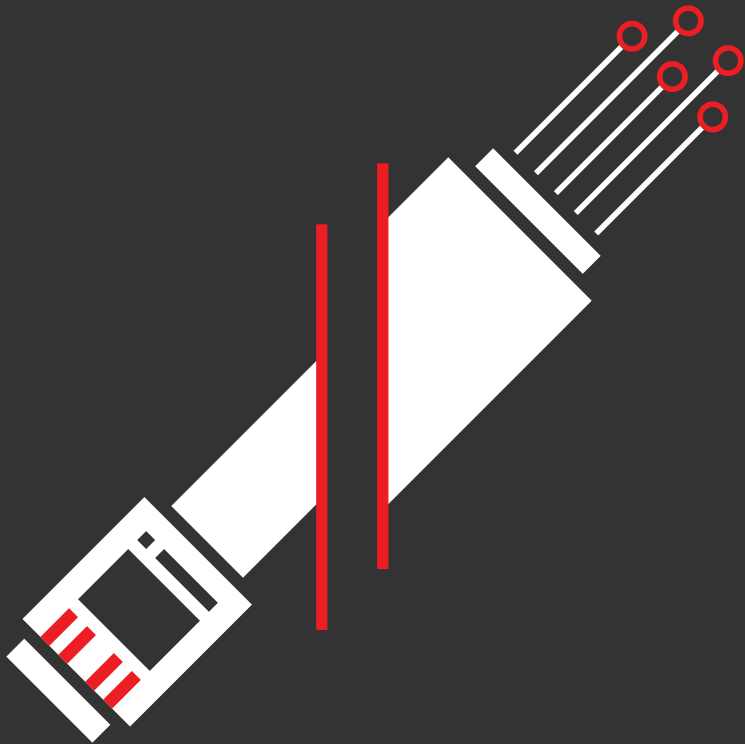


# Fiber vs FiOS POTS vs VoIP

Understanding your options around  
Verizon's move away from the landline



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Massachusetts is in the process of **transitioning** its landline **phone** service from standard copper lines **to VoIP**, or internet-based systems, starting with **Verizon** disabling its copper lines and completely **replacing phone lines with fiber**, using light to transmit data instead of electricity.

Have you received notice from Verizon about transitioning from a landline telephone or bundle package to fiber or FiOS? Are you wondering what to do and whether there are costs involved?

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**The purpose of this guide** is to provide the basic information needed to help you make an informed decision about your service moving forward. Further information and official state resources can be found at the end of this booklet.

## VERIZON'S MAIN FIBER SERVICE IS CALLED FiOS

### FiOS

Verizon FiOS is a service that bundles phone, internet, and television over a fiber network.

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FiOS is exempt from some of Massachusetts' consumer phone service protections because it not a regulated telephone service.

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If you are covered by Massachusetts' consumer protections, you will lose these protections by switching to FiOS.

## WHICH IS NOT THE SAME AS FIBER-BASED TELEPHONE

### Fiber

The basic fiber upgrade, without internet, is a regulated landline telephone service. If you are currently covered by Massachusetts' consumer protections preventing the termination of your service, you will still be covered after the switch from copper to fiber telephone.

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These extra consumer protections apply to regulated landline telephone service for customers who are aged 65+, currently dealing with a medical emergency, or unable to pay their bills. To learn more about consumer protections, go to [mass.gov/service-details/residential-billing-and-termination-practices](https://www.mass.gov/service-details/residential-billing-and-termination-practices)

## THE SWITCH MAY BE FREE

If you are a current customer with Verizon's basic phone service or Lifeline subsidized service, transitioning directly to fiber-based phone is free of charge, and Verizon is not permitted to increase your rate.

**FREE TRANSITION  
ONLY APPLIES TO  
STANDARD FIBER-BASED  
PHONE SERVICE**



## BUT THERE ARE EXCEPTIONS

**Discounts:** If you currently have a discount, switching to fiber may result in Verizon removing your discount, which could cause your monthly bill to increase even though your rate has not technically increased.

**DSL:** If you are currently a Verizon DSL subscriber, which includes their non-FiOS phone-internet-tv bundle, you will be required to upgrade to FiOS or switch providers entirely. If you choose to stay with Verizon and upgrade to FiOS, your rates may/will likely increase.

**FiOS:** If, for any reason, you switch to FiOS instead of basic fiber-based phone, your rates will increase.

# QUALITY OF SERVICE DIFFERENCES

## Standard Telephone (current)

Copper telephone lines are self-powered, so a standard telephone line may still be **operational during a local power outage**.

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## Fiber (after switch)

Fiber requires power, so a **backup battery is needed** to keep fiber-based phones operating during a power outage.

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Since standard phone lines run directly to your building, **emergency services can see your address**, allowing faster and more accurate response in the event of an emergency.

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VoIP phones are not physically linked to your location, so your **phone number must be registered to your address** for emergency services to locate you. If you move and keep your number, make sure that your location is updated.

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Standard telephone service limits the number of simultaneous calls that can occur within a service area. The result is **high call quality**, but if too many people call at once, such as **during an emergency situation, you may not be able to place a call**.

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Fiber-based phone service works over the internet, so an **internet outage may result in a phone outage** as well, even if you have power. Call **quality may be reduced** when a lot of people are using the internet in your area, but you **should be able to place a call even during peak times**.

# DEFINITIONS

**Plain Old Telephone Service (POTS):** POTS is standard phone service, the system that has been in use since the telephone became mainstream.

**Voice over Internet Protocol (VoIP):** VoIP is a system that allows for calls to pass through over the internet instead of over a dedicated phone line. VoIP calling can be implemented in a number of ways, including calling from a computer or website, but Massachusetts' transition to VoIP relies on an adapter/ONT in/outside the home to connect to your existing phones and offer a similar experience to POTS calling.

**Copper phone lines:** Copper phone lines are the physical cables that enable POTS. These generally run to and from every building but are being phased out in favor of utilizing existing internet networks to run phones.

**Fiber:** Fiber, or fiber optic cable, is a series of fiberglass tubes through which light can pass. Fiber optic strands are bundled together to form fiber optic cable, which, with lights on either end, is used for near light-speed data transmission.

**Digital Subscriber Line (DSL):** DSL is a method of providing high speed internet over a telephone network. Verizon internet or bundle subscribers who do not currently have fiber have DSL.

**Verizon FiOS:** FiOS is Verizon's fiber-based phone-internet-tv bundle service offering fast internet speeds and internet-based phone service.

**Massachusetts Department of Telecommunications and Cable (DTC):** The DTC oversees telecommunications in Massachusetts, setting regulations for companies to protect consumers.

**Lifeline Service:** Lifeline is Massachusetts' subsidized telecommunications service that exists to ensure that every household has at least one method of communication for emergencies. Those who are eligible may apply for a reduced rate (sometimes free) cellphone, home phone, or home internet service plan through a participating provider. Verizon is currently the only home phone service partner provider.

# RESOURCES AND SOURCES

## Massachusetts State Resources

- Copper to fiber guide: [mass.gov/service-details/copper-to-fiber-guide](https://mass.gov/service-details/copper-to-fiber-guide)
- Lifeline service information: [mass.gov/service-details/lifeline-services](https://mass.gov/service-details/lifeline-services)
- Explanation of consumer protections: [mass.gov/service-details/residential-billing-and-termination-practices](https://mass.gov/service-details/residential-billing-and-termination-practices)

## Further Reading

- Detailed working of standard telephone (POTS): Understanding Telephone Electronics by Stephen J Bigelow, Joseph J Carr, and Steve Winder, ISBN 9780750671750
- Fiber optics basics: [explainthatstuff.com/fiberoptics.html](https://explainthatstuff.com/fiberoptics.html)
- VoIP: [explainthatstuff.com/how-voip-works.html](https://explainthatstuff.com/how-voip-works.html)

## Additional Sources

- BroadbandNow. "Verizon Fios Internet: Coverage & Availability Map." BroadbandNow, 2020, [broadbandnow.com/Verizon-Fios](https://broadbandnow.com/Verizon-Fios)
- Burrington, Ingrid. Networks of New York : An Illustrated Field Guide to Urban Internet Infrastructure. Brooklyn, Melville House, 30 Aug. 2016.
- Kushnick, Bruce. "Verizon's Unconscionable Attack on New York City Utility Customers Needs to Be Investigated...." Medium, 2 May 2018, [kushnickbruce.medium.com/verizons-unconscionable-attack-on-new-york-city-utility-customers-needs-to-be-investigated-646ee7ba558](https://kushnickbruce.medium.com/verizons-unconscionable-attack-on-new-york-city-utility-customers-needs-to-be-investigated-646ee7ba558)
- Massachusetts Department of Telecommunications and Cable. "DTC Consumer Information." Commonwealth of Massachusetts, 2020, [www.mass.gov/dtc-consumer-information](https://www.mass.gov/dtc-consumer-information)
- . "Stay Connected during Emergencies." Commonwealth of Massachusetts, 2020, [www.mass.gov/service-details/stay-connected-during-emergencies](https://www.mass.gov/service-details/stay-connected-during-emergencies)
- Wikipedia. "Plain Old Telephone Service." Wikipedia, 1 Oct. 2020, [en.wikipedia.org/wiki/Plain\\_old\\_telephone\\_service](https://en.wikipedia.org/wiki/Plain_old_telephone_service)
- . "Verizon Fios." Wikipedia, 31 Aug. 2020, [en.wikipedia.org/wiki/Verizon\\_Fios](https://en.wikipedia.org/wiki/Verizon_Fios)
- . "Voice over IP." Wikipedia, 4 Mar. 2020, [en.wikipedia.org/wiki/Voice\\_over\\_IP](https://en.wikipedia.org/wiki/Voice_over_IP)

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