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Nebula Control Center

Application Note

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- **Introduction**

  - Challenges Today

Network is the greatest communications technology that brings people together through convenience, cost efficiency, and ease of integration with other neighboring networks. But it still has some disadvantage that needs improving when engineers maintain and manage these environments.

1. Multiple sites
   Most network operators provides network services across multiple sites. Because of this, it takes time for technical engineers to visit each sites to deploy and install their network devices.
2. Insufficient IT manpower & technical knowledge
   It is difficult to allocate technical manpower sufficiently for maintaining network services and supports. It also costs more to train technical engineers for more advanced networking knowledge.
3. No unified management systems
   Without any unified management system to manage and maintain all the network devices for each sites, network operators have to upgrade software or renew licenses for each individual devices.
4. Transportation time & cost
   During a new network deployment, network operators have to transport the network devices from warehouse to site location. This takes time and manpower to deliver all the hardware to end customers.
5. Complexity & time-consuming
   Complicated installation or configuration increase the working time for technical engineers setup the network for just one or two sites a day. In addition, it is inconvenient for operators to change device settings or maintain network service across multiple sites.
6. Lack of End-to-End solution

Network operators have to integrate different devices to fulfill the networking requirement at some sites. This may have potential risks, like compatibility or operating issues and proprietary functions which cannot work with devices from other brands.

- **Network Deployment**
  - Yesterday

- On-site technicians are needed for deployments
- Time consuming & high transportation cost
- Installation and provisioning process takes time

  - Nebula

- Nebula Mobile

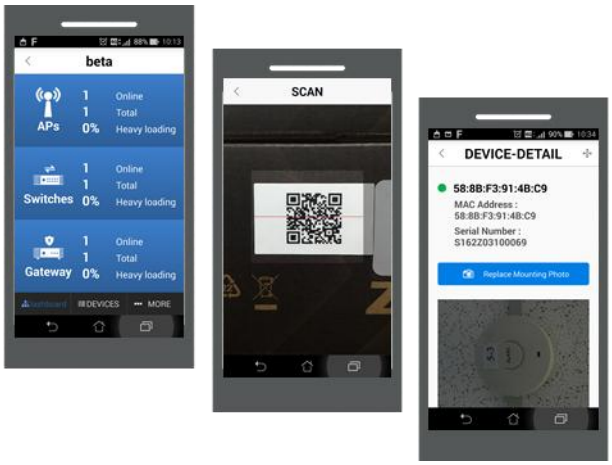
Nebula Mobile provides a mobile APP that can easily control & locate sites anywhere that requires network deployments.

Feature Highlights

- Built-in QR code scanner for quickly adding hundreds of devices.
- Photo capturing to upload the mounted device's locations.

- Overview of active Nebula APs, Switches and Gateways.
- Quick selection to view different sites.

- How to add Nebula device into NCC by QR code -
  Before you add device by QR code, it is necessary to have your account with **ORGANIZATION** and **SITE**, and then install the Nebula APP in your cellphone.



1. Login to your **ORGANIZATION** and **SITE**.
2. Scan the QR code which is labeled on the carton of your device.

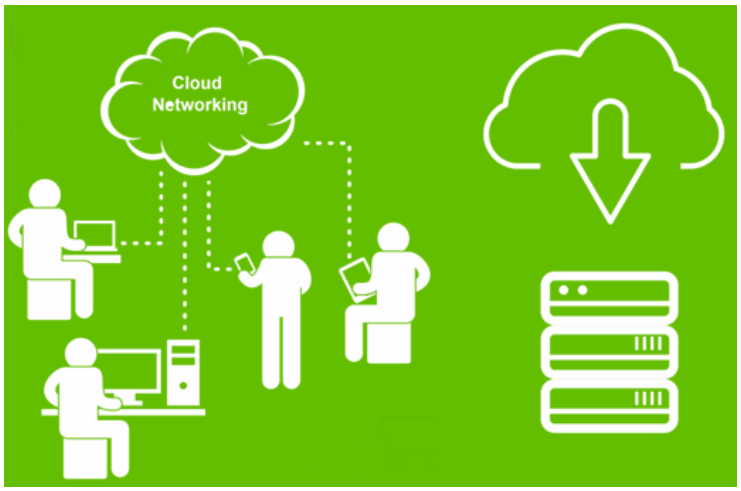
You can take a photo of the mounted device to find out where the devices are physically located.

- **Configuration & Upgrade**

  - Yesterday

    - Complex and repetitive device M-A-C configuration and firmware upgrade.
    - Cost a lot of time, effort and manpower to configure networks.

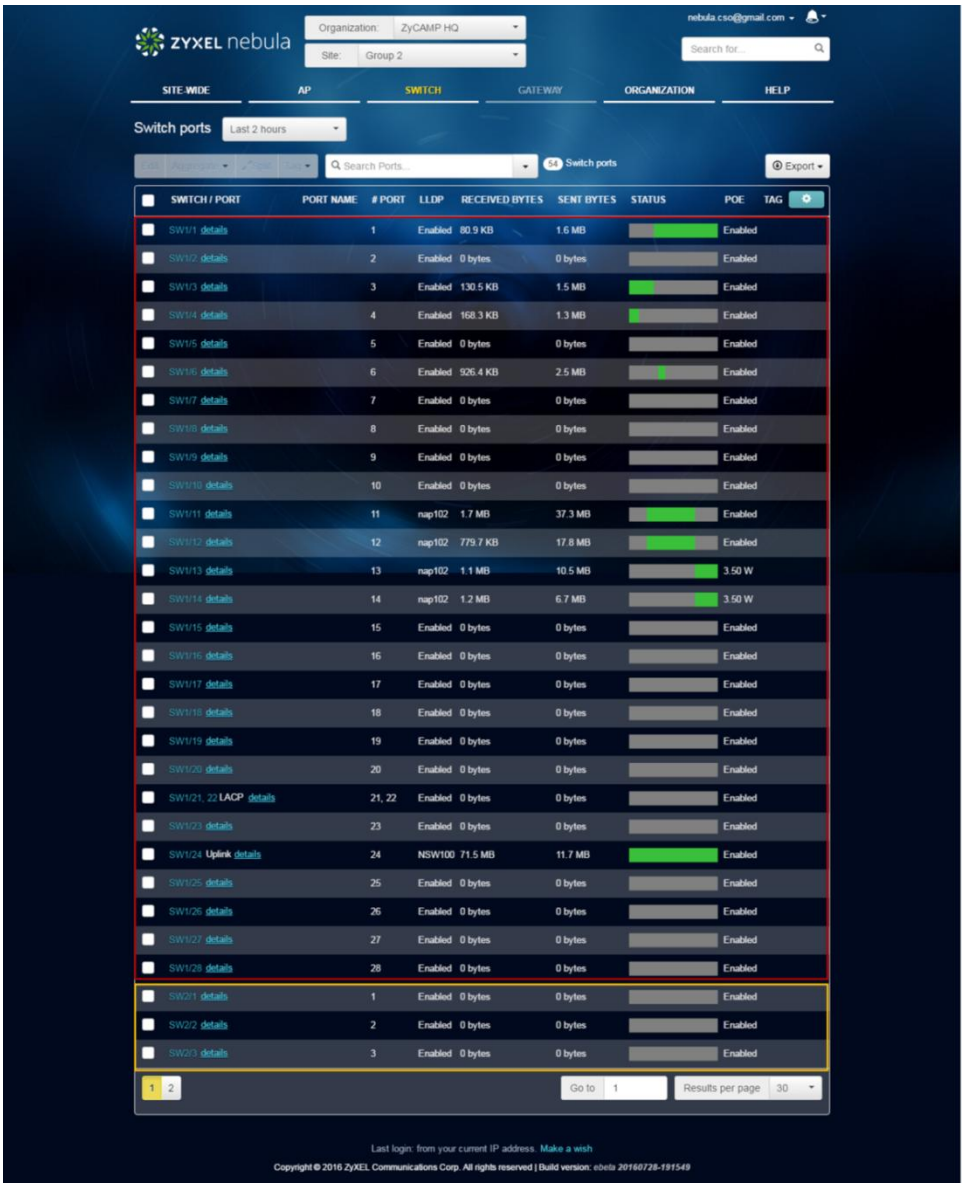
  - Nebula



    - Provide fast, simple, site-based configuration that are applied to every selected devices with a single click.
    - Easy to schedule side-wide firmware upgrade anytime, anywhere.

- Configure Nebula Switch ports across multiple switches –

If you need to reconfigure two network switches with VLAN 10 and 20 fixed at specific ports, it is traditionally necessary to login to every switch to do the configurations.
With the Nebula Control Center platform, you only need to configure them all on the same **Switch** page then apply it. It is simple and fast to complete the setup.

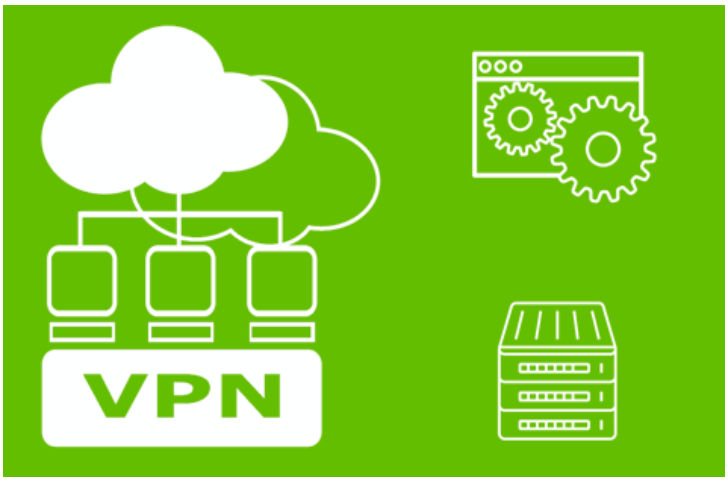


- Switch 1- Select the port to configure the setting
- Switch 2- Select the port to configure the setting

- **VPN**
  - Yesterday

- Administrators have to login on each device to configure VPN connections.
- Complex and repeated procedures

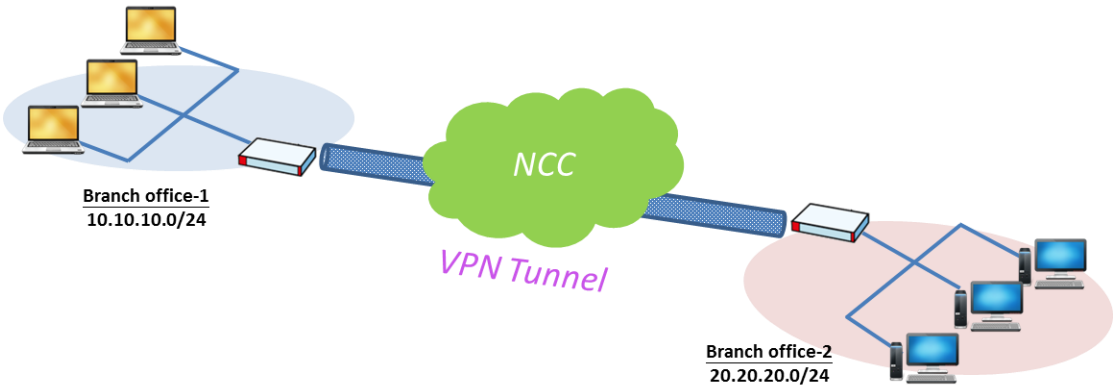
  - VPN



    - Zero touch site-to-site VPN
    - VPN tunnels are automatically established with just a few clicks on a single platform, without multiple login to every device

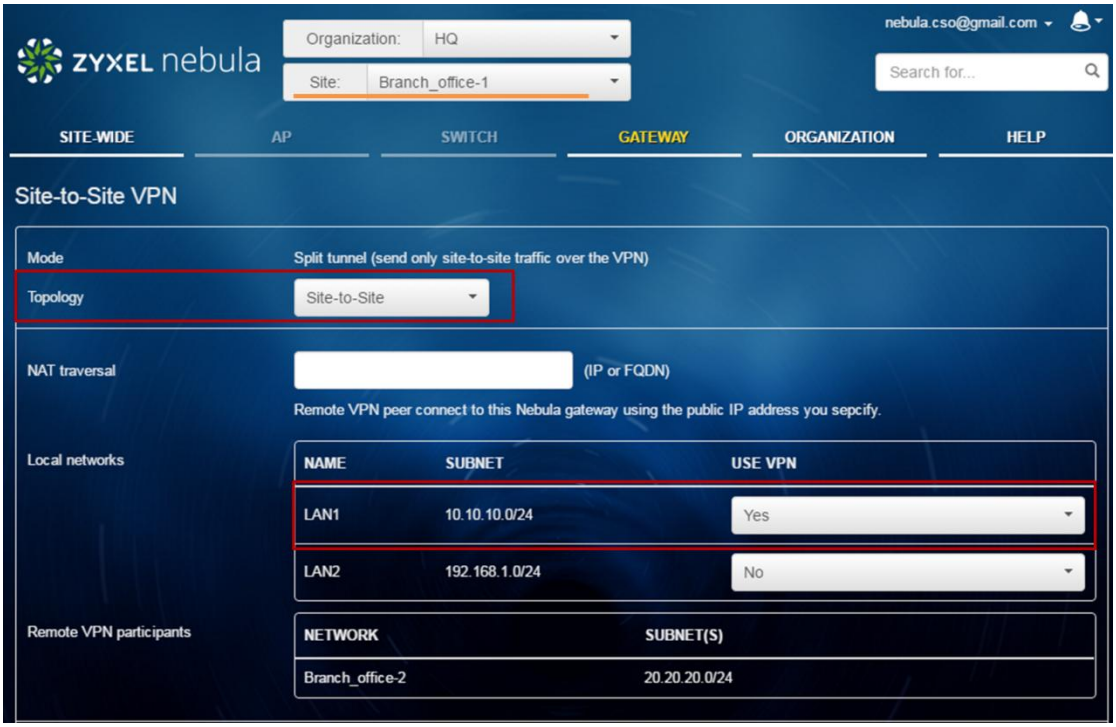
    - Only two steps to configure Site-to-Site VPN

Simply select the **VPN topology** and **IP network** in each site of the two NSG. VPN tunnel is established, afterwards.



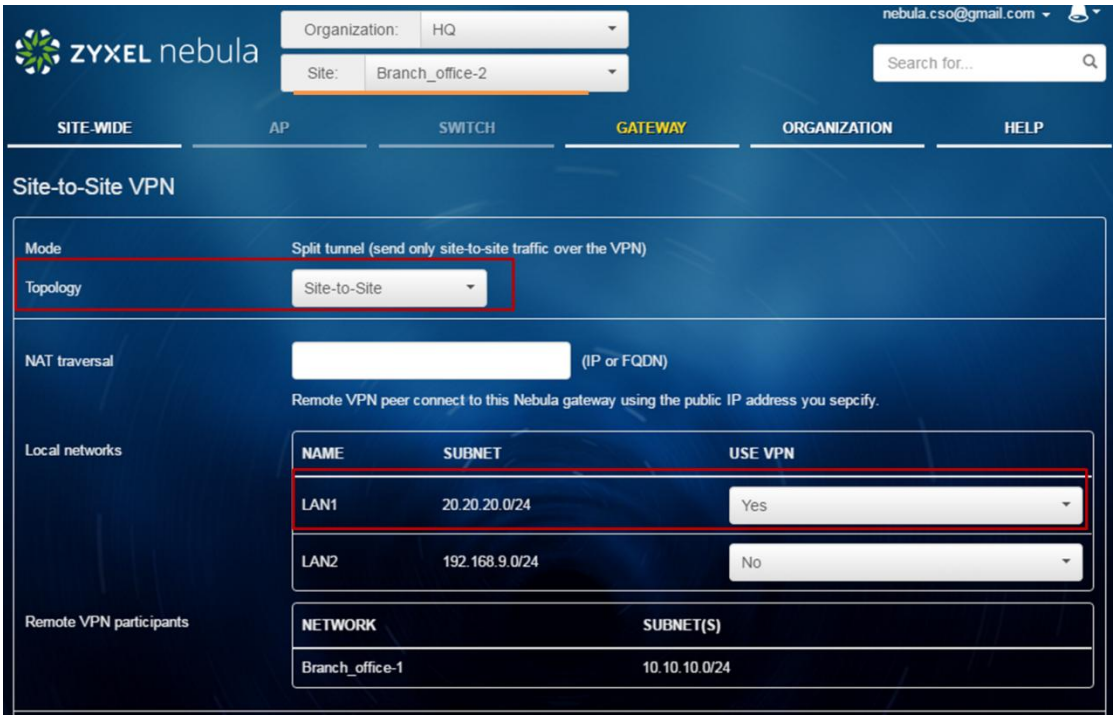
Site1- **Branch_office-1**

- Select the Topology: **Site-to-Site**
- Local networks: LAN1 – 10.10.10.0/24 (**YES** - USE VPN)



Site1- **Branch_office-2**

- Select the Topology: **Site-to-Site**
- Local networks: LAN1 – 20.20.20.0/24 (**YES** - USE VPN)


ZYXEL nebula
Organization: HQ
Site: Branch_office-2
nebula.cso@gmail.com
Search for...
SITE-WIDE
AP
SWITCH
GATEWAY
ORGANIZATION
HELP
Site-to-Site VPN
Mode
Split tunnel (send only site-to-site traffic over the VPN)
Topology
Site-to-Site
NAT traversal
(IP or FQDN)
Remote VPN peer connect to this Nebula gateway using the public IP address you sepcify.
Local networks
NAME
SUBNET
USE VPN
LAN1
20.20.20.0/24
Yes
LAN2
192.168.9.0/24
No
Remote VPN participants
NETWORK
SUBNET(S)
Branch_office-1
10.10.10.0/24

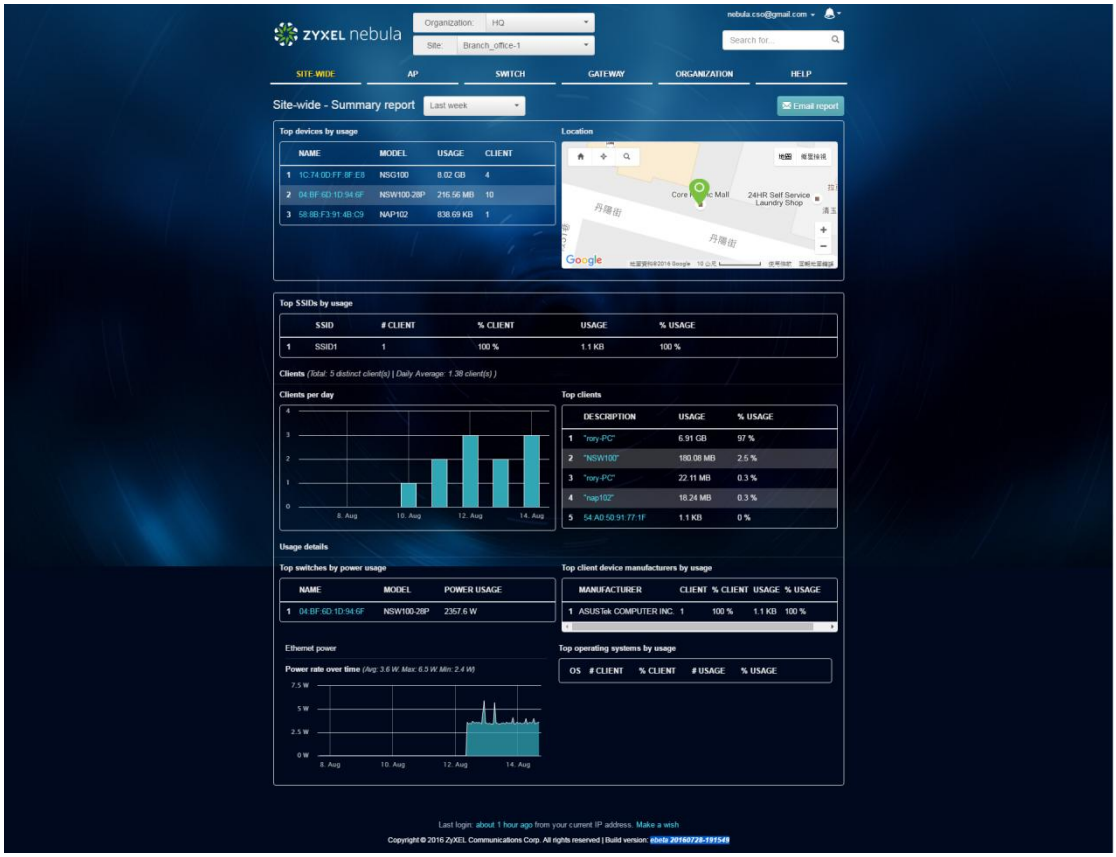
- **Monitor**
  - Yesterday

- IT with high skillset are needed for network management and monitoring.
- There is a lack or incomplete multi-site unified network monitoring, reporting, or measuring tools.

  - Nebula

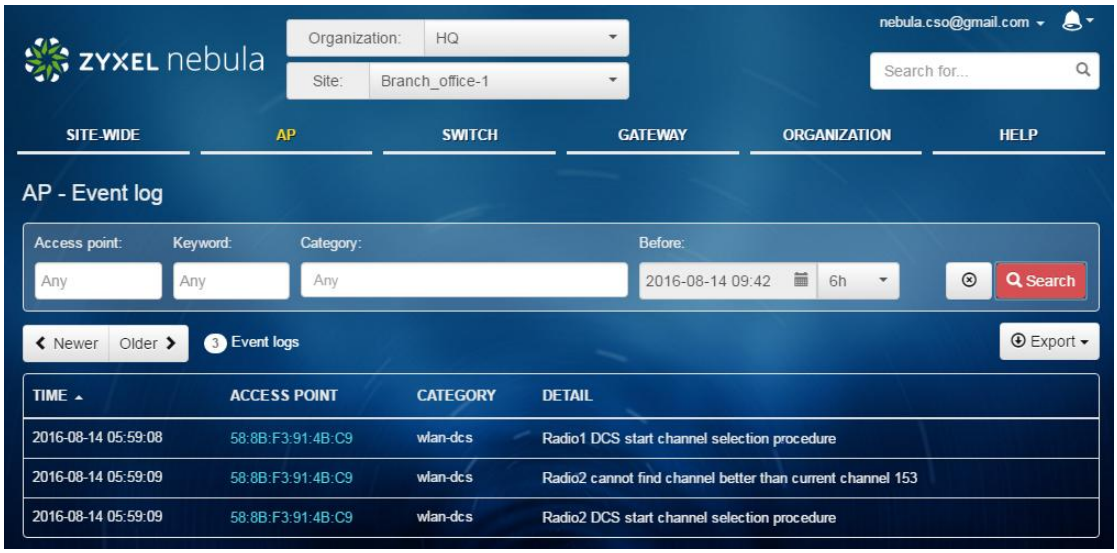
- 24/7 site-wide monitoring, reporting & measuring.
- MSP portal, and Organization overview for centralized multi-organizations & site management.

Site-Wide monitoring and reporting
Display overall network statistic for the selected site, such as bandwidth usage, power usage, top devices, top clients or SSIDs.

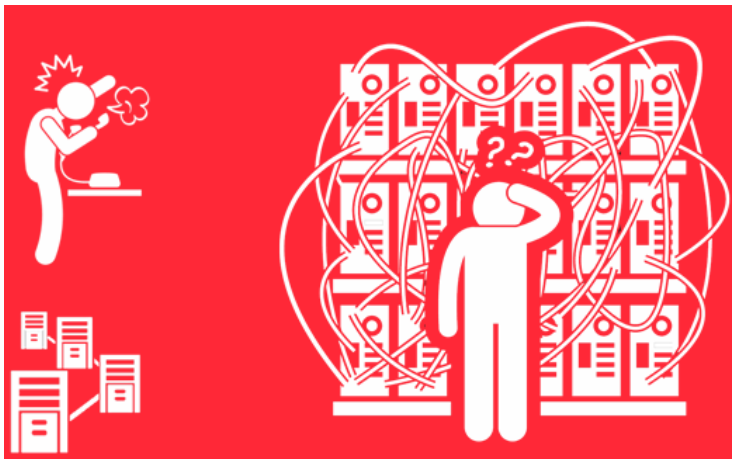


NCC also provides an **EVENT Log** for each Nebula devices in the network.

Nebula AP - Event log



- **Troubleshooting**
  - Yesterday

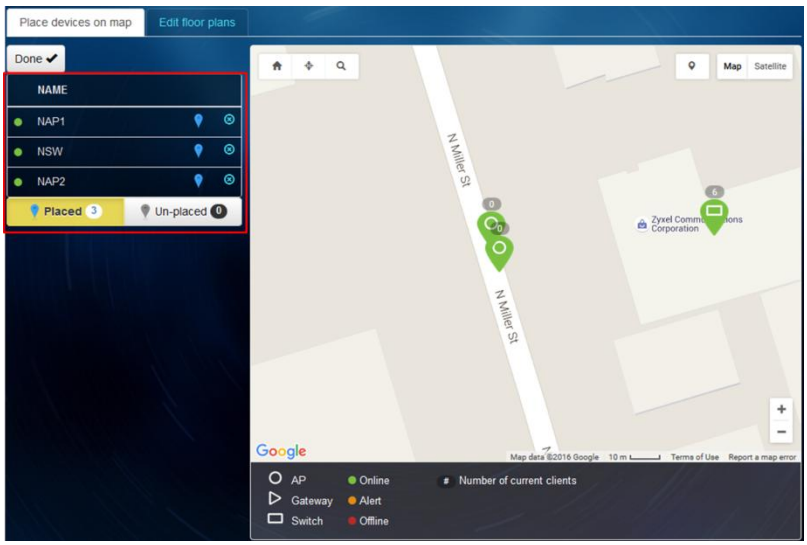
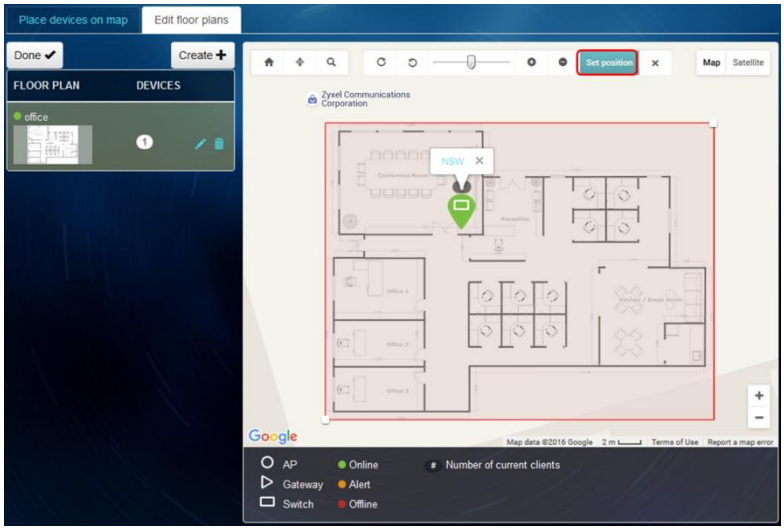


    - Hard to locate devices especially for wireless Aps.
    - Difficult to perform remote troubleshooting.
  - Nebula

    - Map & floor plan with Geo-IP and add a mounting photo using Nebula Mobile to help identify and record the physical locations of Nebula devices on the NCC.
    - Automated topology and Live tools for easy, remote troubleshooting.

Site-WIDE → Map & floor plan

- ✧ Place devices on map



- ✧ Floor plan