

## President's Message

Summer is over and children are back in school. The year has gone rather quickly without an opportunity to catch one's breath. I know all our readers are quite busy – a condition that is much influenced by dynamics such as the economy, safety, security, and company re-organizations (acquisitions, mergers, productivity and efficiency enhancement programs); dynamics which seem to have very much become the new order of business.

I am pleased to report that the **NetWORKS** product is gaining considerable traction in the market place as evidenced by the growing number of new NetWORKS clients around the globe. We are particularly pleased to welcome our newest member of the NetWORKS family, **ntl:UK (NTL)**.

**NTL** is a leading broadband and communications services company in the UK and Republic of Ireland providing telephone, cable, data, voice, and Internet services to residences, large businesses, ISPs, and public sector organizations. Serving over 2.9 million cable customers including 1.1 million broadband customers, **NTL** selected the **Enghouse NetWORKS** suite of products as **NetWORKS** provides a complete solution to the management of complex, multi-domain networks. **NetWORKS** incorporates **ESRI's leading ArcGIS technology** for the GIS platform.

We plan to introduce new NetWORKS functionality to better serve our customers and the market. New releases will be announced in the coming months. Please contact [sales@enghouse.com](mailto:sales@enghouse.com) for further details.

The **Enghouse Asset Management Division (AMD)** continues to work diligently with our **NetWORKS, CableCad, GeoNet, and APD** clients to respond to their evolving requirements. We appreciate your continued support, loyalty, and input into our enhancement/upgrade program. A **CableCad Users Group meeting** will be held in Ontario, Canada, in the fall about which details are provided in this newsletter. I look forward to seeing you there.

**AMD's oil and gas pipeline group, MOORE Resource Systems**, continues to make significant strides in providing leading, quality, competitive, and productivity enhancement tools and data services to the pipeline operators who work in a

most demanding environment influenced by critical operating factors such as safety, security, integrity management, and compliance. We welcome several new clients to the **MOORE** family, most notably, **EPOLP (Enterprise Products Operating L.P.)**, a major pipeline operator located in Houston, TX. A sincere thank you is extended to our existing clients for their continued business and support. The **PipeWORKS** suite of products is gaining considerable acceptance since its introduction and is increasing its market penetration in a respectable manner. **MOORE's** strategy of broadening into a wider range of pipeline management applications to complement its renowned data services, has been well received by the pipeline industry. **MOORE** supports open systems such as **PODS** where it participates in the technical committee.

**AMD** is also pleased to announce a host of new professional services offerings in all areas of our endeavours (telecommunications, CATV, APD, GIS consulting, data management and warehousing, oil and gas pipeline management, to name but a few). Our staff is most competent and offers many years of experience to assist you with your needs. Please consult them for further information.

In closing, I would like to thank all those clients who so generously and kindly gave of their time and hospitality to meet with me during my program of annual President's visits. To those whom I have not yet had an opportunity to visit, I look forward to doing so in the near future. I would also like to add that the AMD staff will soon be circulating a survey to determine your level of satisfaction with the products and services and to assess which enhancements and improvements you would like to see in the product and services offerings. Only in this manner can we stay abreast of evolving market needs. Please complete the surveys and return them to us as the more comments we receive the better the product and service offerings.

Thank you for your interest and support.



Andrew Nellestyn PhD PEng

### *In this issue*

- UK Based NTL Buys NetWORKS
- Challenges & Opportunities Managing Fiber Networks
- NetWORKS 3.4 Now Shipping
- CableCad User Group Conference – Register Today!



## U.K. Based NTL to Implement NetWORKS System

Enghouse Systems Limited is pleased to announce its multi-year agreement that involves NTL licensing Enghouse's proprietary NetWORKS software suite and entering into arrangements for ongoing maintenance support and services. Specifically designed for telecommunication, utility telecom, and cable TV service providers, NetWORKS can help maximize network resources, increase workflow, improve customer service and enhance operational efficiency and provides Inside (ISP) and Outside Plant (OSP) design, network management, and facilities management capabilities.

NTL is a leading broadband and communications services company in the UK and the Republic of Ireland providing telephone, cable, data, voice and Internet services to residences, large businesses, ISP's, and public sector organizations. Serving over 2.9 million cable customers including 1.1 million broadband customers, NTL selected Enghouse NetWORKS suite of products as it provides a complete solution to the management of complex, multi-domain networks.

Andrew Nellestyn, President of Enghouse's Asset Management Division, said, "We are very pleased to have been selected by NTL, as it validates the

extensive product development the Company has undertaken over the past several years to bring the NetWORKS product to market and leverages our expertise in this market".

"The NetWORKS product is well positioned to address the main design and network management issues facing NTL's cable and fiber networks. It supports initiatives already started in improving network data availability in all business areas, and the processes of managing network information as an aid to growing our business", stated David Hendry, Physical Inventory Programme Manager, of NTL. "Following an extensive tendering process, we are pleased to have selected Enghouse and look forward to developing a long-term relationship. Our roll out and change programme will take place over the next 18-24 months and we look forward to a good level of support from Enghouse."

Stephen J. Sadler, Chairman and Chief Executive Officer of Enghouse, said, "This is the most significant sale of the NetWORKS product to date and is a key element in our go forward strategy within this division. Enghouse remains committed to expanding its business through managed growth and strategic acquisitions."

---

---

## Challenges and Opportunities Managing Fiber Networks

### Background

The telecommunication service providers, such as Utility Owned Telecoms (UTelcos), greatest asset, is their network, generating revenue from a wide range of data and voice services. Currently operators are concentrating on driving down costs, improving customer service, and network performance. In recent years operators have put an emphasis on cutting expenses and reducing staff. Balancing costs and improving network performance, while maintaining customer service quality has been a challenge. However, economic signs show the situation is stabilizing and the telecommunication market is expected to improve in the future. This will lead to companies building

out new network or reconfiguring their existing network to adopt new technologies. It will be essential that operators keep an accurate record of their physical and logical assets to protect their capital investment.

Service providers, such as UTelcos, are faced with a number of business issues including keeping a strong competitive position, protecting or replacing legacy systems, reducing operating costs while improving customer service and maintaining a high level of customer satisfaction. Key business drivers such as deregulation, market liberalization, adopting industry best practices, and increased customer expectations all drive the need to

implement systems responsive to meeting these challenges. In these turbulent times, companies require organizational and information systems that provide continuous improvement in service, quality, operational efficiency, and data accessibility.

Reliable network inventory can reduce provisioning time, improve utilization of network assets and, in the long run, better utilize capital and improve ROI. Improved management of physical assets can gain additional cost efficiencies beyond what has been achieved with staff reductions and process re-engineering. Gaining a better understanding of network assets as to their location, utilization, maintenance history, life span, and configuration will help utilities optimize current network management costs and future capital expenditures. Introducing Fiber Management software will ensure all groups including planning, design, construction, and operations have an accurate and consistent record of the network assets.

Software solutions to accurately inventory and manage vital network assets are required to improve network deployment and ongoing network operations. This article outlines the capabilities and benefits of Fiber Management software based on Enterprise Geographic Information Systems (GIS) to help address the network management and business challenges facing many operators today. Various types of telecommunication organizations such as UTelcos, Municipal Telecoms, Rural Telecoms, and Cable TV companies, can leverage Geospatial Network Management software described in this article.

## Challenges

Utility Telecoms are uniquely positioned to offer cost efficient services to both the consumer and commercial markets. Over and above offering internal services associated with their SCADA network, Utility Telecoms also have tapped into an expanded market by offering services to specialized markets such as banks, schools, hospitals, and universities, and businesses. Dedicated Internet access, private lines, video transmission, disaster recovery, and metro local area networks are just a few services UTelcos have been offering. However, inherent with this opportunity is the responsibilities to manage their

fiber network in order to insure all their clients receive reliable and responsive quality of service.

The two main advantages UTelcos enjoy are an existing customer base and easy access to electric rights-of-way, such as poles, towers, and ducts in order to build out fiber. In addition the telecommunications market is becoming more competitive and challenged as electric utilities rollout new Power Line Communications (PLC) technology and attempt to manage this extension to their fiber network. PLC consists of hardware and software that enables the delivery of high-speed broadband data over medium or low voltage power lines. Complimented with their existing fiber based services, PLC provides electric utilities a powerful competitive edge by extending their service coverage area.

The advent of PLC can strengthen their position in the communications market place. However, it will add to their already burdened asset management systems. Introducing a new network infrastructure that requires deployment, management, and service when existing fiber records are inadequate can only magnify the asset management problem.

With this rapid build-out over the past few years many Utility Telecoms do not have a clear and accurate picture of their fiber network. At best, information is scattered throughout the organization in various files and computers. Fiber splice data is typically stored in spreadsheets and manually maintained. Map data to manage geographic location of fiber cables and equipment are paper based or at best stored in Computer Aided Design (CAD) files. A major problem with CAD is that data is not stored as intelligent features. CAD objects representing cables and other network equipment is maintained as a "dumb" graphic. Additionally, individual CAD files are difficult to manage, can only be edited by one person at a time, and does not provide a continuous map view of the entire network.

A Fiber Management software solution built on Enterprise GIS can resolve the inherent challenge faced by UTelcos of managing their networks through existing manual and CAD based solutions. By introducing GIS based Fiber Design and Network Management software, a UTelco can improve their fiber asset management deficiencies while providing increased data accessibility and information to a wider group of users.

## The Solution

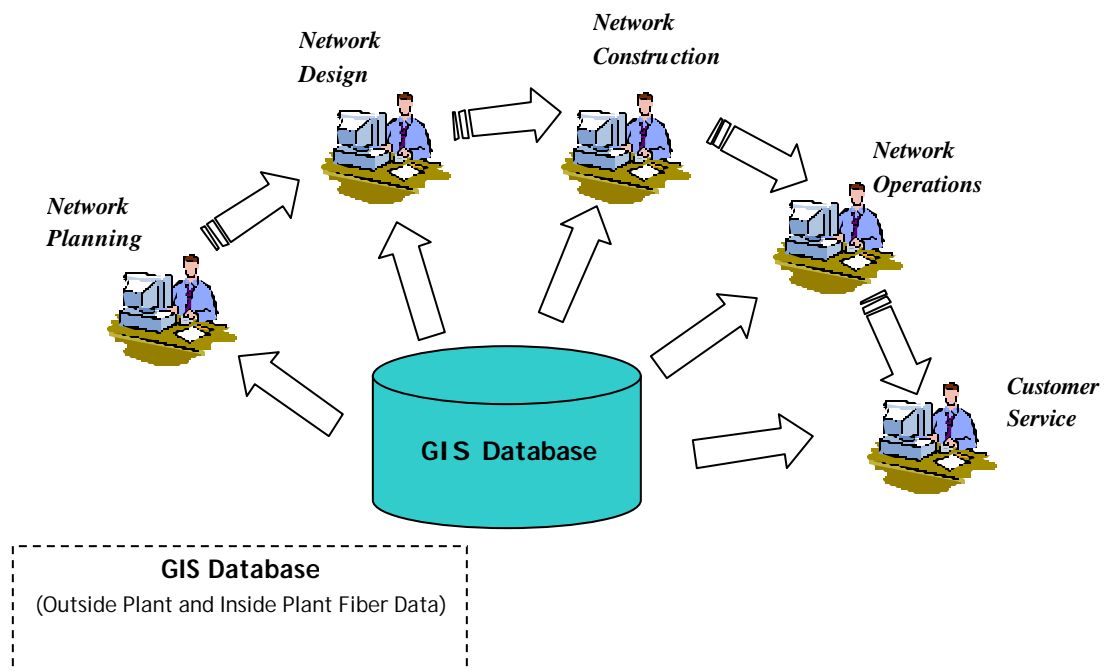
Existing proprietary and legacy GIS / CAD solutions are being phased out in favor of next generation Fiber Management software. Next generation Fiber Management software, built on Enterprise GIS technology is open, interoperable, and customizable using standard object-oriented technologies. A GIS-based solution can consolidate disparate data, currently stored in multiple spreadsheets and CAD files, into a single centralized geographic database. By utilizing commercial relational databases such as Oracle, Microsoft SQL Server, or IBM DB2, the GIS database becomes the central repository and data integration point for all network assets and geographic information. This provides a seamless complete map of the entire fiber network and customers served.

Fiber Management solutions integrate a number of tasks to streamline the network deployment cycle, including design, analysis, construction drawing, and facilities management. Facilities created or modified during each deployment phase, planning, design, and construction is managed by the software providing a timely and visual representation of the network at any point in time. Productivity enhancing tools ensures data is captured once at source and reused during the

network deployment cycle. Splice information (trays, tray positions, splice type etc.) and cable attributes are captured when cables are first placed on the map. This is accomplished by using CAD based tools native to the system's Fiber Design module.

A typical network deployment process begins with a network planner mapping out a preliminary network. Using the planned network, the design engineer produces detailed designs and construction drawings. Construction builds the network and as-built information is updated back into the database. The as-built network is "final posted" to become the permanent record. The tools to complete and control the workflow process are available within the Fiber Management software. Network data is stored as "intelligent" features in a centralized geographic relational database, accessible by other enterprise applications. There is no need to switch to separate software packages to complete each task. The Fiber Management database is accessible via web and wireless technologies thereby allowing more resources within the enterprise access to vital network and spatial information.

The following diagram illustrates various groups accessing fiber asset information and the workflow:



An important aspect of Fiber Management software is the ability to incorporate GIS technology into mainstream Information Technology (IT) and integrate spatial data with corporate data. For example, during a fiber trace operation the physical path is dynamically highlighted on the map showing each cable segment and equipment the fiber passes through. Once the customer termination point is reached the system queries the CIS database (Customer Information System) to select the customer assigned to the fiber. Customer address or billing information is then displayed to the operator.

Fiber Management software can improve an operator's ability to maintain network assets and leverage corporate information to reduce costs and identify new revenue opportunities. Combining network data with customer and demographic information permits the utilization of GIS buffering and spatial analysis tools to locate potential customers within close proximity of a splice, cable or point of presence (POP).

Fiber Management software based on a GIS platform can streamline tasks, immediately update inventories, and intelligently represent network facilities for planning, engineering, and managing customer service. With accurate asset information, operators will be better positioned to cost effectively reconfigure their existing infrastructure to meet the demands of next generation hardware and services. Not only will network planning benefit, but existing network support and maintenance operations will improve.

*This article was written by George Kouroupis, Director of Product Management and Business Development, and appeared in the spring issue of the UTC Journal.*

## Summary

A GIS based Fiber Management solution is an essential component of a corporation's overall Operation Support Software (OSS) strategy. It offers UTelcos and other telecommunication companies the following benefits:

- Centralized geographic database to store network assets and geographic data.
- More users within the organization have access to vital network and geographic information.
- Accurate, comprehensive, and timely record of network assets.
- New designs and network changes are automatically reflected in the database.
- Continuous map view of the entire network.
- Improved network planning and reconfiguration activities.

Fiber Management software supports integrated network design, network management, and asset management capabilities coupled with geographic analysis. A complete and accurate record of the fiber network is critical to planning new build out and managing existing assets. Existing manual and CAD based solutions do not meet the network management challenges faced by today's evolving fiber companies. Moving to enterprise fiber management software based on GIS technology can help improve existing asset records and cost-effectively manage future network reconfiguration.

---

## NetWORKS 3.4 Now Shipping

Enghouse's NetWORKS solution enables companies to *manage complex, multi-domain networks* using the capabilities of geospatial network design and management software. Specifically designed for Telecommunication, Utility Owned Telecoms, and Cable TV service providers, NetWORKS can help maximize network resources, increase workflow, improve customer service and satisfaction, and enhance operational efficiency as well as profitability. NetWORKS provides Inside (ISP) and Outside Plant (OSP) design, network management, and facilities management capabilities within an integrated GIS platform. Its open, interoperable and web deployable architecture can interface with existing enterprise applications such as Work Force Management, Customer Information Systems, Network Monitoring Systems, and others.

NetWORKS consists of three main application modules: FiberWORKS, CoaxWORKS, and CopperWORKS. Included in NetWORKS 3.4 are numerous productivity tools that improve the design and infrastructure management of multi-domain fiber-coax-copper networks. Contact [sales@enghouse.com](mailto:sales@enghouse.com) for more information about our NetWORKS product suite.



**CableCad User's Group Conference  
Hilton Garden Inn  
Markham, Ontario  
November 16-17, 2004**

Find out about new and exciting CableCad developments, discuss user concerns, share your ideas and offer your advice. This interactive forum promises to deliver insight into the latest product enhancements.

**Conference Highlights -**

**Release of CableCad 4.4** - includes MrSID image support and the continuation of CableCad's Transaction Manager (multi-level undo/redo of database changes including baseplan and UDC commands that affect graphic/non-graphic attributes);

**"Show & Tell"** - Client demonstrations on how to maximize productivity with CableCad and CableCad application extensions;

**Round table forum discussion** - featuring data management techniques and mapping standards. Panel will consist of representatives from the utility world and industry leading GIS/mapping consultants;

**CableCad 5.0 - "If you need it - We can build it!"** - An opportunity for you to present feature requests directly to Enghouse.

Technical support will be on site to assist you with CableCad questions as well as provide free product utilities that can help extend and improve your CableCad application.

Should you have any questions regarding conference attendance, accommodations, or content please contact **Keith Reid** or Customer Service at **1-866-SPATIAL**.

**We look forward to seeing you!**

Delegate Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Phone # \_\_\_\_\_ Fax # \_\_\_\_\_

Email Address: \_\_\_\_\_

Evening Event:  yes    No. Attending:  1  2

no

**Registration Deadline: October 14<sup>th</sup> 2004**

**CableCad User's Group Conference  
c/o Enghouse Systems Limited  
80 Tiverton Court, Suite 800  
Markham, Ontario L3R 0G4  
Canada**

**Fax: (905) 946-3201**

*Registration Fee: \$250 Canadian Funds  
Payable to: Enghouse Systems Limited*

**Local Hotel Accommodations:**

<i>Hilton Garden Inn (host site)</i>	<i>905-709-8008</i>
<i>Sheraton Hotel (across the street)</i>	<i>905-470-8500</i>
<i>Best Western (across the street)</i>	<i>905-881-2121</i>
<i>Monte Carlo Inn (5 minute drive away)</i>	<i>905-513-8100</i>