Case Study: Expresse Services

A major service provider in North America uses Expresse Services (the hosted version of ASSIA DSL Expresse) to manage more than 1.2 million DSLs across the U.S., relying on ASSIA to handle all aspects of the Dynamic Spectrum Management (DSM) hardware and software systems.

This provider benefits from always having the latest software releases, as well as from the expertise of ASSIA’s professional services team who help apply best practices to DSL performance management. ASSIA solutions are used by service providers around the globe, supporting more than 80 million DSLs in total.

Expresse Services Deliver Measurable Results

Expresse Services optimize the provider's DSL network, improving average speed and reliability across ADSL and ADSL2/2+. The network includes DSLAMs from ADTRAN, Calix, Alcatel-Lucent, and Occam supporting service products ranging from 512 kbps to 24 Mbps downstream.

The provider initially contracted with ASSIA for a pilot implementation of 1000 lines running on DSLAMs from Calix and ADTRAN. ASSIA engineers worked with the service provider to select a representative set of lines for the pilot based on factors such as service product, loop length, and performance. The engineers then configured the Expresse Profile Optimization module for the provider's DSL service products and network characteristics.

As a next step, the ASSIA engineers ran a series of tests to ensure that the Profile Optimization module successfully applied designated profile changes to the DSLAMs. The engineers then tuned the Profile Optimization algorithms to find the best configuration settings.

Once ASSIA had configured Expresse Services for the customer's network, the system ran a series of Profile Optimization iterations across all 1000 lines in the pilot. With each iteration, the system more finely tuned the profile of each DSL to deliver the optimum performance.
Upon completion of the pilot, the service provider measured a 44 percent reduction in unstable DSLs in the network, with minimal impact on the average downstream rate. In this case, the customer and ASSIA had established a set of five criteria measured over a minimum of five days to identify unstable lines.

Based on the success of the initial implementation to improve the overall stability of the DSL network, the service provider decided to deploy Expresse Services to more than 937,000 lines, representing both ADSL and ADSL2/2+ technologies on DSLAMs from ADTRAN, Calix, Alcatel-Lucent, and Occam.

ASSIA measured the impact of Profile Optimization across all of the DSls and found that 82 percent of the lines finished optimization with an improvement in stability and/or speed. In other words, the optimization algorithms identified, and automatically implemented, a more suitable DSL profile to deliver the service that a customer had ordered.

In addition, for the remaining 18 percent of the lines under optimization, ASSIA engineers determined that these lines were chronically unstable or very unstable and could not reliably support the minimum speed of the service product for which they were provisioned. As a result, the service

ASSIA’s customer selected Expresse Services to manage more than 937,000 lines on DSLAMs from ADTRAN, Calix, Alcatel-Lucent, and Occam.

Figure 1 - For the initial implementation, Expresse Services reduced unstable lines in the network by 44 percent.

Figure 2 - Expresse Services provide detailed diagnostics to help service providers identify and prioritize issues that may impact network performance or reliability.
ASSIA Expresse Services measurably improved the stability and/or speed for 82% of the lines in the service provider’s network.

The service provider downgraded these lines to a lower speed in order to maintain an acceptable quality of service for DSL subscribers.

As part of the Expresse Services deployment, the Performance Evaluation diagnostic capabilities also help the service provider identify lines that require attention for issues such as bad splice, unbalanced wiring, high power noise, AM noise, and impulse noise (as shown in Figure 3). Using this information on a per-line basis, the service provider has developed a proactive plan for prioritizing repairs to those lines experiencing the greatest impact on quality of service.

Today, ASSIA’s customer continues to benefit from the diagnostic and optimization capabilities of Expresse Services and has extended coverage to more than 1.3 million DSLs.

Figure 3 - Expresse Services provide detailed diagnostics to help service providers identify and prioritize issues that may impact network performance or reliability.

Figure 4 - Users receive instant feedback on line status with recommended actions if needed.
About Expresse Services

ASSIA Expresse® Services provide a cloud-based solution for service providers interested in ASSIA’s flagship DSL Expresse product. Expresse Services allow virtually any DSL network operator around the world to benefit from the industry’s most advanced DSM solution. ASSIA manages the service with a staff of experts who work closely with service providers to ensure optimal results. Expresse Services provides worry-free, detailed diagnostics and high-speed line optimization and repair around the clock.

Expresse Services Benefits:

- Management of hardware and software systems by ASSIA
- Complete DSM functionality with all of the latest software features
- Cost-effective deployment for both small and large operators
- Established DSM best practices based on ASSIA’s global experience
- Flexibility to customize software options/capabilities