



SOLUTION GUIDE

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Polycom RealPresence DMA for Amazon AWS 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 Amazon AWS cloud environment, see the Core and Edge Configuration Options section of the *Polycom RealPresence DMA Administrator Guide*.

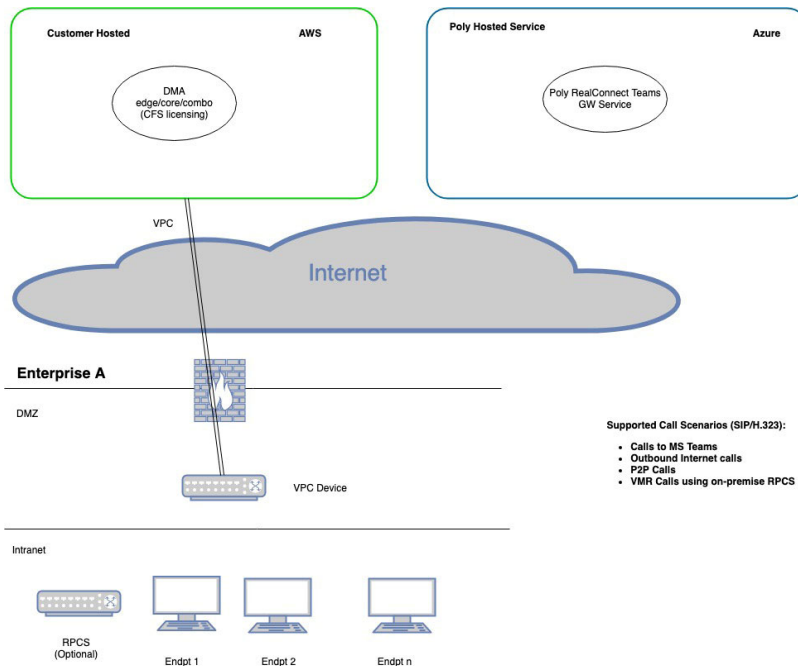
Configurations

The following are the released Amazon AWS configurations.

RealPresence DMA (CFS Licensing) in AWS with On-premises RPCS (optional) using AWS VPC Connection

This configuration includes the following:

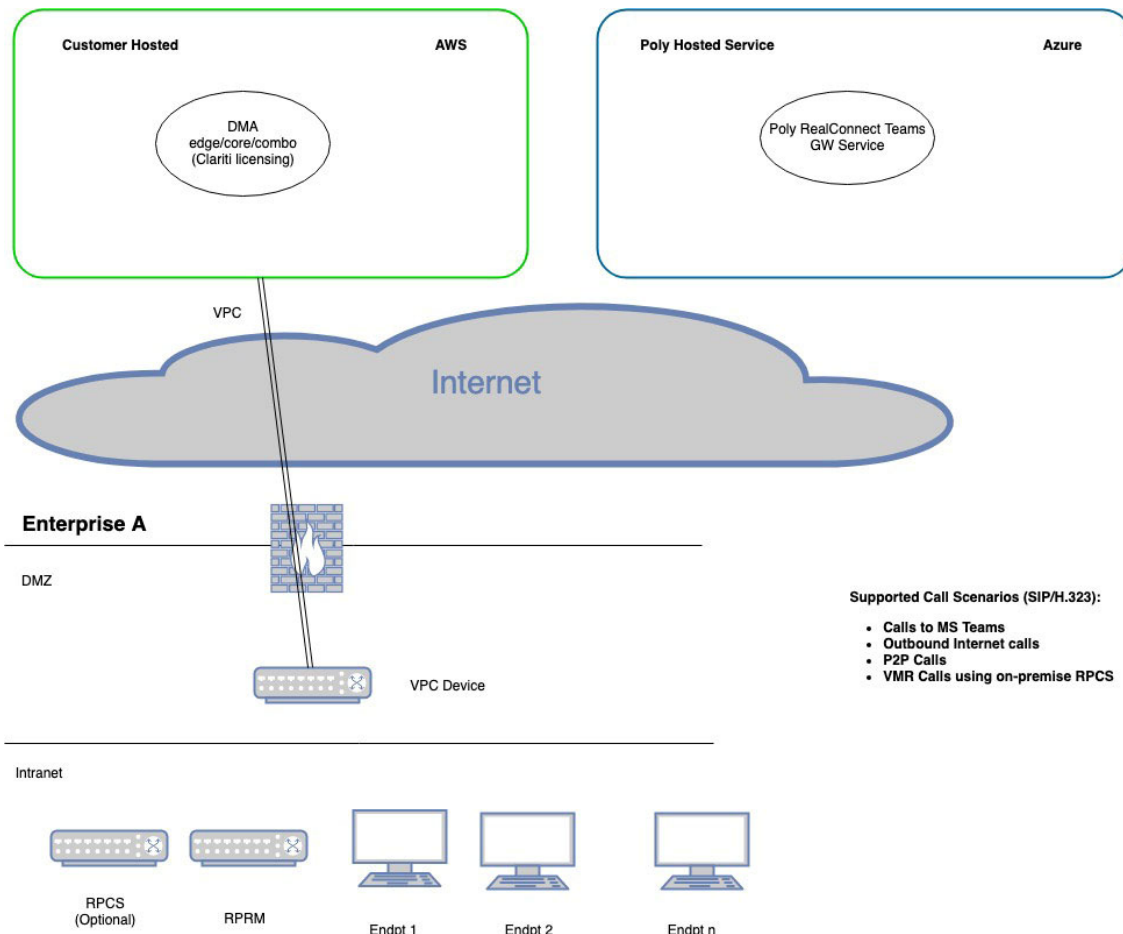
- DMA edge/core/combo is running in AWS using CFS licensing
- There is an enterprise VPC connection to the AWS Cloud
- Endpoints in the enterprise are registered to edge/core/combo DMA in the cloud
- Optional on-premises RPCS for VMR calls
- Supported call scenarios (SIP/H.323):
 - Endpoints in the enterprise can dial in to 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 an on-premises RPCS



RealPresence DMA (RealPresence Clariti Solution Licensing using On-premises RPRM) in AWS with On-premises RPCS (optional) using AWS VPC Connection

This configuration includes the following:

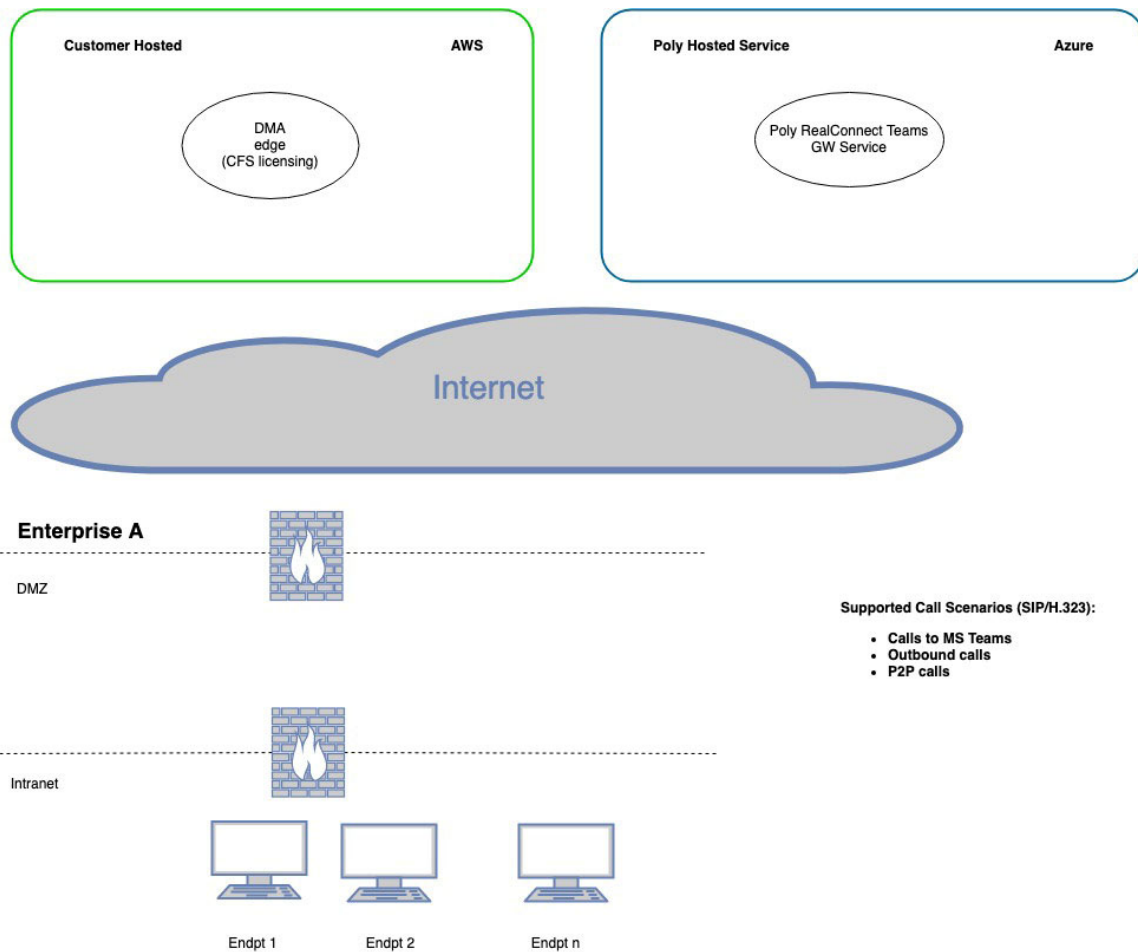
- DMA edge/core/combo is running in AWS using RealPresence Clariti solution licensing with on-premises RPRM
- There is an enterprise VPC connection to the AWS cloud
- Endpoints in the enterprise are registered to edge/core/combo DMA in the cloud
- On-premise RPRM provides Licensing, Device Management, Site Topology Integration & Scheduling
- Optional on-premise RPCS for VMR calls
- Supported call scenarios (SIP/H.323):
 - Endpoints in the enterprise can dial in to 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 an on-premise RPCS



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

This configuration includes the following:

- DMA edge is running in AWS 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 in to 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

AWS Image Creation and Use

Prerequisites

The following are the prerequisites for the Amazon AWS installation:

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

General Steps Overview

- 1 Obtain the AWS-specific VM .ova image of DMA.
- 2 If your image file is compressed (Zip or Gzip) expand it to an .ova file.
- 3 Upload the .ova file to a bucket in your S3 storage (for example, vm-images).
- 4 Convert the .ova in the S3 storage to an AMI using AWS tools.
For example: The `aws ec3 import-image` command will initiate the conversion and eventually place an AMI image in your EC2 service. See: <https://docs.aws.amazon.com/vm-import/latest/userguide/vmimport-image-import.html>.
- 5 To create the VM instances see AWS documentation for details.
When you create your instances:
 - a Launch the AMI 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 AWS 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 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 AWS 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 In AWS, go to **Network & Security > Network Interfaces**. Click **Create Network Interface** and give it the appropriate subnet, IP, and security groups.
 - iii Go to **Instances** and select your DMA instance. Select **Actions > Networking > Attach Network Interface** and select the interface you created to associate it with your instance.

- iv Repeat the previous steps to create and attach additional interfaces.
- v When you are finished creating and attaching the network interfaces, reboot the DMA system to have your network interface display on the GUI and become configurable.
- e 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](#).
- 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 AWS deployments.
- Due to the lack of console access in AWS, a special `ec2-user` has been added in DMA that you use to SSH into the instance. This user is a restricted shell user like the DMA product's `dmaremote` user. The default password for both `ec2-user` and `dmaremote` users is: `!/useResponsibly/!`
The `ec2-user` may not be disabled by the system's normal security settings, as it is the only way to access the instance in the event of a problem. 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 AWS 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

Amazon EC2 Instance Type

| Family | Type | vCPUs | Memory (GiB) | Instance Storage (GB) | EBS-Optimized Available | Network Performance | IPv6 Support |
|-----------------|------------|-------|--------------|-----------------------|-------------------------|---------------------|--------------|
| General purpose | a1.2xlarge | 8 | 16 | EBS only | Yes | Up to 10 gigabits | Yes |

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

Amazon EC2 Instance Type

| Family | Type | vCPUs | Memory (GiB) | Instance Storage (GB) | EBS-Optimized Available | Network Performance | IPv6 Support |
|-----------------|------------|-------|--------------|-----------------------|-------------------------|---------------------|--------------|
| General purpose | a1.4xlarge | 8 | 32 | EBS only | Yes | Up to 10 gigabits | Yes |

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 |
| | Superclustering not supported | | 10800 SIP only ¹ |
| 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 AWS cloud, you can use this DMA Deployment Wizard to configure your DMA.