Northrop Grumman’s TEAM provides the Joint Interface Control Officer (JICO) with rapid planning, dynamic management and accurate analysis of theater communications during real-world operations. TEAM is based on 17 years of exercise and deployed operational use.

**Laptop Based, Dual Monitors**
TEAM is a laptop-based multi-tactical data link (TDL) management and network-level diagnostics tool. Supporting up to two high-definition monitors, TEAM’s customizable displays ensure each user has understanding of the network, automatically.

In live operations mode, TEAM is connected to local/remote MIDS (Multifunctional Information Distribution System) or JTRS (Joint Tactical Radio System) terminal(s) from which it extracts time slot parametric data for anomaly detection and network monitoring and management.

TEAM is composed of two major components. TEAM LMS (Link Management System) is the engine for TDL monitoring, management and analysis. TEAM View powers 3-D situational awareness displays that present the operational tactical picture.

**TEAM LMS**
The TEAM LMS capability provides TDL monitoring and participation assessment for one or more Link 16, JREAP-C, NATO SIMPLE, SADL, EPLRS, and other Variable Message Format TDLs. TEAM LMS also routes messages among these TDLs.

Diverse displays present a coherent tactical picture and summarize multi-TDL network performance. Included are supportive analysis—from low level protocols and RF evaluation to upper level tactical message communications—and visualization for TDL troubleshooting.

For Link 16 TDLs, TEAM LMS measures network-wide and area-specific time slot duty factor (TSDF), in support of frequency clearance agreements. TEAM LMS also supports control and evaluation for multiple remotely deployed Link 16 terminals.

**TEAM View**
Link management is enhanced by TEAM View. Using NASA World Wind and internet-based earth image repositories, TEAM View provides a 3D situation display based on earth mapping files, from global landmass down to street level views.

TEAM View displays the common tactical picture or reports on specific TDLs. Multiple color-coding schemes are available for surveillance evaluation: identity, track age, reporting responsibility, reception quality, relayer reporting, and air tasking order (ATO) activity.
Team LMS

**TDLs Supported**
- Link 16: MIDS (Type A, D and J); JTRS Type A and D; JTIDS Class 2H – for multiple local and remote terminals. Also, MIDS/ JTRS Support Port interfaces
- JREAP-C: MIL-STD-3011, App C
- Other IP J-series protocols: NATO STANAG 5602 (SIMPLE), GCCS/MTC
- SADL 11XY, 11Z – for data and status/control interfaces, including supplemental Interface Control Document
- EPLRS interface for K-series
- VMF Radio UIDM® interface for K-Series

**TDL Message Routing**
- J-series and K-series TDL to J-series TDL

**JICO Whiteboard**
- High level IU participation status
- All active TDLs and IUs that are direct participants on each TDL

**TEAM View**
- New HMI responds to JICO feedback
- 3D NASA World Wind
- Zoom down to street level views
- Tilt for terrain
- LOS terrain profiles
- Tracks readouts per each TDL as well as normalized database
- Maps are pre-stored and/or cached from map servers

**For more information, please contact:**
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**Tactical Situation Display**
- Holds separate track database for participation on each monitored TDL as well as fused/normalized track database – both are essential for monitoring TDL performance
- Color coding by: ID, altitude, reporting responsibility, TDL, reception quality, relayer, age, network participation, ATO activity, track block
- Geographic TSDF monitoring
- Overlays (from ACOs and user-defined)

TEAM LMS is the engine for TDL monitoring, management and analysis.