

## Executive Summary

## Customer Name:

Atlantic Telephone  
Membership Corporation  
(ATMC)

## Business Challenge:

ATMC customers required high-speed, symmetrical Ethernet service, but the business case did not support trenching fiber.

## Solution:

Deployed Hatteras Networks' Ethernet Service Edge products – enabling high-speed, symmetrical, business-grade Ethernet services over copper.

## Business Value:

- Profitable with the first customer.
- Quick and easy to deploy and manage.
- Faster deployment versus fiber-based services – for improved customer satisfaction and quicker time to revenue.
- Can up-sell service by bonding additional copper pairs for higher service speeds.
- Environmentally hardened and full front access for deployment in Remotes.

## ATMC Delivers on High-Speed, Symmetrical Bandwidth Needs



### Another Ethernet over Bonded Pair (2BASE-TL) Success Story

“We wanted a powerful and cost-effective way to deliver Ethernet to our business customers, and with Hatteras Networks' solutions, we can deliver the type of high-broadband services typically associated with Metro deployments. Hatteras Networks has created a solution that enabled us to economically start with a small customer base and deliver a service-rich QoS-enabled Ethernet business offering that meets the needs of today's growing businesses. Our initial deployments have gone very well.”

**Clint Berry, Manager, Data Communications**

Atlantic Telephone

### The Bottom Line

#### Rural Carrier Deploys “Ethernet Over Bonded Copper” Services to Meet Customers' Needs for High-Speed, Business-Grade Symmetrical Service

Atlantic Telephone Membership Corporation (ATMC) used an ADSL (Asymmetrical Digital Subscriber Line) service to meet the low-speed access needs of many of their business customers. When one of their customers needed a symmetrical, broadband solution – with more bandwidth on both the uplink and downlink – Hatteras Networks proposed its standards-based (IEEE 802.3ah) 2BASE-TL Ethernet over bonded copper solution to deliver a high-speed, symmetrical Ethernet service over ATMC's existing copper plant. ATMC quickly and cost-effectively deployed a symmetrical 4 Mbps Ethernet service over just two copper pairs (the same pair count required for a 1.5 Mbps T1), with bandwidth to spare. The ease of deployment, network/systems integration, symmetrical bandwidth per dollar, and overall customer satisfaction with the solution convinced ATMC to launch this service throughout their region using Hatteras Networks' Mid-Band Ethernet solution.

### Customer Background and Needs

#### Medical Facility Looking for a High-Bandwidth Solution on BOTH the Uplink AND Downlink

ATMC ([www.atmc.net](http://www.atmc.net)) is the largest member-owned telephone cooperative in North Carolina. ATMC provides a multitude of telecommunications services, including local telephone, long distance, paging, business communication systems, third-party wireless, Internet/DSL and cable television service. ATMC typically deployed an ADSL service to meet the low-speed access needs of many of their business customers. Standard ADSL services deliver approximately 768 Kbps of bandwidth on the downlink and about 256 Kbps on the uplink. While such an asymmetrical service may be adequate for residential users, business customers typically require a more symmetrical bandwidth that includes business-class attributes such as quality of service (QoS) and service level agreements (SLAs). Many of ATMC's customers were looking for a high-speed, symmetrical, business-grade Ethernet service. One customer in particular, a medical building located next to a hospital, required 4 Mbps of bandwidth on both the uplink and downlink – all supported by an SLA. These business requirements could not be met by ATMC's ADSL offering.

## Another Mid-Band Ethernet (2BASE-TL) Success Story

There was no fiber running to the medical facility and the required bandwidth and business case did not justify the expense of fiber deployment. Services for the medical center were supported from a "Remote Hut" that was approximately 14,000 feet away. Thus, the solution would require a hardened, economic, small-form factor, full front access product to deliver the requisite bandwidth to a customer site more than two miles away.

With a small but seasoned operations team, ATMC also required a system that could be easily deployed, maintained and integrated into their existing network and management systems.

### The Solution

#### Leveraging the Existing Copper Plant to Quickly and Profitably Deploy High-Speed, Symmetrical, Business-grade Ethernet Services

Hatteras Networks proposed its HN400 Ethernet point-to-point solution. The Hatteras solution is based on the IEEE 802.3ah Ethernet in the First Mile (EFM) standard, supported by SHDSL (Symmetrical High-Speed DSL) technology – commonly used to deliver symmetrical services to businesses today. The Hatteras solution provides native Ethernet over the existing copper plant and can bond 1-8 copper pairs together – for up to 45 Mbps of symmetrical Ethernet.

ATMC deployed one HN400 in the Remote Hut and the second HN400 at the customer site. The HN400 supports a standard, plug-and-play 10/100 Mbps Ethernet connection, allowing a business to simply connect their router or switch into an HN400 for high-speed transport across the access copper plant. With the dynamic, plug-and-play nature of the Hatteras bonding solution, the copper pairs optimize their bandwidth potential and bond automatically, eliminating any complicated outside plant configuration.

ATMC cost-effectively delivered a symmetrical 4 Mbps service over just two copper pairs – with bandwidth to spare – to a location more than two miles away. A traditional T1 service would require these same two-pairs to deliver just 1.5 Mbps, while the Hatteras solution delivers almost three times more bandwidth over the exact same pairs. ATMC chose to deploy Hatteras Networks' Mid-Band Ethernet solution for the following reasons:

- **The business case was profitable with just a single customer.**
- **The solution is based on well-known Ethernet standards.**
- **The solution was quick and easy to deploy, integrate and maintain:**
- **Leverages the existing copper plant.**
- **Does not require trenching for fiber.**
- **Can quickly and cost-effectively increase the bandwidth speed by simply bonding additional copper pairs, and increase bandwidth without interrupting the customer's service.**

### Business Value

#### Profitable With the First Customer

By leveraging well-known Ethernet standards and the existing copper plant (versus trenching fiber), ATMC was able to quickly deploy a new service – resulting in improved customer satisfaction and faster time to revenue. ATMC deployed the HN400 point-to-point solution to meet the needs of a single customer and can easily scale their deployment to additional sites and customers by deploying the HN4000 multipoint solution, which supports up to 40 customers (HN400 devices) from a single rack unit – the highest density in the industry. The HN400 and HN4000 are both environmentally hardened and NEBS 3-certified and are ideal for deployment in both COs and Remotes.

### Next Steps

#### Profitably Expanding a Service Offering to All Businesses

The simplicity and cost-effectiveness of deploying the solution, ease of network/systems integration, symmetrical bandwidth per dollar and overall customer satisfaction with the solution have all convinced ATMC to launch this service throughout their region using Hatteras' Ethernet Service Edge equipment. Large and small carriers alike can now deliver high-bandwidth Ethernet services using Hatteras' Mid-Band Ethernet solutions.