

# **PUSR DM Platform**

# **User Manual**



Industrial loT Gateways Ranked First in China by Online Sales for Seven Consecutive Years

\*\*Data from China's Industrial IoT Gateways Market Research in 2023 by Frost & Sullivan

Your Trustworthy Smart Industrial IoT Partner

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## 1. Product Overview

The DM Platform is a monitoring and operation platform powered by PUSR Cloud for PUSR gateways and routers. It provides online statistics, basic information viewing, firmware upgrades, and cross-region networking capabilities for routers. It supports remote access to PUSR routers and gateways and the device connected to the routers and gateways on Lay3. This service can replace complex VPN solutions, facilitating remote access to cameras, remote configuration of PLCs and industrial computers, remote program downloads for PLCs, file transfers to industrial computers or PLCs, and remote terminal upgrades. It helps customers manage routers and terminal devices in a unified and efficient manner.

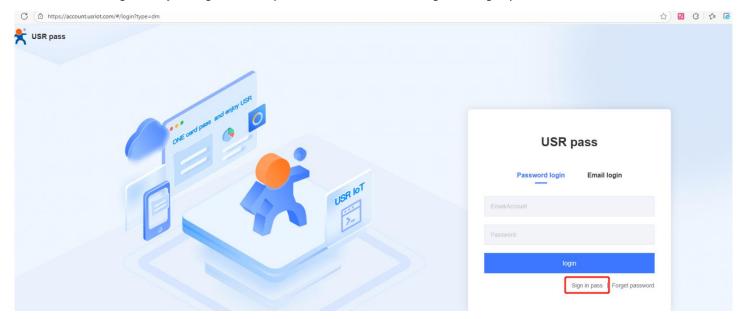
# 2. User Management

## 2.1. Registration and Login

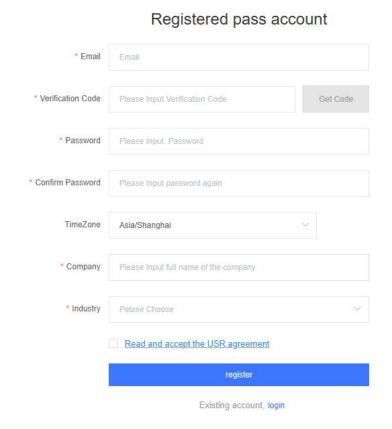
DM Management Platform URL: https://dm.usriot.com

#### 2.1.1. Account Registration

Users can register by filling in the required information and log in using a password or Email verification.

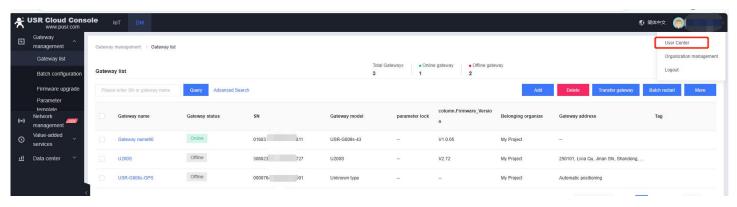






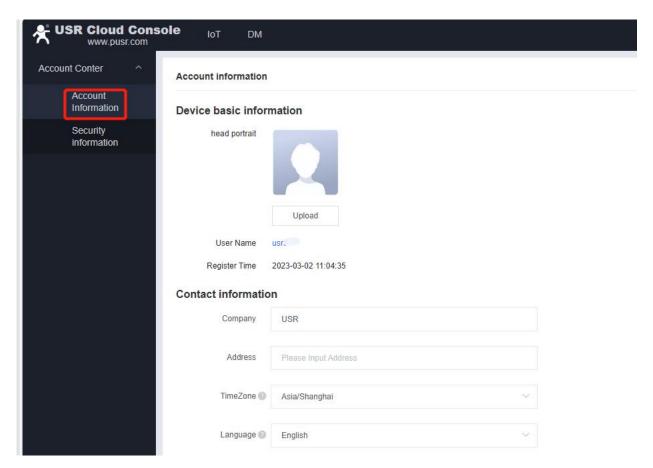
### 2.2. User Center

Users can view basic account information and security settings in the User Center.

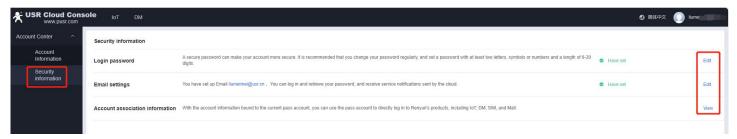


**Account Information** 

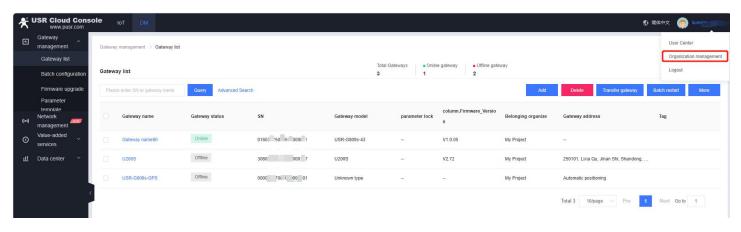




Security Information: users can set password and email information on this page.



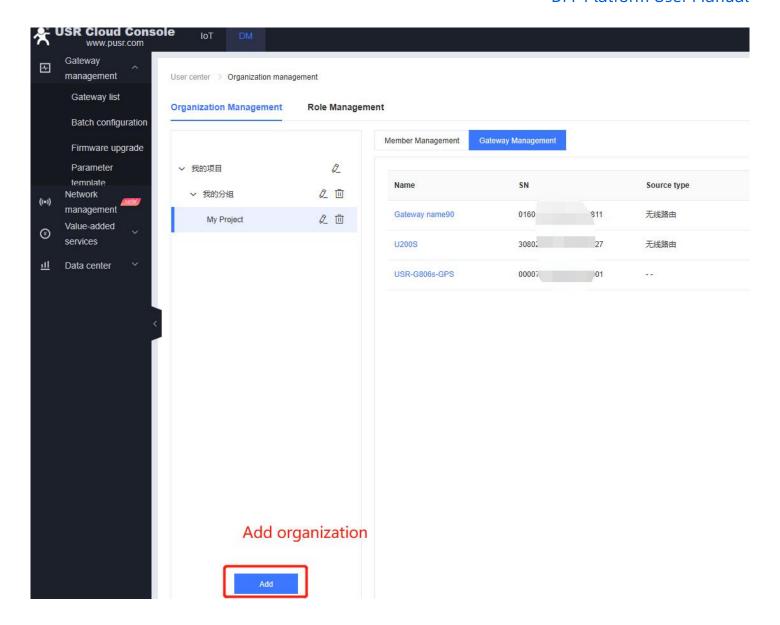
# 2.3. Organization Management



# 2.3.1. Organization Management

This function allows users to group gateways for easier management.





#### 2.3.2. Role Management

Assigns different permissions to users based on their roles.

Role name: set the role name

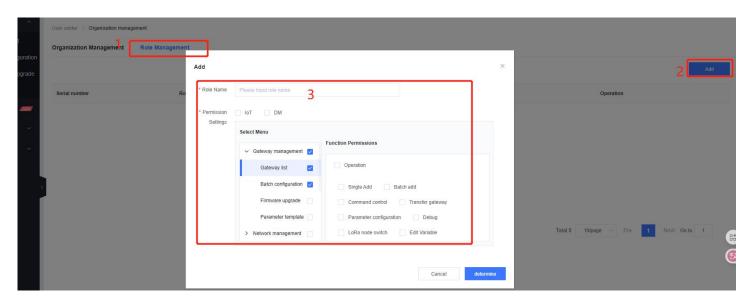
IoT/DM: If it is checked, it means this role have the permission to the IoT/DM,

If it is not checked, it means this role have not the permission to the IoT/DM.

Select menus: Select the menu option displayed on the left side of this user interface

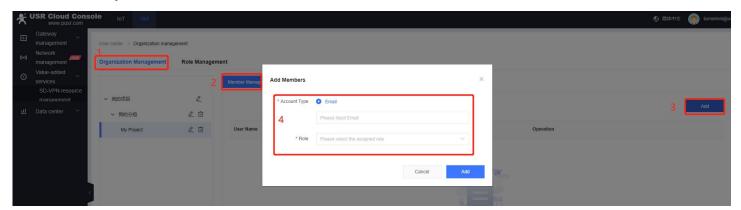
Function permissions: Select to allow the user to use/view the functions under the corresponding menu





#### 2.3.3. Member Management

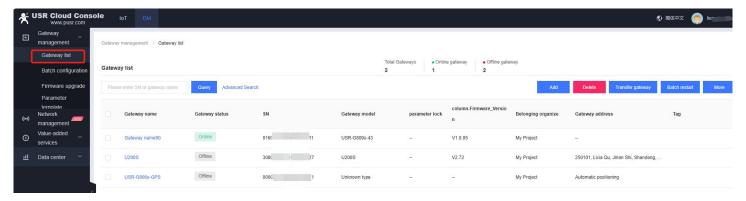
Adds sub-accounts using email and assigns permissions through role selection. Note: Sub-accounts cannot create secondary accounts.



# 3. Gateway Management

# 3.1. Gateway List

Provides basic functions such as adding, deleting, modifying, and querying gateways, as well as checking gateway status and online statistics.



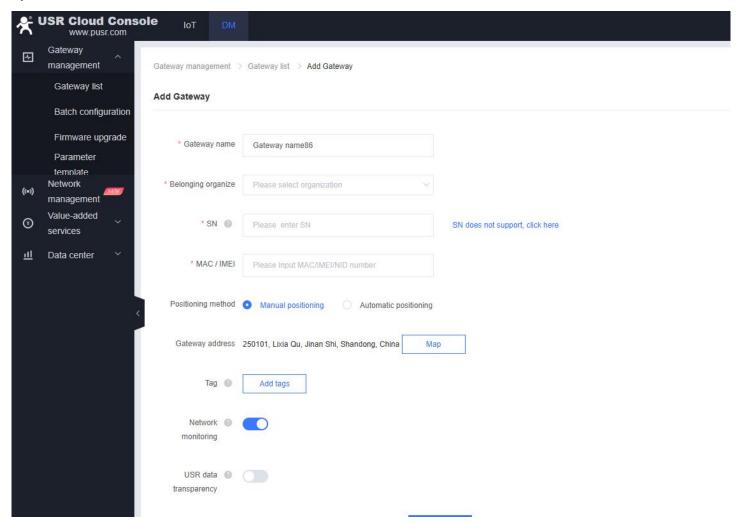


#### 3.1.1. Adding Gateways

Gateways can be added individually by entering the SN and MAC/IMEI from the router label or imported in bulk using a template.

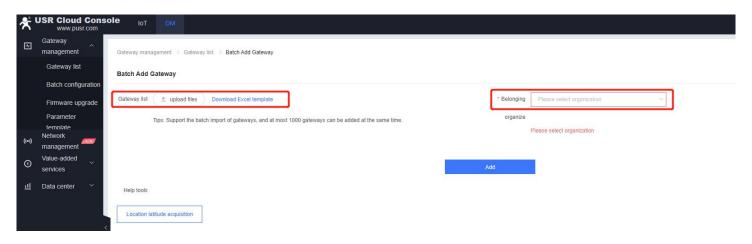


Single add: the SN and IMEI/MAC is listed on the label pasted on the device, and the other parameters can be set by users.



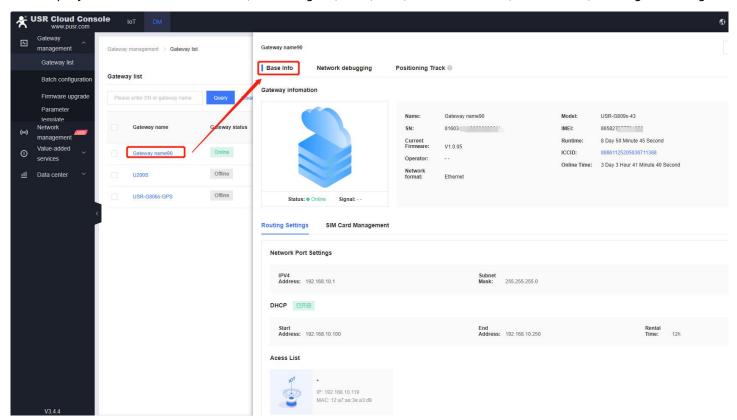
Bach add: users can download the excel template, and fill in the necessary information, and then upload the excel file to add multiple devices.





## 3.1.2. Gateway Basic Information

Displays basic router information, including SN, MAC, IMEI, network format, online time, and signal strength.



#### 3.1.3. Remote Built-in Web Page

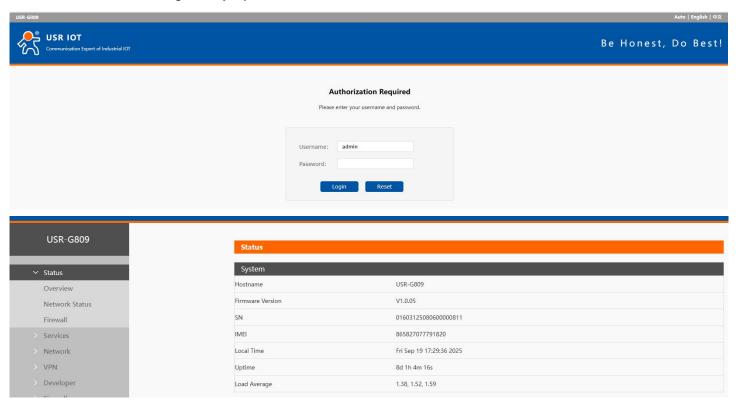
Allows remote access to the gateway/router's WEB interface via a public domain for visual configuration and efficient remote maintenance.

Note: Not all the gateway/routers support this function, if you need this function, please contact the sales man.





Click the configuration page, it opens a new tab page, after filling the password, users can log router's web page and can set/check router/gateway's parameters.

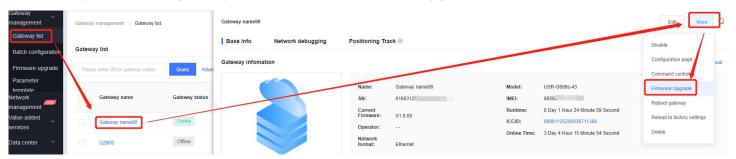


# 3.2. Firmware Upgrade

Supports single and batch firmware upgrades for routers/gateways.

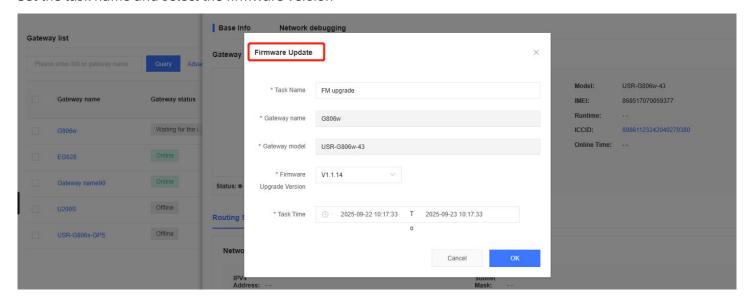
## 3.2.1. Single Device Upgrade

Gateway list--> click "gateway name" --> more--> firmware upgrade

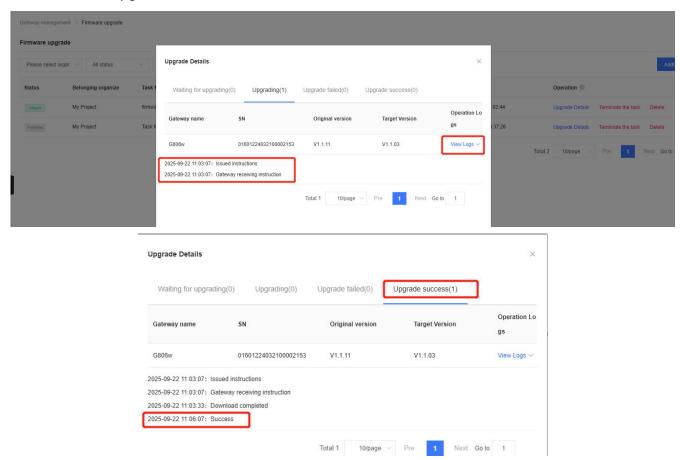




#### Set the task name and select the firmware version



#### Users can check the upgrade detail

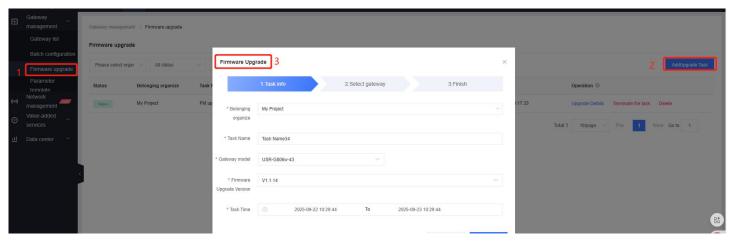


### 3.2.2. Batch Upgrade

Firmware upgrade -->add upgrade task

Select organization--> select gateway model-->select firmware version-->set task time

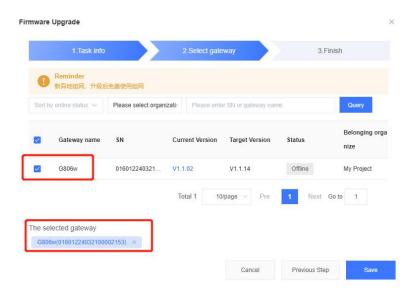




Select the specific gateway

#### Note:

- 1. Gateways that are offline at the scheduled task time will fail to upgrade
- 2. It is recommended to select <15 gateways per batch upgrade task. A maximum of 6 upgrade tasks can be created simultaneously.



The upgrade process starts approximately 10 minutes after the scheduled task start time. Check the upgrade status by clicking on the corresponding upgrade task in the [Firmware Upgrade] section.

# 4. SD-VPN Management

SD-VPN establishes a private network over the public internet via openVPN, enabling one-click interconnection between different branch nodes. It supports remote access, operation, maintenance, and monitoring. It facilitates mobile office, resource sharing, data transmission, and supports multi-cloud/hybrid cloud deployment. Suitable for small, medium, and large enterprises, catering, chains, and multi-branch organizations.

Applicable Scenarios:



- \* Remote Monitoring: Real-time, 24/7 monitoring of facility operational status.
- \* Remote Debugging of Industrial Computers and Instruments: Update device operating systems unrestricted by geographical location.
  - \* Remote PLC Upgrades: Avoid on-site visits, perform debugging directly from remote locations.
  - \* Flexible Remote Work: Create remote working environments for enterprise employees.

Products and Firmware Versions Supporting the SD-VPN Feature:

Product Model	Firmware Version	Max Networking Speed	Supported Network Types
USR-G806w-G	V1.1.10 and above	10M	Layer 3
USR-EG628	V1.0.11 and above	10M	Layer 3
USR-M300	V1.1.18 and above	10M	Layer 3

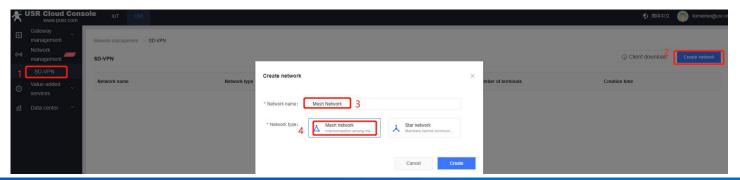
## 4.1. Mesh Network

#### 4.1.1. Network Topology



#### 4.1.2. Create mesh network

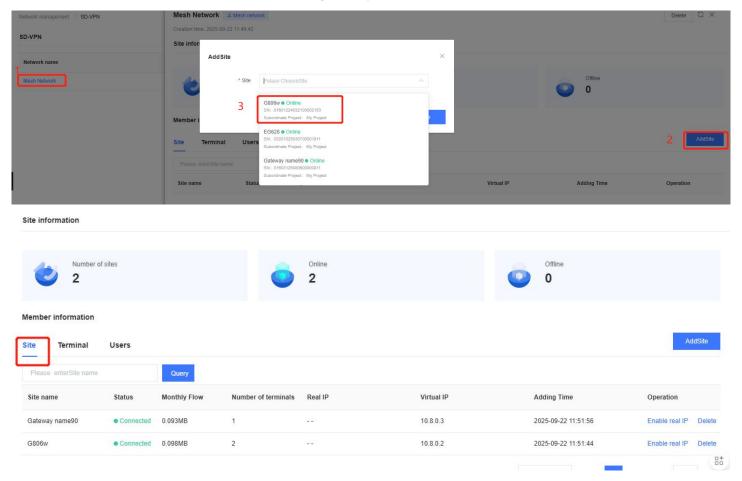
Network management--> create network-->till the network name-->select mesh network--> create





#### 4.1.3. Add site

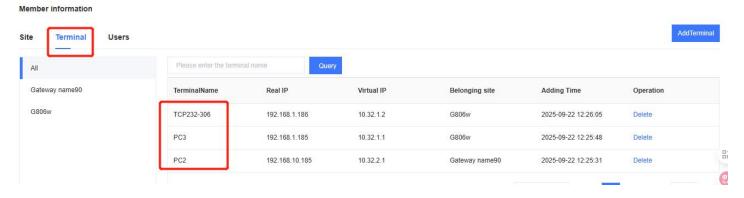
Click the network name-->add site--> select gateways/routers



#### 4.1.4. Add terminal device

The terminal devices are the device connected to the gateways/routers via WiFi or network cable. In the above network topology, the PC2, PC3 and the TCP232-306 are all the terminal devices.

Note: The real IP of the terminal device is recommended to set a static IP (if the terminal device uses DHCP, the IP assigned to the terminal device might change).



#### 4.1.5. Add users

The following steps are not mandatory. If not needed, you can skip directly to Step 3 of section 2.2 to verify



the network.

Explanation: Adding users is not mandatory. When maintenance personnel need to operate and maintain devices within this network while on a business trip, they can join the network via the user method.



### 4.1.6. Download and install client app

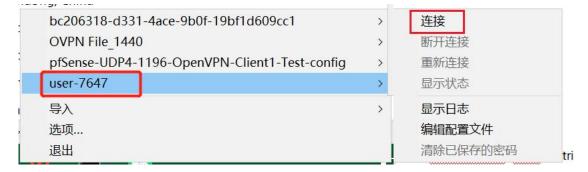
1. Download configuration file



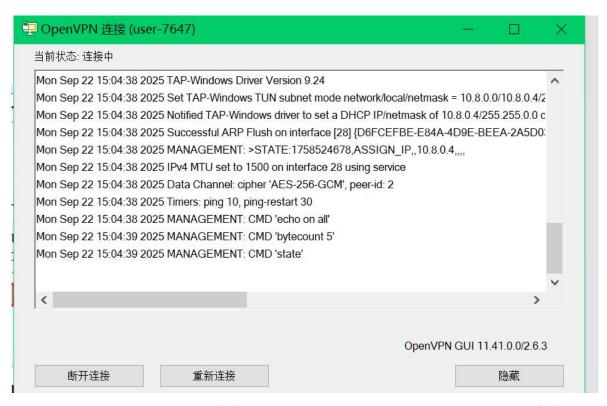
#### 2. Download client



3. Run client and import the downloaded configuration file, the connect







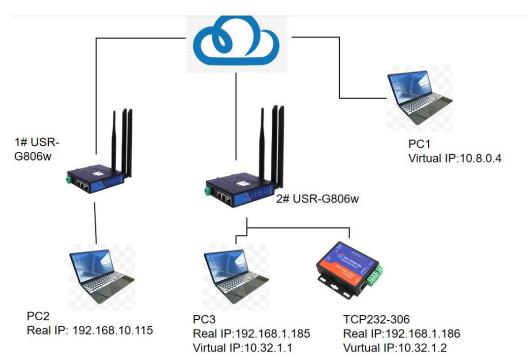
When the client connect to SD-VPN successfully, the client app will get an IP like shown in the following figure.



# 4.1.7. Verifying the mesh Network

The real IP and the virtual IP of the terminal device is shown in the following figure.





As a maintenance engineer, I may access the TCP232-306 anytime anywhere. Now I will ping and access the TCP232-306 via webUI. From the following figure, we can find that the ping command is success.

```
| C: | Semantic C: | C: | Windows | System | Sy
```

#### Access the configuration web page



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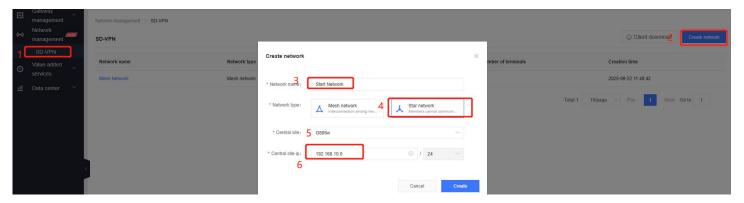
#### 4.2. Star Network



#### 4.2.1. Create star network

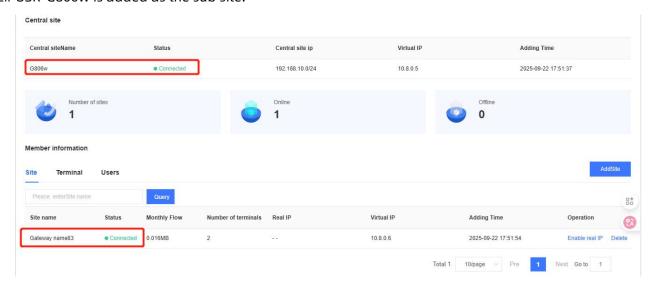
Central site IP: 1# USR-G806w

Central site IP: the sub network segment of the central site.



#### 4.2.2. Add the sub site

2# USR-G806w is added as the sub site.



Note: On the sub site, it has an operation "Enable real IP". If you need to access a terminal using its real IP, you



should enable the real IP function in the sub site settings, and the sub nets under each sub site in this network must not be on the same network segment.



#### 4.2.3. Add terminal device to the sub site



#### **4.2.4.** Add users

The following steps are not mandatory. If not needed, you can skip directly to Step 3 of section 2.2 to verify the network.

Explanation: Adding users is not mandatory. When maintenance personnel need to operate and maintain devices within this network while on a business trip, they can join the network via the user method.



#### 4.2.5. Download and install client app

4. Download configuration file

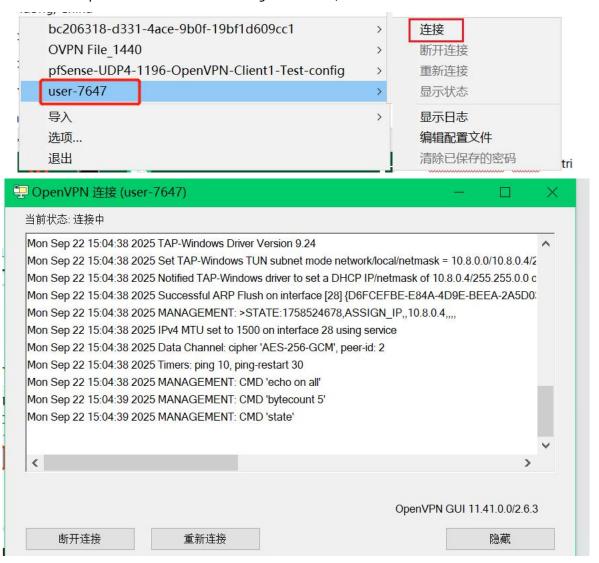


5. Download client





6. Run client and import the downloaded configuration file, the connect

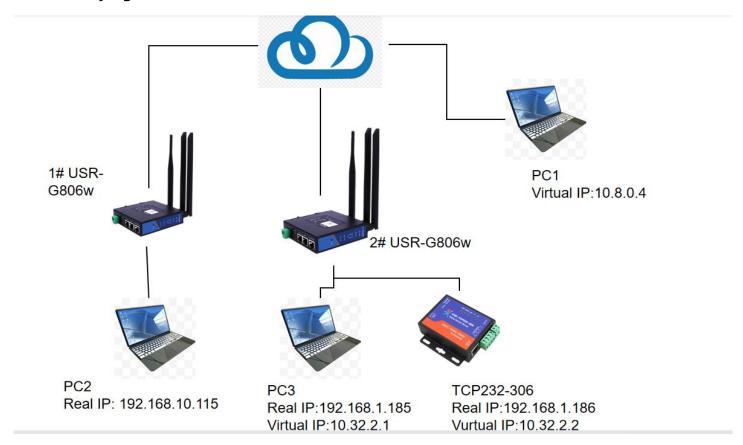


When the client connect to SD-VPN successfully, the client app will get an IP like shown in the following figure.





#### 4.2.6. Verifying the star Network



1. Use terminal PC2 at the central site 1# 806w to access the TCP232-306 under 2# 806w.



```
以太网适配器 以太网:

连接特定的 DNS 后缀 : lan
本地链接 IPv6 地址 : fe80;:2cff;fa3c;6311:3405%33
IPv4 地址 : 192.168.10.115
子网拖码 : 255.255.255.0 real IP of the PC2
默认网关 : 192.168.1.1
正在 Ping 192.168.1.1 具有 32 字节的数据:
Control-C
C(C:\Users\Administrator\ping 10.32.2.2 Virtual IP of TCP232-306

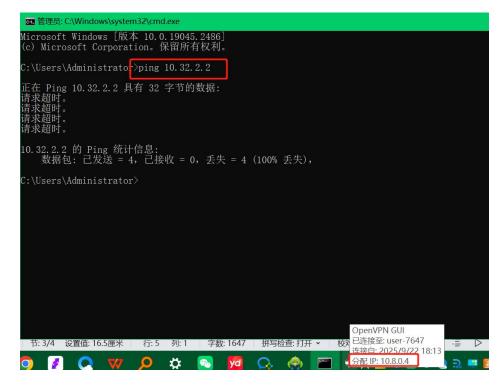
正在 Ping 10.32.2.2 具有 32 字节的数据:
来自 10.32.2.2 的回复:字节=32 时间=71ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=81ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=91ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=91ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=78ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=78ms TTL=253
来自 10.32.2.2 的回复:字节=32 时间=78ms TTL=253
来自 10.32.2.2 的目复:字节=32 时间=78ms TTL=253
来自 10.32.2.3 的目复:字节=32 时间=78ms TTL=253
和自 10.32.32 的目录:字节=32 时间=78ms TTL=253
```

Access the web page of USR-TCP232-306



2. Access the TCP232-306 via the PC1, Virtual IP of PC1:10.8.0.4,.

From the following figure, we can find the the PC1 can not access the TCP232-306 successfully. It's a normal phenomenon, because in star network, only the terminal connected to the central site can access and communicate with the terminal devices connected to the sub site.





3. Access the PC1 from the PC2, it can ping successful.



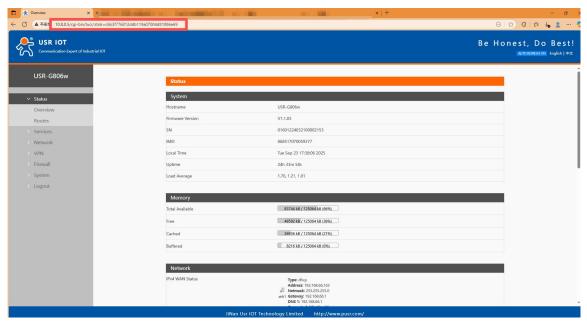
4. Access the 1# USR-G806w from PC1



PC1 ping the virtual IP 10.8.0.5 of 1# USR-G806w, from the following figure, we can find that it can ping successfully.



And users can access the webpage of 1# USR-G806w from PC1 via the virtual IP, as shown in the following figure.

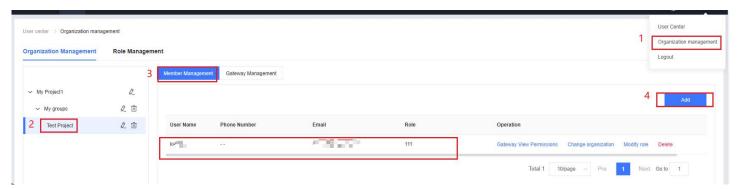




# 5. FAQ

- 1. Q: Can the same user's configuration file be used simultaneously on multiple PCs?
- A: No, because each certificate corresponds to one virtual IP. Using it on multiple PCs will cause conflicts.
- 2. Q: How can multiple PCs access this network simultaneously?
- A: Step 1: Organization management--Test project--Member management--add--fill in the email, and the platform will send an confirmation email.

Then you can refer to [Add users] section and download and import configuration file section to add new users to achieve that multiple PCs access this network simultaneously.



- 3. Q: Does having terminals under a site use DHCP affect the networking function?
- A: There is a risk. Because DHCP assignment may cause the IP to change, and the platform uses the terminal's actual IP to add it to the network. Therefore, using a static IP is recommended.
- 4. Q: How to troubleshoot if a PC cannot ping other terminals within the network?
- A: Please check if the firewall on both the PC and the terminal is turned off. The firewall can affect ping probes.
- 5. Q: In a star network, failure occurs when a terminal at the central site tries to access a terminal at a subsite. How to handle it?
  - A: The LAN of the sub-site and the LAN of the central site need to be set to different network segments for normal operation.
  - 6. Q: How to solve packet loss when using the network?
  - A: It is recommended to set the terminal MTU to 1500 or below and verify again.



7. Q: The PLC only supports access from the same network segment, but using remote networking involves different segments. How to solve it?

A: You can use G806w's SNAT function. Try the following settings:



#### 6. Contact Us

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