-CL7deimslab.local/Hyper-V	10.10.90.84	1	15.63 GiB	23.33 GiB / 2.68 TiB	7%	2261	748	48.16 MBps	2.81 ms	No	No

I/O statistics after Hyper-V 2016 upgrade



I/O statistics w/ graphical representation after Hyper-V 2016 upgrade using Prism



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