

Key Benefits

- **For NFPA:** Aligns expectations of all affected stakeholders: AHJs, alarm companies, voice providers, consumers and businesses
- **For AHJs:** Eliminates the need to evaluate voice technologies and develop own policies; creates clear accountability
- **For alarm companies:** Provides clear system design criteria that is uniform across all markets
- **For voice providers:** Provides clear expectations of what is required for fire alarm monitoring
- **For customers:** Provides cost saving from voice competition, eliminate additional costs and delays for design workarounds and further approvals, eliminate finger-pointing by alarm and voice providers.

FAQs

- **Isn't 24-hour standby power required since NFPA requires it, and "POTS" lines provide it?** No. NFPA has allowed 8-hour standby power for voice lines since the 1980's, when telcos began using 8 hour batteries in the remote terminal equipment that provides dialtone to homes and commercial buildings. Today, over 50% of all telco lines, nationally, are provided from these remote terminals.
- **Is UL listing required for voice equipment attached to alarm equipment?** Yes. NFPA 72 requires that both communications and fire alarm equipment "be UL listed for its purpose". On-premises voice equipment is UL listed under Telecommunications (UL® 60950). Fire alarm equipment is UL listed under Fire Alarm Systems (UL® 864).
- **How can AHJs or alarm companies confirm that a voice provider meets these requirements?** These parties may contact the voice provider to confirm the service conforms to all NFPA requirements.

For further information, see:

<http://www.nfpa.org/faq.asp?categoryID=925>

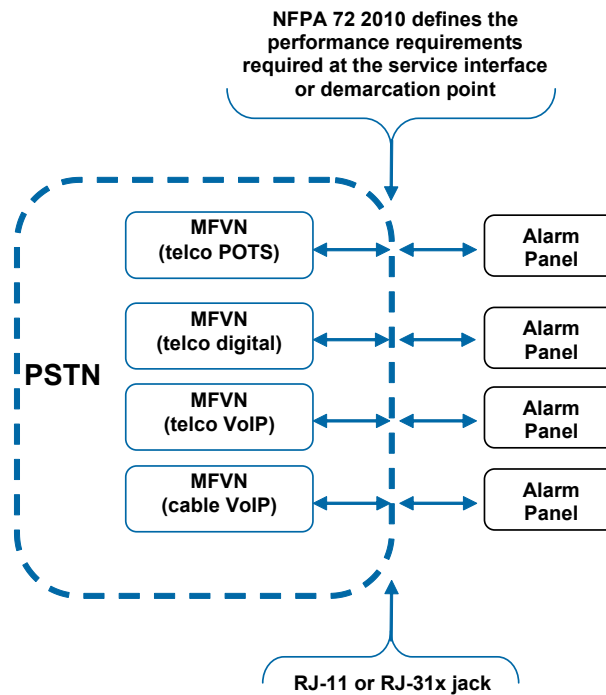
<http://www.nfpa.org/displayContent.asp?categoryID=182>

http://en.wikipedia.org/wiki/Managed_Facilities-based_Voice_Network

NFPA 72 is available from:

www.nfpa.org

NFPA 72 Model for MFVN Compliance



CableLabs® has been actively collaborating with NFPA since 2005 to address this important issue.

For further information, please email: alarm-issues@cablelabs.com

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SUMMARY OF NEW NFPA 72® NATIONAL REQUIREMENTS FOR TELEPHONE LINES

Managed Facilities-based Voice Networks and the National Fire Code – A Summary of New Rules Approving the Use of Non-Traditional Telephone Lines For Fire Alarm Monitoring



Summary of New Rules

- NFPA 72 now explicitly approves the use of alternative voice technologies (such as VoIP) and providers (such as cable) for fire alarm monitoring.
- All providers, including traditional telephone companies, must meet the same performance requirements.
- All qualified voice providers are considered equivalent for the purposes of NFPA 72.
- 2010 guidance should be adopted by AHJs as soon as practical, since previous editions are silent as to the use of alternative voice technologies for the carriage of alarm signals.

The following table summarizes the requirements found in NFPA 72 2010.

Voice Provider Type	Telco			Cable	Internet
Product Examples	Verizon, AT&T Landline, CenturyLink	Verizon, AT&T Landline	Verizon FiOS, AT&T UVerse	Comcast, TWC, Cox Cable Digital Voice	Vonage, MagicJack, Google Voice
Voice Equipment Location	Central Office	Remote Terminal	Customer Premises	Customer Premises	Customer Premises
Technology Used	Analog	Digital	VoIP	VoIP	VoIP
NFPA 72 MFVN Requirements					
Managed Facilities-based	●	●	●	●	No
Functional equivalence to traditional PSTN line	●	●	●	●	No
Proactive management	●	●	●	●	No
Loop start telephone circuit	●	●	●	●	●
8 hour standby power for voice equipment providing dialtone	●	●	○	●	No
24 hours standby power at the “central office”	●	●	●	●	No
Safeguards to protect from unauthorized access	●	●	○	●	No
Notification to have alarm system re-tested	○	○	○	●	No
Professional installation ensuring line seizure	●	●	●	●	No
Disaster recovery plans	●	●	●	●	No

● indicates conformance to new NFPA requirements

○ indicates needs AHJ verification

Background

This information sheet summarizes the requirements for telephone lines recently adopted in NFPA 72 - 2010 Edition (The National Fire Alarm and Signaling Code). NFPA 72 now explicitly allows the use of non-traditional telephone lines and providers. In recent years, NFPA and local AHJs (Authorities Having Jurisdiction) recognized that new technologies, such as VoIP, were increasingly being used to connect to fire alarms. Though competitive voice communication alternatives for telephone service provided many benefits for consumers and businesses, their suitability for fire alarm monitoring needed to be evaluated and new policies developed.

Key concerns were:

- Clear accountability for the reliability of the voice service
- Ability for the alarm panel to “seize” the phone line
- Preservation of the standard PSTN telephone line interface
- Guaranteed carriage of alarm signals across the network
- Operation during power outages and disasters

As NFPA investigated this issue, it became clear that what is important is not the physical characteristics of the communications technology, such as the copper wires, but the qualities and necessary characteristics of the communications technology so as to meet the key concerns. The code needed to accommodate ongoing future voice technology upgrades by both new and existing providers (e.g., telcos upgrading to VoIP). Therefore, the new code does not directly address specific voice communication technologies, but rather contains performance requirements for voice communications technology and providers.

The primary performance requirement is that the voice communication provider own and operate the physical network facilities end-to-end, i.e., from the PSTN interconnection point to the fire alarm system, or DACT (Digital Alarm Communicator Transmitter).

NFPA calls this a managed facilities-based voice network, or MFVN. Only voice services provided by MFVNs are allowed under the code. Internet based voice services do not use MFVNs, so are not allowed. Traditional copper based phone services use MFVNs, so would continue to be allowed.

The existing NFPA-defined practices on how telephone lines shall be connected to fire alarm systems remain unchanged. Once a MFVN line meets NFPA requirements, it can be used anywhere the code refers to “telephone line”.

With this update, NFPA 72 now contains guidance that local authorities can use to address the use of new voice communications technology in their jurisdiction by both existing and new providers. NFPA recommends that all new alarm system installations follow this guidance, even if the local jurisdiction has not yet adopted the 2010 code as earlier editions of the NFPA code do not address this issue.