

NEW FRONTIER

Kill chain shortened by network weapons systems

By 2nd Lt. David Williams
Air Force Space Command

PETERSON AIR FORCE BASE, Colo. — “We must preserve and enhance our ability to get and use quality, timely, actionable information to shorten the kill chain...” said then-Secretary of the Air Force James Roche. The kill chain (find, fix, track, target, engage, assess) is the warfighters’ methodology, and it is where networks, as weapons, can be most effective.

The Air Force Space Command Network Operations and Security Center is helping to lead the way in realizing these efforts by supporting joint networks. These include NORAD, NORTHCOM, the Air Force Satellite Control Network MILSTAR,

Tech. Sgt. Jun Loric, a systems control technician from the 374th Communications Squadron, Yokota Air Base, Japan, uses a wire wrapping tool to cross-connect circuits on a distribution frame. The frame is the central voice and data communication hub that links Yokota to the rest of mainland Japan.

Master Sgt. Val Gempis / JCCC



Defense Satellite Communications System, Intercontinental Ballistic Missile communications and other unclassified and classified networks. To act on the new realities, AFSPC has already achieved operational visibility into the Non-Secure and Secure Internet Protocol Router Network with Dashboard—a web-centric utility used up and down the chain to gain near real-time insight into network operations, status and vulnerabilities. As a “best in class” product, the Dashboard is now being adopted at the Air Force level to leverage its operational weapon system capabilities.

Any SIPRNET user in the world can view the Dashboard and those with permissions can interactively provide input and updates to the system. Crew Commanders use Dashboard constant-

ly to solicit input, monitor status and vulnerabilities and receive feedback from AFSPC Network Control Centers.

Continuing the focus on networks as weapons, AFSPC is now piloting an effort on the Space Based InfraRed System using a product known as “Automated-Mission Impact of Network Disruptions.”

Capt. John Gerst emphasizes the need to monitor networks for mission impacts, not just technical issues.

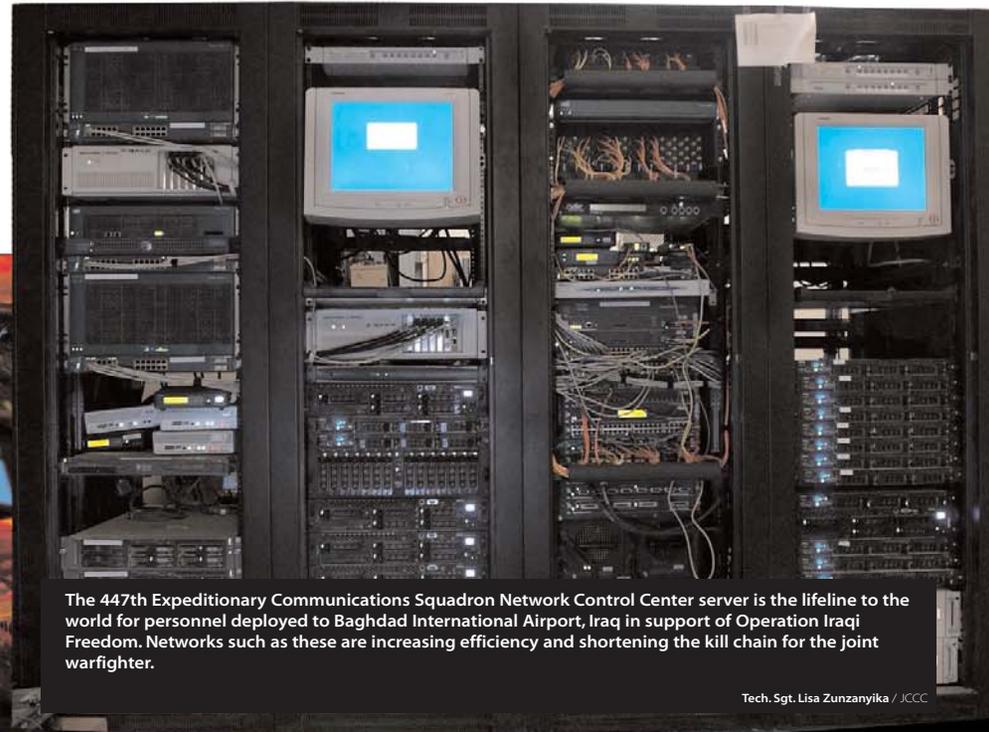
“We can talk all day about a router being down but how does that impact our ability to fly, fight, and win?” he asks.

What is being brought online tells operators exactly what the mission impact will be based on any type of network disruption. Simulations can also be run to ensure that planned net-

work outages will not have unexpected impacts to the weapon system.

The effort led by Captain Gerst will additionally provide input to the Single Integrated Space Picture—another communications area in which AFSPC is leading the way. This picture will cut across stovepipes, providing a single operational picture of all Air Force mission systems. With multiple inputs and layers of abstraction, the picture will be used by senior leadership to assess and control the status of mission systems inside and outside AFSPC, enhancing the integration and cross-flow of information.

The communications community is working to provide value to the warfighter by shortening the kill chain through networks employed as weapon systems.



The 447th Expeditionary Communications Squadron Network Control Center server is the lifeline to the world for personnel deployed to Baghdad International Airport, Iraq in support of Operation Iraqi Freedom. Networks such as these are increasing efficiency and shortening the kill chain for the joint warfighter.

Tech. Sgt. Lisa Zunzanyika / JCCC