SOLUTION GUIDE

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Polycom RealPresence DMA for Microsoft Azure Cloud Environment

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Overview

The Polycom RealPresence Distributed Media Application (DMA) system is a reliable and scalable video collaboration infrastructure solution you can deploy on-premises or in a cloud environment in edge, core, or combination configurations. For details on the configuration options and how to deploy and configure RealPresence DMA in the Azure cloud environment, see the Core and Edge Configuration Options section of the *Polycom RealPresence DMA Administrator Guide*.

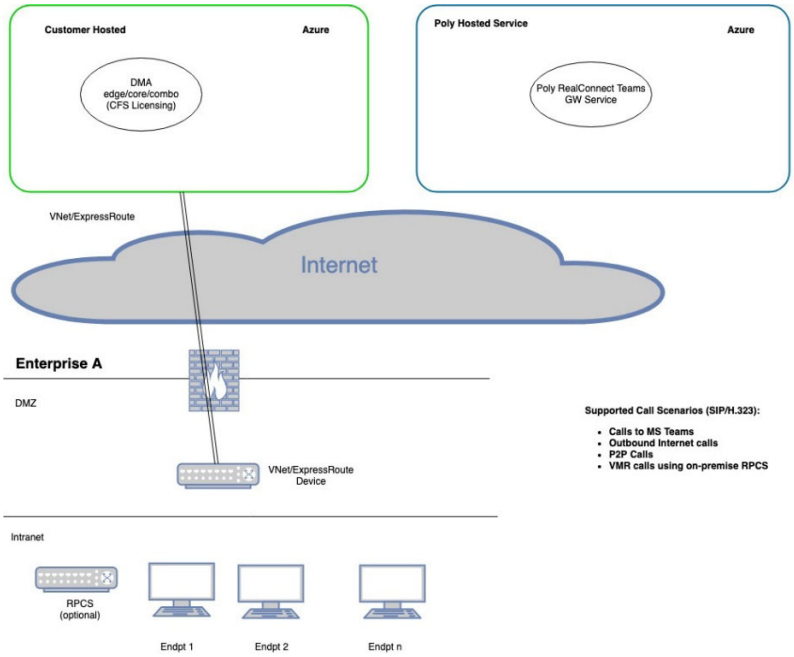
Configurations

The following are the released Microsoft Azure configurations.

RealPresence DMA (CFS Licensing) in Azure with On-premises RPCS (optional) using Azure VNet/ExpressRoute Connection

This configuration includes the following:

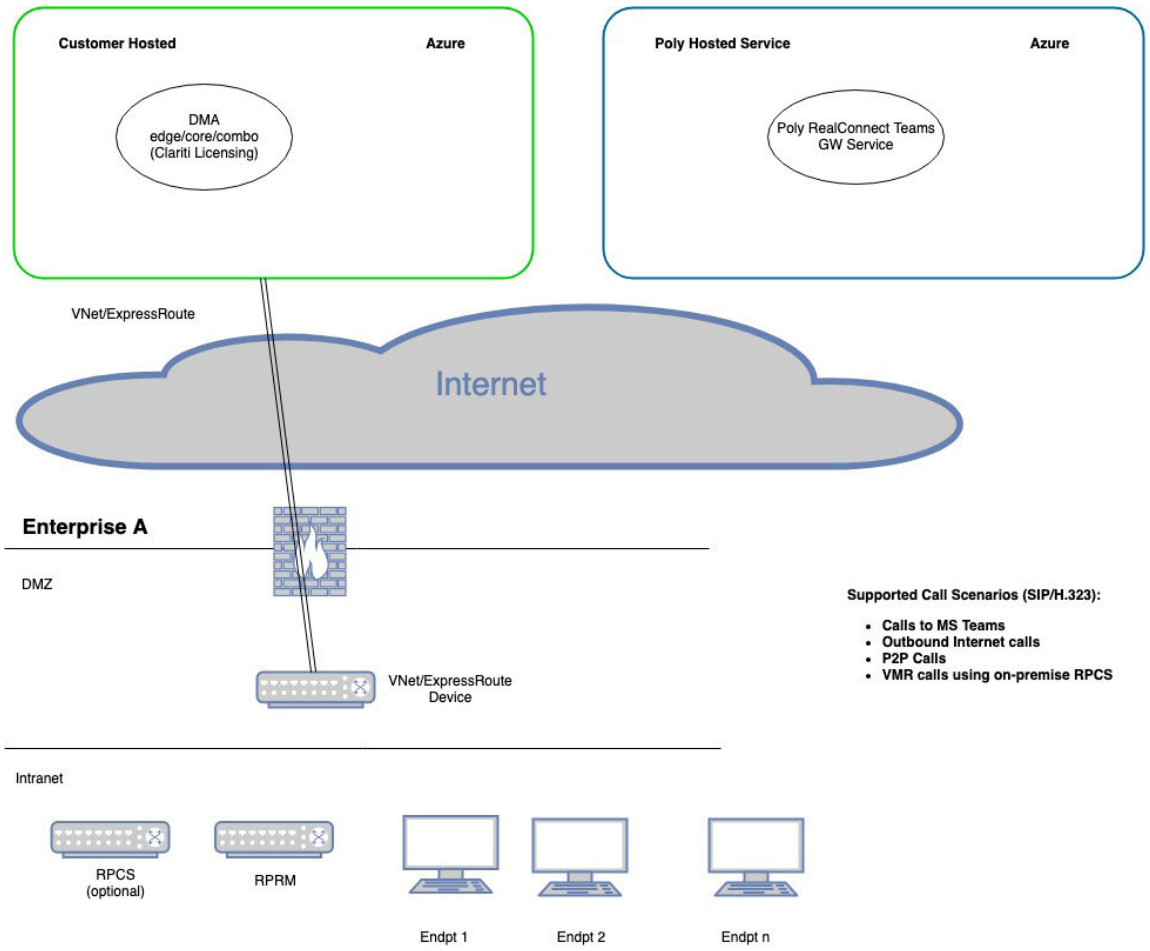
- DMA edge/core/combo is running in Azure using CFS licensing
- There is an enterprise VNet or ExpressRoute connection to the Azure Cloud
- Endpoints in the enterprise are registered to edge/core/combo DMA in the cloud
- Optional on-premises RPCS for VMR calls
- Supported call scenarios (SIP/H.323):
  - Endpoints in the enterprise can dial into a cloud VaaS service like Microsoft Teams using the Polycom RealConnect Teams Gateway service
  - Endpoints in the enterprise can connect point-to-point calls between them
  - Endpoints in the enterprise can connect with any outbound internet dialing
  - Endpoints can connect to VMR calls using on-premise RPCS



RealPresence DMA (Clariti Licensing using On-prem RPRM) in Azure with On-premises RPCS (optional) with Azure VNet/ExpressRoute Connection

This configuration includes the following:

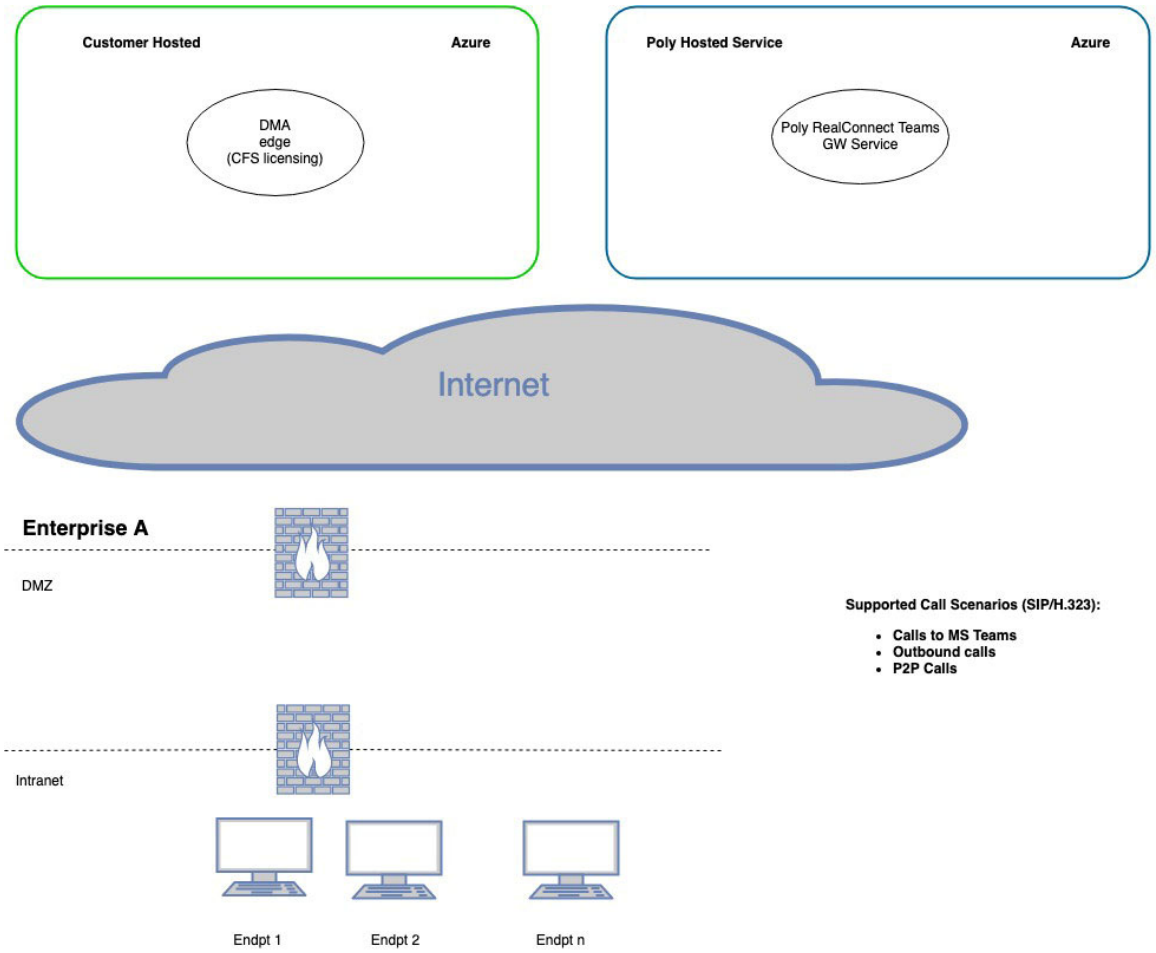
- DMA edge/core/combo is running in Azure using RealPresence Clariti licensing with on-premises RPRM
- There is an enterprise VNet or ExpressRoute connection to the Azure Cloud
- Endpoints in the enterprise are registered to edge/core/combo DMA in the cloud
- On-premise RPRM provides Licensing, Device Management, Site Topology Integration & Scheduling
- Optional on-premise RPCS for VMR calls
- Supported call scenarios (SIP/H.323):
  - Endpoints in the enterprise can dial into a cloud VaaS service like Microsoft Teams using the Polycom RealConnect Teams gateway service
  - Endpoints in the enterprise can connect point-to-point calls between them
  - Endpoints in the enterprise can connect to any outbound internet dialing
  - Endpoints can connect a VMR Calls using on-premise RPCS



RealPresence DMA (CFS Licensing) in Azure with Open Firewall Ports

This configuration includes the following:

- DMA edge is running in Azure using CFS licensing
- There is no on-premise firewall traversal device, but instead all the necessary ports are opened on the enterprise firewalls
- Endpoints in the enterprise are registered to DMA edge in the cloud
- Internet endpoints are registered to DMA edge in the cloud
- Supported call scenarios (SIP/H.323):
  - Endpoints can dial into a cloud VaaS service like Microsoft Teams using the Polycom RealConnect Teams gateway service
  - Endpoints can connect outbound internet dialing
  - Endpoints can connect point-to-point calls between them



Installation Instructions

Azure Image Creation and Use

Prerequisites

The following are the prerequisites for the Azure installation:

- We assume that you are very familiar and trained in Microsoft Azure. For any information about Microsoft Azure refer to Microsoft Azure website
- We assume that any Azure-specific configuration like VPC is already available in your environment

General Steps Overview

1. Obtain the Azure .vhd image file of DMA.
2. Create a storage account in your Azure subscription.
3. In your storage account, add a blob storage container that will be used to hold the .vhd image files in Azure (for example, vm-images).
4. Get the URL for your blob storage container (e.g. https://mystorage.blob.core.windows.net/vm-images).
5. If your image file is compressed (Zip or Gzip) expand to an .vhd file.
6. Upload the .vhd file to your Blob container as a fixed sized .vhd image. To do this you will either:
   a. Need to convert the .vhd to a fixed size .vhd disk file and upload it using Azure CLI, Azure Az, etc. commands (see Hyper-V and/or Azure documentation for details).
   b. Recommended: Use a command like the `Add-AzureRmVhd` to upload and convert the dynamic .vhd to your Blob storage in a single step.
7. Create an install image from the uploaded .vhd file. Once created, this image will be the base image for all your VM instances once you create them.
8. To create the VM instances see Azure documentation for details.
   When you create your instances:
   a. Select the image created in the above steps.
   b. Select the correct size of your VM instance based on your DMA capacity needs. See the **Virtual Machine Size** section below.
   c. The VM instance's security settings must allow the appropriate ports and network-access to your VM from your desired network locations as required by the products and services that are required. DNS and NTP should be properly configured in the Azure environment to ensure proper network communication and discovery of host names. If the RealPresence DMA configuration has a public and private IP assigned by default, go to **Network Settings** > **IPv4 and** add the public IP address to the **NAT** field.

d When you name your instance use an FQDN (fully qualified domain name) format for your name (for example, myinstance.mydomain) instead of a simple name (for example, myinstance). Some Poly products require a FQDN name to operate properly. This can be the same as or in addition to your optional Azure DNS name (see Azure documentation for details).

e The above configuration will deploy the DMA in a single NIC configuration using DHCP. You can deploy a four NIC configuration to segregate WAN side and LAN side traffic, then follow the additional steps mentioned below. Note that static IP addresses will need to be reserved in Azure for a multiple Network interface configuration. DMA does not support DHCP When configuring multiple Network interfaces.

- **i** Shut down the DMA instance before attaching additional Network interfaces.
- **ii** Click on the DMA instance to bring up the detailed view of that instance.
- **iii** Click on the **Networking** tab.
- **iv** Click **Attach Network Interface**.
- **v** Click **Create Network Interface**, assign it a static private IP address on the appropriate subnet and give it the appropriate network security group.
- **vi** Repeat the above steps for adding additional interfaces.
- **vii** Start your DMA instance, and the NICs will show up in the network settings page.

f Once you create the instances, they are autonomous machine instances that operate per normal Polycom product documentation. You can access the RealPresence DMA GUI using the default login (`admin`) and password (`Polycom12#$`). The administrator should change the default password. Refer to the product documentation for guidance on how to configure the product or configure the product using the DMA Deployment Wizard, see *RealPresence DMA Deployment Wizard using the Ease of Deployment* Cloud Service section below. For additional information see the RealPresence DMA documentation available on the support site.

Important Notes

- For a list of ports you must open on your internal and external firewall, see the *Ports Summary* section of the *RealPresence DMA Security and Privacy Guide*.
- While deploying DMA in Azure, a provisioning error message may appear on the console. This message can be ignored, as no functionality is impacted. The system continues in normal state.
- In-place product upgrades are not supported for cloud environments. If you need to upgrade, use your system's backup and restore mechanism to restore the configuration to a new instance.
- Poly recommends that you use (purchase) a public static IP address if you want to have a public IP address. Otherwise, if your public IP address changes, you must update the NAT address configuration on the DMA local interface, which requires a system reboot. This process is not the preferred solution.
- RealPresence DMA does not support a High Availability (HA) configuration for Azure deployments.
- For connecting to DMA via SSH, there default login is `dmaremote` and password is `!/useResponsibly/!` Poly recommends that you change the default password (SSH login as that user and alter the password) and/or the general SSH access to the instance using Azure security configurations.
- RealPresence DMA supports both stand-alone licensing (using a CFS key) and licensing through the Polycom License Center (in configurations where you deploy an on-premises RealPresence Resource3 Manager).

Virtual Machine Size

Small Deployment

Azure Instance Type

VM Size	Offering	Family	VCPUS	RAM (GiB)	Data Disks	Max IOPS	Temporary Storage	Premium Disk Support	Cost/ Month (Est)
A8_v2	Standard	General purpose	8	16	16	16x500	80	No	$297.60

Support DMA Capacities

	Edge DMA	Combo DMA	Core DMA
Concurrent Registrations per cluster	1600	1600	1600
HTTPS tunnel calls (RealPresence Web Suite SIP calls)	200	200	N/A
Number of clusters enabled for conference rooms	N/A	N/A	3
Number of concurrent SIP<->H.323 gateway calls	200	200	200
Number of contacts registered to a Skype for Business server per cluster	N/A	25000	25000
Number of MCUs enabled for conference rooms	N/A	5	5
Number of network usage data points retained per cluster	8,000,000	8,000,000	8,000,000
Number of RealPresence DMA clusters in a supercluster	N/A	N/A	3
	Superclustering not supported		
Number of sites	N/A	100	100
Number of subnets	N/A	1000	1000
Size of Active Directory supported	N/A	1,000,000 users and 1,000,000 groups (You can import up to 10,000 groups)	
Throughput (Mbps)	700	700	N/A
Total concurrent conference room (VMR) calls for a supercluster	N/A	N/A	600
	Superclustering not supported		
Total concurrent conference room (VMR) calls per cluster	200	200	200
Total point-to-point concurrent calls for a supercluster	N/A	N/A	600
	Superclustering not supported		
Total point-to-point concurrent calls for a cluster	200	200	200

Medium-Large Deployment

Azure Instance Type

VM Size	Offering	Family	VCPUS	RAM (GiB)	Data Disks	Max IOPS	Temporary Storage	Premium Disk Support	Cost/ Month (Est)
B16ms	Standard	General purpose	16	64	32	8640	128	Yes	$495.50

Support DMA Capacities

	Edge DMA	Combo DMA	Core DMA
Concurrent Registrations per cluster	5000	5000	1500
HTTPS tunnel calls (RealPresence Web Suite SIP calls)	200	200	N/A
Number of clusters enabled for conference rooms	N/A	N/A	3
Number of concurrent SIP<->H.323 gateway calls	500	500	500
Number of contacts registered to a Skype for Business server per cluster	N/A	25000	25000
Number of MCUs enabled for conference rooms	N/A	64	64
Number of network usage data points retained per cluster	8,000,000	8,000,000	8,000,000
Number of RealPresence DMA clusters in a supercluster	N/A	N/A	10
	Superclustering not supported		
Number of sites	N/A	500	500
Number of subnets	N/A	5000	5000
Size of Active Directory supported	N/A	1,000,000 users and 1,000,000 groups (You can import up to 10,000 groups)	
Throughput (Mbps)	700	700	N/A
Total concurrent conference room (VMR) calls for a supercluster	N/A	N/A	3600 H.323 only 10800 SIP only[1]
	Superclustering not supported		
Total concurrent conference room (VMR) calls per cluster	1000	1000	1200 H.323 only 3600 SIP only
Total point-to-point concurrent calls for a supercluster	N/A	N/A	50000
	Superclustering not supported		
Total point-to-point concurrent calls for a cluster	1000	1000	5000

1 – To support 3600 H.323 or 10800 SIP calls, the supercluster must contain at least three clusters.

RealPresence DMA Deployment Wizard using the Ease of Deployment Cloud Service

The Ease of Deployment cloud service (https://dma-config.plcm.vc/) provides a DMA Deployment wizard that streamlines configuration of a RealPresence DMA edge (or combination server) configured server (DMA 10.x).

The wizard asks questions about your network and unified communications environment, then produces a backup file you can upload onto the edge DMA server. It also produces a .csv file or HTML page that contains a list of IP addresses and ports that you must open on your firewall. After you install DMA in the Azure cloud, you can use this DMA Deployment Wizard to configure your DMA.