CASE STUDY

COLLEGE CAMPUS

THE STORY

A new fire station with a new fiber optic network was being built near this state university. The new station provided a perfect site to support an additional radio receiver to help improve radio coverage.

Like many LMR radio users with large campuses or areas to cover, the university was using a JPS SNV-12 Signal-and-Noise Voter – a device that chooses a single receiver that exhibits the best quality audio amongst all receivers in the channel – to ensure its radio users in the field are heard as clearly as possible. However, existing receiver audio signals were being backhauled by traditional analog lines like costly leased lines. To gain the full benefit of the new fiber network technology, the fire station's receiver audio needed to be backhauled to the SNV-12 Voter over an IP network.

INDUSTRY

Education

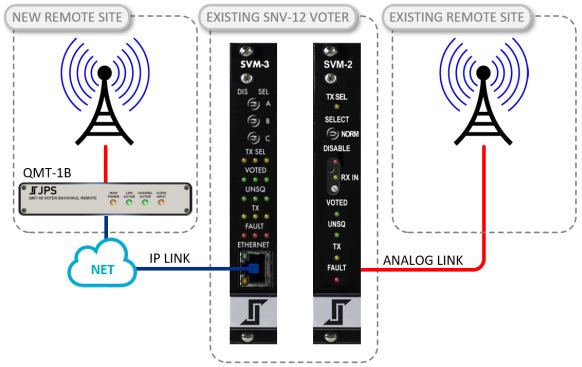
APPLICATION

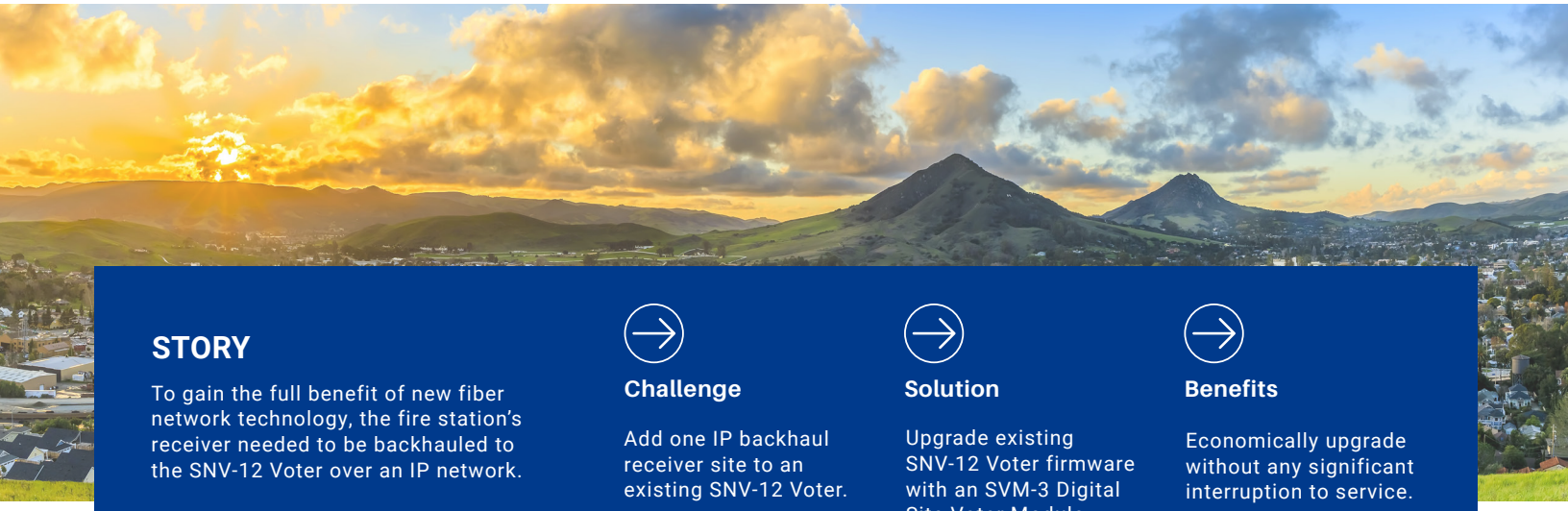
LMR Coverage Expansion

THE CHALLENGE

Add a single receiver to an existing SNV-12 Signal-and-Noise Voter to be supported over an IP network link, while retaining the full functionality of all analog links with existing receivers.

It was imperative that the existing LMR site connections, as well as the voter itself, continue to function just as well as before – if not better. None of that could change. Additionally, given the size of the university and the responsibilities of its staff, the overall voter system down-time needed to be kept to an absolute minimum.





STORY

To gain the full benefit of new fiber network technology, the fire station's receiver needed to be backhauled to the SNV-12 Voter over an IP network.

Challenge

Add one IP backhaul receiver site to an existing SNV-12 Voter.

Solution

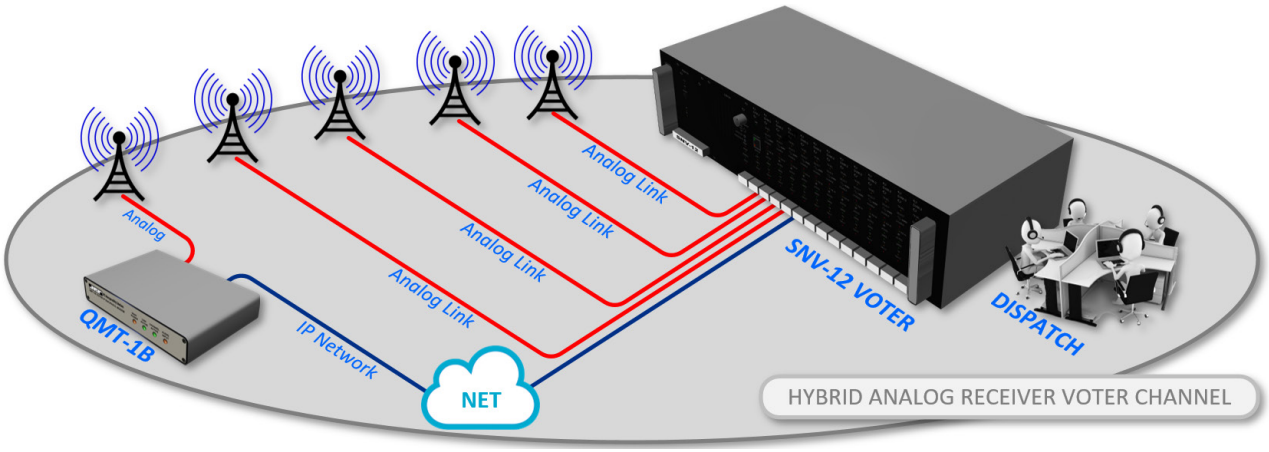
Upgrade existing SNV-12 Voter firmware with an SVM-3 Digital Site Voter Module.

Benefits

Economically upgrade without any significant interruption to service.

THE SOLUTION

This is actually a pretty easy fix. The university was already using a modular JPS SNV-12 Voter for the analog connections to receiver sites. They were not using all the available module slots, which made it easy to upgrade the voter firmware and add in an SVM-3 Digital Site Voter Module. Where its analog predecessor, the SVM-2 connected to one receiver site by traditional analog means (leased line, T1 microwave, or RF link, for example), the SVM-3 connects to up to three receiver sites using an IP backhaul solution. Plainly stated, it connects over a network. A QMT-1B IP Backhaul Remote at the new fire station's receiver site was also installed to help mitigate the effects of network jitter and loss of fidelity related to audio vocoders. Along with the audio, the QMT-1B sends audio quality and timing information to the voter so that all sites – regardless of backhaul method – are given equal consideration for voting of the highest quality receive audio.



THE RESULT

The university retained all its pre-upgrade SNV-12 Voter equipment, allowing it to be upgraded economically and without any significant interruption to service. While the voter continues employing existing SVM-2 modules for the traditional backhauls, the addition of the SVM-3 and QMT-1B pair have successfully integrated the new receiver site using the fiber optic network link.

Forward-thinking, since the SVM-3 module has the capacity to support three sites, and the university only needed one for the time being, the remaining two are available and ready to pair with additional QMT-1B IP Backhaul Remotes at sites that may convert to IP backhaul in the future.

KEY BENEFITS

- Highly affordable solution – only upgrades what is necessary.
- Future-ready – Each SVM-3 supports up to 3 IP backhauls.
- Minimal down-time – nearly uninterrupted service.