



MILITARY

## DATAPATH | Case Study

# JOINT NETWORK NODE PROGRAM: DATAPATH DELIVERS RELIABLE, HIGH-BANDWIDTH COMMUNICATIONS TO THE FRONT LINE

## DataPath Proves SATCOM Terminal Performance on the Iraq Battlefield

The 2003 invasion of Iraq was the quickest, most efficient large-scale military assault in history. Just 21 days after the start of the ground invasion, U.S. forces captured Baghdad. As joint forces established headquarters in the capital, three DKET transportable terminals went live, delivering six times more bandwidth to the operational environment than ever before. This bandwidth, combined with the latest combat communications systems and applications, enabled the most advanced fully operational headquarters ever established at the heart of a major military operation.

Working toward the vision of network-centric operations, and driven by the operational needs of warfighters, the U.S. Army sought to leverage this enormous capability by using it to bring high-bandwidth tactical communications not only to division and brigade levels, but to the battalion level at forward-operating bases. The result was the dependable, large-scale network formed by the Joint Network Node (JNN) program.

### With Speed, DataPath Brings SATCOM Closer to the Front

While military technology programs often take years to develop, DataPath responded quickly to JNN needs. Within 90 days, the company delivered a prototype trailer-based terminal that met specific requirements driven by combat operations.

### At a Glance:

#### Joint Network Node (JNN) Program

**Challenge:**

The U.S. Army needed real-time, beyond line-of-site communications and more bandwidth in support of operations in Iraq. The solution needed to be rapidly deployed and provide high quality and durability for harsh weather and rugged terrain.

**Solution:**

As the SATCOM prime contractor, DataPath built more than 800 STTs\* as well as Unit Hub Trucks, and delivered software and in-theater support services.

**Impact:**

SATCOM capabilities help save lives and enable warfighters to achieve their missions. Now available to thousands of soldiers, these IP-based, COTS systems support network-centric operations.

\* Marketed by DataPath as the DataPath ET 3000 Portable

## The Foundation of the JNN Program

A reliable and rapidly deployed solution would mean greater effectiveness for U.S. warfighters, who, through improved video and images delivered over SATCOM, would be better able to see around the next corner, beyond the horizon and through the cover of darkness.

DataPath's ability to deliver with speed, quality and innovation has since made its terminals the foundation of the JNN. Its core solution, known by the Army as the AN/TSC-167, or STT, has delivered high bandwidth to forward operating bases throughout Iraq since 2004. DataPath's rugged, trailer-based terminal, with a 2.4-meter antenna, takes SATCOM closer to the tactical edge with the ability to go anywhere a HMMWV can. STTs connect to DataPath's larger Unit Hub Trucks, forming a complete SATCOM solution that communicates the majority of C2 information for the U.S. military in Southwest Asia.

When the first STTs reached forward-deployed forces, beyond line-of-sight (BLOS) communications capability led to tactical superiority compared to the line-of-sight communications previously available to them. In addition to reaching farther, SATCOM capabilities also enabled a mesh network, which meant that any warfighters could talk to each other, see the same video and receive the same data.

To date, DataPath has manufactured more than 800 STTs. According to leading defense industry analyst firm, Frost & Sullivan, the JNN network has become "the largest, most successful SATCOM network ever deployed by the Army."

"No company has deployed so many tactical satellite communications terminals so quickly, that have operated so reliably in combat, as DataPath," said Matt Farr, senior analyst, Aerospace and Defense practice at Frost & Sullivan. The result: improved situational awareness and mission success.

## U.S. Military Seeks Benefits of DataPath's Commercial Model

DataPath had already delivered a range of terminals for the U.S. military in Bosnia, Kosovo, Afghanistan and throughout Southwest Asia before the invasion of Iraq. As it sought to improve tactical communications through the JNN program, the U.S. Army realized that the company's commercial approach brought numerous advantages:

- Lower overall costs through DataPath's rapid, build-to-order prototype development.
- Faster deployment through highly efficient design, manufacturing and supply chain processes.
- Agility to scale manufacturing quickly and produce more units to meet the requirements of up-tempo operations.
- Commercial ingenuity that incorporates advanced technology into its manufacturing to meet the military's immediate demands.

The DataPath proven approach was ideal for meeting the U.S. military's strenuous, immediate field requirements and the government's budget constraints.



The heart of the JNN program: DataPath's trailer-mounted STT, shown here deployed in Iraq, goes anywhere a HMMWV can.



With more than 800 STTs built, DataPath has proven it can build, and keep building, the highest quality SATCOM terminals to U.S. Army specifications.

## Ensuring Continued Top-Quality Communications

Not only is DataPath able to deliver terminals quickly, its engineers constantly evaluate them with an eye toward continuous improvement. For example, the STTs were designed for quad-band capability, and they were initially deployed with Ku band. Ka band capability was added at the Army's request in order to access the Wideband Global SATCOM (WGS) system. Because Ka band requires a very steady antenna platform, DataPath engineered the STT for greater stability. At this point, engineers took the opportunity to reduce the weight of the terminal, which allows the trailer to carry more spare equipment as well.

DataPath field service representatives (FSRs) today work side-by-side with warfighters at forward operating bases and other locations to support JNN equipment as it endures real-life tests of its design, components and features on the battlefield. DataPath FSRs are known for ingenuity and fast work as they repair combat-damaged mission-critical systems, whether or not they are DataPath systems. With many former military personnel among the force, DataPath engineers and support personnel are among the most experienced battlefield SATCOM engineers in the industry.

DataPath also provides comprehensive, ongoing support: training troops in the U.S., helping to pack equipment, and embedding with troops in Iraq, where many FSRs live and work with warfighters for a year or more. Finally, DataPath support personnel have installed state-of-the-art MaxView® network control software in the latest STTs, which will enable improved monitoring and control of network and terminal performance.

## Mission Impact: High-Bandwidth Communications Today and Innovation for the Future

The JNN program is the first instance in which so much bandwidth has been provided so close to combat. Now battalion commanders can depend on a level of communications that used to be reserved only for division commanders and above. They no longer have to rely on days old, blurry, faxed maps; they can now have a clear picture with access to near live video from unmanned surveillance vehicles and drone aircraft.

The ability to communicate more efficiently and effectively gives commanders more of the information they need, when they need it, to make decisions that help enable mission success.



DataPath terminals and personnel rolled into Iraq in 2003 with U.S. forces and have worked side by side with them there, including at forward operating bases, ever since.

## About DataPath

DataPath is a global leader in creating satellite-based network solutions that solve our customers' toughest communications challenges. We specialize in enabling complex, high-bandwidth communications networks that are critical to the operations of military, civilian government and commercial organizations. Even in the most urgent time frames and extreme conditions, we establish and maintain communications anywhere and deliver total network control through our communications solutions, MaxView® network management software and comprehensive services. SWE-DISH Satellite Systems AB, a Stockholm-based, global leader in the design and manufacture of mobile satellite communications systems, is a wholly owned subsidiary. DataPath is headquartered in Duluth, Ga., U.S.A. and operates via more than two dozen offices and distributor locations around the world. For more information, visit [www.datapath.com](http://www.datapath.com).



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