

Quick Configuration Guide

Accops HyWorks v3.2

Last Updated: 27 Sept 2018

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Document Revision History

Date	Changes
27-Sept-2018	Changes integrated as per v3.2

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About HyWorks

Accops HyWorks Suite is solution for deploying a secure, cost effective, less power consuming, less space consuming virtualized infrastructure for organizations.

Fact that it can be deployed with VMware (vCenter Server or ESXi), Microsoft Hyper-V or SCVMM and Microsoft RDS makes it suitable for all the organization either organization willing to deploy the fresh virtualized infrastructure or organizations which are already having virtualized infrastructure in place.

The HyWorks Suite can be used to serve

- Dedicated desktops from virtualization platforms VMware and Microsoft Hyper-V
- Shared hosted desktops and applications from Microsoft Remote Desktop Servers Windows 2008R2-SP1, Windows 2012R2, Windows 2016).

HyWorks Components

The following table lists the core components of HyWorks Suite, its necessity in deployment, download location of the same, where can it be installed etc.

Component	Is Necessary	Installation Platforms
HyWorks Controller Service	Must have (Installed with HyWorks Controller)	Windows 2008 R2, Windows 2012 R2 or Windows 2016
HyWorks Controller Management Console	Must have (Installed with HyWorks Controller)	Windows 2008 R2, Windows 2012 R2 or Windows 2016
HyWorks License Service	Must have (Installed with HyWorks Controller)	Windows 2008 R2, Windows 2012 R2 or Windows 2016
HyWorks Upgrade Service	Good have for automatic upgrade of HyWorksTools (Installed with HyWorks Controller)	Windows 2008 R2, Windows 2012 R2 or Windows 2016
HyWorks Session Host Server	Must for application and shared hosted desktop delivery Can be installed on HyWorks Controller or separately	Windows 2008 R2, Windows 2012 R2 or Windows 2016
HyWorks Monitoring Service	Must if Adaptive load balancing is needed. Can be installed on HyWorks Controller or separately	Windows 2008 R2, Windows 2012 R2 or Windows 2016

HyDesk Devices or HyWorks Clients		Must have	HyDesk Thinclients with integrated HyWorks Client HyWorks Client – Client software installed on supported Windows/ Linux platforms	
Dedicated VDI	In-Built Connection Broker (Session provider)	VMware ESXi or vCenter Server	Either of these must be configured for providing dedicated desktops to end users Recommended - In-built connection broker	Please refer respective documents from VMware, Microsoft or Pano Controller deployments
		Nutanix AHV		
		Microsoft Hyper-V or SCVMM		
Shared Hosted VDI using TSE	External Session Provider– TSE	Either of the two must be configured for shared hosted VDI Recommended – HyWorks Session Host Server instead of TSE	TSE – To be installed on Windows 2008 R2/ Windows 2012 R2 VM Support for only Shared Host Desktops from TSE, applications cannot be served with HyWorks from TSE servers.	
Accops HyWorks Hyper-V Connector	Installed on Microsoft Hyper-V/ SCVMM server	Yes, if Hyper-V or SCVMM servers to be used as dedicated session provider	Microsoft Hyper-V/ SCVMM server	
Accops HyWorks Tools	HyWorks DVM Agent	Yes, for In-build Connection Broker	On all virtual machines, for configuring remote access and policy managements	
	USB Redirection Software	Optional (Required for USB device sharing)	On all virtual machines for redirecting USB redirection	

Important Network Ports

Used by HyWorks Modules

Following ports are being used by different HyWorks Modules in typical deployments:

From	To	Purpose	Port No.	Protocol	Customizable	Mandatory	If port not open
HyWorks Controller	HyWorks Session Host	Session Info	38871	HTTPS	No	Yes	Application launch is slow
HyWorks Controller	HyWorks Session Host	Load Info	38870	HTTPS	No	Yes	Resource based load balancing does not function
HyWorks Controller	AD / LDAP	User authentication	389	LDAP	No	Yes	User authentication fails
HyWorks Controller	AD / LDAP	Password Change	636	LDAP	No	No	Password change not possible
HyWorks Controller	Hyper-V Connector	Hyper-V VM Management	38864	HTTPS	No	Yes	Cannot connect and manage Hyper-V VM
HyWorks Controller	VMWare vCenter/ESX	VMWare VM Management	443	HTTPS	On VMWare	Yes	Cannot connect and manage VMWare VMs
HyWorks Controller	Nutanix AHV Server	Nutanix Management	9440	HTTPS	On Nutanix	Yes	Cannot connect and manage Nutanix VMs
HyWorks Controller	RDS Server Host	RDP Service check	3389	TCP	No	No	RDS service status not checked
HyWorks Session Host	HyWorks Controller	Session Status	38866	HTTPS	No	Yes	Application launch fails
HyWorks Controller	HyWorks DVM Agent	DVM Status, Sysprep	38863	HTTPS	No	Yes	Sysprep of clone VM fails, Workgroup login will not work
Admin Browser	HyWorks Management Console Server	Web Management	443	HTTPS	No	Yes	Admin cannot do management

HyWorks Client	HyWorks Controller	User login, Device management	38866	HTTPS	No	Yes	User login fails, device management fails
HyWorks Client	HyWorks Controller	Access over WAN/Internet via Accops Proxy	38861	RDP	Yes	No	User cannot launch desktop/Applications over Internet/WAN
HyWorks Client	RDS Server Host	Remote Session login	3389	RDP	No	Yes	User cannot launch desktop/Applications
User Browser	HyWorks Management Console Server	User Web Portal	443	HTTPS	No	No	User cannot use browser to login. Must use client
RMS Portal	HyWorks Management Console Server	RMS Portal	443	HTTPS	No	No	User can not login into RMS Portal
Virtual Desktop VMs	HyWorks Upgrade Service	DVM Tools Upgrade	38865	HTTPS	No	No	DVM Tools will not upgrade
HySecure Gateway	HyWorks Controller	User login, app launch	38866	HTTPS	No	Yes	User app list fails, user app launch fails
HySecure Gateway	AD / LDAP	User authentication	389	LDAP	No	Yes	user authentication fails
HySecure Gateway	AD / LDAP	Password Change	636	LDAP	No	No	password change not possible
HySecure Client	HySecure Gateway	User login, app launch	443	HTTPS	Yes	Yes	User login fails
HyLite Portal	HySecure Gateway	User login, app launch	443	HTTPS	Yes	Yes	User login fails

RMS (Management Console Server) Both	HyWorks Controller Both	RMS Data	38866	HTTPS	Yes	Yes	Will not be able to get RMS details
HySecure Gateway	DVMs	RDP	3389	TCP	Yes	Yes	User won't be able to connect to reserved VMs
HyWorks Controllers	DVMS	Remote Connection Availability check	3389	TCP	Yes	Yes	Controller won't be able to check RDP readiness of VM
HySecure Gateway	HyWorks Web Server (RMS)	Connection to RMS	443	HTTPS	Yes	Yes	HyLite won't be able to get RMS Data
Primary HyWorks Controller	Secondary HyWorks Controller	SQL Connection	1433	TCP	Yes	Yes	Database synchronization, HA will not function correctly
Secondary HyWorks Controller	Primary HyWorks Controller	SQL Connection	1433	TCP	yes	Yes	Database synchronization, HA will not function correctly
HyWorks Controller	SMTP Servers	Mail notification	25,587, 465	TCP	Yes	Yes	Mail notification will not be possible

Accops HyWorks Deployment Options

Accops HyWorks v3.2 can be used to deliver applications, shared hosted desktops or dedicated desktops in following two environments:

1. [In LAN Environment](#)
2. [In WAN Environment over the internet](#)

HyWorks Deployment in LAN Environment

Deployment of HyWorks in LAN environment will require following infrastructure:

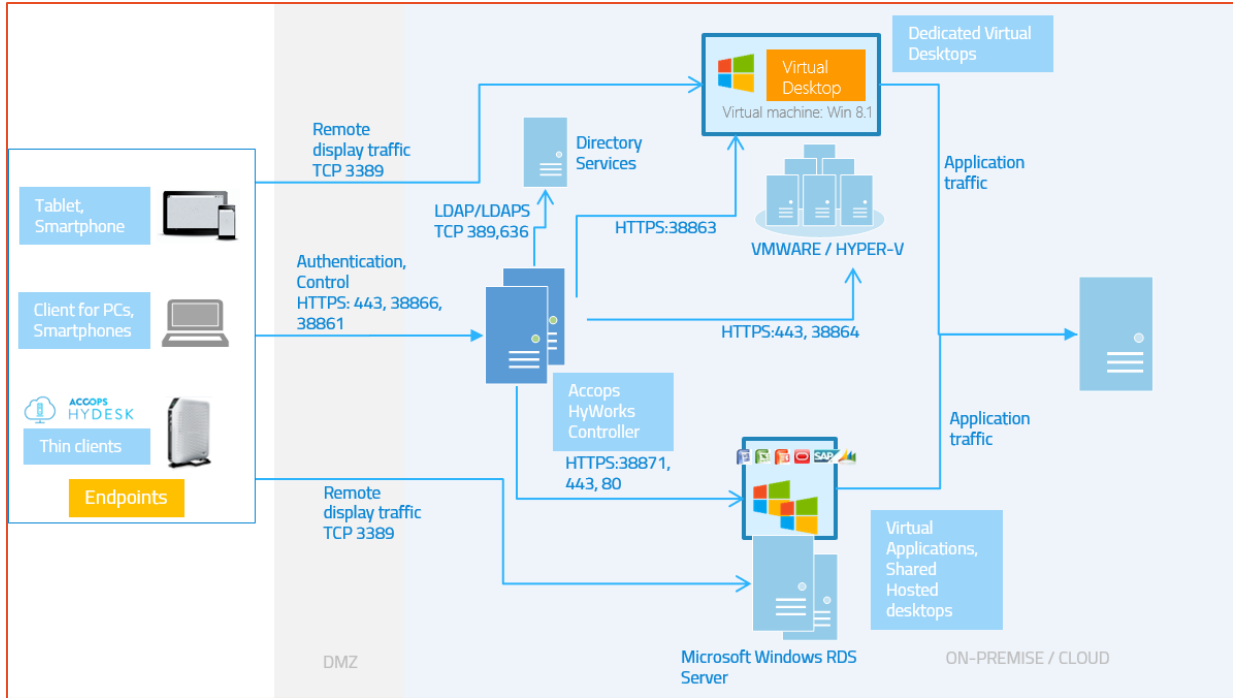
1. HyWorks Controller installed and available in the LAN and no firewall or third-party software blocking HyWorks Controller
2. HyDesk or HyWorks Clients are installed up and running in the same network and able to connect HyWorks Controller using either of the following settings
 - a. Detect HyWorks Controller Automatically
 - b. Connect to a local HyWorks Controller
3. Dedicated Desktops:
 - a. Session Providers (e.g. VMware vCenter Server or Microsoft SCVMM Server) and authentication servers e.g. Microsoft Active Directory are available in the same network, HyWorks Controller has direct access to providers
 - b. DVMs running on Session Providers are directly reachable to HyDesk/ HyWorks Client devices
4. Shared Hosted or Desktops:
 - a. Accops HyWorks Session Host server is installed on Microsoft RDS server and it configured in HyWorks
 - b. HyWorks Session Host server is directly accessible from HyWorks/ HyDesk client.

Refer deployment image shown below.

It shows that the device should be able to talk to the Accops HyWorks Controller on port 38866 and to virtual machine on TCP port 3389

Note:

The LAN environment is highly encouraged for better performance in remote sessions.



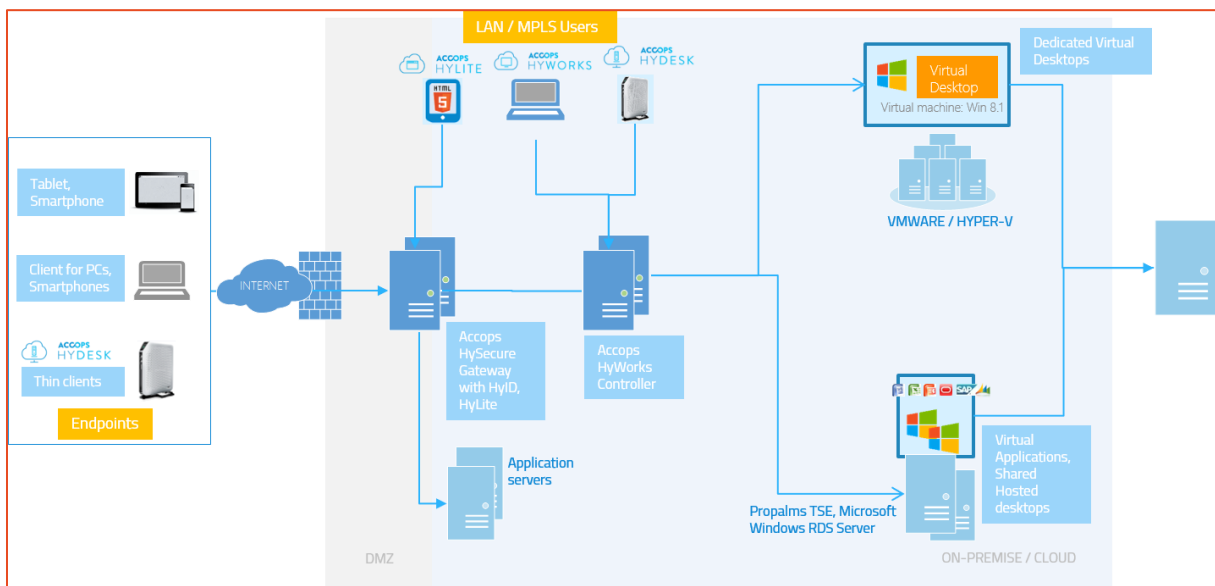
HyWorks Deployment in WAN Environment

To access applications, shared hosted desktops or dedicated desktops over WAN it is recommended to have HyWorks and HySecure deployed together and integrated.

In usage situations like access over Internet, the user may not have direct access to Accops HyWorks Controller, Session host, dedicated session providers or DVMs, HyWorks can be deployed in integrated with HySecure.

The feature enables the device to connect to the VM through Accops HySecure Gateway.

Refer deployment image shown below.



Highlights of the WAN configuration will be:

1. Devices (over the internet) can directly access Accops HySecure Gateway using Public IP
2. HySecure Gateway is correctly configured to have applications as
 - a. HyWorks Controller (Port:38866)
 - b. HyWorks Application Servers (3389) for applications and shared desktop access
3. HyWorks Controller is having all the configurations setup correctly i.e. Session host Servers, Authentication servers, Session Teams, Applications, Desktop Pools, assignments etc.

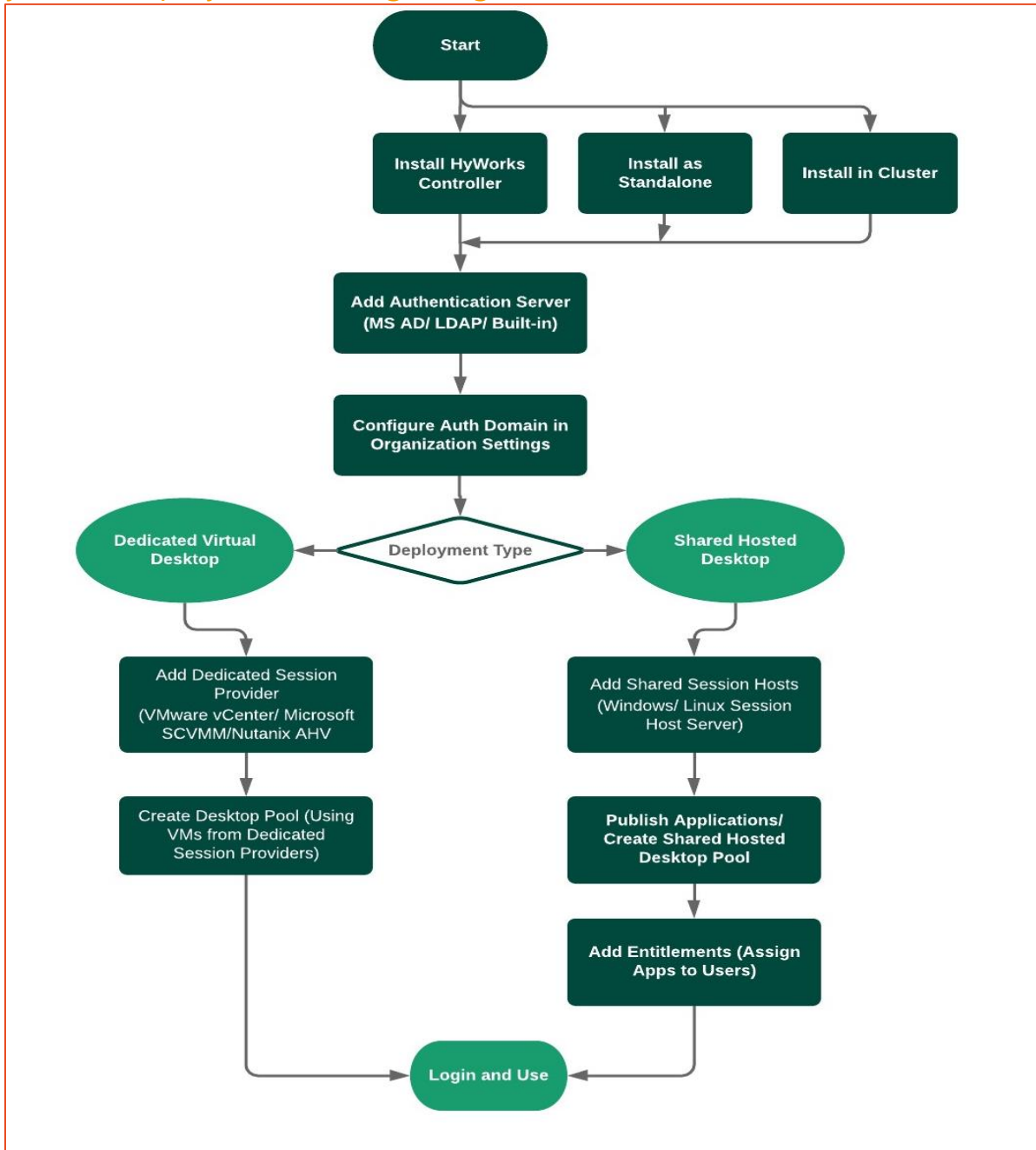
HyWorks Quick Configuration Steps

If the Organization hierarchy is flat and does not require the resources to be separated, single organization structure is very easy. This section provides details for quickly configuring the HyWorks in such environment.

Multi organization deployment is explained later in this document.

Plan well before starting the deployment, makes it very clear and helps the teams to understand the requirements and solutions.

HyWorks Deployment in Single Organization



Coming sections in this document will explain each of these steps briefly, so that administrators can easily deploy HyWorks in their organization.

Later in this document, some example configurations will be explained to help in understanding the deployment processes.

Step#1: Install HyWorks controller Service and Management Console

The first step is to install HyWorks Controller, as specified in above section.

HyWorks Controller and Management Console installation is very easy and can be done by simply following the installation wizard.

HyWorks Controller Installation can be done in following ways:

1. HyWorks without HA
 - a. In this case, HyWorks Controller should be installed with SQL Servers but with no additional configurations
2. HyWorks Controller in HA
 - a. For HyWorks Controller clustering, Controllers must be installed with SQL Server and with some additional prerequisites
 - b. Configure HyWorks Controller Cluster to support High Availability

Please refer **HyWorks v3.2 Installation Guide** for detailed information on HyWorks Installation.

Step#2 Adding Authentication Server and Authentication Domain Configuration

Next step could be adding the authentication server and configuring the authentication domain to specify Authorization and authentication servers.

Following types of authentication servers can be configured with HyWorks 3.0

- Microsoft Active Directory
- Novell Directory/Open LDAP
- Built-in (by default available)

Configure Authentication Server: follow the below steps:

1. Go to Configuration -> Server -> Authentication Section: Click on **Add** button
2. In Authentication Server widow
 - a. Select Appropriate Server Type e.g. Microsoft Active Directory, Novell Directory/Open LDAP
 - b. Provide appropriate Server address e.g. 192.168.1.1 or Accops.com
 - c. Provide Base DN information (Mandatory for Novell Directory/ Open LDAP, optional for Microsoft AD and not required for Workgroup)
 - d. Provide administrator credentials with rights to read and write access to user account managements
3. Click on Test Connection button
4. Once the successful connection message appears, click on Add button
5. Authentication Server is configured now

Note: For External Desktop Brokers (TSE or Pano Controller), Authentication server configuration is not needed as the user authentication and authorization management is done by them

Configure Authentication Domain: HyWorks v3.2 requires the authentication domain to be configured from Organization wizard.

Authentication domain defines the server to be used for authentication, server to be used for authorization, domain name to be used for connections etc.

To configure Authentication domain, follow the below steps:

1. Go to Configuration -> Workspace -> Organizations
2. Select the **Default** organization and click on **Edit** button
3. In **Update Organization**, wizard go to Authentication Domain section and specify
 - a. Authentication Server: Authentication during user logon will be done with this server
 - b. Authorization Server: All assignments and entitlements will be done from this server
 - c. Domain Name to be fetched from
 - d. If using Authorization server as Built-in, then it can provide some more options as
 - i. **Synchronization Type:** Keep as none, to synchronize manually or set as On Login to create/ update users on login
 - ii. **Use Built-in Credentials:** Select this option to make HyWorks connect using built-in credentials, if unchecked then connection will be made using logged-in user credentials
4. Once all configurations of Authentication domain are completed, go to the **Desktop Client Settings** tab and click on **Save** button
5. Authentication domain is now configured.

Step#3: Choose Deployment Type and Identify Required Resources

Once HyWorks Controller is installed and ready, it is must to understand the requirements and deployment type.

Dedicated VDI: Dedicated VDI will require either of following session providers to be available

- i. VMware ESXi/ vCenter Server
- ii. Microsoft Hyper-V/ SCVMM server
- iii. Nutanix AHV Server

Shared VDI/ Application Delivery: Shared VDI or application delivery will require, Windows Server 2008R2 or later to be installed with Accops HyWorks Session Host Server role

For installation process of Accops HyWorks Session Host, please refer HyWorks v3.0 Installation Guide.

Step#4.1: Resource Configurations in Shared VDI

HyWorks supports delivery of applications and shared hosted desktops from following platforms:

- Microsoft Windows Servers (2008R2-SP1, 2012R2, 2016), installed with Accops Session Host Server modules
- Linux SHD Server (Accops provided Ubuntu 16.04.3 Image with required packages)

Add Session Providers

1. Go to Configuration -> Server -> Session Provider Section: Click on Add button
2. In Add Session Provider wizard,
 - a. Select **Category** as Shared Session Host, **Type** as Microsoft RDS server

- b. Provide appropriate **Name** for session provider, enter IP or Hostname of the RDS server in **Host Address** field
 - Note: The Windows RDS server must be installed with Accops HyWorks Session Host Server role.**
 - c. Select **Session Team** (Session Teams can be created to have load balancing among the session host servers, by default there is always one session team in configuration, which cannot be deleted)
 - i. Linux SHD Servers should be added in Linux Session teams and Windows SHD Servers should be configured in Windows Session teams respectively
 - d. Click on **Add** button to configure
3. Session Host server is now configured and is ready for shared hosted desktop or application deliveries

Configuring Shared Hosted Desktop Pools or Publishing Applications

Until now the deployment has following configurations:

1. Authentication Domain is configured with appropriate authentication servers
2. Appropriate Shared Session Host Server is now added to server shared hosted desktops and applications to end users.

Creating Shared Hosted Desktop Pool

This section now will describe the process to create shared hosted desktop pool in brief:

1. Go to Configuration -> Workspace -> Desktop Pools section
2. Click on **Add** button -> In Add Desktop Pool wizard,
 - a. Provide logical name and description for desktop pool
 - b. Select **Entitlement Type** as Device based if it needs HyDesk devices to be assigned with Shared Hosted Desktop or Select as User based if assignments should be given to be users/groups/OUs
 - c. Select **Desktop Virtualization** Type as Shared Virtual Desktop
 - d. Select the **Server Team** as the session team in which target session host server is added
 - e. **Connection Profile** – Select any connection profile to be given to this desktop pool or leave as None
 - f. **Active** checkbox should be shown as selected
 - g. Click on **Next** button to proceed
 - h. On next page, add clients (users/groups or devices) as per selected Entitlement Type in first tab
 - i. Click on **Finish** button to save the desktop pool
3. Administrator will be navigated back to the Desktop Pools screen, showing the recently added desktop pool.

Publishing Applications and Making Entitlements

This section provides information on step by step guide to publish applications and then making the entitlements:

1. Go to Configuration -> Workspace -> Applications section
2. Click on **Add '+'** button to invoke the **Add Application** wizard
3. In **Add Application** Wizard,
 - a. In **Application Information** tab:
 - i. Select **Session Team** using dropdown in **Browse Application Details** section
 - ii. Select RDS Server from next dropdown screen
 - iii. Click on Browse button

 - iv. Click on **Browse** button to open **File System** dialog
 - v. In **File System** dialog, click on the drive to navigate to application path
 - vi. Navigate to the folder where application exe can be found and select the application.exe
 1. It will automatically fetch the icon and will show success message in the same dialog
 - vii. Click on **Get Details** button to go back to **Add Application** wizard
 - viii. **Application Path** and **Application Internal Name** will get filled automatically
 - ix. Provide appropriate entry for **Application Display Name**
 - b. Click on **Next** button to proceed to **Additional Settings** tab
 - i. In **Additional Settings** tab, do not change any configurations except the following
 1. In **Access Settings** section, select **Create Desktop Shortcut** option
 - ii. Click on **Next** button to proceed
 - c. In **Select Server** tab, select the displayed RDS server
 - i. Click on **Next** button to proceed
 - ii. In **Entitlements** tab,
 1. Click on **Add** button to add users or groups or OUs from here
 2. Or do not configure entitlements from this screen and click on **Save** button
 - iii. Application will be added and now will be listed in the **Applications** section

Configuring Entitlements

Once applications are published, entitlements can be done very easily from Entitlements section in Workspace.

For configuring entitlements, follow the below steps:

1. Go to Configuration -> Workspace -> Entitlements section
2. In **Entitlements** section,
 - a. Click on **User** to view/add/update entitlements of Users
 - b. Click on **Groups** to view/add/update entitlements of Groups

- c. Click on **OUs** to view/add/update entitlements of OUs
 - d. Click on **Pools** to view/add/update entitlements of Pools (Available with User based pools only)
3. To add new entitlements e.g. Users Entitlements, Click on **Add Entitlement** button
4. In Add Entitlements wizard,
 - a. Click on **Add Users** button, search and select required users (The users will be searched from configured authorization server)
 - b. Click on **Next** button to proceed to **Applications** tab, in **Applications** tab, select the applications to be assigned to selected users
 - c. Click on **Next** button to proceed to **Connection Profiles** page, in **Connection Profiles** page, select the connection profile to be assigned to users (select none if no user specific connection profile should be assigned)
 - d. Click on **Save** button to save the entitlements
5. All selected Users will now be shown in the Entitlements -> Users section with respective count of applications.

Use the above specified process to configure Group/ OU/ Pool based entitlements.

After this step, users are now ready for login and on logon will be displayed with respective apps and shared hosted desktops.

Step#4.2: Resource Configurations in Dedicated VDI

For dedicated VDI, VMware (ESXi or vCenter Servers), Microsoft (Hyper-V or SCVMM) or Nutanix AHV can be added as Dedicated Session Providers. To add them as Session Provider, follow the below steps

Add Session Providers

1. Go to Configuration -> Server -> Session Provider Section: Click on Add button
2. In Add Session Provider wizard,
 - a. Select **Category** as Dedicated Session Provider
 - b. Select **Type** as Microsoft Hyper-V/ SCVMM or VMware/ vCenter
 - c. Provide appropriate **Name** for session provider, enter IP or Hostname of the session provider server in **Host Address** field
 - d. For VMware/ vCenter Server type, it will require username and password -> Provide appropriate entries for them as well.
 - e. Click on **Add** button to configure
3. Session provider is now configured and is ready for dedicated desktop deliveries

Note: To enable Microsoft Hyper-V or SCVMM server as Session Provider, additional HyWorks module Accops HyWorks Hyper-V Connector must be installed and running on Hyper-V or SCVMM servers.

Optionally if needed, administrators can also add External Desktop providers of type Propalms TSE or Pano Controller also.

Configuring Desktop Pools and Assignments

Follow the below steps to get the desktops from Session Providers and assign them to desired users, groups or devices (HyDesk)

1. Go to Configuration -> Workspace -> Desktop Pools section
2. Click on **Add** button
3. In Add Desktop Pool wizard, in **General** section
 - a. Provide logical name and description for desktop pool
 - b. Select **Entitlement Type** as Device based if it needs HyDesk devices to be assigned with Shared Hosted Desktop or Select as User based if assignments should be given to be users/groups/OUs
 - c. Select **Desktop Pool** Type as
 - i. Persistent Virtual Desktop: For persistent disk virtual desktops (User changes will be retained post logout)
 - ii. Non-persistent Virtual Desktop: Desktop VM disks will be reverred to fresh state after user logs out the session
 - d. **Select Session Provider** of category Dedicated Session provider in above section, which can be either VMware ESXi/ vCenter Server, Microsoft Hyper-V or SCVMM server or Nutanix AHV Server
 - e. **Desktop Provisioning** as **None** (if existing VMs from Session providers to be used) and select **Dynamic** (if new VMs to be provisioned on the Session provider). Selecting DVM Provisioning as Dynamic will enable the **Deployment** and **Customization** tabs and will require appropriate inputs from administrator.
 - f. **Assignment Life Span** as **Personal** (Assignments will be saved, and the same desktop will be provided to the client on next logon) or select **Floating** (If it's needed to create non-persistent assignments which will get removed after the user has logged out)
 - i. **Floating Type** desktops can have assignment logic as On Login (Assignment will happen on Login) or On Connect (Assignment will happen on connect request) – The configuration is available in Desktop Pool wizard – Advanced Configurations
4. Once all general configurations are done, move to the next screen by clicking on **Next** button
5. For Provisioning Type as
 - a. **None:** In **Desktops** tab, click on **Add Desktops** button to view and add the desktops -> Click on **Next** button to proceed
 - b. **Dynamic:**
 - i. Deployment tab will be shown, which can be used to configure new VMs deployment (Linked or Full clone) using source image
 - ii. Customization tab will be enabled for customizing the cloned desktops as needed
6. In **Devices/ Users** screen, add appropriate Users/ Devices as per Entitlement Type selected in General screen -> Click on **Next** button to proceed

7. In **Assignment** tab, configure the assignments for the desktops (automatic or manual configurations are possible)
8. Configure **Advance Settings** as per requirement and click on **Next** button to go to Summary page
9. Click on **Finish** button -> Desktop pool will be created, and user will be navigated to Desktop Pools screen displaying recently added pool

Note:

- All the DVMs (except RDS type Session provider) should have HyWorks Tools installed to configure remote desktop services and power policies.
- In case of Dynamic provisioning the source DVM must have the latest HyWorks Tools installed so that all new cloned DVMs will also have the HyWorksTools pre-installed.

Change Assignments from Desktops VMs Page

Once the desktop pool is added, all configured desktops can be managed from **Monitoring** -> **Desktop VMs** screen

The section **Desktop VMs** can be used for assignment changes, power operations or removing the VM from the desktop pool.

Different Types of Desktops Pools based on requirements

Entitlement Type

- User based: If desktop VMs should be associated with users
- Device based: If desktop VMs should be associated with registered devices; binding desktop VMs with specific devices

<https://docs.microsoft.com/en-us/dotnet/framework/get-started/system-requirements>

Provisioning Type

- None: Using existing desktops from dedicated session provider
- Dynamic: Deploying new desktop VMs on dedicated session providers, which can be further based on cloning type as
 - Linked Clone
 - Full Clone

Disk Persistence Type

- Persistent: Disk will not be reverted, and user changes will remain on the desktops
- Non-persistent: Disk will be reverted to fresh state post logout

Assignment Life Span

- Personal Desktops: Client assign will be retained until changed and the same desktop will be delivered to the client on every logon
- Floating Desktops: Desktop assignment will be erased once the user session is completed

- Assignment Logic can be on-login or on-connect

User Logon for Verification

Once all above configurations are done, the last step is to login from Client or User Workspace portal and verify if all configurations are working correctly. Follow the steps specified below:

1. Download latest HyWorks Client from Accops Official Website
<http://accops.com/Productrelease.html> -> Download Client screen
2. Installation of HyWorks Client on Windows desktops is simple and require few inputs, configure them as per the requirement
 - a. Client Mode: Desktop Client
 - b. Component Selection: Select appropriate USB Redirection Driver as per need
3. Launch HyWorks Client and connect to HyWorks Controller/ HySecure Server using IP or Hostname
4. On successful registration, **Controller** icon on HyWorks Client **Login** screen will become green and **Sign In** button will be enabled
5. Provide appropriate Username and Password to login and click on **Sign In** button
6. User will be navigated to Application Tray, having 3 tabs: Favorites, All Applications and Desktops -> All applications and desktops assigned to user will be displayed in respective tabs
7. Click on any application or desktop to access
8. User will be logged in as per the configurations.

Similar verifications can be done using user logon and application access from User Workspace Portal or HyLite portals.

HyWorks Deployment with Multi-Organization Structure

HyWorks v3.0 supports multiple sub-organization creation, to have logical separation of resources. In this section, we will try to understand the multi-organization support and configuration process.

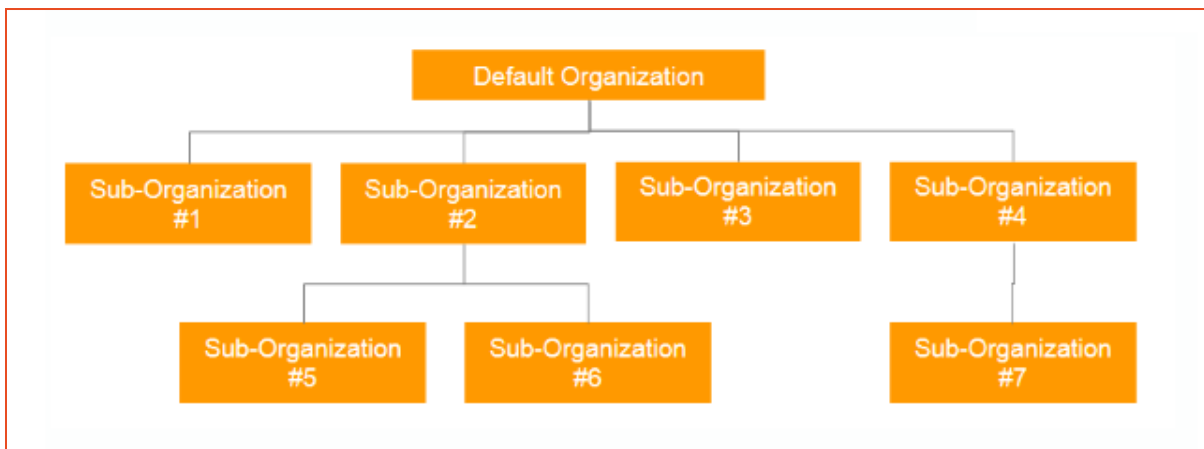
Organization in HyWorks

An organization is a logical representation of the resources managed by HyWorks.

If the organization structure is flat and does not require any further logical division then resources can be configured in one default organization only i.e. configure Session host servers, authentication servers etc.

However, if the organization structure has multiple segments and each segment should use different resources then, administrator can create multiple organizations and configure with different resources.

An example of organization structure is:



Quick Configuration Steps for Multi-Organization Structure

Working with multi-organization structure is almost same as working with single organization structure, it's just all the configurations need to be done all the organizations.

Another very important aspect of multi-organization structure is, administrator must be able to identify the correct way to distribute the resources.

HyWorks Organization structure follows some basic rules:

1. Only parent organization resources can be shared with child organizations
2. Child organizations cannot share resources with sibling organizations or parents
3. Some configurations are global configurations and are either available to super-administrator or at the default organization level
4. Few resources cannot be shared e.g. Connection Profiles, Session Teams, Shared Hosted Session Host etc.
5. Few resources are sharable e.g. Authentication servers, Authentication Domains, Session Providers (Dedicated and External), Organization- Realm Settings etc.

Based on above few ground rules, organizational structure can be planned and deployed. E.g.

- a. In a deployment where the single authentication server is there but the application servers are in workgroup and not part of domain, a structure can be followed where

authentication server will be configured at root level and will be shared with all child organizations and while configure child organizations, every child organization can choose authentication server the one being shared from parent and authorization server as Built-in for workgroup environment.

- b. In another deployment where only one vCenter server is available as session provider, it can be configured at root level and then child organizations can simply use this shared session provider and consume its desktop VMs as needed.
- c. In a deployment, where no sharing is expected, and they can use their own authentication server, nothing should be configured and shared from parent, instead each child organization can define resources at its level and consume their only.

For deployment in multi-organization structure can follow the below high-level steps:

1. [Install HyWorks Controller](#)
2. [Configure Resources at default organization level](#)
 - a. These resources can be then shared with child resources
 - b. To use resources at default level only
3. [Create Child Organization](#)
4. [Configure Child Organization Resources](#)
5. Login and Verify

Install HyWorks Controller

HyWorks Controller installation process is exactly same as installation process for single organization as specified in section: [Step#1: Install HyWorks controller Service and Management Console](#)

Configure Resources at Default Organization Level

Resource configuration process at default organization is already specified in previous section of this document:

- [Step#2 Adding Authentication Server and Authentication Domain Configuration](#)
- [Step#4.1: Resource Configurations in Shared VDI](#)
- [Step#4.2: Resource Configurations in Dedicated VDI](#)

The one very important aspect of resource configurations at default organization level is to share the resources with all organizations. Some very common resources could be:

1. Dedicated Session Providers e.g. VMware/ vCenter Server or Microsoft Hyper-V/ SCVMM server
2. Authentication Servers and Authentication Domains
3. Realm Settings

The more information on sharable resources is provided in HyWorks v3.0 Admin Guide.

Once the resources are configured at the default level. The next step is to create the child organization.

Create Child Organization

1. Login as default super-administrator into HyWorks Controller Management Console
2. Go to Configuration – Workspace – Organizations

3. Select **Default** Organization and click on **Add** button
4. In Add Organization wizard
 - a. In Organization Details tab
 - i. Provide logical short name and code for organization e.g. childorg1
 - ii. Select **Inherit Resources** if the parent organization's resources should be shared with this child organization
 - iii. Select **Active** to mark organization as active
 - iv. Select **Create Realm** to define realm settings specific to this organization (Keep it unchecked to use parent's realms settings; If Create Realm is unchecked all realm settings will be hidden)
 - v. Select option **Create Auth Domain** to specify Auth Domain settings for this organization. (If **Create Auth Domain** is unchecked, the tab for Authentication domain will not be displayed, and authentication domain of parent or default organization will be used)
 1. If Create Auth Domain is checked, Authentication Domain tab will be enabled and will require appropriate configurations for the child organization. If Inherit Resources option is checked, then administrator will also be able to see and view the authentication servers added in default organization.
5. Save the Organization details.
6. Organization is created and now available under the default node.

Move to Child Organization and Configure Resources at Child Organization

Once the child organization is created successfully, use the below steps to move to the child organization and configure resources specific to this organization.

Move to the Child Organization: Before configuring the resources, it is required to move to the intended child organization level as all resources are always configured at selected organization level only. Follow the below steps:

1. Login as default super-administrator into HyWorks Controller Management Console
2. At the top right corner, the Organization Selection dropdown labelled as **Current Organization** is available -> Select the child organization, you wish to navigate into.
3. Click on **Select Organization** button
4. Administrator will now be moved to child organization.

Now all resources being configured will be available at this child level.

Resource Configurations in Child Organization

Resource configurations in child organization is exactly same as configuring resources at default level. More information is available in the following section of this documents:

- [Step#2 Adding Authentication Server and Authentication Domain Configuration](#)
- [Step#4.1: Resource Configurations in Shared VDI](#)
- [Step#4.2: Resource Configurations in Dedicated VDI](#)

Addition to above, child organizations inheriting resources from parent can also use shared resources such as Applications for adding subtitles to those applications, Dedicated Session Providers to create Desktop Pools, authentication servers from parent to configure Authentication domains etc.

User Logon for Verification

Once all above configurations are done, the last step is to login from Client or User Workspace portal and verify if all configurations are working correctly. Follow the steps specified below:

1. Download latest HyWorks Client from Accops Official Website
<http://accops.com/Productrelease.html> -> Download Client screen
2. Installation of HyWorks Client on Windows desktops is simple and require few inputs, configure them as per the requirement
 - a. Client Mode: Desktop Client
 - b. Component Selection: Select appropriate USB Redirection Driver as per need
3. Launch HyWorks Client and connect to HyWorks Controller using IP or Hostname
4. On successful registration, user will be navigated to **Organization** selection screen as the controller is now having multiple organization
5. On selection of desired organization, user will be navigated to the **Login** screen, **Sign In** button will be enabled
6. Provide appropriate Username and Password to login and click on **Sign In** button
7. User will be navigated to Application Tray, having 3 tabs: **Favorites**, **All Applications** and **Desktops** -> All applications and desktops assigned to user will be displayed in respective tabs
8. Click on any application or desktop to access
9. User will be logged in as per the configurations.

Similar verifications can be done using user logon and application access from User Workspace Portal or HyLite portals.

Administrator can follow similar steps to configure more child organizations. The multi-organization configuration is now completed.

Assumptions

Following assumptions are made while creating this document:

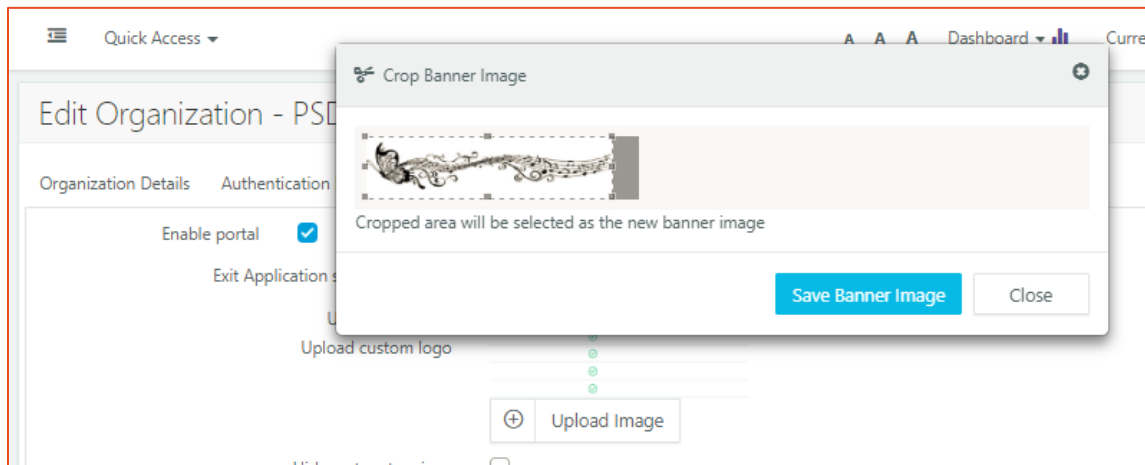
1. Session Providers which can be VMware ESXi, VMware vCenter Server, Microsoft Hyper-V or SCVMM, HyWorks Session Host Server on Microsoft Windows server, Pano Controller or TSE are already installed and ready.
2. HyWorksTools (HyWorks DVM agent) is already installed on the target Desktop VMs or the remote desktop settings are pre-configured on the target Desktop VMs (To get a successful uninterrupted remote session)
3. Devices can connect to HyWorks Controller and target DVM
4. Refer document '**Readying VM for Deployment in HyWorks**' for detailed instructions on readying the virtual machines for deployment in HyWorks Suite

Additional Configurations

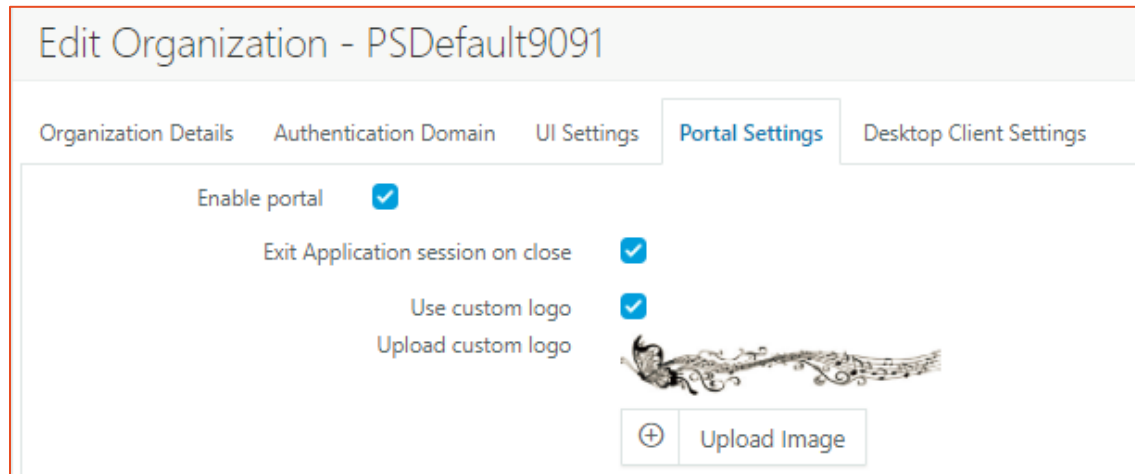
Using Custom Logo on HyWorks Clients

HyWorks clients can be configured to use a custom logo as per organization's requirements. To change the default logo, follow the below steps:

1. Login into HyWorks Management Console with super administrator privileges
2. Go to Workspace – Organization
3. Select the organization and click on **Edit** button
4. In **Edit Organization** wizard, go to **Portal Settings** tab
5. Select checkbox **Use Custom Logo**, it will enable the option **Upload Custom Logo**
6. Click on **Upload Image** button and browse the image (Recommended Size: 200x49)



7. Select appropriate area of image and click on **Save Banner Image** button



8. Finish **Edit Organization** wizard to save the settings
9. Exit the client, if already running and re-launch.

10. New logo should now be used on the next logon.

Provisioned Desktops – Customization Specification

When provisioning new desktops using HyWorks Desktop pools, Customization tab is enabled to customize the cloned image. In the backend, HyWorks uses Microsoft Sysprep utility to customize the windows machines. Following configurations are used in Desktop tools to customize the VM:

1. **Owner Name:** Registered Owner of the Desktop
2. **Organization Name:** Registered Organization name of the Desktop

3. **Computer Name:** Computer name of the Desktop. To keep each Desktop identical HyWorks Controller will append the provided computer name with hyphen and a unique number in format Desktop Name-XXX (Where XXX represents numbering starting from 001). Computer name cannot be more than 9 characters long. (* Mandatory field if customization is enabled)
4. **Local Username:** The new local user to be created on new Desktop. (Optional)

Note:

- If leaving Local Username field blank then, it should be made sure that at least one local admin (other than Administrator) user is already available on gold image, because post Sysprep administrator user gets disabled and could lead to configuration with no local administrator.

5. **Local Password:** Password to be set for new local user (* Mandatory field if local username is provided)
6. **Workgroup/ Domain Configurations:**
 - a. **Join a workgroup** is selected by default and requires entries in Workgroup textbox

- b. Join a Domain:** If new Desktops need to be joined to existing Domain then this option can be selected while enable following fields:
 - i.** Domain Name: e.g. propalmsnetwork.com (* Mandatory if Join a domain combo box is selected)
 - ii.** Username: User with privileges to join a machine to domain e.g. domain admin user (* Mandatory if Join a domain combo box is selected)
 - iii.** Password and Confirm Domain Password: Password for domain admin user (* Mandatory if Join a domain combo box is selected)

Domain Join a domain

Domain Name

Username

Password

Confirm Domain Password

Preferred DNS - Specify preferred DNS entry to be configured post provisioning.

Alternate DNS - Specify alternate DNS entry to be configured post provisioning.

AD Path

Example Path: OU=SpecificOU, DC=example, DC=com

- 7. **DNS Configurations:**
 - a. Preferred DNS:** Preferred DNS to be configured in network settings (Optional)
 - b. Alternate DNS:** Alternate DNS to be configured in network settings (Optional)
- 8. **AD Path:** Full OU path to which this computer should be registered. The provided domain username should have adequate rights to create objects in specified OU. (Optional)
- 9. **Select Locale:** For configuring local language of new Desktop

Select Locale

OS Product Key

Select the locale for the DVM

- Afrikaans (South Africa)
- Amharic (Ethiopia)
- Arabic (U.A.E.)
- Arabic (Bahrain)
- Arabic (Algeria)
- Arabic (Egypt)
- Arabic (Iraq)
- Arabic (Jordan)
- Arabic (Kuwait)
- Arabic (Lebanon)
- Arabic (Libya)
- Arabic (Morocco)

- 10. **OS Product Key:** Provided product key will be applied on new Desktop however if creating multiple Desktops then this should be mass activation key or should be left blank for activating the OS later manually.

Accops HyWorks Quick Configuration Guide

Select Locale	<input type="text" value="English (United States)"/>
OS Product Key	<input type="text"/>
If not specified, Product Key will be asked upon DVM reboots	

References

- HyWorks Documents: Accops HyWorks Admin Guide
- HyWorks Documents: Accops HyWorks Controller Installation Guide

About Accops

Accops Systems Private Limited. under “Accops” brand is a globally leading developer and provider of Enterprise Mobility solutions involving Application and Desktop Virtualization, Secure Remote Access and Privilege Access Management solutions.

Accops’ s software and hardware products enable businesses to efficiently virtualize, secure and deliver business applications, corporate workspace and network services to their employees, partners, vendors, home users and mobile users, enabling instance access from anywhere using any device.



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