



**NYC Mesh**

[INSERT ADDRESS BLOCK]

[DATE]

Dear [NAME]:

We invite the [ORGANIZATION] to join the NYC Mesh network!

NYC Mesh differs from commercial internet service providers. ISPs charge a large fee for bandwidth even though they get this very cheaply. NYC Mesh is different because you become part of the network. NYC Mesh connects directly to other backbone networks. We only pay for our antennas and building space.

Our network does not block content, and it can operate independently of the main internet for emergency services or local traffic. The supernode will work even during a blackout.

We are a community of developers, technologists, users, and neighbors who are building a solution. This document details how the mesh network operates, our goals, and why we have set this service up for a low cost. We are excited about adding your community to the network and helping you achieve your organizational goals. In a neighborhood where broadband adoption rates are low, NYC Mesh service will help our community narrow the digital divide.

Sincerely,

[YOUR NAME]

Community Organizer, NYC Mesh



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## NYC Mesh Mission

NYC Mesh aims to create a resilient, stand-alone communication system that serves both for daily use and also for emergencies. It is simple to set up and anyone can participate. We are building a neutral network that does not block or discriminate content.

## What is a Mesh Network?

A mesh network consists of Wi-Fi router "nodes" spread throughout the city. The network has no central server and no single internet service provider. The NYC Mesh network is built using inexpensive routers running our mesh software. The software automatically connects to nearby mesh routers, increasing and strengthening our network. Because of its decentralized nature with no single point of failure, the network can also serve as back-up Wi-Fi in the event of power outages or internet disruption.

## How Does it Work

We provide internet through peering at an internet exchange point hosted at 375 Pearl Street (a telecommunications building). [The building at ADDRESS has a clear line-of-sight to 375 Pearl Street where we have mounted a "supernode."] With suitable hardware, any router with a clear line-of-sight to the supernode can have fast, reliable internet connection.

### **Security**

Network traffic within the mesh is not encrypted by default. There are a number of VPN services in the market for as low as \$50/year. Generally, users should exercise standard precautions on public networks such as using https (lock icon) websites for secure connections and not share personal information.

### **Legality**

We are a project of the New York Chapter of the Internet Society, which is a 501(c)(3) non-profit organization. The mission of the Internet Society is "to promote the open development, evolution, and use of the Internet for the benefit of all people throughout the world." Sharing Wi-Fi is legal in this country and state. NYC Mesh only uses FCC approved devices.



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## Membership

Once you buy a router and install it you are part of NYC Mesh. There is no compulsory fee however donations help us cover maintenance and operation: <https://nycmesh.net/donate>. Suggested donation is \$20.00/month. By joining the mesh you agree to share and extend the mesh in the same way that it was shared with you. Membership does not entail any special privileges.

### How can you offer this service?

The Internet Society of New York (ISOC-NY) is our fiscal sponsor. We survive by grants and donations. NYC Mesh is a winner of the Beyond the Net Funding Programme. Beyond the Net funds internet projects that aligns with the Internet Society's mission to provide open, secure internet access for all. These funds subsidize the network for one year once it is installed. During that time we will work with our community partners to determine a path toward long-term sustainability.

## Site Survey/Installation

[This section will vary depending on the equipment needed. Below is a sample installation for a building with direct line-of-site to the supernode.]

The line-of-sight installs would need a directional antenna towards 375 Pearl St. The cost for this antenna is \$70.00.

The directional "LiteBeam" antenna is 14" wide x 10.5" high (about 1 square foot). The bandwidth received is around 200Mbps.



The "LiteBeam ac"



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These antennas include radios that use power over ethernet (POE). This means only a single run of ethernet cable from an adapter is required for power. Internet could be provided for 1234 Bowery by placing one LiteBeam antenna on the roof and running an ethernet cable down to the office. The ethernet connects to the adapter and to another indoor router. The indoor router starts at \$25 or \$80 for a stronger “dual-band” one suitable for the whole floor.



~\$25

OR



~\$80

NYC Mesh charges a fee for a rooftop install. This includes simple mounting hardware and up to 100' of ethernet. As there is already a suitable mast on the building the install should be simple.



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# NYC Mesh- Network Commons License (v1.0.3)

The Network Commons License is the framework that governs the network commons.

## **The License**

The Network Commons License (NCL) describes the terms and conditions associated with the use of free and open networks, and so enables individuals, communities, companies, governments and other organizations to adopt or support the same.

The NCL is rooted in the following four tenets:

- Participants are free to use the network for any purpose that does not limit the freedom of others to do the same.
- Participants are free to know how the network and its components function.
- Participants are free to offer and accept services on the network on their own terms.
- By joining or adding services to the free network, you agree to extend the network to others under the same conditions.

## **Terms**

### **Participation**

- The free network honors the human right to communication, and aims for the maximum possible benefit for its constituents. Disputes regarding the right and proper execution of this framework should be resolved through the consensus of network stakeholders according to these principles.
- The network must allow access to any willing participant, except when doing so would jeopardize the proper functioning of the network.
- Network devices and infrastructure can be financed and capitalized in any manner that does not seek to profit off of other participants in the network.
- The network as a whole does not have any owner or proprietor, regardless of any specific contribution to the network.
- Network participants agree to extend the network on the same terms and conditions that they receive it, allowing all data to transit their own portion of the network without manipulating that data for any reason other than network maintenance.
- Network participants agree only to the terms of this License - any other agreement must be explicitly expressed and accepted.



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- In order to maximize connectivity and network growth, network constituents are encouraged to allow other network participants to install devices in their facilities, but this permission is always discretionary and can be revoked at any time.

### **Provision of Services**

The contents and services of the network, including access to the Internet are offered on their own terms.

These general principles apply:

- The free network serves only as a conduit of information - the network itself has nothing to do with hosted services and is not liable for them.
- Content and services may be created and shared at will.
- Content creators or owners can license their creations with the license of their choice, with no restriction. Unless otherwise stated, services are considered gratis, and offered “as is”, and without any warranty.
- The free network makes no guarantee regarding the availability of Internet access.
- Should it become necessary to shape network traffic in order to optimize network performance, real-time communications may be given priority over delay-tolerant forms. In the case that traffic is shaped or manipulated, such practices must be transparently disclosed, and the exact policies in use must be published.
- Where possible, information regarding network throughput and availability should be published to allow the network participants to diagnose incidents by themselves.
- Network participants agree not to transmit contents that might jeopardize the well being of other participants or operation of the network itself, including, but not limited to illegal content, unsolicited communications, and malicious software.

### **Use of Spectrum**

- Participants must use spectrum reasonably and responsibly, using the minimum transmission power necessary to achieve intended service levels.
- Coordination and cooperation should be used, whenever possible, to avoid interference and minimize spectral pollution.

### **Security and Liability**

- Network participants are responsible for the security of their own systems.
- Participants should assume that all information transiting the free network is visible to others, and encrypt their communications accordingly.
- Private networks can be connected to the open network and use firewalls to regulate access and traffic between those networks. Those private networks are not under the terms and conditions of this License, and their owners are responsible for their own security.
- The free network is not responsible for any damage caused to or by participants in the network.



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- The free network disclaims all liability for the behavior of its participants.

### **Conditions**

- Adoption of this License can be expressed by individuals or organizations and implies the acceptance of the License's terms and conditions. At any time, any member can revoke this adoption and therefore reclaim their own network devices or equipment. Device ownership is never lost, regardless of where devices are placed.
- The Network Commons License is distributed under a Creative Commons Non-commercial, Attribution, Share-alike license, which stipulates that derivative works are allowed, but that they may not be used for commercial purposes, must give credit to the Network Commons License, and must be released under these same conditions.

**On behalf of [ORGANIZATION NAME], I agree to the Network Commons License**

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*Signature*

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*Print Name*

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*Date*