Cisco UCS Director Tech Module

IBM Storage Arrays

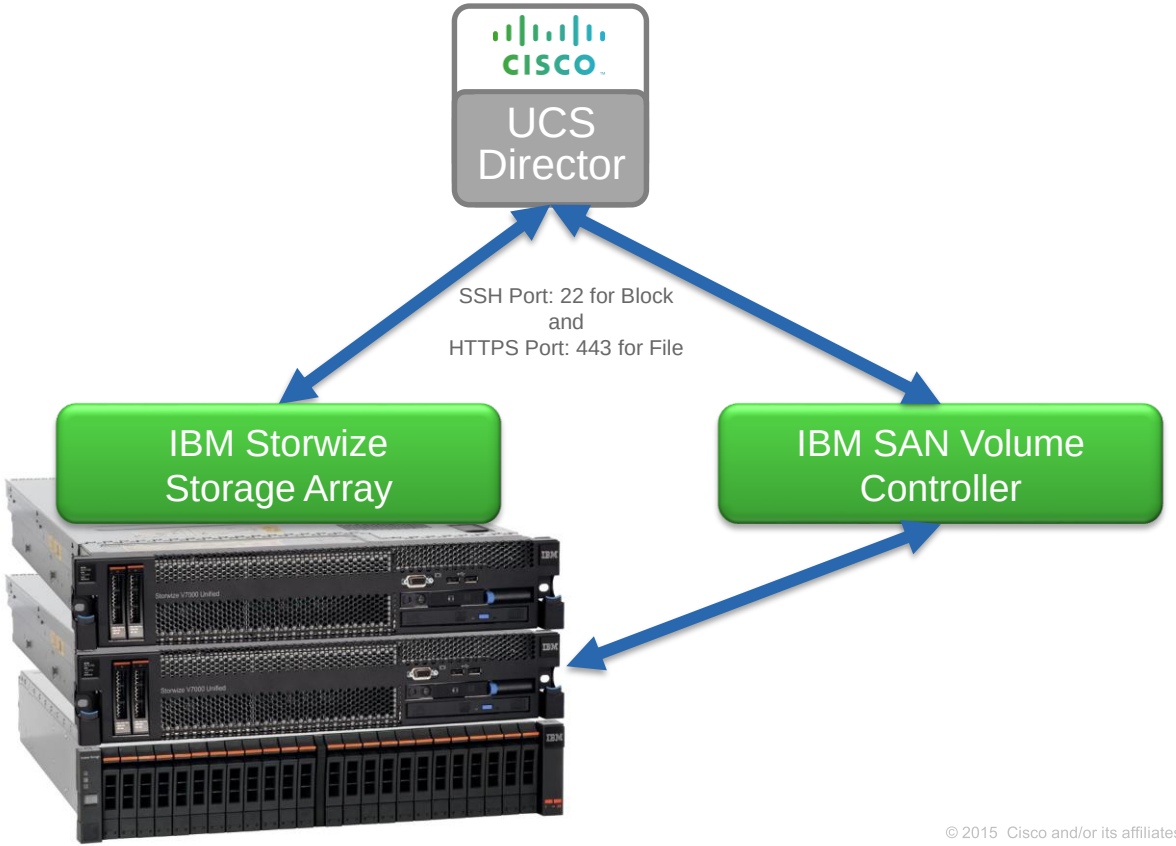
June 2016

Agenda

- Overview & Architecture
- Hardware & Software Compatibility
- Licensing
- Orchestration Capabilities
- Example Use-Cases
- Reports

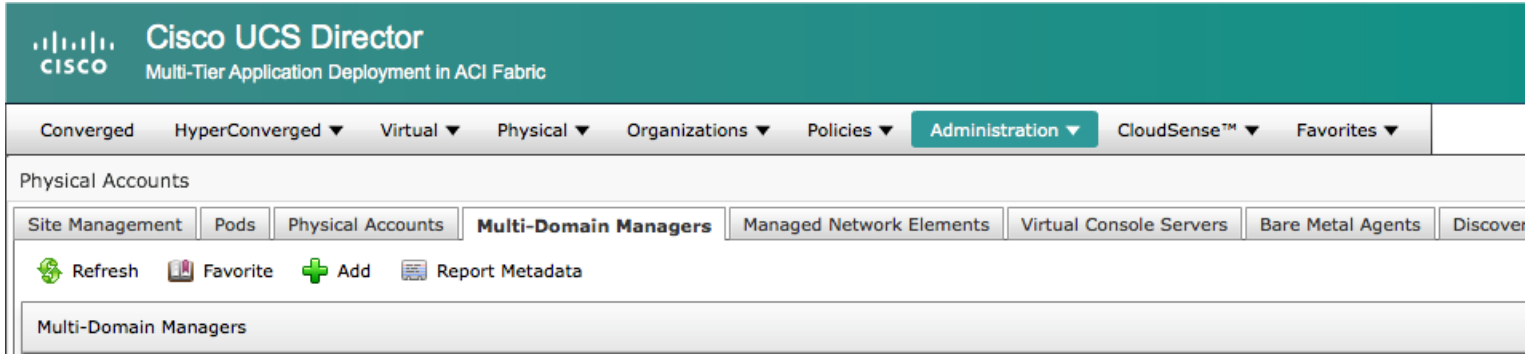
Architecture & Overview

UCS Director – IBM Storage Integration Architecture



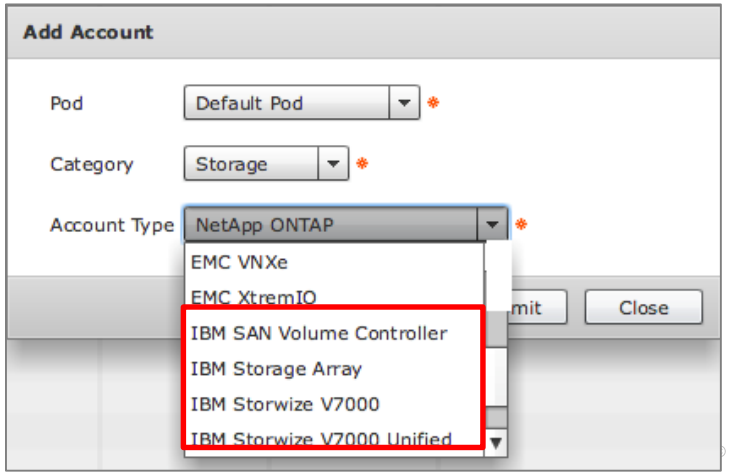
Adding an IBM Storage Account

- Navigate to **Administration → Physical Accounts**, choose the **Physical Accounts** tab and click **Add**



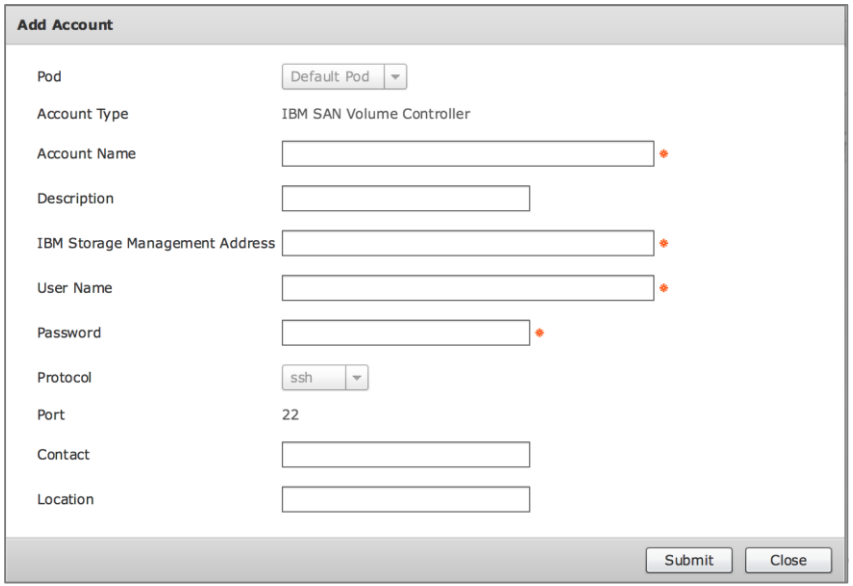
Adding an IBM Storage Account

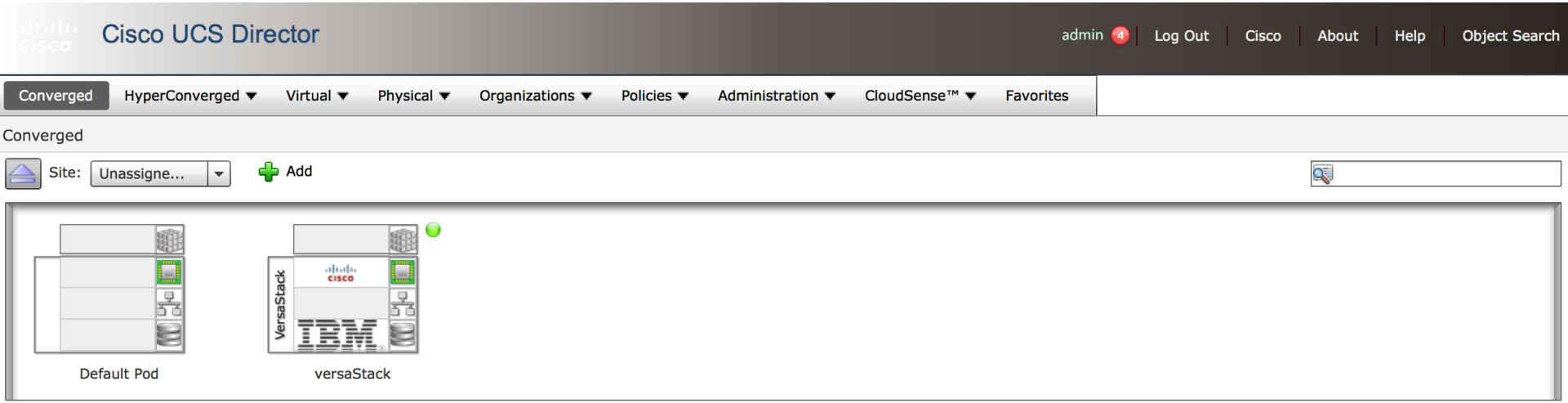
- Select which **Pod** to add the account to
- Select **Storage** as the **Category**
- Set **Account Type** to the appropriate IBM Storage option (for V5000/V9000 use **IBM Storage Array** option



Adding an IBM Storage Account

- Enter the appropriate information pertaining to the IBM Storage account being added





Cisco UCS Director

admin 4 | Log Out | Cisco | About | Help | Object Search

Converged | HyperConverged | Virtual | Physical | Organizations | Policies | Administration | CloudSense™ | Favorites

Converged

Site: Unassigne... Pod: versaStack

vs-ibm-v7store

Vendor	IBM
Model	IBM Sto
Status	OK
IP Address	172.31.
OS	7.6.0.4
Account Name	vs-ibm-
Pod Name	versaSt

vs-ibm-v7store

Summary | Internal Drives | MDisks | Storage Pools | Volumes | Hosts | File Systems | File Sets | File Shares | Quotas | Snapshots | Snapshot Rules | FlashCopy

Refresh

IBM Storwize V7000 Unified

Pod Name	versaStack
Account Name	vs-ibm-v7store
Device IP Address	172.31.241.161
Connection Status	Ok
Total Number Of Drives	24
Total Number Of Nodes	2
Total Number Of Mdisks	10
Total Number Of Hosts	8
Total Number Of Volumes	212
Total Number Of FileSystem	0
Total Number Of FileSet	0
Total Number Of FileShare	0
Total Number Of Snapshot	0

IBM Storwize V7000 Unified Account : vs-ibm-v7store

Reachable	Yes
Last Status Message	Connected Ok
Last Polled Time	06/08/2016 08:31:27 GMT-0

Storage Pools
Volumes
Hosts
File Systems
File Sets
File Shares
Quotas
Snapshots
Snapshot Rules
FlashCopy
FlashCopy Consistency Groups
FlashCopy Mappings
Remote Copy
Remote Copy Consistency Gr...
System Hardware
FC Ports
Audit Log
Node Canisters
System Tasks

Hardware & Software Compatibility

IMPORTANT!!

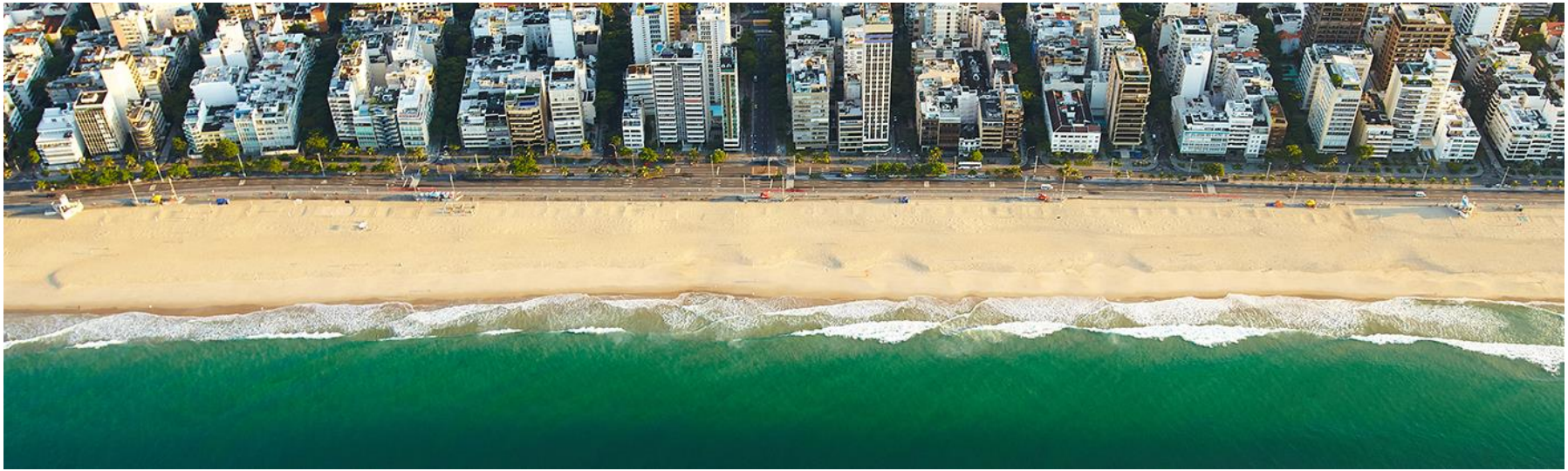
- The following slide featuring support information may be out of date
- **ALWAYS** check the most up to date version of the UCS Director Compatibility Matrix
- The latest Compatibility Matrix and other supporting UCS Director documentation can be found at the following location:

  http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/ucs-director/doc-roadmap/b_UCSDirectorDocRoadmap.html

UCS Director IBM Storage Array Support

(as of UCS Director 6.0)

Supported Models	Supported Software (NX-OS)
IBM Storwize V5000	7.6.1.3 (build 125.0.1604262218000)—validated for FibreChannel only
IBM Storwize V7000 Unified	1.5.0.6-4, 7.3.0.8 (build 97.5.1411110000) 1.5.1.2-1, 7.4.0.2 (build 103.21.1412180000) 7.2.0.3 (build 87.4.1402180000)
IBM Storwize V7000	7.4.0.2 (build 103.21.1412180000) 7.3.0.6 (build 97.5.1409050000) 7.2.0.3 (build 87.4.1402180000)
IBM Storwize V9000	7.6.1.4 (build 125.0.1605241053000.199.100)—validated for FibreChannel only
IBM SAN Volume Controller	7.2.0.3 (build 87.4.1402180000)



Licensing

Licensing Information

- UCS Director licensing is purchased solely in the form of physical server licenses
- Each physical server license includes a storage device license and a network device license as well.
- UCS Director tracks the number of physical servers, storage and network devices being managed against the number of installed licenses.
- If additional storage and/or network device licenses are required, you can purchase additional physical server licenses
- IBM storage arrays are licensed per storage processor. Managing an IBM Storage Array (typically with at least two storage processors) requires a minimum of two UCS Director storage device licenses.

Licensing Examples


Network Device


Physical Server


Storage Device

Example 1

Qty. to be managed

Total licenses available


X 6/50


X **50/50**


X 8/50

Total Physical Server Licenses Required: **50**

Example 2


X 0/8


X 0/8


X **8/8**

Total Physical Server Licenses Required: **8**

Storage Device License Included in Physical Server License

Example 3


X **10/10**


X 4/10


X 2/10

Total Physical Server Licenses Required: **10**

Network Device License Included in Physical Server License

Orchestration Capabilities

Orchestration Capabilities

IBM Storwize Volume Tasks

Create IBM Storwize Volume
Delete IBM Storwize Volume
Rename IBM Storwize Volume
Shrink IBM Storwize Volume
Expand IBM Storwize Volume
Migrate IBM Storwize Volume
Map IBM Storwize Volume To Host
UnMap IBM Storwize Volume From All Hosts
UnMap IBM Storwize Volume From Single Host
Duplicate IBM Storwize Volume
Split IBM Storwize Volume
Delete IBM Storwize Mirrored Copy
Add IBM Storwize Mirrored Copy
Make IBM Storwize Primary Volume
Edit IBM Storwize Volume

IBM Storwize Pool Tasks

Create IBM Storwize Pool
Delete IBM Storwize Pool
Rename IBM Storwize Pool
Expand IBM Storwize Pool

IBM Storwize Host Tasks

Create IBM Storwize Host
Delete IBM Storwize Host
Rename IBM Storwize Host
Unmap All IBM Storwize Volumes
Import IBM Storwize Mappings
IBM Storwize Duplicate Mappings

Orchestration Capabilities

IBM Storwize Mdisk Tasks
Create IBM Storwize Array MDisk
Rename IBM Storwize MDisk
Delete IBM Storwize Array MDisk
Set IBM Storwize Spare Goal
Unassign IBM Storwize MDisks from Pool
Select IBM Storwize MDisk Tier
Assign IBM Storwize MDisk to Pool
Swap IBM Storwize MDisk Drive

IBM Storwize FileSet Tasks
New IBM Storwize File Set
Delete IBM Storwize File Set

IBM Storwize Snapshot Tasks
Create IBM Storwize Snapshot
Delete IBM Storwize Snapshot

IBM Storwize Snapshot Rule Tasks
Create IBM Storwize Snapshot Rule
Delete IBM Storwize Snapshot Rule

IBM Storwize DataStore Tasks
IBM Storwize Block Volume Datastore
IBM Storwize Compressed Block Volume Datastore
IBM Storwize Thin Provision Volume Datastore
IBM Storwize iSCSI Boot Target
IBM Storwize Add NFS Datastore

IBM Storwize FileShare Tasks
Delete IBM Storwize File Share
Create IBM Storwize File Share
Active OR Deactive IBM Storage File Share

IBM Storwize FileSystems Tasks
Create IBM Storwize File System
Create IBM Storwize Compressed File System
Create IBM Storwize Migration-ILM File System
Delete IBM Storwize File System
Mount IBM Storwize File System
Unmount IBM Storwize File System
Replicate IBM Storwize File System

Orchestration Capabilities

IBM Storwize FC Consistency Group Tasks
Create IBM Storwize Consistency Group
Rename IBM Storwize Consistency Group
Delete IBM Storwize Consistency Group
Start IBM Storwize Consistency Group
Stop IBM Storwize Consistency Group

IBM Storwize RemoteCopy Tasks
Create IBM Storwize Remote Copy Relationship
Delete IBM Storwize Remote Copy
Start IBM Storwize Remote Copy Relationship
Stop IBM Storwize Remote Copy Relationship

IBM Storwize Tasks
IBM Storwize Custom SSH Command

IBM Storwize FC Mapping Tasks
Create IBM Storwize Flash Copy Mapping
Start IBM Storwize Flash Copy Mapping
Stop IBM Storwize Flash Copy Mapping
Move IBM Storwize FC Mapping To Consistency Group
Remove IBM Storwize Flash copy From Group
Rename IBM Storwize Flash Copy Mapping
Delete IBM Storwize Flash Copy Mapping

IBM Storwize FlashCopy Tasks
Create IBM Storwize FlashCopy Backup
Create IBM Storwize FlashCopy Clone
Create IBM Storwize FlashCopy Snapshot
Delete IBM Storwize FlashCopy

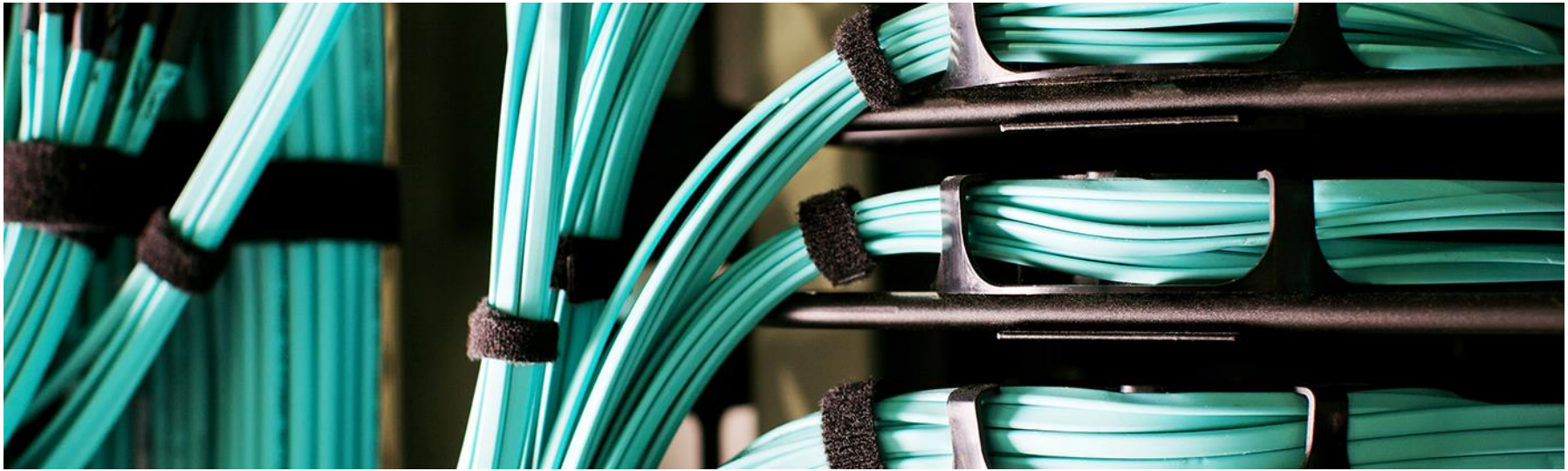
IBM Storwize RC Consistency Group Tasks
Start IBM Storwize RC Consistency Group
Stop IBM Storwize RC Consistency Group

Reports

IBM Storage Array Reports

[*Under IBM Storage Account*]

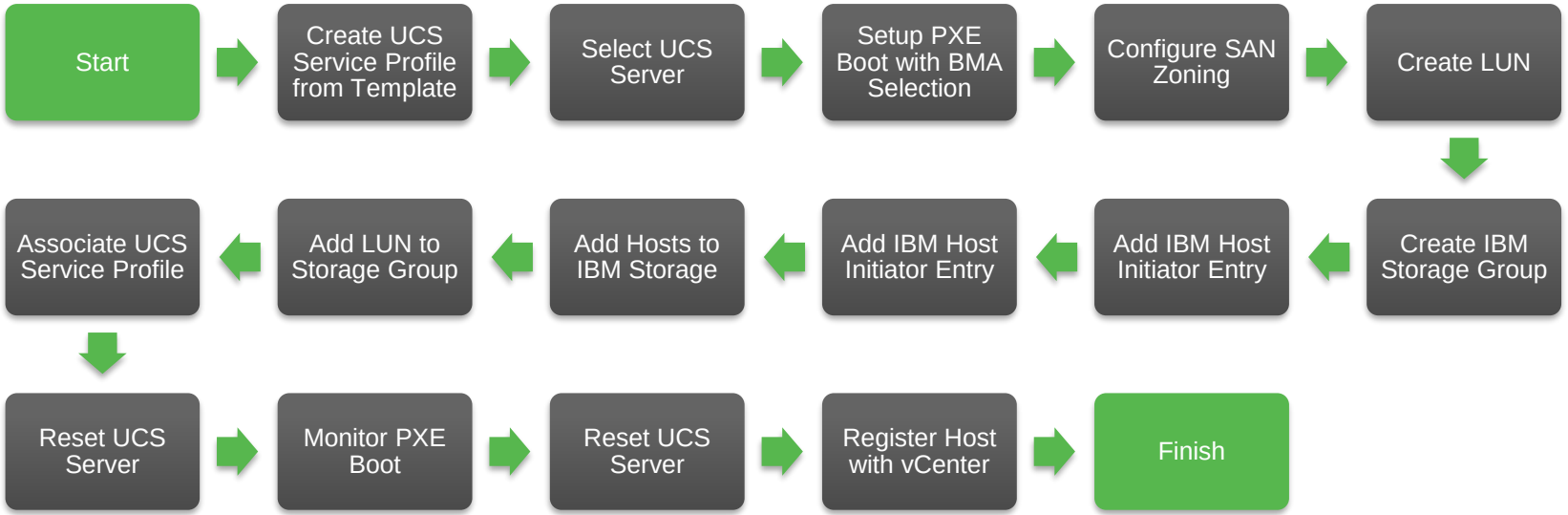
- Internal Drives
- MDisk
- Storage Pools
- Volumes
- File Systems
- File Shares
- File Sets
- Snapshots
- Disks
- Hosts
- Quotas
- FC Ports



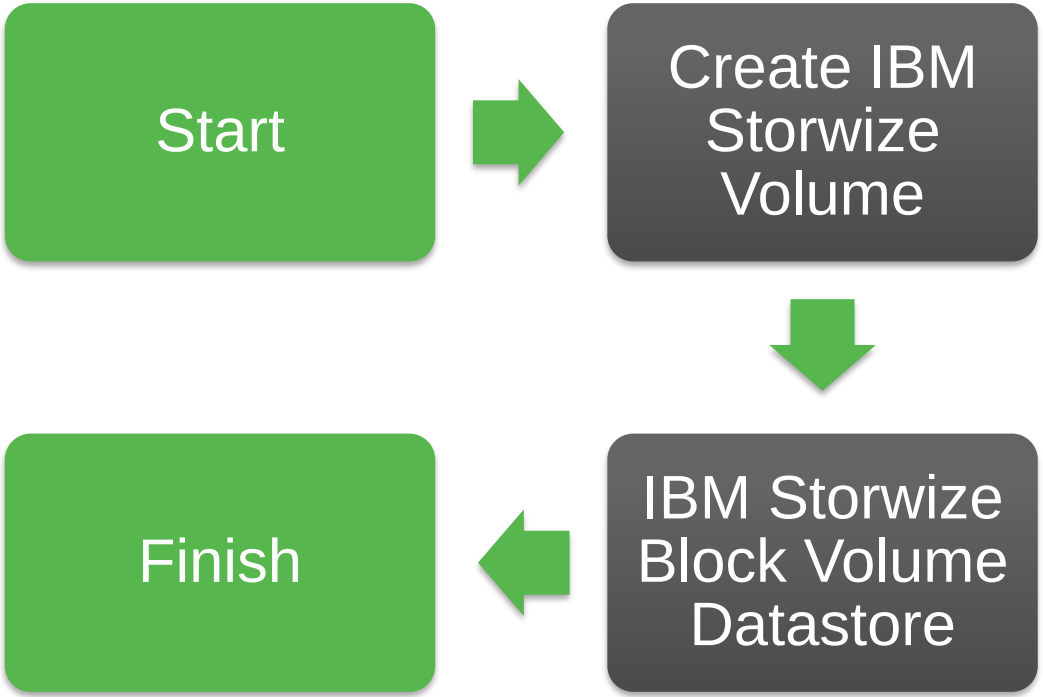
Example Use-Cases

Use Case #1: Deploy Physical Bare Metal ESXi Host

- Workflow to provision OS (ESXi) on bare-metal servers with SAN Boot from IBM Storage Array



Use Case #2: Provision New Block Datastore to ESXi




CISCO
TOMORROW starts here.