Greenlake Activate ZTP 实现

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1.Activate 平台的迁移

由于 Greenlake 平台的推出，使得 Activate 平台迁移到了 Greenlake 平台之上，Activate 原有设备数据也会同时迁移过去。

HPE 会发邮件让用户更新 Greenlake 账号信息；如果之前没有 Activate 账号，开通 Greenlake 账号应该需要联系 Tac 开通 https://common.cloud.hpe.com/home（Activate 是这样子，Greenlake 后不知是否自己就可以开通，还需要验证。）

2.ZTP 说明

2.1 无线控制器采用 ZTP 上线的好处

- 简化流程，加快无线控制器上线速度。
- 可以整合成为客户职场部署自动化业务的一部分。
- 避免认为故障的发生。

2.2 无线控制器 ZTP 前置条件

- 在 Aruba Active（activate.arubanetworks.com）申请账号（于 2022 年 1 月并入 Greenlake）
- 在 Activate 上添加无线控制器，可以通过 SN+MAC（单一）地址或绑定订单号（批量）来实现。
- 无线控制器能够通过 DHCP 获取地址，具备 DNS 以及 HTTPS 权限，能够与 activate 服务器进行交互。

3.ZTP 操作步骤

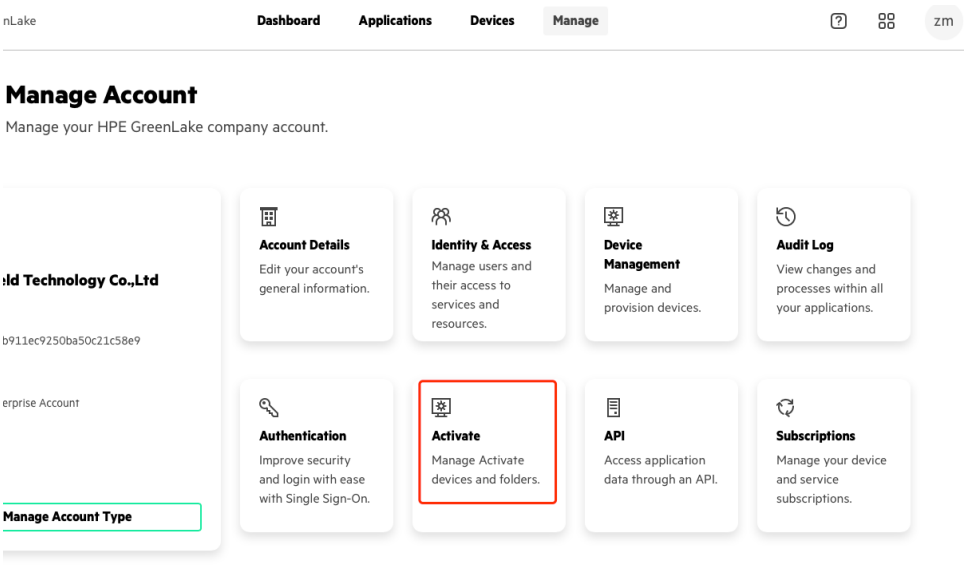
注：如果是硬件 MM 则不需要这些步骤，直接在 Activate 里添加 MD 并移动到对应的 folder

即可。

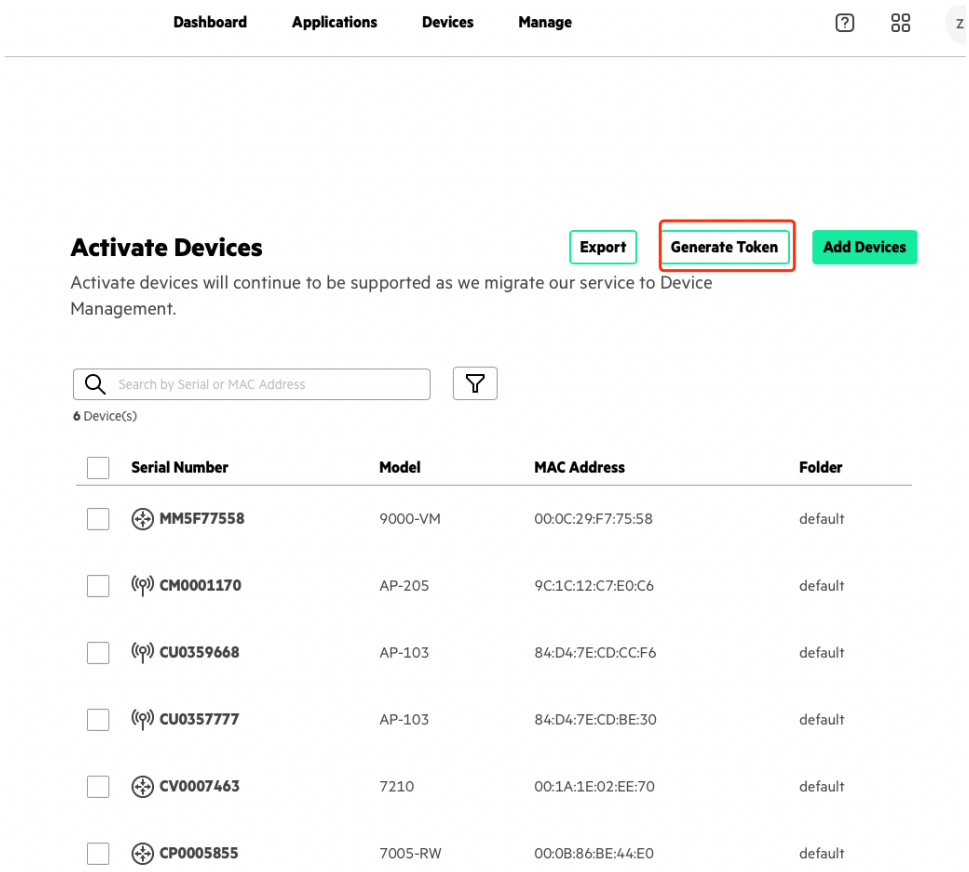
此实验版本为 8.7.1.9，更高版本的兼容性需要自己验证。

3.1 添加 VMM 平台至 Activate

首先登录 Greenlake 网站，在顶端横幅找到 manage，选择 activate



点击生成 token，该 token 生成后需要自己保存，是设备登录 Activate 的重要凭证，平台不可查。



在 MM 上关联 Active，该步骤仅为了同步 ZTP 证书，并不会上传/下载配置，建议在/mm 层级配置

(config)#activate

(config)#whitelist-enable

(config)#username "activate_username" //账号不用加@后缀

(config)#password "Token"

查看状态：

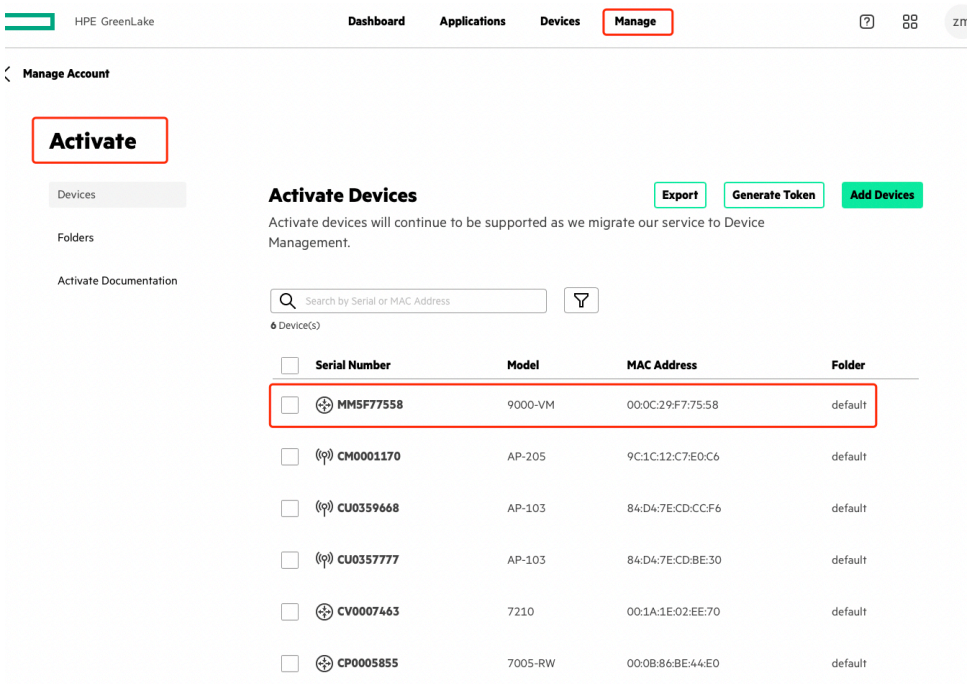
show activate 查看 activate 当前配置

```
(XIAN_mm02) [mynode] (config) #show activate

activate
--------
Parameter                                        Value
---------                                        -----
Activate AP Whitelist Service                    Enabled
Activate Device Whitelist Service                Enabled
Activate URL                                     https://activate.arubanetworks.com/
Provision Activate URL                           https://device.arubanetworks.com/
Activate Login Username                          zhipeng.ma
Activate Login Password                          ********
Periodic Interval for AP WhiteList Download      1
Periodic Interval for Device WhiteList Download  24
Add-Only Operation                               Enabled
Custom cert to upload to Activate                N/A
Server cert to be used for IPSEC                 N/A
(XIAN_mm02) [mynode] (config) #
```

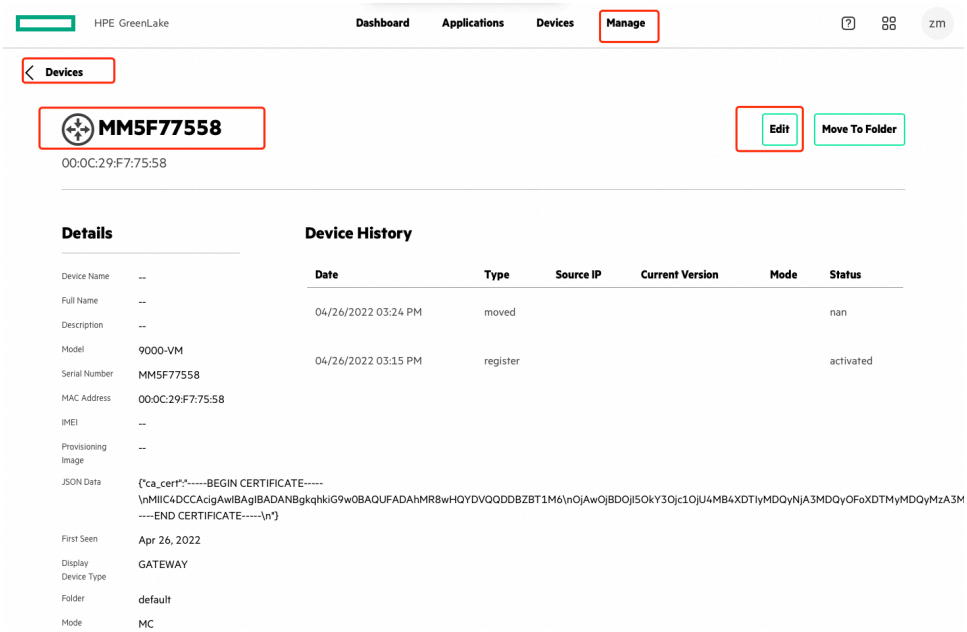
show activate status 查看 activate 登录及证书下载状态，如下就是正常的

```
(XIAN_mm02) [mynode] (config) #show activate status

Activate Sync Status
--------------------
     Type                  Last Success            Last Failure
-----------------       -------------------      ------------------
 Activate Login          Tue Apr 26 15:13:37 2022        N/A
 Register                Tue Apr 26 15:13:39 2022        N/A
 Cert Upload             Tue Apr 26 15:13:40 2022        N/A
 AP Whitelist Sync       Tue Apr 26 15:13:43 2022        N/A
 Provision Login                N/A                      N/A
 Device Whitelist Sync          N/A                      N/A
(XIAN_mm02) [mynode] (config) #
```

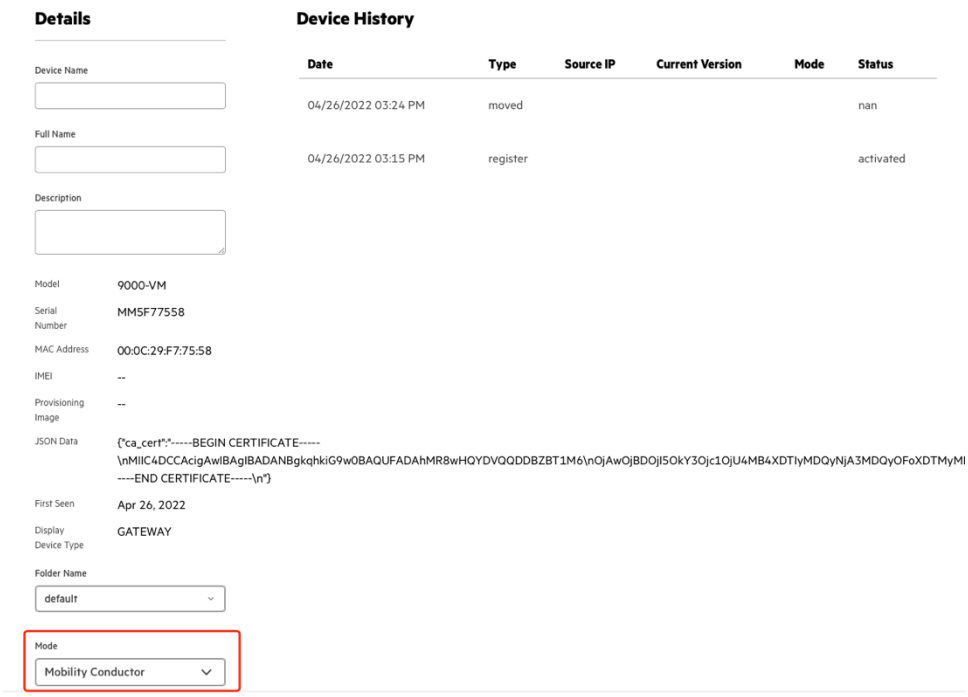
在 activate 里查看，就会发现自动生成了一个 vmm 的条目



在 manage 里的 activate 里点击 vmm 条目，



修改 vmm 条目里的 mode 为 mobility conductor

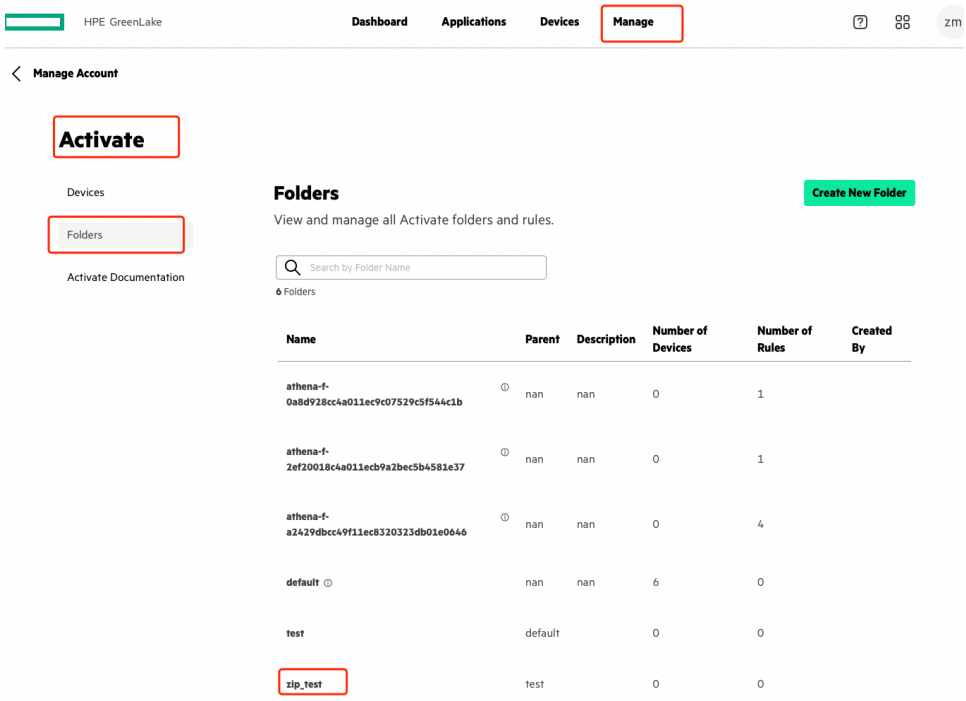


3.2 Activate 添加设备以及下发策略

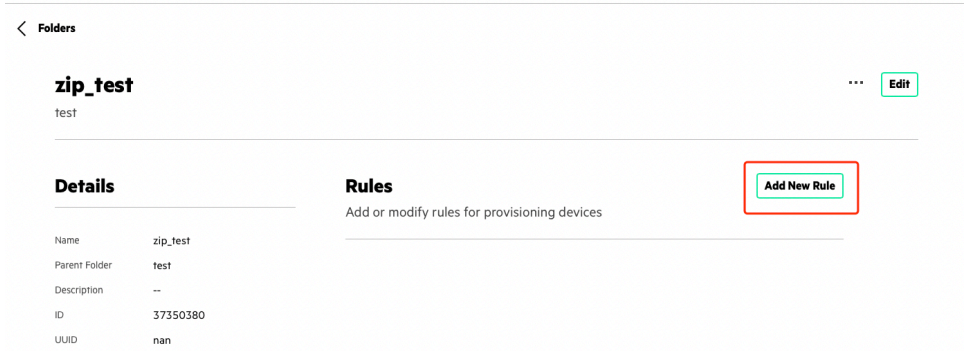
在 MM 上允许特定 MD 关联（安全考虑）

(config) #local-custom-cert local-mac 00:0c:29:ec:97:0f ca-cert factory-ca-cert server-cert self-signed-field-cert

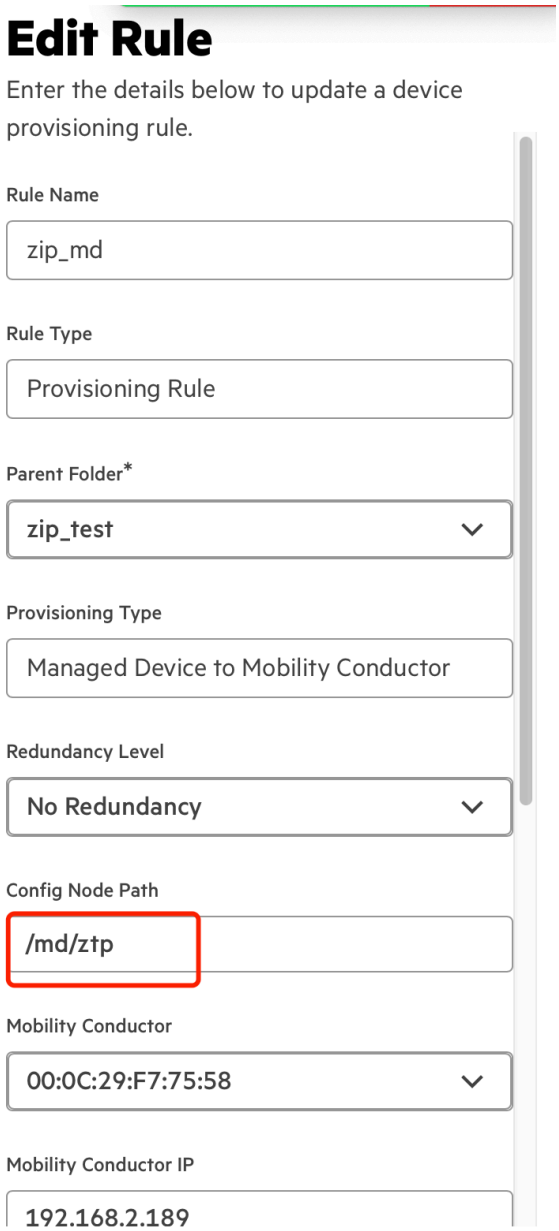
点击 manage 里的 activate，找到 folders，新建一个 ztp 的 floder

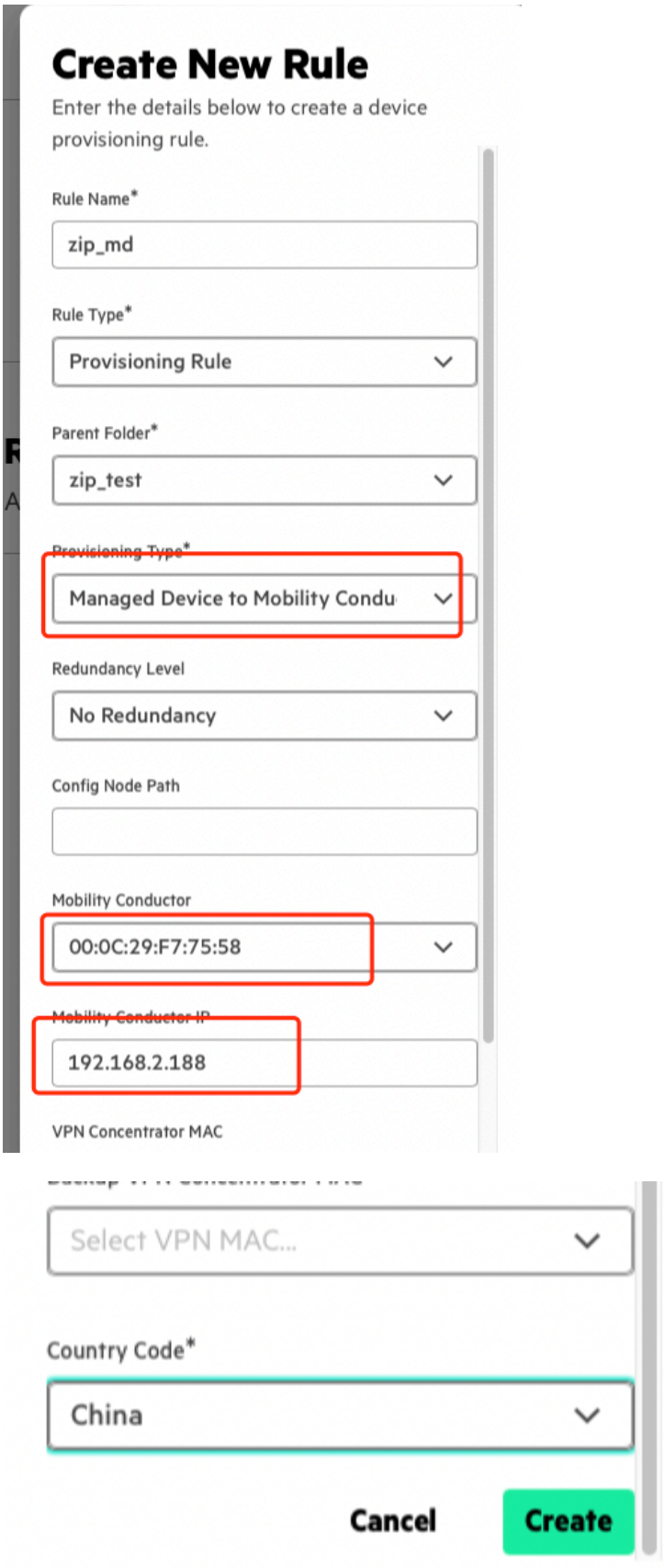


新建 floder 的 rules

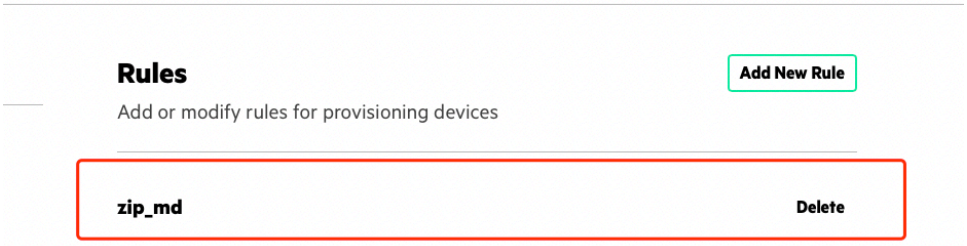


配置 Rule：

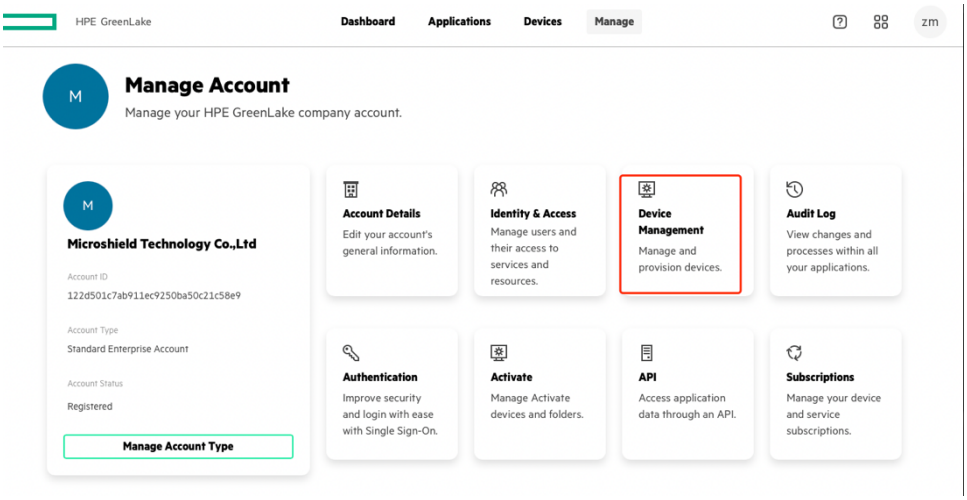

Edit Rule
Enter the details below to update a device provisioning rule.
Rule Name
zip_md
Rule Type
Provisioning Rule
Parent Folder*
zip_test
Provisioning Type
Managed Device to Mobility Conductor
Redundancy Level
No Redundancy
Config Node Path
/md/ztp
Mobility Conductor
00:0C:29:F7:75:58
Mobility Conductor IP
192.168.2.189


Create New Rule
Enter the details below to create a device provisioning rule.
Rule Name*
zip_md
Rule Type*
Provisioning Rule
Parent Folder*
zip_test
Provisioning Type*
Managed Device to Mobility Condu
Redundancy Level
No Redundancy
Config Node Path
Mobility Conductor
00:0C:29:F7:75:58
Mobility Conductor IP
192.168.2.188
VPN Concentrator MAC
Select VPN MAC...
Country Code*
China
Cancel
Create

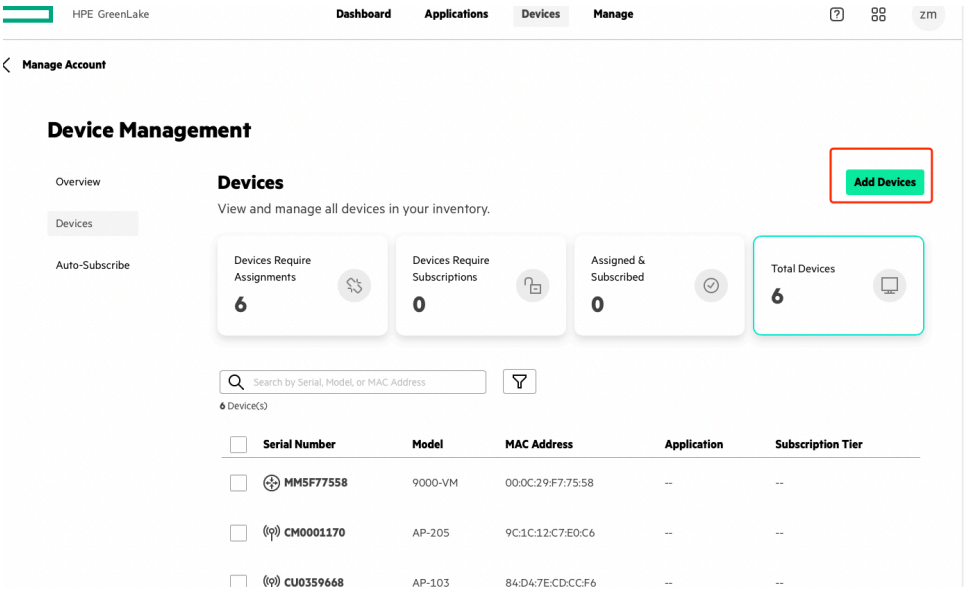
配置完成后会向如下显示



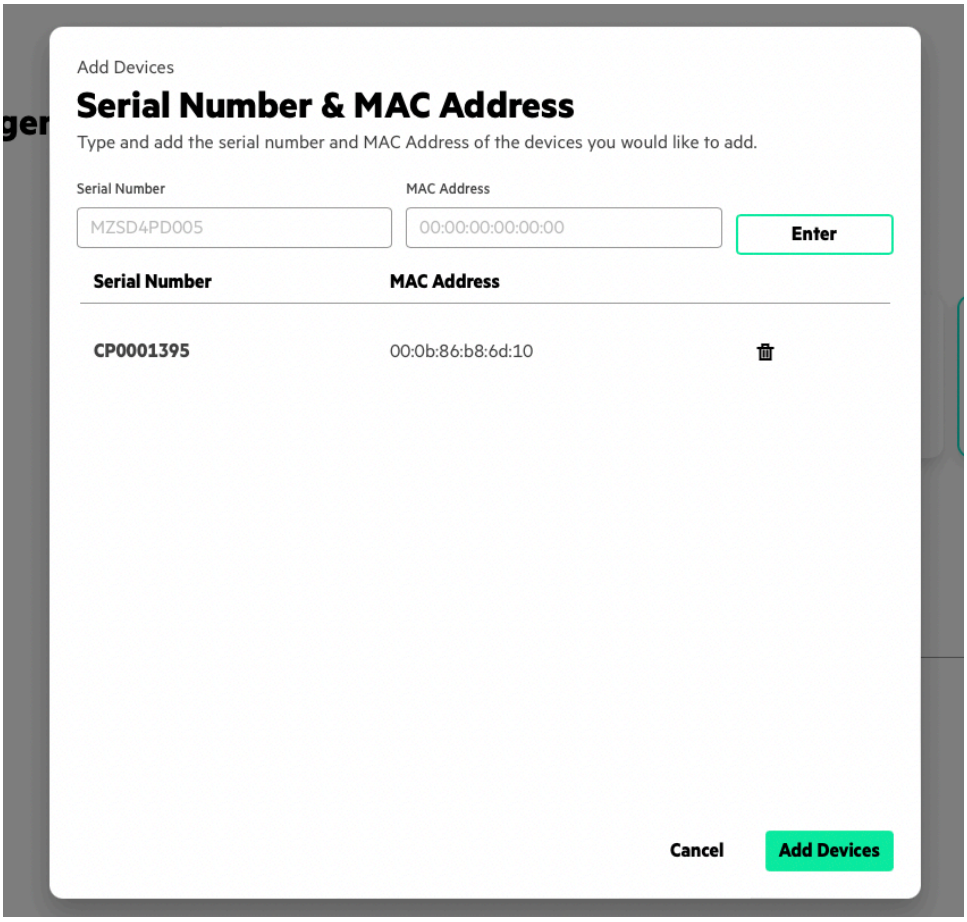
点击 manage，选择 device management，添加 md 设备



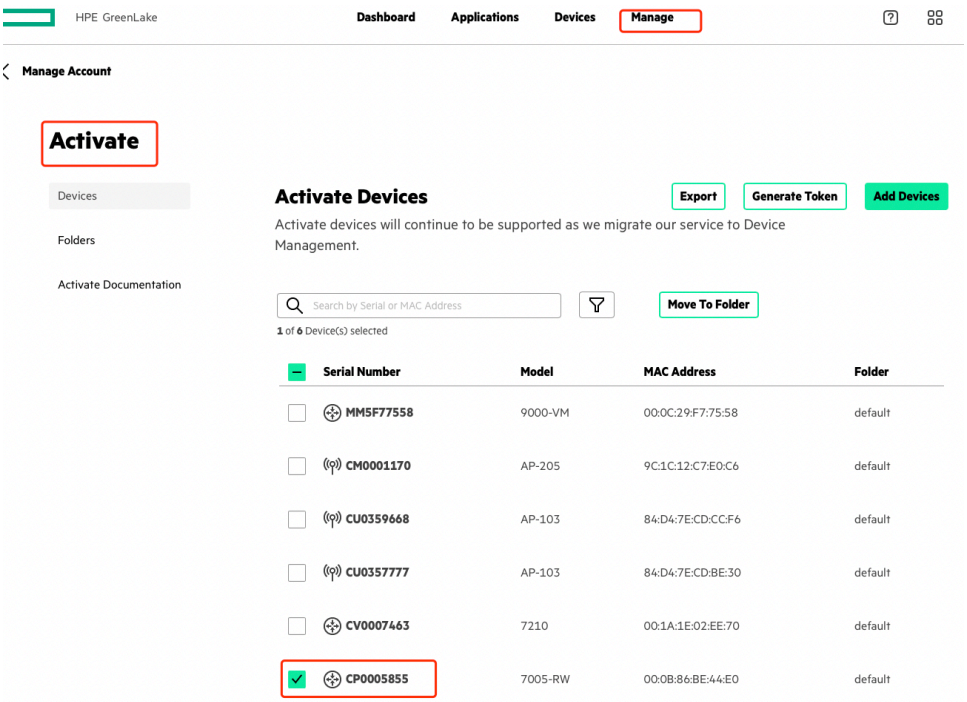
点击 add



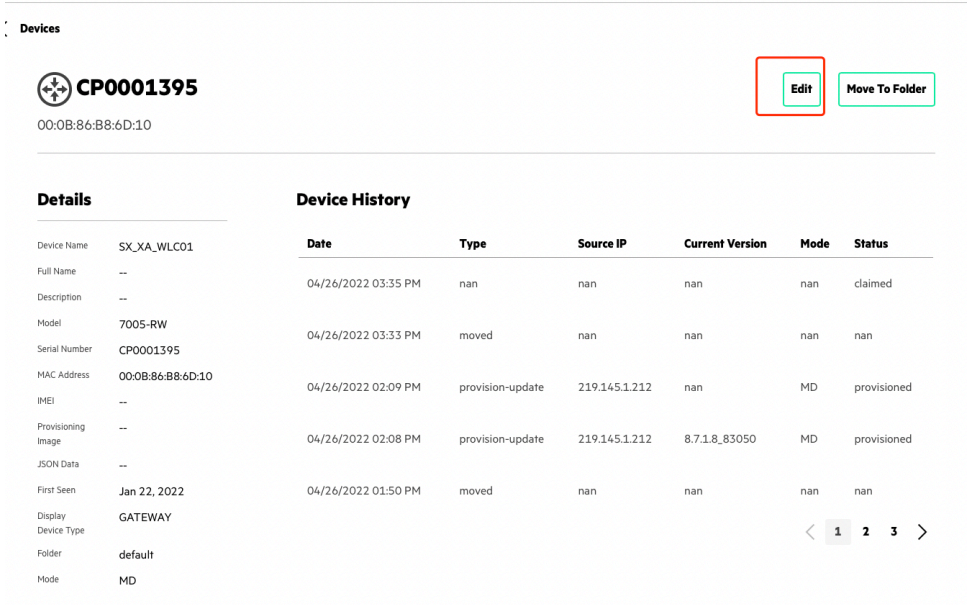
输入 MD 的 mac 地址和 sn



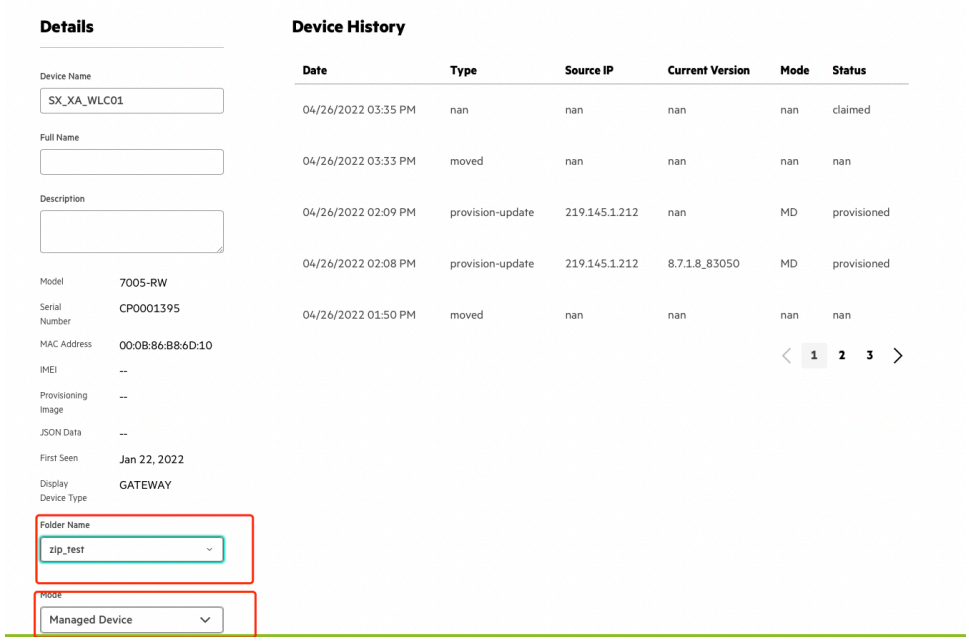
点击 manage，选择 activate，然后找到新加的 md



进入 MD 界面，点击编辑



将 Folder 改为 ztp folder（示例），设备类型选择为 managed device



3.3 ZTP 线路接入 MD

注：MD 插入网线（不能使用 0 口，必须 dhcp 获取地址）

MD 启动过程：

==========

Starting ztp

Starting ztp auto provision

Starting auto provisioning

Registered for NTP Sync

Initiated DHCP, awaiting DHCP response

Received DHCP response, My IP = 192.168.3.139, Master = none, Mask = 255.255.255.0, GW = 192.168.3.254, DNS = 114.114.114.114, Country code = none, Physical Port = 3

DNS server name 114.114.114.114 assigned to info structure..

No vendor option for DHCPv4, wait for DHCPv6 ....

Auto-provisioning is in progress. It requires DHCP and Activate servers

Choose one of the following options to override or debug auto-provisioning...

'enable-debug' : Enable auto-provisioning debug logs

'disable-debug' : Disable auto-provisioning debug logs

'mini-setup' : Start mini setup dialog. Provides minimal customization and requires DHCP server

'full-setup' : Start full setup dialog. Provides full customization

'static-activate' : Provides customization for static or PPPOE ip assignment. Uses activate for master information

Enter Option (partial string is acceptable):

Master info not received, trying activate

% Total	% Received	% Xferd	Average Speed		Time	Time	Time	Current
			Dload	Upload	Total	Spent	Left	Speed
100 2703	0	0	100 2703	0	2217	0:00:01	0:00:01	--:--:-- 2219

Received Activate response, My Role = md, Master = 192.168.2.188, Master MAC = 00:0C:29:F7:75:58, Hostname = MASTER_CTRL_B8_6D_10, Country code = CN, Redundant Master MAC = none, VPN IP = none, VPN MAC = none, Redundant VPN MAC = none, Secondary Master = none, Secondary Master Mac = none, Redundant Secondary Master Mac = none, Secondary VPN IP = none, Secondary VPN MAC = none, Secondary Redundant VPN MAC = none

Master = 192.168.2.188 auto-discovered from Activate

INFO: Backing up existing configuration directory.

Uplink Port : gigabitethernet 0/0/3

Adding gigabitethernet 0/0/3 as switchport to vlan 4094

copying ca-cert

Processes will restart now

Restarting profmgr...

Restarting cfgm...

Restarting central_agent...

Restarting isakmpd...

Restarting certmgr...

Restarting ctrlmgmt...

Restarting licensemgr...

Restarting aaa...

Restarting ntpwrap...

Restarting cert_dwnld...

Restarting resolvwrap...

Processes restarted successfully!

[07:50:58]:Initializing GSM [DONE]

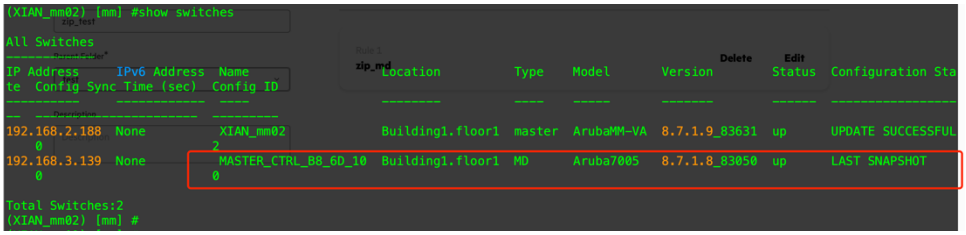
[07:50:58]:Initializing CCM [DONE]

[07:50:58]:Initializing FPAPPs [DONE]

[07:50:58]:Initializing CFGM [DONE]

[07:51:01]:Waiting for Controller IP [DONE]

[07:51:05]:Initializing AAA [DONE]

[07:51:05]:Initializing Controller management [DONE]

最后登录 mm 查看 md 状态