



## AVIONICS NETWORK COMPUTING PLATFORM

The introduction of 'IT enabled aircraft' – sometimes called 'e-enabled' or 'digital aircraft' – enables secure IP communications to and from the aircraft. Technologies that use the internet protocol (IP) in the air transport industry are leading to a dramatic transformation in aircraft operations, whether on the ground or in-flight. We are an active part of this transformation, being the supplier of a family of interoperable ground/naval/aerial Communications Networking Nodes.

Part of this family is the Avionics Network Computing (ANC) Platform, a secure and robust avionics data communication manager able to interface with different radio systems, ensuring a communications backbone for on-ground and in-flight critical operations. The ANC Platform is an integrated avionics equipment, based on Integrated Modular Avionics (IMA) concept. It aims to provide safe and secure communications services and data terminal management functions to manned and unmanned platforms. Based on IP technology, it also provides gateway functionality and audio/video support for legacy communications systems.

### Main capabilities

- Modular HW architecture based on units providing Processing, Data Storage and I/O functions
- On-board Server
  - Network, File and Application Server
  - Data Loading, Data Distribution
- Networking
  - Native support to IPv4/IPv6 data traffic (wideband core capability)
  - IP Routing, Ethernet Switching, VLANs
- Security
  - IP encryption for information confidentiality
  - Domain Segregation (Secure and Non Secure)
- Safety/Integrity
  - Support to redundant configurations for high availability applications
  - Capability to guarantee differentiated QoS on a common set of connectivity resources
  - DO-178/DO-254 HW/SW developments, for safe applications support
- Safe Processing
  - ARINC 653 RTOS for partitioning/segregation of independent CNS applications

# ANCP

- Interoperability
  - Data Communication Gateway
  - Audio/Video capability

## TECHNICAL SPECIFICATIONS

### HARDWARE ENVIRONMENT

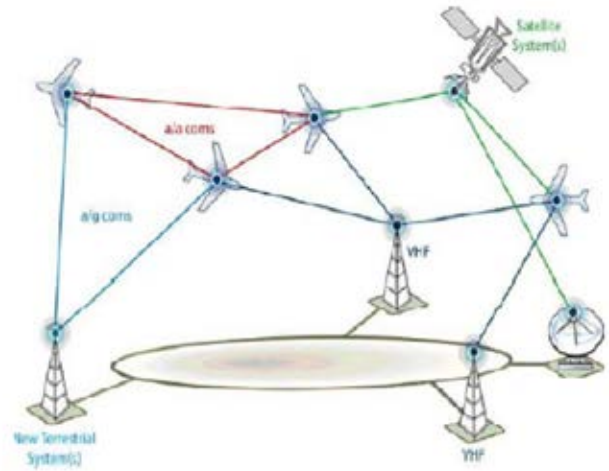
VPX (VITA46) 3U form factor SRUs  
 Dual Core Processor, 1GHz  
 Up to 512GB of HDD Capacity

### SOFTWARE ENVIRONMENT

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

### PROCESSING/ROUTING/SWITCHING STANDARDS

|                    |                                 |
|--------------------|---------------------------------|
| ARINC 653 P1-2     | O.S., Partitioning, Segregation |
| ARINC 615/615A     | Data Loading                    |
| 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 802.3         | CSMA/CD, Ethernet               |
| IEEE 802.1Q        | VLAN Support                    |
| RFC 3260           | DiffServ QoS model              |
| RFC 4861           | Network Discovery               |



### VIDEO STANDARDS

|  |               |
|--|---------------|
| ITU-T H.264                                | Digital Video |
| PAL RS-170A , NTSC, S3350                  | Video Codec   |
| External Interfaces                        |               |
| 10/100/1000 IEEE802.3 (Fast/Giga Ethernet) |               |
| ARINC 429                                  |               |
| RS485/422                                  |               |
| Avionic CAN BUS                            |               |
| Discretes in/out                           |               |
| Audio in/out                               |               |
| Video in/out                               |               |

### ENVIRONMENTAL CHARACTERISTICS

|               |                          |
|---------------|--------------------------|
| Temperature   | Operating -40°C to +70°C |
|               | Storage -55°C to +85°C   |
| Altitude      | Up to 50000 feet         |
| Qualification | RTCA/DO-160F             |

### MECHANICAL CHARACTERISTICS

|            |                                       |
|------------|---------------------------------------|
| Dimensions | 2MCU (57x194x324 mm) i.a.w. ARINC 600 |
| Weight     | <4Kg                                  |
| Cooling    | No cooling required                   |

### OTHER CHARACTERISTICS

|                 |                           |
|-----------------|---------------------------|
| Maintainability | MTTR < 10 min (1st level) |
|                 | MTTR < 60 min (2nd level) |
| Consumption     | < 40W                     |
| Input power     | 28V DC                    |

