

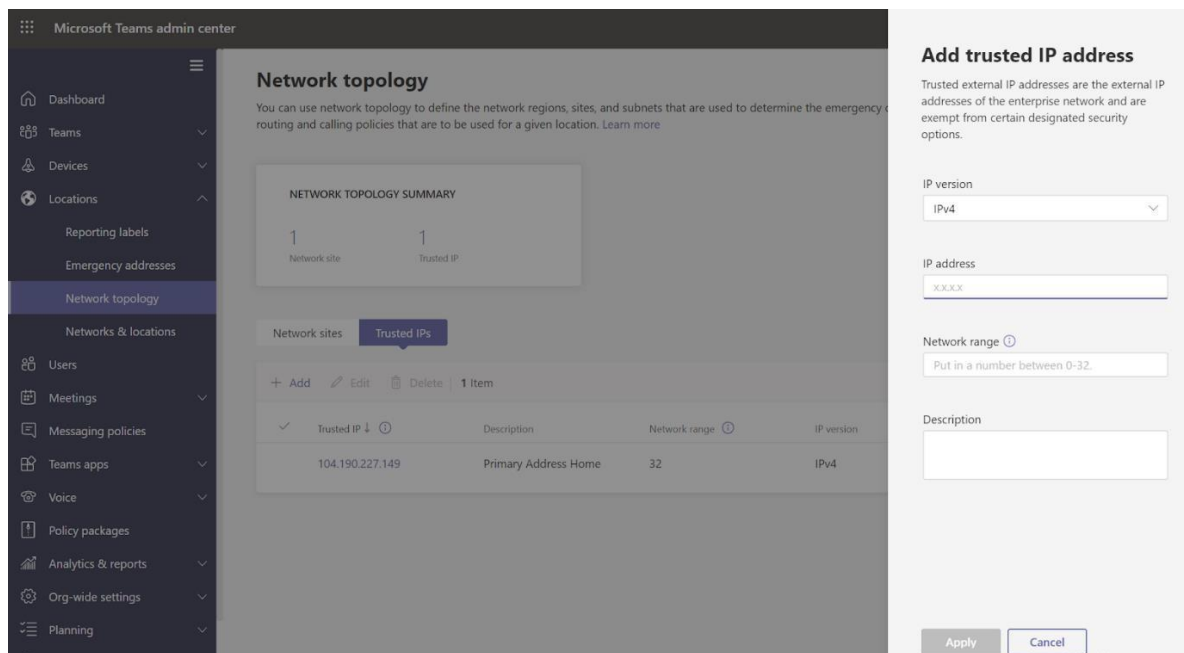
# Teams E911 Admin Setup

**Please Note:** The below setup is only a guide on how to setup Emergency addresses and locations within Microsoft Teams..

## Trusted IP's

The Trusted IP Address is the primary data point used by Teams to determine the location of an emergency caller. Once a 911 call is identified as originating from a Trusted IP Address within the corporate network, Teams queries the LIS database for the Emergency Location. At the time of a 911 call, the Emergency Location is used to route the call and is presented to the PSAP.

1. In the Teams Admin Centre, click **Locations** and select **Network Topology**.
2. Click **Trusted IPs**. You'll need to enter a Trusted IP for IPv6 (preferred) or IPv4. This will represent the public IP (egress IP address) of the business Internet.
3. Add a new Network Region. If you already created a Network Region for the U.S. and Canada-based PSTN access, you can skip this step.
4. Add a new Network Site and assign to a Network Region. The Network Site is also where the Emergency Calling and Call Routing policies are configured.
5. Add your subnets to the Network Site (see [Defining Network Elements \(WiFi Access Points and Subnets\)](#)).



You can also set up a trusted IP address in PowerShell by running:

```
New-CsTenantTrustedIPAddress -Description "YOUR LOCATION"  
-IPAddress 000.000.000.000 -MaskBits 32
```

## Additional Resources

- [Network settings for cloud voice features in Microsoft Teams](#)

## Step 3: Creating a Civic Address

### Creating a Civic Address in the Teams Admin Centre

1. In the Teams Admin Center, click **Locations** and select **Emergency addresses**. Civic Addresses created in the Teams admin portal will automatically assign a geo-coordinate (latitude/longitude). For this reason, it has an advantage over PowerShell.
2. Click **+Add** and enter the information that will be displayed to public safety:
  - The name for the location, e.g., company name
  - The street number and name

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Locations \ Add location

Put in a name for your location

Add a friendly description so you know why it was created

Country or region  
United States

Address  
YOUR ADDRESS

Map showing the location of the address.

Addresses are validated in real-time. Teams creates a CivicAddressID, LocationID, and populates the latitude/longitude of the address in Teams.

Once a Civic Address has been created and validated within Teams, the address can't be modified, though you'll be able to add a Place (see [Add a Place to a Civic Address](#)). Any other changes require deleting the entire Civic Address, then creating a new one.

In this example, we created an Emergency Location called *Your Company Name*:

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**Emergency addresses**

Emergency locations contain a physical address and if needed, a place, like a building, floor or office that is used to help locate a person in your organization if they call emergency services. You can create one or more depending on the number of physical locations you have in your organization. [Learn more](#)

+ Add Edit Delete

✓	Name	Description	Country or region	Address	Phone number
	Your Company Name		United States	YOUR ADDRESS	0

### Adding a Place to a Civic Address

Again, a Place is additional location information for a Civic Address such as a floor, suite, quadrant, room, cubicle, etc. It provides a more refined, accurate address to public safety. Note that Microsoft Teams creates two Location IDs: one for the Civic Address and one for the pairing of a Civic Address with a Place.

1. In the Teams Admin Centre, click **Locations** and select **Emergency Addresses**.

2. Click on the address you want to update, select **Edit**, and then click **Add**.
3. Enter the new Place. If an emergency address was already assigned to a user and needs to be assigned to a specific Place, you'll need to remove the association and re-enter it which allows you to select the Civic Address and the Place without using PowerShell.

### **Creating a Civic Address with PowerShell**

Initial address validation is performed automatically within Teams by Azure Maps during setup of Emergency Addresses. If a match is found, the corresponding geo coordinates (latitude/longitude or X,Y) are automatically calculated. If a match is not found, Teams provides the ability to create an Emergency Address through manual entry or by using a PIN drop feature.

In PowerShell, run:

```
New-CsOnlineLisCivicAddress -HouseNumber 1234 -StreetName MAIN  
-StreetSuffix STREET -City RALEIGH -StateOrProvince NC -PostalCode  
27613 -CountryOrRegion US -Description PRIMARY -CompanyName  
COMPANY NAME -Latitude 99.9999 -Longitude 99.9999
```

To confirm the Emergency Locations in Powershell, run:

```
Get-CsOnlineLisLocation
```

Note that the return string displays the LocationID and the CivicAddressID highlighted below. These will be needed to configure a Place and to set up E911 Dynamic Location Routing with Bandwidth (see [Provisioning Endpoints in the Bandwidth Dashboard](#)).

```
RunspaceId      : d5967d5c-9934-4ed5-a8f2-219281ebad91  
TenantId        : 4e2d9304-f99e-48ca-8205-e06b175e5423  
LocationId      : 0700bb34-5b4d-49e2-81ed-cac0956aed4e  
CivicAddressId   : e4ad15c2-0791-411c-98d8-f4580370ce1d  
Location        :  
CompanyName     : YOUR COMPANY NAME  
HouseNumber     : 1234  
StreetName      : MAIN STREET  
City            : CITY  
PostalCode      : ZIP  
StateOrProvince : NC  
CountryOrRegion : US  
ValidationStatus : Validated
```

**Note:** The Location field in the example above is currently blank. This field should include the Place information.

### **Adding a Place with PowerShell**

In this example, we'll create Room 999 as a new Place.

When configuring places, the PowerShell refers to the Civic Address plus Place as a new and distinct LocationID. The following string ties the Place to the CivicAddressID:

```
$Room999 - New-CsOnlineLisLocation -CivicAddressID CIVIC  
ADDRESS ID -Location Room 999
```

To confirm Location IDs have been created, run:

```
Get-CsOnlineLisLocation
```

Powershell will return the following with Location ID. Remember, Teams will create one LocationID for each Civic Address, and another if that Civic Address is paired with a Place.

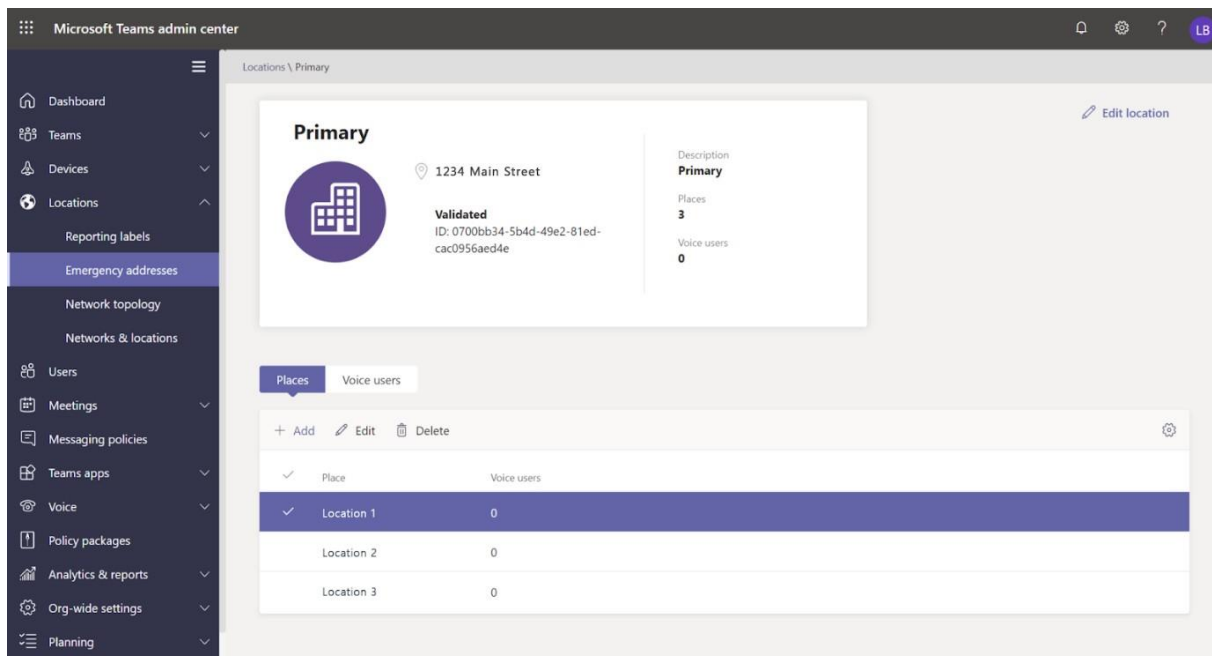
In PowerShell, run:

```
New-CsOnlineLisLocation -CivicAddressId CIVIC ADDRESSID  
-Location YOURLOCATION -Latitude xx.xxxxx -Longitude xx.xxxx
```

```
New-CsOnlineLisLocation -CivicAddressId  
e4ad15c2-0791-411c-98d8-f4580370ce1d -Location 'ROOM 999'  
-Latitude 99.99999 -Longitude 99.99999
```

```
RunspaceId      : 36e27de2-140d-4a5e-9124-51b4465aa75  
TenantId        : 4e2d9304-f99e-48ca-8205-e06b175e542  
LocationId      : b4cf110f-d894-491b-aa1c-98b99197147  
CivicAddressId  : e4ad15c2-0791-411c-98d8-f4580370ce1d  
Location 2     : Room 999  
Your Company Name : Your Company Name  
CompanyTaxId    :  
HouseNumber     : 1234  
HouseNumberSuffix :  
PreDirectional  :  
StreetName      : Main Street  
StreetSuffix    :  
PostDirectional :  
City            : Raleigh  
CityAlias       :  
PostalCode      : 27613  
StateOrProvince : NC  
CountryOrRegion : US  
Description     :  
ValidationStatus : Validated  
NumberOfVoiceUsers : 0  
NumberOfTelephoneNumbers : 0  
Latitude        : 99.99999  
Longitude       : -99.99999  
Confidence      :  
Elin            :  
ResultSize      : 0  
NumberOfResultsToSkip : 0  
Verb            :  
CorrelationId   :  
Force           : False
```

You can view Place information in the Teams admin portal.

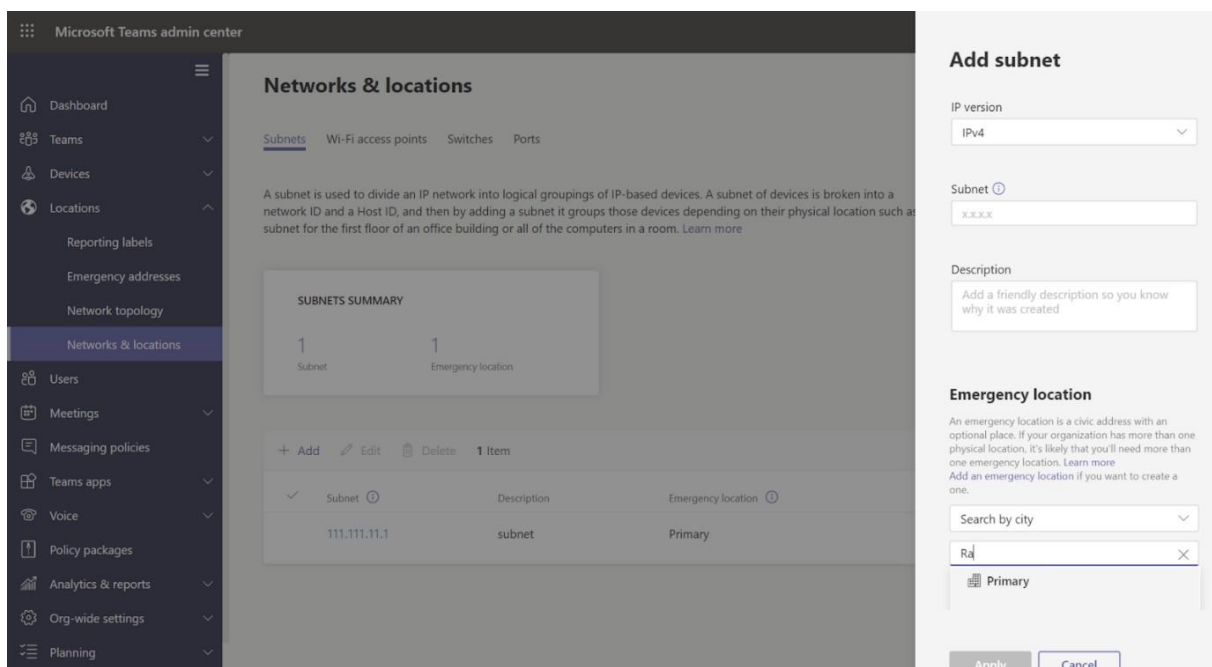


#### Step 4: Defining Network Elements (WiFi Access Points and Subnets)

Once Emergency Locations and Places are established, network elements such as WiFi access points and subnets (Microsoft has indicated support for Ethernet switches/ports will be available soon) can be mapped to them. Note that you can add subnets using the Teams Admin Center, but not WiFi access points (although this functionality is coming soon).

#### Creating a Subnet in Teams Admin Portal

1. In the Teams Admin Center, click **Locations** and select **Networks & locations**.
2. Add the Subnet and assign it to the Emergency Location (Civic Address) created Step 2.



#### Provisioning WiFi Access Points

To provision WiFi access points, you'll need the BSSID from the router. This is sometimes the same as the MAC address, but not in all cases. 5G and 2.4G wireless APs tend to have different BSSIDs for each band. BSSIDs will need to be added for all bands that may be joined by your users.

To locate the BSSIDs, open a DOS window and enter:

netsh wlan show interfaces

The command will return:

```
There is 1 interface on the system:

Name                : Wi-Fi
Description          : Qualcomm Atheros AR9485 802.11b/g/n WiFi Adapter
GUID                : 1xx23xxx-1234-1xxx-xxx-x12xx1234xx1
Physical address     : 28:e3:47:8b:24:17
State                : connected
SSID                : 2WIRE755
BSSID               : 11:22:33:44:55:66
Network type         : Infrastructure
Radio type           : 802.11n
Authentication       : WPA2-Personal
Cipher               : CCMP
Connection mode      : Auto Connect
Channel              : 1
Receive rate (Mbps)  : 72.2
Transmit rate (Mbps) : 72.2
Signal               : 100%
Profile              : 2WIRE755

Hosted network status : Not available
```

**Pro Tip:** Windows will return the BSSID in this format: xx:xx:xx:xx:xx:xx. However, Microsoft Teams needs it to be entered as: xx-xx-xx-xx-xx-xx.

### Associating WiFi Access Points with a Location

**Note:** The use of Ethernet switches/ports are not currently supported in Teams, but Microsoft has indicated in their [online documentation](#) that this ability is pending. Once subnets, WiFi access points, switches/ports are created, the Teams admin portal will show them as Places in Emergency Locations.

To define network locations using WiFi access points, run:

Set-CsOnlineLisWirelessAccesspoint -Description LOCATION  
NAME -BSSID BSSID -LocationId LOCATIONID

```
PS C:\WINDOWS\system32> Set-CsOnlineLisWirelessAccesspoint -Description "Basement" -BSSID "F0-72-EA-49-A8-10" -LocationId 41459099-429c-463a-be2e-8293d7a67d23

CorrelationId : 713f6a9d-6378-4599-b631-a4cf9cc1096e
Result         : Success
RunspaceId     : 36e27de2-140d-4a5e-9124-51b4465aa758
```

To confirm the correct configuration, run:

Get-CsOnlineLisWirelessAccessPoint

PowerShell will return:

```
PS C:\WINDOWS\system32> Get-CsOnlineLisWirelessAccesspoint

BSSID      LocationId      Description TenantId
-----
X1-11-X1-11-X1-11 41459099-429c-463a-be2e-8293d7a67d23 Location 1 4e2d9304-f99e-48ca-8205-e06b175e5423
X1-11-X1-11-X1-11 b4cf110f-d894-491b-aalc-98b99197147b Location 2 4e2d9304-f99e-48ca-8205-e06b175e5423
X1-11-X1-11-X1-11 b334a2c1-0e39-420c-a01d-c160df593d6e Location 3 4e2d9304-f99e-48ca-8205-e06b175e5423

PS C:\WINDOWS\system32>
```

**Pro Tip:** If a user is connected to both a subnet and WiFi access point, the default Emergency Address will be based on the WiFi access point. Note that WiFi access points may take longer to appear within Teams admin portal than IP addresses or subnets.

**Important:** While the Trusted IP addresses of the enterprise are whitelisted within Teams, most work-at-home users are subject to occasional dynamic IP address changes by their ISP. Because of this, setting up the user's home network as a Trusted IP address is not recommended. For these users, 911 calls made through Microsoft Teams will be routed to Bandwidth's nationwide Emergency Call Center (ECC) for call processing.

#### **Additional Resources**

- [Plan and configure dynamic emergency calling](#)