NetLink Data Link Processor

Tactical network multi-link processing for today and the future

Data links are a key component in meeting the vision for networked communication in the Joint and Coalition battlespace. Connectivity provides timely situation awareness aiding effective command and control to ensure correct, high tempo engagement.

General Dynamics Mission Systems is focused on connectivity through the provision of communications and data link systems, with more than 15 years experience delivering into air, land and naval assets.

Applications include:

- Command and control (C2)
- Maritime patrol
- Ground-based air defence
- Tactical reconnaissance and surveillance
- Joint and coalition operations.

The NetLink Data Link Processor family offers:

- Operational proven maturity
- Fast, accurate, reliable message processing to ensure error-free high tempo operations
- Proven flexible interface for risk-free mission system integration
- High degree of automation to support message standards evolution
- Complete life-cycle support
- Available in single or multi-link configurations.

Connecting and protecting

Extensive tactical networking expertise

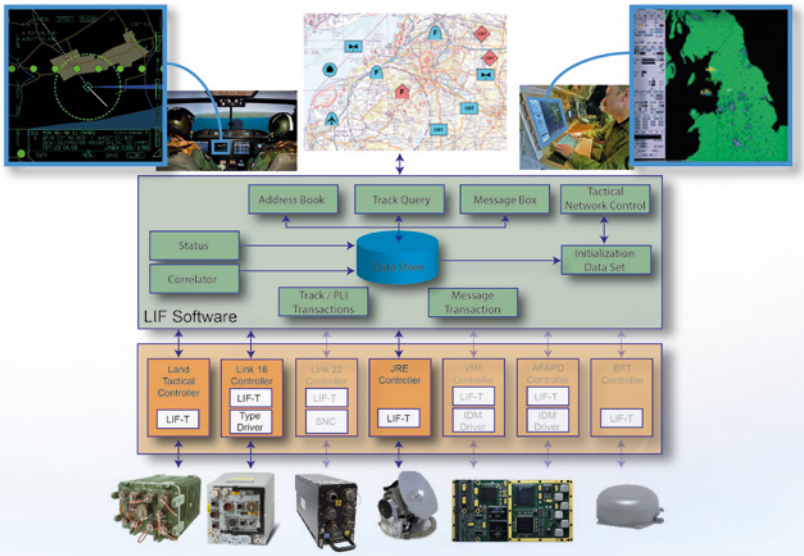
- NATO Tactical Data Links (TDL) (Link 11, Link 16, Link 22)
- Air-land integration (AFAPD, VMF)
- Land tactical communications (VMF, Bowman, IRIS)
- Blue force tracking systems (HeATS, GrATS)
- Maritime white shipping Automatic Identification System (AIS)
- NATO Friendly-Force Information (NFFI)
- Non-NATO and national data link formats (SECOS, Link Y, 4677)
- Beyond Line of Sight (joint range extension, OTH-G).

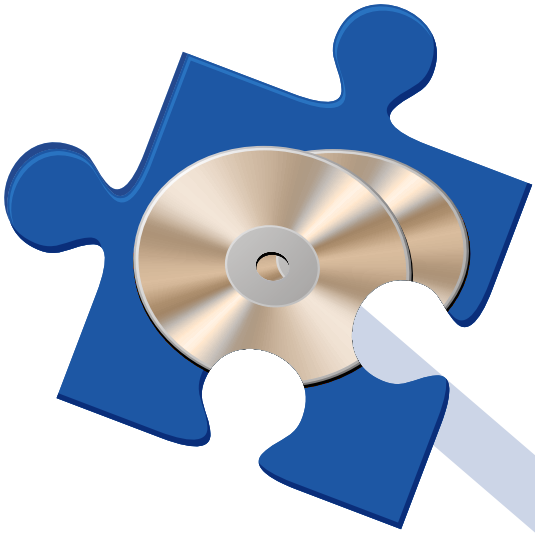
Market leading link and platform integration technologies

- Open standard common software interfaces
- DDS, web services, KML
- Link Independent Format (LIF)
- FACE and ASAAC avionics architecture compatible
- Services-oriented architecture
- Simplified integration using message parser libraries and XML schema.

Proven multi-link and gateway capability

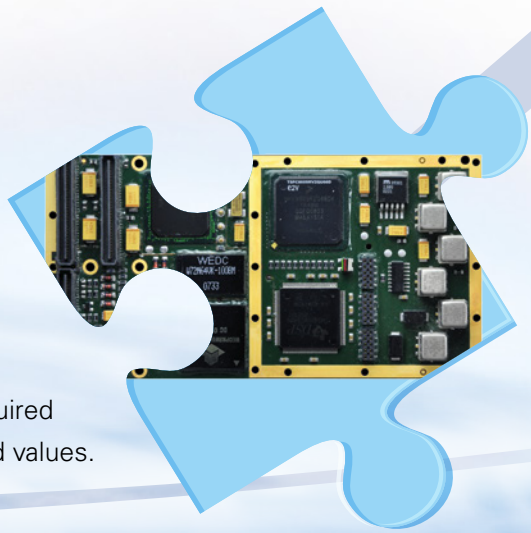
- Simultaneous multi-link operation
- Multi-standard / multi-link processing
- Provides smart message forwarding and translation
- Across tactical and non-tactical links / bearers.





Software-only solution

- Open architecture to enable all TDL managers to be inserted as required
- Full C2 processing
- Operating systems supported:
  - Windows
  - Linux
  - Green Hills Integrity
  - VxWorks
- RTCA DO-178B Level D certifiable
- Multiple API for host integration:
  - Sockets
  - Web services
  - DDS
  - C/C++
- ASAAC / ECOA / FACE compliant
- Proven hosting on virtual machines.



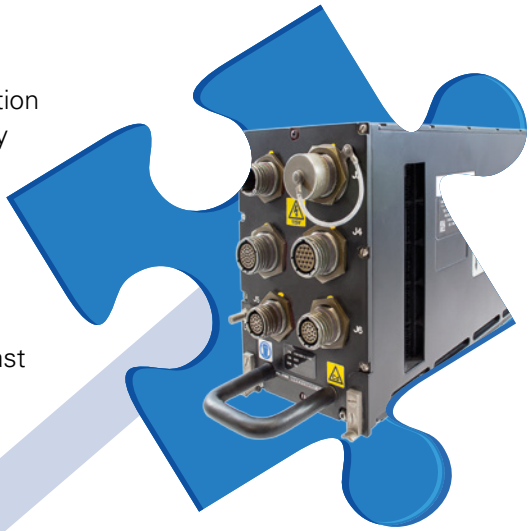
Automated repeatable testing

- Extensive script-driven testing
- Automated build and execution daily, as required
- Continuously growing coverage of fields and values.

NetLink solutions

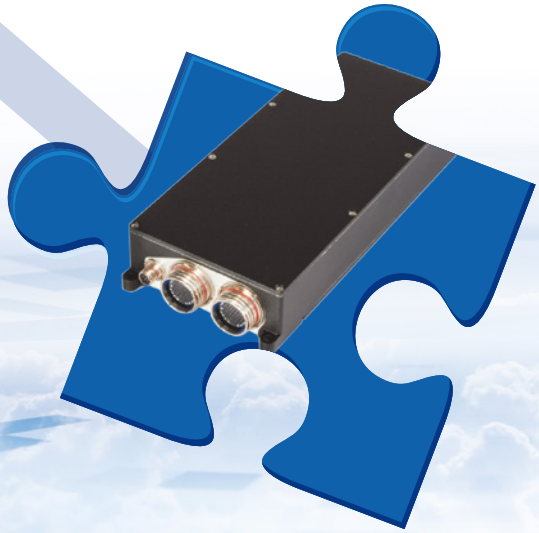
Dedicated 1/2 ATR Data Link Processor (DLP)

- Multi TDL support (non C2 node)
  - Link 16
  - AFAPD
  - VMF
- Human machine interface generation, including SoftMap digital map application for improved situational awareness
- Video switch for easy integration into an existing aircraft display system
  - Multiple Link 16 terminal support
  - MIDS LVT
  - URC-138
- Qualified for harsh airborne fast jet environment
- Growth path to full C2 node.



Ultra low SWaP DLP

- Multi TDL support (C2 node)
  - Link 11
  - Link 16
  - Link 22
- VMF
- Multiple Link 16 terminal support
  - MIDS LVT
  - STT
  - TTR
  - JRE
- Qualified for harsh airborne fast jet environment
- Supports distributed computing architectures.



Dedicated 3U or 6U module

- Open standards interface (VME and cPCI)
- RTCA DO-178B Level D certifiable
- Multi TDL C2 processing
  - Link 11
  - Link 16
  - Link 22
- Airborne qualified
- Option for AFAPD and VMF
- Terminal support
  - MIDS LVT
  - STT
  - TTR.

Specification

		Standard
Processing platform	**Power PC, Intel i.7, X86**	
Operating system	**Microsoft Windows**	Embedded
		XP
		7 and 10
	Green Hills Integrity version	5.2.2 + 11.0.4
	Linux	Debian
		CentOS
	VxWorks	5.5 and 7
Applications	**Forwarding**	STANAG 5616 Ed3, Ed4 and Ed5
	Forwarding friendly force information to weapon delivery assets	ADatP-37
	Electronic warfare	CESMO Hub v6.0.1
Link processing (message processing)	**Link 11**	STANAG 5511 Ed6
	Link 16	MIL-STD 6016C
		MIL-STD 6016E
		STANAG 5516 Ed 4
		STANAG 5516 Ed 6
		STANAG 5516 Ed 7
	Link 22	STANAG 5522 Ed 4
	VMF header	MIL-STD-2045-47001B
		MIL-STD-2045-47001D
	VMF	MIL-STD 6017
		MIL-STD 6017A
		MIL-STD 6017B
	AFAPD	A Series
		S Series
		X Series
	Bowman	ComBAT API
	NATO Friendly Forces Information (NFFI)	v1.3
	Cursor On Target (COT)	–
	ADatP-3	–
	Over The Horizon Targeting Gold (OTH-GOLD)	Operational Specification Rev D
	Keyhole Markup Language (KML)	OpenGIS KML encoding standard
	Automatic Identification System (AIS) messages	ITU-R M.1371-2
	Automatic Dependant Surveillance – Broadcast (ADS-B)	RTCA DO-260
	Dismounted Solider System	STANAG 4677
	Multilateral Interoperability Programme (MIP)	3.0 and 3.1
	Other	Developed on request
Drivers	**JREAP-C**	STANAG 5518 Ed1
		MIL-STD-3011 30 Sept 2002
	SIMPLE	STANAG 5602 Ed 3
	Data Distribution Service (DDS)	RTI 6.0, OpenSplice
	High Level Architecture (HLA)	HLA 1.3
	Distributed Interactive Simulation (DIS)	IEEE-1278.1
	Webservice	–
	NMEA 0183	Over serial (for AIS receiver connection)
	Combat Net Radio	MIL-STD-188-220B
		MIL-STD-188-220D
		MIL-STD-188-220D chg note 1
	MIDS LVT	Platform D, G, R, J
	L11 ATDS	MIL-STD-188-203-1A
	Small Tactical Terminal (STT)	Platform J
	TacNet Tactical Radio (TTR)	Platform J

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