DATA LINK MANAGEMENT SYSTEM

The Data Link Management System (DLMS) is the "CORE" element for Data Communication Systems on Manned and Unmanned Aerial Platforms. The DLMS, as a Tactical Data Link Processor evolution, represents, for onboard systems, the gateway to access voice/data communications over broadband IP-based and legacy Tactical Data Link systems.

In current military and para-military operational scenarios, fixed, rotary and unmanned platforms are requested to enhance their communications capability and improve their level of interoperability between heterogeneous forces on air, ground and sea, yet increasing their efficiency in terms of better performance, higher flexibility and modularity.

These requirements can be translated into needs like multiple data link integration, modular innovative architectures to easy the on-board platform integration and to add new capabilities minimizing HW/SW changes, and security management, including support to networked data routing (IP Based) for the full integration of the platform into the net-centric operational environment.

Data Link Management System Main Characteristics

- Enables IP based Network Centric Communications incorporating Ethernet Switching, IP routing and IP Encryption
- Modular HW architecture based on units with Processing, I/O and IP routing/switching functions
- Partitioned SW architecture based on ARINC653 RTOS to supports independent CNI applications
- IP Network Encryption Module, adaptable to specific National, NATO and Coalition security mission requirements
- Video/Audio digitization and compression for real-time transmission
- Modular I/O for customization on different application scenarios
- Redundant configurations for high availability applications
- DO178B-DO254 HW/SW development for safe applications' support
- Common Criteria and Tempest certification
- UAS Communication Management.

DLMS

TECHNICAL SPECIFICATIONS

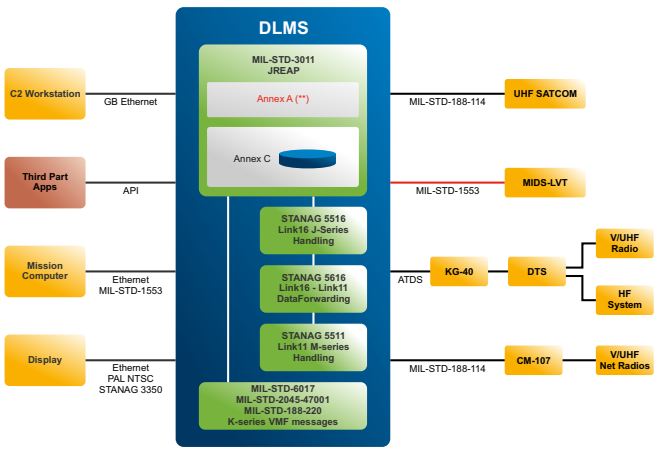
HARDWARE ENVIRONMENT
VPX (VITA46) 3U form factor SRUs
Dual Core Processor, 1GHz
Up to 512GB of HDD Capacity

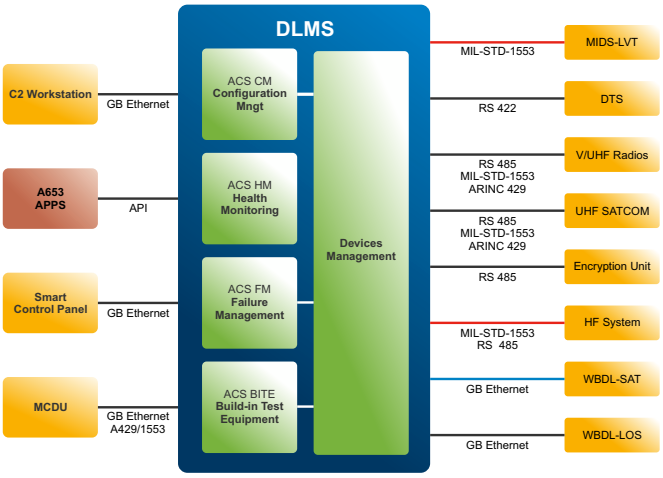
SOFTWARE ENVIRONMENT	
Operating Systems	Wind River VxWorks 653 R2.4 Linux O.S. DEBIAN 6.0

ROUTING/SWITCHING STANDARDS	
RFC 793 / RFC768	TCP/UDP Support
RFC 791 / RFC 2460	IPv4/IPv6 Support
RFC 826 / RFC1027	ARP / Proxy ARP
RFC 1350	TFTP
RFC 2328	OSPFv2 Routing
RFC 2131	DHCP Server
IEEE 802.1Q	VLAN Support
DSCP	DiffServ QoS model
RFC 4861	Network Discovery

VIDEO STANDARDS	
ITU-T H.264	Digital Video
PAL RS-170A , NTSC, S3350	Video Codec

NATO STANDARDS	
STANAG 5516	Link 16
STANAG 5511	Link 11A
MIL-STD-2045-47001	VMF
STANAG 5519	VMF
STANAG 5616	Data Forwarding
MIL-STD-3011C	JREAP A, C
MIL-STD-1553	Serial Data Bus
MIL-STD-188-114A	Digital Interface Circuits
MIL-STD 188-220D	Digital Message Transfer Device Subsystems





EXTERNAL INTERFACES
10/100/1000 IEEE802.3 (Fast/Giga Ethernet)
ARINC 429
RS485/422
ATDS/Link11
Avionic CAN BUS
Discretes in/out, Audio in/out, Video in/out
MIL-STD 1553
MIL-STD188-114A

ENVIRONMENTAL CHARACTERISTICS	
Temperature	Operating: -40°C to +70°C
	Storage: -55°C to +85°C
Altitude	Up to 50000 feet

QUALIFICATION	
RTCA/DO-160F	Environmental conditions
MIL-STD-461E	EMI/EMC
MIL-STD-1472	Human Engineering

MECHANICAL CHARACTERISTICS	
Dimensions	¼ ATR (57x194x324 mm)
Weight	<4 Kg
Cooling	No cooling required

OTHER CHARACTERISTICS	
Reliability	MTBF 2500 hours, MIL-HDBK-217,
	ARW Environment, 50°C
Maintainability	MTTR < 10 min (1st level)
	MTTR < 60 min (2nd level)
Consumption	< 40 W
Input power	28VDC i.a.w. MIL-STD-704F

LEONARDO
AIRBORNE & SPACE SYSTEMS

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