



NYC Mesh

Brian Hall
NYC Mesh

Church of Saint Brigid-Saint Emeric
119 Avenue B, New York, NY 10009

12/12/16

Dear _____:

We are writing for the Church of Saint Brigid-Saint Emeric's participation in the NYC Mesh network. This letter addresses the basic design of the network (how it works), details of the product, and legality of the mesh network. If there are any questions that we can help answer, please do not hesitate to reach out to our team.

Sincerely,

Lisa Ly
Community Organizer, NYC Mesh

[Enclosure]



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Site Survey

Lisa and I visited this church on Oct 31, 2016. Lisa had already spoken and visited previously.

Father Lorenzo is interested in replacing Time Warner so they can save the \$50/month. He thought maybe we were getting internet through satellite. I explained our story and he seemed interested in getting internet out to the local people on Ave D etc.

The building we surveyed is the office next to the actual church but is almost as high. It has professional ethernet cabling with wall outlets in most or all the rooms. There is a closet with router and rack mounted switch. I don't think they have any wifi, just extremely good ethernet.

The roof is very tidy and has a metal L beam that has an unused analog tv antenna, perfect for mounting. There is no conduit so the ethernet would have to run down the outside wall.

Father Lorenzo shared his email address: laurence.campos@aol.com and direct line (646) 431-0066 so that the team can follow up with next steps. Father Lorenzo cannot make the decision himself since it involves the building.

Our next follow up is composing a more detailed letter to present to the Diocese. This would be important as they control many churches. The letter should address the legality of the mesh network, details of the product, and basic design of the network (how it works).

Note: the diocese owns spectrum in the 2.5Ghz range

NYC Mesh Mission

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

The mesh network can serve as a public Wi-Fi access points with potentially higher bandwidth than what is provided by commercial Wi-Fi providers such as Time Warner, Verizon, etc. As our community grows, eventually, the Church can replace your commercial internet provider with NYC Mesh for no monthly charge. But first, we must start with expanding the network. Will you help us close the digital divide?

What is a mesh network?



NYC Mesh

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.

What are the benefits? How does it work?

There are two case uses for the mesh network: sharing internet access and connecting to the supernode for internet service. Momentum is picking up fast, individual NYC Mesh users are mounting routers in their apartments all over Manhattan, Queens, and Brooklyn to share Internet access. The Church of Saint Brigid-Saint Emeric is a critical supporter for the neighborhood. By extending your roof rights, we can extend the network and provide service to your whole block. We begin to build a community around this technology in a way that fosters both mutual learning and community engagement.

The second Internet gateway is a direct connection to the supernode - currently located at 375 Pearl Street in Lower Manhattan. Any router with a clear line of sight to the building can receive direct Internet connection. As we slowly expand and create denser mesh areas, the network connection will continue to grow and eventually, the Church and surrounding neighborhoods can also enjoy free Internet.

Installation - specific to the Church of Saint Brigid-Saint Emeric

The router comes with free installation from the NYC Mesh team. We propose to use the metal L beam on the roof that has an unused analog TV antenna attached. The router device ("NanoStation") will be attached using clamps. There will be no drilling required for this installation. Photos are provided below showing the Nanostation mounted on a similar beam. Like most outdoor routers, the NanoStation is powered over ethernet cable. There is no conduit at the building so the ethernet will run down the outside wall to the nearest floor.



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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 wifi is legal in this country and state. NYC Mesh only uses FCC approved devices.