



## CASE STUDY

### LIVE BROADCASTING FROM EVERYWHERE

#### Company profile

Qmusic Nederland B.V.

- Business sector: Radio Broadcasting
- Headquarters: Amsterdam, Netherlands
- Established: 2005
- Company sites: 1
- Employees: 70

In the broadcasting industry, ISDN connections have been used for years for setting up reliable audio connections. Many broadcasters are hesitating to move replace their well-known and stable solution, mainly out of fear of quality problems when relying on poor broadband connections, as well as whether the connection happens to drop. Low bandwidth and packet loss as associated with mobile connections will have a strongly negative effect on the quality of the audio transmission, and reduce the joy of listening to the radio. To prevent that, Qmusic, one of the leading Dutch commercial radio stations with about 2.5 million people weekly tuning in, deploys a Viprinet WAN bonding solution for all their offsite broadcasting. They use Viprinet technology to bond several 4G mobile phone networks to get a solid audio connection to their studio in Amsterdam. Here's why and how:

#### BENEFITS OF VIPRINET'S SOLUTION

- Resilient connection for offsite broadcastings
- No packet loss even with poor coverage
- Secure remote access to backend systems
- Simple setup on location
- Cost savings with reduced use of ISDN

#### Project facts

Replacing ISDN for Audio Broadcasting

Hardware used:

Viprinet Multichannel VPN Router 2610

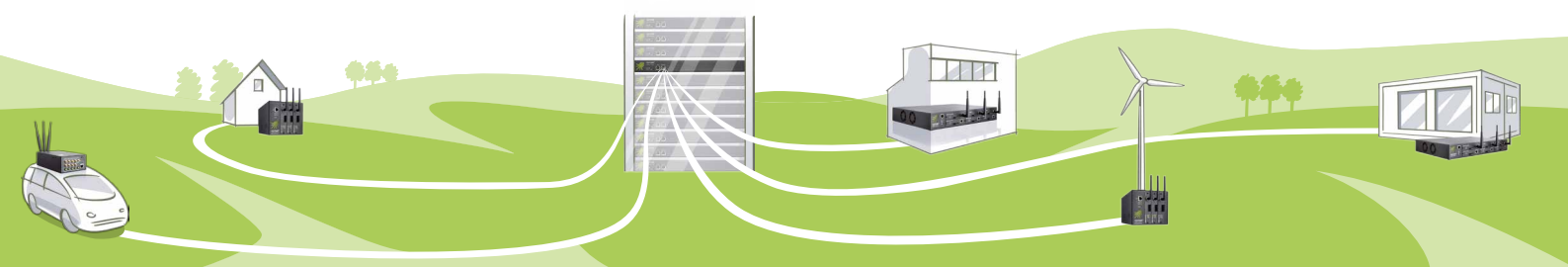
4x 4G Europe/Australia

Viprinet Multichannel VPN Hub 1020

Project launch: 2015

#### THE CHALLENGE

Qmusic's objective was to replace the existing ISDN solution with a more flexible broadband Internet connection for their offsite audio broadcastings for which the requirements are diverse: ample bandwidth, continuous uptime, low latency, and quick, simple set-up wherever needed. Ensuring 100% reliability regardless of whether sufficient bandwidth is available and how well mobile reception is in general is vital. Missing IP packets would not meet Qmusic's quality criteria and must thus be absolutely avoided. Also, low-latency connections are a critical factor when it comes to live broadcasting and interactions in real time. A new Viprinet bonding solution had to meet these quality requirements. It was also expected to be more flexible than the former ISDN setup which had to be installed and configured from the start at every location, costing a considerable amount of time and money.





*“With Viprinet, we found a reliable way to broadcast from anywhere we would like, with the lowest latency and the highest quality based on a bonded rock-solid internet connection.”*

Almer Veenendaal, Broadcast Engineer

Qmusic



Partners involved:



Diginet NV  
Aarschotsestraat 87 A  
BE-1800 Vilvoorde  
[www.diginet.pro](http://www.diginet.pro)

## IMPLEMENTATION

Viprinet uses its patented bonding technology to bond multiple broadband connections, thereby increasing the available bandwidth and providing a rock-solid connection. Qmusic deployed Viprinet Multichannel VPN Routers 2610, a robust enterprise model which allows bonding up to six connections into a single, high-performance virtual link. The routers are equipped with four 4G modules, one WLAN Client, and one Gigabit Ethernet module to bond wireless connections from multiple providers wherever they are needed. The setup also allows for integrating a fixed line if available. Viprinet uses adaptive data and IP header compression for more throughput, and Distributed Forward Error Correction (DFEC) for zero packet loss and low latency. The solution has been implemented in cooperation with Viprinet’s Dutch partner Diginet, and, accompanying the roll out, Qmusic technicians have been trained by Viprinet.

## RESULT

Qmusic has replaced their ISDN solution for broadcasting by a resilient broadband solution from Viprinet, and is now able to quickly go on air at any offsite location simply by using the available 4G networks for an IP-based connection. The connection is mainly used for audio broadcast between offsite locations and Qmusic’s onsite studio in Amsterdam, but also for Internet and intranet applications. With the Viprinet solution, Qmusic can enjoy the flexibility of going anywhere for their transmissions—as an example, they have already been using this new Viprinet bonding solution for live broadcasting from a boat—and be sure to have a resilient high-quality audio broadcasting connection without packet loss. With this bonding solution, the failure of a single link from one provider only causes a reduction of total bandwidth available while the connection itself and the sessions are maintained. Qmusic also benefits from cost savings owing to the reduction of setup costs when going offsite. The costs can be further reduced by bonding a cheap consumer-grade fixed line, if applicable. With steady monitoring of the data flow by various tools, Qmusic is able to quickly adapt the Quality of Service settings to the current infrastructure and demands at any location.

