

# 概述

当 ArubaOS-CX 交换机的登录密码已经遗忘或丢失时，如需顺利登录到交换机 CLI/GUI，则需要对密码进行重置操作。下面对其进行详细讨论及操作

# 分析

1. 基于文档可知，Service OS 默认用户名 admin，密码为空。

## Service OS user accounts

Service OS provides a single admin login account. By default, no password is required to log in. Service OS will require a password if the Service OS admin user account password feature is enabled. This setting can be enabled or disabled in AOS-CX.

2. 依据 Aruba 官方文档内容可知，ServiceOS 可以对 AOS-CX 的登录密码进行重置，但同时也会重置 SVOS（即 Service OS，专用于维护的 OS，与交换机 OS 相互独立）的登录密码，password 命令会同时调整 Service OS 和交换机 OS 的密码，如果上了密码，很容易导致后面把 SVOS 的门堵死。

Service OS is an operating system that the customer only uses to fix filesystem corruption, download and update firmware, and other support related issues. HPE Service OS is a Linux distribution that acts as a standalone bootloader and recovery OS for AOS-CX-based switches. It is only accessible if the user is consoled into the switch. The main high level features provided include:

- Access to file system partitions for retrieval of logs, coredumps, and configuration for supportability purposes.
- Filesystem utilities to format and partition a corrupted storage disk.
- Management interface networking with TFTP to download and update a product image.
- Ability to boot primary and secondary firmware images (.SWI file) on the storage disk.
- Support for clearing the AOS-CX startup-config.
- Ability to not only clear the admin password for AOS-CX, but also change it in SVOS.
- Ability to set the secure mode to enhanced or standard.

This document covers the customer CLI commands available in Service OS, as well as a few non-CLI features.

3. 如果 SVOS 也存在了登录密码且密码也已经遗忘，则只能在 Service OS 登录时敲 zeroize，然后将整台设备的所有配置都恢复出厂设置，因此在 SVOS 可以顺利登录时，CX 交换机的密码重置操作绝对不能为（ServiceOS 和交换机 OS 下的）admin 账户（同时）设置密码。

## Service OS CLI login

### Description

If the user enters 0 at the boot menu prompt, they will be presented with a Service OS CLI login prompt. The user must enter the login account "admin" to log in. By default, Service OS does not require a password.

To reboot without logging in, enter **reboot** as the login user name.

There are two additional login accounts that execute a command without requiring a password: **reboot** and **zeroize**. Enter the login account **reboot** to reboot the management module and **zeroize** to initiate a zeroization process. The zeroize user account helps a user reset the admin user account's password.

```

ServiceOS login: zeroize
This will securely erase all customer data, including passwords, and
reset the switch to factory defaults.
This action requires proof of physical access via a USB drive.
* Create a FAT32 formatted USB drive
* Create a file in the root directory of the USB drive named zeroize.txt
* Type the following serial number into the zeroize.txt file: CN9ZKRRK273
* Insert the USB drive into the target module
* Confirm the following prompt to continue

Continue (y/n)? y
#####WARNING#####

This will securely erase all customer data and reset the switch
to factory defaults. This will initiate a reboot and render the
switch unavailable until the zeroization is complete.

This should take several minutes to one hour to complete.

#####WARNING#####

Continue (y/n)? y

reboot: Restarting system

```

4. 依据文档内容可知，ServiceOS 处于交换机 Boot image profile 的 0 列，在 CX 交换机启动过程中通过手动置 0 即可将交换机 Boot 的系统临时调整为 SVOS 以便重置密码。

## Service OS boot menu

### Description

On boot, the user is presented with a Service OS version banner with version, build date, build time, build ID, and SHA strings.

The user is then shown the boot image profiles.

- Enter 0 to boot the Service OS login CLI.
- Enter 1 to boot the primary firmware image.
- Enter 2 to boot the secondary firmware image.
- If no input is given within 5 seconds, the default boot profile is selected. Alternatively, press Enter to select the default boot profile.

5. 根据下面提示了解到，此处的手动置位（0/1/2）仅一次有效，交换机下次启动时依旧会按照 AOS-CX 中预配的 Boot 分区进行启动

The image selected by the user during boot is a run-time decision only and will not persist across reboots. The default image can be configured using the `boot set-default` command.

6. 在进入 SVOS 后，对密码进行修改（在此步修改的密码将会对 ServiceOS 和 AOS-CX 的登录都产生影响，因此我们考虑修改的最优值为空）

## password

password

### Description

Sets the admin user account password for both Service OS and AOS-CX once the user boots into AOS-CX and saves the configuration. This will overwrite the previous password if one exists. User input is masked with asterisks.

This command is not available if enhanced secure mode is set.

### Example

Setting the admin account password:

```
SVOS> password
Enter password:*****
Confirm password:*****
SVOS>
```

7. 在完成上述操作后，使用 `reboot` 对交换机进行重启，按照预期，密码重置已完成。

## reboot

reboot

### Description

Reboots the Management Module.

### Example

Rebooting the management module:

```
SVOS> reboot
reboot: Restarting system
```

## 操作

1. 将可以传数据的 Type-C 口 USB 数据线一端插入 Win10 PC，另一端插入交换机的 Type-C console 口，在交换机上电前，Win10 PC 并不会将插入的 Type-C 线缆识别为 COM，在交换机上电后，Win10 PC 会立即将 Type-C 数据线自动安装驱动并识别为 COM（图中 COM4）



3. 在进入 Service OS 后，前导符变为了 SVOS，然后输入 help 看到 password 命令

```
SVOS> help
Available Commands:

    ? - Display help screen
    cd - Change the working directory
    pwd - Print the current working directory
    help - Display help screen
allow-unsafe-updates - Allow non-failsafe updates for a limited amount of time
    boot - Boot a product image
    config-clear - Clears the startup-config
    diag - Run diagnostic commands
    erase - Securely erase storage devices on the management module
    format - Formats and partitions the primary storage device
    identify - Prints hardware identification information
    mount - Mount a storage device
    password - Set the admin account password
    reboot - Reboots the Management Module
    secure-mode - Set or retrieve the secure mode setting
    sh - Launch support shell
    umount - Unmounts a storage device
    update - Update a product image
    version - Prints ServiceOS release version information
    cat - Prints files to stdout
    cp - Copy files and directories
    du - Estimate file space usage
    ls - List directory contents
    md5sum - Compute and check md5 message digest
    mkdir - Make directories
    mv - Move (rename) files
    rm - Remove files or directories
    rmdir - Remove empty directories
    exit - Logout

Enter '<command> --help' for more info
SVOS> █
```

4. 所以我们对 password 命令后调整的密码定义为空（不输入内容直接两次回车即可），在完成配置后，输入 reboot 进行重启以保证交换机由 Service OS 顺利进入自己运行的 OS（此时不输入 0 进行干预，交换机会自己按照预配的 Partion 进入相应的 OS）

```
Enter '<command> --help' for more info

SVOS> password
Enter password:
Confirm password:
SVOS> reboot
reboot: Restarting system
.
```

5. 在交换机重新进入正常 OS 后，输入用户名 admin，输入密码为空（直接回车），可以看到交换机前导符变为了 #（即成功作为 admin 登录到 AOS-CX），密码清除成功！

```
Extracting Image...
Loading Image...
Done.
kexec_core: Starting new kernel
System is initializing
[ OK ] Started HPE Kernel Dump Service.
[ OK ] Created slice system-getty.slice.
[ OK ] Created slice system-serial\x2dgetty.slice.
Stopping Emergency Login...
Starting ISP server daemon...
[ OK ] Started Monitor hostname Service.
[ OK ] Stopped Emergency Login.
Starting Matrix Agent Daemon LCI...
[ OK ] Started Matrix Agent Daemon LCI.
[ OK ] Started ISP server daemon.
[ OK ] Started Startup Configuration Daemon.
Starting bannerd...
[ OK ] Started Configuration Management Daemon.
Starting Hostname setup service...
[ OK ] Started bannerd.
[ OK ] Started HPE Credential Manager.
[ OK ] Started Hostname setup service.
[ OK ] Started Serial Getty on ttyS0.
[ OK ] Reached target Login Prompts.
[ OK ] Reached target aoscx-console.target.

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beijing-cx-access-10-1-63-100 login: admin
Password:
There were 13 failed login attempts since the last successful login
Last login: 2021-07-29 09:44:39 from 10.1.63.99
beijing-cx-access-10-1-63-100# 2021-10-11T16:24:14.551+08:00 ztpd[3193]: debug|LOG_ERR|AMM|-|ZTP|ZTP|Non-factory default configuration detected. ZTP failed
beijing-cx-access-10-1-63-100# █
```

## 总结

ArubaOS-CX 交换机只能通过其本身的 ServiceOS 维护系统进行密码修改才能够实现顺利登录（抑或恢复出厂设置才可实现交换机的正常登录，但其他配置也均会丢失，不建议直接使用此种操作方式），且 CX 交换机无法使用 ArubaOS 系列交换机的密码重置方式（即 reset 按键方式）。在密码修改的方式下，最优解是在 SVOS 中将 SVOS 和 AOS-CX 的密码置为空，然后 reboot 进入 AOS-CX 后再进行登录密码的设置，防止 SVOS 登录也被意外加上密码。

## 相关资料



### AOS-CX 10.08 Diagnostics and Supportability Guide

4100i, 6100 Switch Series



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