VXBLOCK CENTRAL WORKFLOW AUTOMATION LIBRARY

Dell EMC Converged Infrastructure

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SUMMARY

Automation and orchestration of VxBlock System resources enables administrators to deliver services more quickly, at a reduced cost, while improving operational efficiency.

VxBlock Central Workflow Automation helps orchestrate IT processes across compute, storage, and network layers in both physical and virtual environments. Developed to integrate with VMware vRealize Orchestrator, VxBlock Central Workflow Automation reduces administration overhead by providing a library of engineered workflows.

Integrating automation into lifecycle management processes can add significant overhead. VxBlock Central eliminates those lifecycle challenges and dramatically reduces automation TCO by continually providing the most up-to-date versions of software and firmware.

Example of manual vs. automated time comparison:

1. Using an automated workflow for compute capacity expansion, IT administrators can complete a 5-blade expansion in an estimated 45 minutes. Completed manually, this process can take up to two days to complete.

2. Using an automated workflow to add storage resources, IT administrators can provision 30 storage volumes to an existing VMware vSphere ESXi cluster in approximately 6 mins. Without automation, this process can take up to 80 mins.

3. Using an automated workflow to create a new storage LUN and datastore and move VMs, IT administrators can migrate 50 virtual machines to the newly provisioned storage in approximately 6 minutes. Without automation, this process can take up to 2 hours to complete.

VXBLOCK CENTRAL WORKFLOW AUTOMATION FEATURES, BENEFITS AND ADVANTAGES

- **Lower TCO**
  Eliminate manual operational processes and spend less time on infrastructure administration throughout the VxBlocks' life span.

- **Added Flexibility**
  Expand compute, storage and other resources as needed with highly automated provisioning and orchestration workflows.

- **Higher Efficiency**
  Workflows are continuously updated to reflect the latest software and firmware versions across the infrastructure.

- **Reduced Operational Costs**
  Automated workflows streamline operations by automating daily tasks.

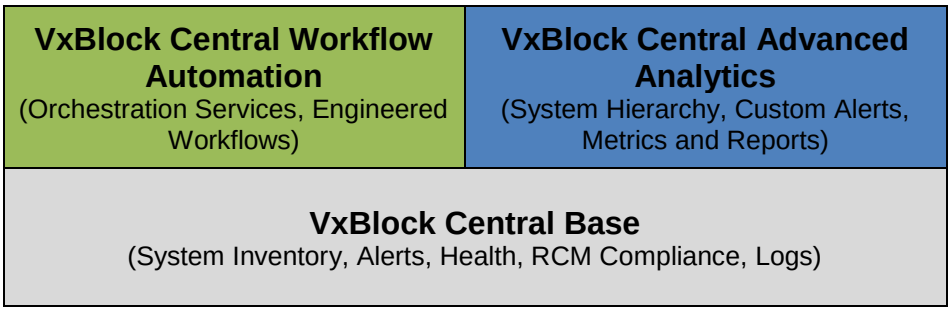
- **Faster Time to Market**
  Accelerate delivery of new services and applications; reduce risk to existing services and applications when making infrastructure changes.

LICENSING

VxBlock Central is the management and automation software Dell EMC VxBlock Systems. VxBlock Central Workflow Automation is available as an optional orchestration license of VxBlock Central. Once VxBlock Central Workflow Automation is entitled, the software package can be accessed from the Software Download Center.

VxBlock Central Base is a required component and is offered at no additional license cost to customers who have purchased the supported Dell EMC VxBlock Systems. Customers can take advantage of monitoring capabilities including Inventory, RCM Compliance and Alerting at no additional license cost. Service and support fees do apply to the Base offering. The additional features of VxBlock Central Workflow Automation and VxBlock Central Advanced Analytics are available as add-on licenses.

This diagram outlines the currently available VxBlock Central licensing options:



Please refer to the Dell Technologies RCM Portal for specific RCM requirements and other parameters that must be considered when designing a system with VxBlock Central software.

CURRENT LIBRARY

This is a living library with additional workflows regularly. You can download newly added workflows from the software download center located at https://vce.flexnetoperations.com/. The existing library contains the following workflows:

COMPUTE/HOST MANAGEMENT		
DELL EMC STORAGE ARRAY	**DESCRIPTION**	**SUPPORTED CONVERGED SYSTEM**
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Provision ESXi cluster:** Automate provisioning of a new cluster of hosts, installing ESXi on the hosts, adding the newly created cluster to the vCenter database, and provision storage capacity to the newly provisioned cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Provision and add ESXI host - SD Card boot:** Automate a compute capacity expansion to an existing vSphere cluster with SD card boot for multi arrays from a single workflow.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
Unity and Unity XT	**Provision and add ESXI host - SAN boot:** Automate a compute capacity expansion to an existing vSphere cluster with SAN boot for unity array. This Workflow also includes rollback capability.	VxBlock and Vblock System 350 VxBlock System 1000
PowerMax and VMAX	**Provision and add ESXI host -SAN boot:** Automate a compute capacity expansion to an existing vSphere cluster with SAN boot for PowerMax and VMAX arrays. This Workflow also includes rollback capability.	VxBlock and Vblock System 740 VxBlock System 1000
XtremIO X2	**Provision and add ESXI host -SAN boot:** Automate a compute capacity expansion to an existing vSphere cluster with SAN boot for XtremIO array.	VxBlock and Vblock System 350 VxBlock System 1000
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Move an ESXi host from cluster to cluster:** Automate a move of an existing ESXi host from one VMware vSphere ESXi cluster to another.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Bare metal server - SAN boot:** Automate a compute capacity expansion for a bare metal server with SAN boot	VxBlock and Vblock System 740 VxBlock System 1000
PowerMax and VMAX	**Bare metal server - UCS:** Automate service profile creation and assigning of profile to bare metal server.	VxBlock and Vblock System 740 VxBlock System 1000
Unity and Unity XT	**Decommission host from cluster:** Decommission an existing VMware ESXi host from VMware vCenter automatically. This includes detaching the host from the VDS, unmapping the datastores, removing the ESXi host from the vCenter, cleaning up the storage and MDS configuration, and deleting the storage profile from UCSM.	VxBlock System 1000 VxBlock and Vblock Systems 350
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Remove ESXi host from production cluster:** Automate the removal of an existing ESXi host from the production cluster and places the host in maintenance mode.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740

PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Create datastore cluster with configuration:** Automate the creation and configuration of a datastore cluster in VMware vCenter.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Add VMFS datastore to datastore cluster:** Automate the addition of VMFS datastores to a VMware vCenter datastore cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Remove VMFS datastore from datastore cluster:** Automate the removal of multiple VMFS datastores from an existing VMware vCenter datastore cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Create VDS and default port groups:** Automate the creation of a Virtual Distributed Switch (VDS) including the default port groups.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock Systems 540 VxBlock and Vblock Systems 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Create Service profile template**: Automate creation of a new service prolife template that can be utilized in the provisioning of a new ESXi cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740
PowerMax, VMAX, Unity, Unity XT and XtremIO X2	**Add host to cluster**: Automate adding a provisioned Cisco UCS B-series blade server to a VMware vCenter cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350 VxBlock and Vblock System 540 VxBlock and Vblock System 740

STORAGE MANAGEMENT

STORAGE ARRAY	DESCRIPTION	SUPPORTED CONVERGED SYSTEM
PowerMax and VMAX	**Create new storage volume and datastore for ESXi host/cluster:** Automate the creation of multiple storage volumes and present those volumes as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Expand the storage volume and increase VMFS capacity to existing datastore**: Automate the expansion of storage volumes in PowerMax/VMAX array and increase the corresponding VMFS datastore capacity of that host/ESXi cluster.	VxBlock System 1000 VxBlock and Vblock Systems 740

PowerMax and VMAX	**Remove VMFS datastore and associated storage volume:** Automate the removal of the selected datastore from the VMware vSphere ESXi cluster and remove the associated storage volumes from the PowerMax/VMAX storage group.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Delete VMFS datastore and storage volume:** Automate the removal of the selected datastore from a VMware vSphere ESXi cluster, unmap the volume from the PowerMax/VMAX storage group and delete the volume.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Add datastore to existing ESXi cluster:** Automate the presenting of unused storage volumes as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Create a new LUN and datastore; move VMs to new datastore:** Automate the creation of a new storage volume and VMFS datastore and allows you to migrate multiple virtual machines (VM) to the newly created datastore.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Create new LUN and attach RDM to VM:** Automate the creation of new storage volumes, adding the volumes to the selected storage group, and presenting the raw device mapping (RDMs) to the selected virtual machine (VM).	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Expand block volume:** Automate the expansion of storage volumes in PowerMax /VMAX array.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Delete block volume:** Automate the deletion multiple storage volumes from the PowerMax/VMAX array.	VxBlock System 1000 VxBlock and Vblock Systems 740
Unity and Unity XT	**Create new storage volume and datastore for ESXi host/cluster:** Automate the creation of multiple storage LUNs from the Unity array and present those LUNs as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Add datastore to existing ESXi cluster:** Automate the presentation of unused storage LUNs as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Expand the storage LUN and increase VMFS capacity to existing datastore**: Automate the expansion of storage LUNs in a Unity array and increase the corresponding VMFS datastore capacity of that host/ESXi cluster.	VxBlock System 1000 VxBlock and Vblock Systems 350

Unity and Unity XT	**Remove VMFS datastore and associated storage LUN:** Automate the removal of a selected datastore from the VMware vSphere ESXi cluster and remove the associated storage LUNs from the Unity host group.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Delete VMFS datastore and storage LUN:** Automate the removal of a selected datastore from a VMware vSphere ESXi cluster, unmap the LUN from the Unity host group and delete the LUN.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Create a new LUN and datastore; move VMs to new datastore:** Automate the creation of a new storage LUNs and VMFS datastore and migrate multiple VMs to the newly created datastore.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Create new LUN and attach RDM to VM:** Automate the creation of new storage LUNs, adding the LUNs to the selected storage group, and presenting the RDMs to the selected VM.	VxBlock System 1000 VxBlock and Vblock Systems 350
XtremIO X2	**Create new storage volume and datastore for ESXi host/cluster:** Automate the creation of multiple storage LUNs from the XtremIO array and present those LUNs as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 540
XtremIO X2	**Add datastore to existing ESXi cluster:** Automate the presentation of unused storage LUNs as VMFS datastores to an existing VMware vSphere ESXi host/cluster.	VxBlock System 1000 VxBlock and Vblock Systems 540
XtremIO X2	**Expand the storage LUN and increase VMFS capacity to existing datastore**: Automate the expansion of storage LUNs in a XtremIO array and increase the corresponding VMFS datastore capacity of that host/ESXi cluster.	VxBlock System 1000 VxBlock and Vblock Systems 540
XtremIO X2	**Remove VMFS datastore and associated storage LUN:** Automate the removal of a selected datastore from the VMware vSphere ESXi cluster and remove the associated storage LUN from the XtremIO initiator group.	VxBlock System 1000 VxBlock and Vblock Systems 540
XtremIO X2	**Delete VMFS datastore and storage LUN:** Automate the removal of a selected datastore from a VMware vSphere ESXi cluster, unmap the volume from the XtremIO initiator group and delete the LUN.	VxBlock System 1000 VxBlock and Vblock Systems 540
XtremIO X2	**Create a new LUN and datastore; move VMs to new datastore:** Automate the creation of a new storage LUNs and VMFS datastore and migrate multiple VMs to the newly created datastore.	VxBlock System 1000 VxBlock and Vblock Systems 540

XtremIO X2	**Create new LUN and attach RDM to VM:** Automate the creation of new storage LUNs, adding the LUNs to the selected storage group, and presenting the RDMs to the selected VM.	VxBlock System 1000 VxBlock and Vblock Systems 540
SNAPSHOT MANAGEMENT		
PowerMax and VMAX	**Create snapshot of storage group:** Automate the creation of a new or existing snapshot of a PowerMax or VMAX storage group.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Delete snapshot of storage group:** Automate the deletion of a snapshot of the selected PowerMax or VMAX storage group.	VxBlock System 1000 VxBlock and Vblock Systems 740
PowerMax and VMAX	**Rename snapshot of storage group:** Automate the renaming of a snapshot of a PowerMax or VMAX storage group.	VxBlock System 1000 VxBlock and Vblock Systems 740
Unity and Unity XT	**Create snapshot of block LUN:** Automate the creation of a new snapshot of a Unity or Unity XT LUN	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Delete snapshot of block LUN:** Automate the deletion of a snapshot of the selected Unity or Unity XT LUNs.	VxBlock System 1000 VxBlock and Vblock Systems 350
Unity and Unity XT	**Export snapshot of block LUN:** Automate exporting of LUN level snapshots to VMware ESXi hosts.	VxBlock System 1000 VxBlock and Vblock Systems 350

Note: All workflows are compatible with the latest release of VxBlock Central and also with the two previous major releases. For full details of compatibility of workflows with dependent software and firmware versions (including VMware vRealize Orchestrator and VMware vCenter), please refer to your RCM at https://cpsdocs.dellemc.com/rcm.

MORE INFORMATION

VxBlock Central Workflow Automation Value Card: https://www.dellemc.com/resources/en-us/asset/quick-reference-guides/products/converged-infrastructure/vxblock-central-workflow-automation-value-card.pdf

VxBlock Central Workflow Automation Reference Guide: https://cpsdocs.dellemc.com/bundle/S_RG_VXB_ORC

Take an interactive demo: http://interactivedemos.democenter.dell.com/v2/vxblock_central/story_html5.html

View the brief demo video: https://www.youtube.com/watch?v=psDBIx7WXu0

Download the software: https://support-dellemc-com.secure.force.com