

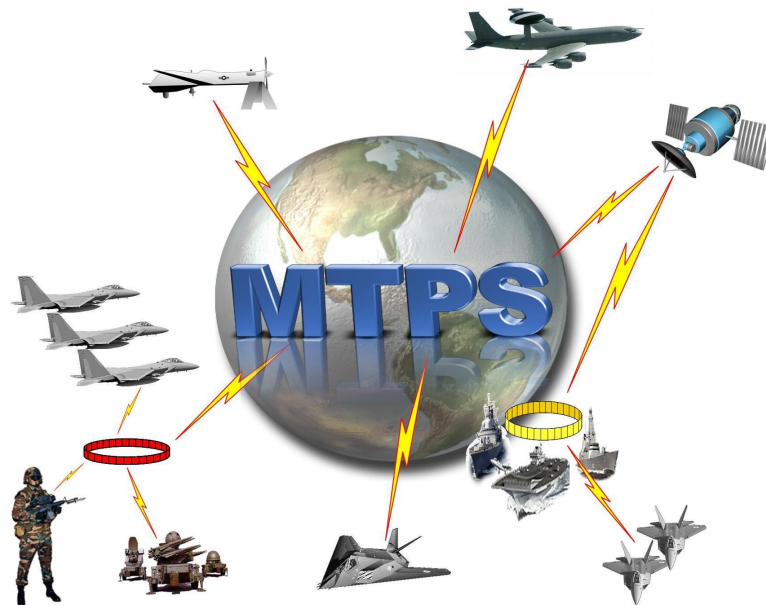
INTEROPERABILITY SYSTEMS INTERNATIONAL

HELLAS S.A.

And

Network Centric Systems, U.K.

**Multi Tactical Data Link Planning System (MTPS)
Product Description**



INTEROPERABILITY SYSTEMS
INTERNATIONAL HELLAS S.A.



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1 Introduction

Interoperability Systems International Hellas S.A. (ISI Hellas), a Greek Defense Company, in partnership with Network Centric Systems, a U.K. Tactical Data Link Consulting and Training Company have developed the Multi Tactical Data Link Planning System (MTPS), the capabilities and functionality of which are described in this document.

2 Operational and Functional capabilities

2.1 General

The MTPS is a user friendly, operator intuitive system that supports collaborative planning and execution of multi-TDL networks to include: Link 11A, Link 11B, Link 16, JREAP, IJMS, Link 4A, ATDL-1, Link 1, with future upgrades of Link 22 and VMF planned.

2.2 Functional capabilities

The effective implementation of Tactical Data Link (TDL) networks provides significant operational benefits and supports the TDL Architecture (Strategic or Long Term Plan) and Pre-mission planning phases in a multi-link environment.

Following within this section, data will be presented that demonstrates how the MTPS product is capable of performing all of the specifications required for the planning and execution of multi-TDL networks.

- The MTPS performs multi-link and single link planning for the following TDLs:
 - MIDS/Link 16
 - IJMS
 - Link 11A
 - Link 11B
 - Link 1
 - JREAP A
 - JREAP B
 - JREAP C
- MTPS has been designed to allow the addition of future and bespoke TDL capabilities to include:
 - Link 22
 - VMF
 - National TDLs

Architecture Planning

- MTPS is designed to support all levels of planning to include Multi-TDL Architecture (MTA) planning. The integration of the Capabilities Database, Participants Database, Network Design Database, Restrictions Database, as well as enhanced geographic displays with Line-of-Sight (LOS) calculations, allows the operator to conduct the strategic long range architecture planning required for large-scale operations.

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Pre-Mission Planning

- Pre-mission Planning is the process of determining data link connectivity requirements, selecting the appropriate network design, identifying crypto requirements, assigning network duties, and the deconfliction of Link 16 operations.
 - MTPS supports the process of Pre-mission Planning by allowing the operator to perform the following activities:
 - Selection of Network Manager Duties – MTPS aids in the selection of the Primary and Standby Network Managers, as well as the Sub-Network Managers through the implementation of the Capabilities Database, and the Participants Database. By using the information contained in each of the MTPS databases, the operator can quickly determine the most appropriate participants to carry out these functions based on capability and location.
 - MTPS allows the operator to assign the following network roles, including standbys:
 - Network Time Reference (NTR)
 - Initial Entry JUs (IEJUs)
 - Navigation Controller (NC)
 - Secondary Navigation Controller (SNC)
 - Position Reference(s) (PR)
 - Relay Roles
 - Data Forwarder
 - Adjacent region/nation coordination – MTPS allows the operator to enter and display the frequency clearance restrictions of other nations and for specific areas. The use of the frequency clearance displays will allow the operator to see at a glance if planned operations will create a conflict with the existing restrictions of the planning nation, or adjacent nations.

- Network Design Selection – MTPS allows the operator to select the most appropriate network design from all available designs. MTPS maintains a library of available designs and allows the operator to review the Network Design Specification (NDS) of each network in order to make a well-informed network selection.
- Network Modification – MTPS supports network modification by allowing the operator to create and submit a network modification request. If the operator determines that none of the available networks meets the requirements of the planned operation, the operator may submit a network modification request to the Network Design Facility (NDF) in order to have the required capabilities added to an existing network. This process is generally faster and easier than designing a new network.
- Allocation of Link 16 time slot blocks – MTPS assists the operator in assigning the usage of time slot blocks by displaying the network design parameters to the user along with a comprehensive geographic display, and the OPTASK Link in order to determine the most suitable unit for each time slot block.
- Track Block assignments – MTPS allows the operator to assign track block/pool assignments to network participants and disseminate them via the OPTASK Link. The plan validation ensures that the same track block or portion of a track block is not assigned to multiple participants, while still allowing the use of track pools.
- OPTASK Link creation, validation, and dissemination – MTPS allows the operator to create, validate, and disseminate the OPTASK Link in ADATP-3 format with future upgrades supporting USMTF formats.
- MTPS supports geographical multi-link and single link planning including platform positioning and connectivity determination. The advanced planning features resident in the planning databases are accessible from the geographic display. Planned participants are positioned on the geographic display, duties, track block, IU number, and data links may be assigned, as well as the calculation of line-of-sight.
- MTPS has an integrated Capabilities Database based on the database schema architecture of the U.S. NAVSEA Capabilities and Limitations (C&L) database. Many experienced TDL planners consider the C&L database an indispensable tool for operational planning. The integration of the C&L database schema by MTPS greatly enhances and simplifies the multi-TDL planning process, especially when integrating multiple platforms, services, and nations.

- MTPS supports the ability to identify/determine inter platform Information Exchange Requirements.
 - MTPS utilizes an Information Exchange Requirements (IER) database to ensure that the Tactical Information Architecture (TIA) supports the information flow and throughput requirements of the operation.
- MTPS supports the assignment of link roles/functions/duties.
 - The operator selects the roles and functions performed by each participant, for each data link implemented in the plan. Roles and duties are located in a Pull Down Menu (PDM) so that the operator can quickly and easily make the assignments without having to remember all of the options or refer to other references.
- MTPS is capable of creating, modifying, importing, exporting, merging, and validating single link and multi-link plans.
 - MTPS allows the operator to select which data link(s) to plan for and what functions are to be performed (create, modify, import, export, merge, validate), and disseminating single link and multi-link plans. Moreover, the system allows the operator to specify multiple networks within a single link or multi-link plan, adding to the level of complexity and flexibility that the plan is able to support.
 - All TDL plans and OPTASKs receive validation before prior to dissemination. The operator receives a list of points that have failed validation in order to support making corrections. The operator always has the ability to override the validation failure and disseminate the information if required. In other words, the system will never prevent the operator from being able to perform any function. The system will always advise the operator of potential problems and allow the operator to make the choice.
- MTPS supports message import including:
 - ATO as defined by ADATP 3.
 - ACO as defined by ADATP 3.
 - OPTASK Link as defined by ADATP 3.
- MTPS generates Network Design Request forms based on operator inputs. By using the Information Exchange Requirements (IER) Database and the Initial Planning Database, MTPS operators can see at a glance exactly what features will be necessary for a Link 16 network design. The Network Design Request is then transmitted to the Network Design Facility (NDF) or other participants for validation and review.

- The Joint and Coalition Planning Capability (JCPC) is the advance hierarchal networking capability resident in MTPS. This system allows the networking of multiple MTPS into a robust collaborative TDL planning system. The JCPC networking operates through standard IP and telephone connections resident on most computer systems. MTPS will interoperate with NORGIL via the NDDN in the same manner as it would with other IP based networks.
- MTPS is interoperable with Network Design Tools (JNDA and TNDS):
 - MTPS software is compatible with and can be loaded onto the same computer as the JNDA or TNDS. As MTPS is a separate application, it can be operated simultaneously with either design tool allowing the operator to toggle between the respective applications as desired. This capability enhances and simplifies the planning process.

3 Deliverables.

3.1 Application Software:

The MTPS software application is delivered as a single, Commercial Off-The-Shelf (COTS) product that operates under the Microsoft Windows 2000, XP or Vista operating systems. All standard data links are included as part of the system.

An Operator Manual will be delivered with the system. Since this is a COTS, PC based application, no maintenance manual is required.

The computer platform can be Buyer furnished or specified in the Purchase Order.

3.2 Training

While MTPS is designed to be a user friendly, operator intuitive system, training courses are offered and recommended for operators and planning staff. Planning and executing the Tactical Information Architectures (TIA) required to support the Information Exchange Requirements (IER) of military commanders can be extremely difficult, even for experts. Several courses exist to ensure that operators and planning staff are qualified and equipped to accomplish this task. A full list of courses can be found on the NCS web site at <http://www.network-centric.com>. As a minimum, the below described course is highly recommended.

- Combined MTPS Operator and Multi-TDL Network Planners Course – The Combined MTPS Operator and Multi-TDL Network Planners Course is a three-day course that combines the content of these two courses into a single course. This course meets the needs of planning staff that will act as Network Managers, Sub-Network Managers, and other senior planning staff that expected to operate the MTPS. Students receive instruction from a recognized Tactical Data Link (TDL) subject matter expert that was part of the MTPS design, development, and test team. All students receive a copy of all instructional material, TDL abbreviations, TDL glossary, and one-year of instructor support. The instructor support permits graduates of the course to contact the instructor or designated representative with any MTPS or other TDL related questions for up to one year. There are no limits placed on the number of students that attend the course.

3.3 Support

The following levels of support within the frame of this offset program proposal are available:

Warranty – The software is covered against defects and will be repaired or replaced at Seller’s expense during the warranty period. Defect reports will be responded to during the working day they are received and an estimated time to repair or replace will be provided upon analysis of the problem if a fix is not immediately available. Defect reporting procedures are described in the Operator Manual. The MTPS software is warranted for ninety (90) days from date of delivery.

Maintenance Contract – An Annual Maintenance Contract is available for separate purchase to cover defect correction and automatic upgrades (new features or capabilities) of the product.

4 Address

Correspondence regarding this product should be sent to:

ISI Hellas S.A.	Network Centric Solutions
25 Tichis Str.	199 Princess Park Manor
167 77 Hellinikon	Royal Drive, London
Athens, GREECE	N11 3FS United Kingdom
Attn: MTPS	

5 Points of contact

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