

# NETWORK MIGRATION SERVICES

## A CASE STUDY

Many large telecommunications service providers are applying Datatek Applications' off-the-shelf products to facilitate the migration of their embedded base of legacy networking

equipment to alternate technologies. Recently, Datatek demonstrated the capabilities of its *building block*<sup>1</sup> approach to product design and development and its seasoned engineering team when it aided in the quick restoration of a large Eastern US-based communications provider's Operations Network in Manhattan—in the aftermath of the World Trade Center disaster. This is a brief story of that effort.

<sup>1</sup> A modular approach that includes interchangeable components, low cost distributed interfaces, centralized application specific processing and high availability (redundancy) when required.

<sup>2</sup> A NEBS-3 certified compact, general-purpose computer that sits located anywhere on an IP network to communicate with various client devices. The DT-6061 is capable of unlimited software applications with higher reliability configuration option.

THE FUTURE IS HERE

## SOME BACKGROUND

The Mechanized Loop Test (MLT) Operations System (OS) is considered a critical component in the maintenance of end-user "loop" (i.e., telephone line) facilities. The MLT OS conducts automated facility tests and provides real time analysis of facility service states, occasionally followed by notification of potential problems before they impact telephone service.

The central component of an MLT networking infrastructure is the Data Communications Network (DCN)—a stand-alone message router interconnecting an MLT host to the Loop Test System (LTS). MLT hosts may directly connect to the DCN where co-location is feasible otherwise, modems and leased facilities are used. Leased facilities also connect the DCN and LTS resident in different Central Offices (COs). A BNS-2000 network improves upon the abovementioned DCN solution by interconnecting the devices required for an MLT OS at the edges of a BNS-2000 WAN thus eliminating the co-location issue and costs associated with multiple leased facilities.

The Telephone Company Data Center communications infrastructure used to interconnect an MLT host to the LTS is *aging*. Hardware and Software support of the DCN has moved into the secondary maintenance market, limiting the number of personnel with the depth of knowledge to sustain this type of test network. Datatek's migration solution consisting of the Datatek DT-6061 Embedded Network Processor<sup>2</sup> with resident IP-LTCN software replaces the DCN. In concert with an updated LTS, the MLT OS is brought up to current, maintainable technology.

## A DCN MIGRATION SOLUTION FOR MANHATTAN

In the aftermath of the World Trade Center disaster, MLT was out-of-service in much of Manhattan along with a major portion of the BNS-based networking infrastructure interconnecting a major data center to 30 COs throughout Manhattan. The CO at 140 West St., the switching center providing voice and high-capacity data services to Wall Street, was severely damaged by debris and steel beams from the collapse of adjacent 7 World Trade Center in the late afternoon of September 11th.



The West Street switching center quickly became the central focus of the service provider's ability to return to business as usual conditions in lower Manhattan. With its ability to automatically sectionalize faults to Central Office, Outside Plant or Customer Premises Equipment a functional

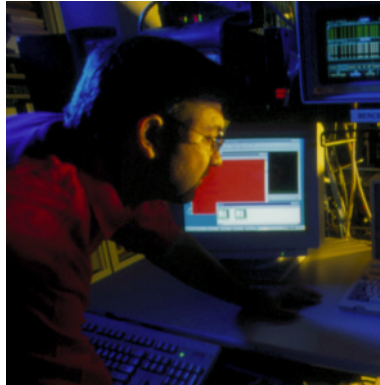
and on-site support by the Datatek engineering team became critical. While implementation of the required migration solution had gone live, it was only under controlled conditions. These circumstances dictated that the MLT restoration needed to install and work perfectly without incident.

Careful planning and 24 x 7 attention to the support effort by members from both companies returned MLT service to the West Street CO within 3 or 4 days of the disaster. Other COs throughout Manhattan quickly followed, allowing for the restoration of telephone service in lower Manhattan to proceed more quickly.

## Consultation and on-site support by the Datatek engineering team became critical

MLT OS would be critical to the timely restoration of telephone service and the resumption of trading on the New York Stock Exchange. Clearly, a new MLT system was needed in Manhattan and it was needed quickly.

Key to the success of the MLT restoration were the Datatek Applications DT-6061 Embedded Network Processor with resident IP-LTCN software, DT-4000 Multi-Access device, updated LTS, the service provider's ability to quickly re-establish its private IP infrastructure in lower Manhattan and the desire of the Datatek engineering team to make this a successful effort. Consultation



## CONCLUSIONS

Datatek Applications' migration technology can facilitate a painless and cost-effective evolution of legacy networks. In this case, flexibility and ease of deployment were the attributes of these devices most critical for a successful outcome in the face of this disaster, but direct attention by Datatek engineers to their installation and administration as well as to the operational stability of the system were at least as important. Under an extreme set of circumstances, Datatek's technology—and its engineering team—demonstrated that network migration is a continuing need that they are especially well suited to address.

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