



vxAG Installation Guide for Huawei Cloud International

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Revision History

Date	Description
October 10, 2016	Initial official version.
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1 Introduction

Array vxAG is a virtual version of the Array AG Series secure access gateway, which offers fast, secure, and scalable remote access to Web and non-Web applications. The vxAG appliance establishes security with AAA and user policies, provides access methods for Web, mail, file and native application servers, and assures scalability with the virtual site and HA technology.

Array now provides support for deploying the vxAG as ECS (virtual machine) on the Huawei Cloud computing platform. Array vxAG image is available in the Huawei Marketplace. With this support, Huawei Cloud customers can leverage Array vxAG SSL VPN and other valuable features to better meet their business needs.

1.1 How Array vxAG Works on Huawei Cloud

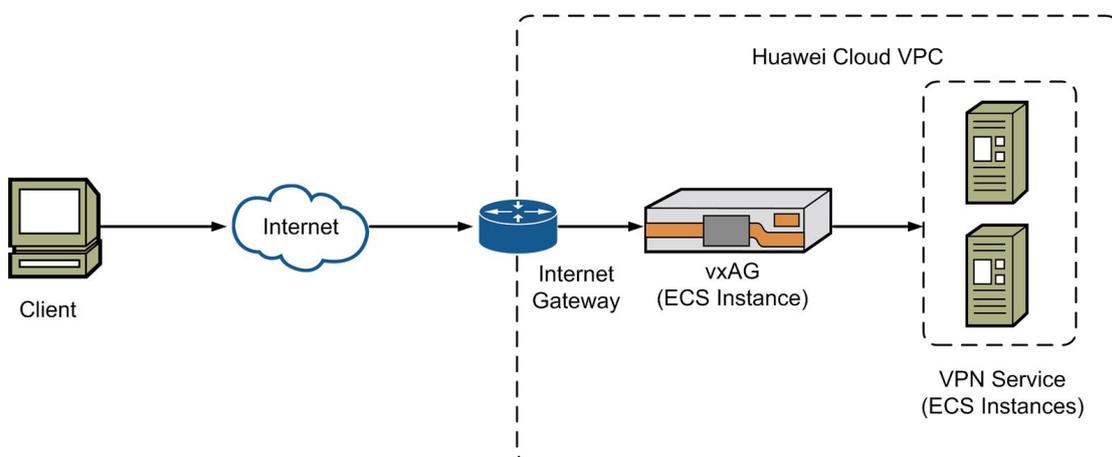
Huawei Cloud provides various services like Virtual Private Cloud (VPC), Elastic Cloud Server (ECS), Elastic Volume Service (EVS) and so on.

Huawei Cloud VPC provisions a logically isolated, configurable, and manageable virtual network where you can create multiple subnets to define the services like VPN, ECS and so on. Huawei Cloud VPC simplifies the network management process, and also provides access rules to enhance the security for the services deployed within the virtual network.

Huawei Cloud ECS is a computing server that consists of CPUs, memory, images, and disks and that allows on-demand allocation and elastic scaling. An ECS integrates VPC, virtual firewalls, and multi-data-copy capabilities to build up an efficient, reliable, and secure computing environment.

An EIP is a static, public IP address, which enables the communication between the VPC and the Internet. During the deployment of vxAG ECS, you should bind the vxAG ECS to an EIP.

In deployment, Array vxAG and application servers are launched as ECS within the Huawei Cloud VPC, as shown in the following figure.



1.2 Supported ECS Types

Huawei Cloud provides multiple ECS types, which are different in number of vCPUs, Memory size, Network Bandwidth and other capacities.

The minimum requirement for vxAG on Huawei Cloud is 2 vCPUs, 4GB memory and 40GB disk. And the maximum memory size supported by vxAG is 16GB. Currently, the following ECS types are recommended:

Table 1–1 Recommended ECS Types for vxAG

ECS Type	Type Specification	Purpose
General-purpose	s3.large.2~s3.2xlarge.2	Provides general computing, storage, and network configurations for the majority of application scenarios, such as web servers, enterprise R&D and testing, and small-scale databases.
Memory-optimized	m2.large.8, m3.large.8	Provides a high memory-to-vCPU ratio, used when applications require large memory and process large volumes of data, such as relational databases and NoSQL.

1.3 Usage Limitations and Guidelines

Currently, vxAG for Huawei Cloud has the following limitations:

- In the Huawei Cloud service architecture, the vxAG ECS is provided only one interface. The vxAG ECS can have two IP addresses: one EIP (public IP address) and one private IP address. On the vxAG ECS, all the VIPs must use the EIP to communicate with the internet.
- vxAG for Huawei Cloud supports the following features:
 - SSL VPN
 - Site2Site VPN
 - MotionPro VPN
 - Application Security
- vxAG for Huawei Cloud supports only the BYOL (Bring Your Own License) license mode. Please refer to the section 2.5 Loading the vxAG License for how to load the vxAG license.

2 Deployment

This section describes the deployment process of the vxAG ECS on Huawei Cloud International.

2.1 Creating Huawei Cloud VPC and Security Group

Before the deployment of vxAG ECS on Huawei Cloud International, please finish the configuration of VPC and subnet first.

➤ Creating a VPC

Before deploying the vxAG ECS, you need to use Huawei Cloud VPC to create a private isolated network on Huawei Cloud. The deployment of the vxAG on Huawei Cloud is similar to that in a physical network infrastructure. For more information about creating and configuring the VPC, please refer to https://support-intl.huaweicloud.com/en-us/pg-vpc/en-us_topic_0016133007.html

➤ (Optional) Creating Subnets for the VPC

Once a VPC is created, a subnet is automatically created by default. If required, you can create multiple subnets in the VPC. For more information about creating subnets, please refer to https://support-intl.huaweicloud.com/en-us/qs-vpn/en-us_topic_0122970067.html

➤ Creating a Security Group

A security group is a collection of access control rules for ECSs that have the same security protection requirements and are mutually trusted in a VPC. You can create a security group and add ECSs in the VPC to the security group to improve ECS access security. After a security group is created, it has a default rule. The default security group rule allows all outgoing data packets. ECSs in a security group can access each other without the need to add rules. For more information about creating a security group, please refer to https://support-intl.huaweicloud.com/en-us/qs-vpc/en-us_topic_0030971612.html

2.2 Deploying the vxAG ECS on Huawei Cloud

To deploy a vxAG ECS on Huawei Cloud International, perform the following procedure:

1. Log into Huawei Cloud International (<https://intl.huaweicloud.com/>) with a valid account. In the home page, select **Console > Elastic Cloud Server > Buy ECS** to enter the ECS purchase page.
2. Select the **Billing Mode** as required for ECS Services.



3. Select the **Region** and the **AZ** (Available Zone) wherein the VPC is created.

Region Hong Kong To select a different region, use the region selector at the upper left of the page.

ECSs in different regions cannot communicate with each other over an intranet. For low network latency and quick resource access, select the nearest region.

AZ  Random AZ1 AZ2

- Select the ECS Type based on usage. For recommended ECS types, see section 1.2 Supported ECS Types for reference.

Type

vCPUs 2 vCPUs Memory 8 GB Enter a flavor name. 

Flavor Name	vCPUs Memory	CPU	Assured / Maximum Bandwidth 	PPS 
<input type="radio"/> c3.large.4	2 vCPUs 8 GB	Intel SkyLake 6151 3.0GHz	0.6/1.5 Gbit/s	300,000
<input type="radio"/> h3.large.4	2 vCPUs 8 GB	Intel SkyLake 6146 3.2GHz	1/2 Gbit/s	300,000
<input type="radio"/> hc2.large.4	2 vCPUs 8 GB	Intel E5-2690V4 2.6GHz	0.5/1.5 Gbit/s	100,000
<input checked="" type="radio"/> s2.large.4	2 vCPUs 8 GB	Intel E5-2680V4 2.4GHz	0.2/0.8 Gbit/s	100,000
<input type="radio"/> s3.large.4	2 vCPUs 8 GB	Intel SkyLake 6161 2.2GHz	0.2/0.8 Gbit/s	100,000

Current specifications **General computing** | s2.large.4 | 2 vCPUs | 8 GB

- Select **Marketplace image** > **Select Image** to enter the image marketplace. In the **Select Marketplace Image** window, choose **Array Networks vxAG SSL VPN** in the **Running Environment** category and click **OK**.

Image

Public image
Private image
Shared image
Marketplace image

No image selected.
Select Image

Select Marketplace Image ×

- ☐ All images
- ☐ Infrastructure Software
 - Running Enviro...
 - Databases & Ca...
 - Content Manag...
 - System Adminis...
 - Big Data
 - Storage & Backup
- ☐ Business Software
- ☐ Developer Tools

Version: V1.8
OS: Linux
Product Category: Running Environment
Published: Apr 10, 2019 11:34:03 GMT+08:00
Service Provider: [Websoft9 INC](#) +

\$0.00 USD/hour

Type: [Trial - BYOL](#)
Resource: Array Networks vxAG SSL VPN
Description: Secure Access for Enterprise, Cloud and Mobile Environments
Version: V1.0
OS: Linux
Product Category: Running Environment
Published: Apr 11, 2019 14:30:12 GMT+08:00
Service Provider: [Array Networks Inc.](#) +

\$0.00 USD/hour

OK
Cancel

6. Select **Common I/O** (or higher if required) Disk and set the disk space to at least 40GB.

Disk EVS

A non-shareable data disk purchased together with an ECS in yearly/monthly billing mode cannot be attached to another ECS.

System Disk

Common I/O

?

-

40

+

GB

IOPS Limit 580, IOPS Burst Limit 2,200

+
Add Data Disk

Common I/O
High I/O
Ultra-high I/O

7. Configure the Network related options and notice the following configuration:
- VPC is prerequisite for creating ECS. If VPC has not been created, see section 2.1 Creating Huawei Cloud VPC and Security Group for reference.
 - EIP is used as the public IP address by ECS. Select **Using existing** or click **View EIP** to buy an EIP. See section 2.3 Assigning an EIP and Binding It to the vxAG ECS for reference.

VPC  [Create VPC](#)

NIC [View In-Use IP Address](#)

[+ Add NIC](#) You can add 11 more NICs.

Security Group  [Learn how to configure a security group.](#) [Create Security Group](#)

Inbound: TCP/8888, 3389, 22, 443; UDP/12345 | Outbound: -

EIP  To enable Internet access from your ECSs, create a plan for the EIPs you require. [View EIP](#)

ECSs cannot be created in batches if an EIP address is specified.

[Refresh](#)

8. Select **Password** as the **Login Mode**.

Login Mode

Username

Password

Confirm Password



Note: Huawei Cloud does not support specifying the login username, and the login password configured here is used only for the creation of the ECS. For more details about the login information, please refer to 2.4 Accessing the vxAG ECS.

9. (Optional) Configure **Advanced Settings** as required.

Advanced Settings

10. Configure **ECS Name**, **Required Duration** and **ECS Quantity** as required.

ECS Name Allow duplicate ECS names

If multiple ECSs are created at the same time, the system automatically adds a hyphen followed by a four-digit incremental number to the end of each ECS name. For example, if you enter ecs and there is no existing ECS in the system, the first ECS's name will be ecs-0001. If an ECS with the name ecs-0010 already exists, the name of the first new ECS will be ecs-0011.

Required Duration 

Auto Renewal 

Quantity You can create 199 more ECSs. To increase the ECS quota, click [Increase Quota](#).

- Once the configuration is finished, click **Next** in the **Current Configuration** panel on the right to proceed to **Buy ECS** page.

Current Configuration

Billing Mode	Yearly/Monthly
Region	Hong Kong
AZ	AZ2
ECS Name	AccessGatewayHK
Type	General computing s2.large.4 2 vCPUs 8 GB
Image	vxAG_9_4_0_188
System Disk	Common I/O, 40 GB
VPC	vpc-337d
Security Group	default
NIC	subnet-337d(192.168.1.0/24)
EIP	Type: Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mbit/s
Key Pair	--
Required Duration	2 months

ECS Price

\$162.24 USD

This price is an estimate and may differ from the final price.
[Pricing details](#)

Next

- On the **Buy ECS** page, check the box **I have read and agree to the Service Level Agreement and Huawei Image Disclaimer** and click **Submit**.

Buy ECS [Ⓞ]

1 Configure | 2 Confirm | 3 Pay

Details

Resource	Configuration	Billing Mode	Required Duration	Quantity	Price
ECS	Region: Hong Kong AZ: AZ2 Type: General computing s2.large.4 2 vCPUs 8 GB Image: vxAG_9_4_0_188 System Disk: Common I/O, 40 GB VPC: vpc-337d Security Group: default NIC: subnet-337d(192.168.1.0/24) EIP: Type: Dynamic BGP Billed By: Bandwidth Bandwidth: 5 Mbit/s ECS Name: AccessGatewayHK	Yearly/Monthly	2 months	1	\$162.24 USD

ECS Price **\$162.24 USD** I have read and agree to the [Service Level Agreement](#) and [Huawei Image Disclaimer](#)

This price is an estimate and may differ from the final price. [Pricing details](#)

[Previous](#) [Submit](#)

Buy ECS [Ⓞ]

1 Configure | 2 Confirm | 3 Finish


Request submitted successfully.
 Creating ECS AccessGatewayHK...
[Back to ECS List](#)

13. Check the status of the newly created vxAG ECS in the **Elastic Cloud Server** page.

Elastic Cloud Server [Ⓞ] [Buy ECS](#)

You are advised to install the password-reset plug-in after creating an ECS. [Learn how](#) to install the plug-in.

You can create 198 more ECSs. The ECSs can use up to 796 vCPUs and 1,584 GB of memory. [Quota details](#)

Name/ID	AZ	Status	Type/Image	IP Address	Billing Mode	Operation
AccessGatewayHK ae609886-6dc5-4440-b...	AZ1	● Runni...	2 vCPUs 8 GB s2.large.4 vxAG_9_4_0_188	192.168.1.47 (Private IP)	Pay-per-use	Remote Login More
ecs-a659 515cabae-0c2f-4e98-81...	AZ2	● Stopp...	2 vCPUs 8 GB s2.large.4 vxAG_9_4_0_188	159.138.61.220 (EIP) 5 Mbit/s 192.168.1.27 (Private IP)	Pay-per-use	Remote Login More

2.3 Assigning an EIP and Binding It to the vxAG ECS

If you do not have enough EIP resources during the deployment of vxAG ECS, you can deploy the vxAG without assigning an EIP at first, and then apply for a new EIP and bind it to the vxAG.

To buy a new EIP, perform the following procedure:

1. Log in to the **Console**.
2. On the console homepage, under **Network**, click **Virtual Private Cloud**.
3. In the navigation pane on the left, choose **Elastic IP and Bandwidth > Elastic IP**.
4. On the **EIPs** page, click **Buy EIP**.
5. Set parameters as prompted.
6. Click **Next**.
7. Click **Submit**. If you allocate new bandwidth to buy an EIP, you also need to buy the bandwidth.

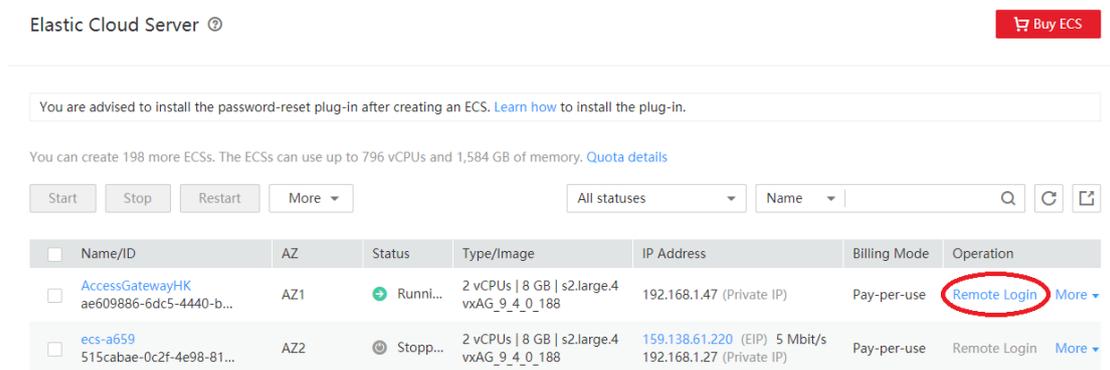
To bind an EIP to the vxAG ECS, perform the following procedure:

1. On the **EIPs** page, locate the row that contains the target EIP, and click **Bind**.
2. Select the desired vxAG ECS.
3. Click **OK**.

2.4 Accessing the vxAG ECS

2.4.1 Accessing the vxAG ECS via Web Console

You can connect to the vxAG ECS via Web Console after the status of the newly created vxAG ECS becomes “Running”, click **Remote Login** in the **Operation** column to access the Web Console.



Elastic Cloud Server 

[Buy ECS](#)

You are advised to install the password-reset plug-in after creating an ECS. [Learn how](#) to install the plug-in.

You can create 198 more ECSs. The ECSs can use up to 796 vCPUs and 1,584 GB of memory. [Quota details](#)

<input type="checkbox"/>	Name/ID	AZ	Status	Type/Image	IP Address	Billing Mode	Operation
<input type="checkbox"/>	AccessGatewayHK ae609886-6dc5-4440-b...	AZ1	Runni...	2 vCPUs 8 GB s2.large.4 vxAG_9_4_0_188	192.168.1.47 (Private IP)	Pay-per-use	Remote Login More
<input type="checkbox"/>	ecs-a659 515cabae-0c2f-4e98-81...	AZ2	Stopp...	2 vCPUs 8 GB s2.large.4 vxAG_9_4_0_188	159.138.61.220 (EIP) 5 Mbit/s 192.168.1.27 (Private IP)	Pay-per-use	Remote Login More

In the vxAG Web Console window, enter username “array” and password “admin” to log in.

```

ArrayOS is booting
\0/
|
/ \ 0 |
Starting ArrayOS network protocols

Initializing idle cache replacement threshold to 343249
Initializing cache miss splice threshold to 343249
Initializing syndrop and cache flush threshold to 6000
Initializing connection kill threshold to 4096

ArrayOS network protocols loaded, starting applications
Loading configuration, please wait .....

Array Networks Login (AN): array
Password:
ArrayOS Rel.AG.9.4.0.188 build on Fri Dec 29 16:16:58 2017
Copyright 2000-2017 Array Networks Inc. All rights reserved.

Type "?" for available commands

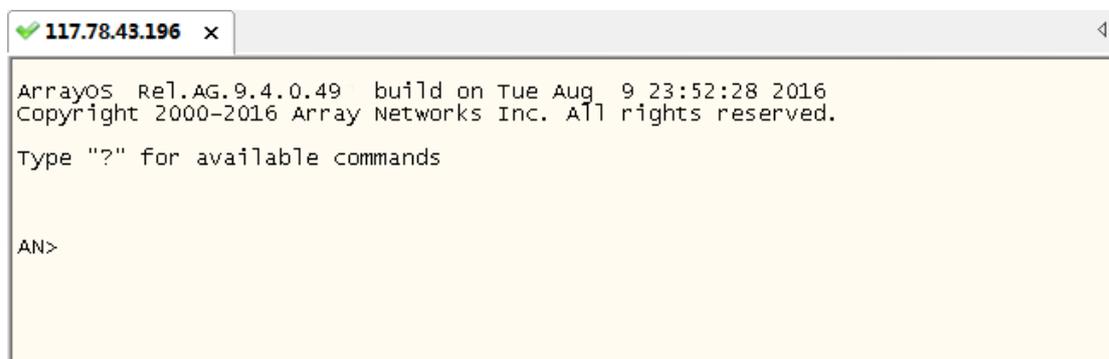
AN>

```

2.4.2 Accessing the vxAG ECS via SSH

You can connect to the vxAG ECS via SSH after the status of the newly created vxAG ECS becomes “Running”.

To access the vxAG ECS via SSH, use its EIP and SSH port 22 as the SSH access point. The username is “array”, and the password is “admin”.



```

117.78.43.196 x
ArrayOS Rel.AG.9.4.0.49 build on Tue Aug 9 23:52:28 2016
Copyright 2000-2016 Array Networks Inc. All rights reserved.

Type "?" for available commands

AN>

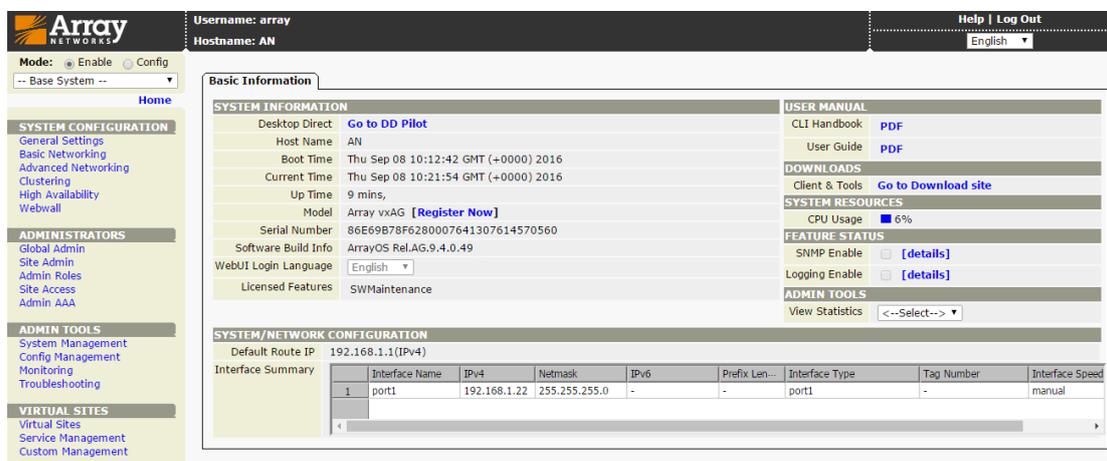
```

2.4.3 Accessing the vxAG ECS via WebUI

To access the vxAG via WebUI, you first need to access the vxAG ECS via Web Console or SSH to make the following configurations:

- Change the password of the default account (array) using the “**admin password** *array new_password*” command.
- Enable the WebUI using the “**webui on**” command.
- (Optional) Configure the WebUI port using the “**webui port**” command.

After the preceding configurations are completed, you can access the WebUI of the vxAG ECS at https://<EIP>:<WebUI_port> using a Web browser. On the login page, enter “array” as the username and the previously configured “new_password” as the password to pass the authentication.



2.5 Loading the vxAG License

In order to load the license you need to purchase a vxAG license directly from Array Networks. Then perform the following steps to load the vxAG license:

1. Access the vxAG ECS via Web Console or SSH.
2. View the software version, model and serial number of the vxAG by executing the “**show version**” command.
3. Contact Array Networks Customer Support by email with the vxAG information and your license options (such as maximum sessions, maximum virtual portals, time duration/trial) to obtain a valid license key.
4. Execute the “**system license**” command in the Config mode, paste the license key and press “Enter”. Then the license will be successfully loaded.

Alternatively, you can load the license via WebUI. To load the license, select **Admin Tools > System Management > License**.