BOEING

CURRAWONG BATTLESPACE COMMUNICATIONS SYSTEM

KEY COMPONENTS OF THE CURRAWONG BATTLESPACE COMMUNICATIONS SYSTEM

The Currawong Battlefield Communications System includes all of the technology and hardware needed to provide secure communications services for defence personnel deployed to isolated and harsh environments with access to none of the network communications we are accustomed to in everyday life such as mobile phones and the internet.

Network Access Module, Tactical Edge Server & Mission System Manager

The heart of the system is the Network Access Module (NAM) – a rugged hardware case which provides the power and services needed to enable secure communications. Under the initial LAND 2072 Phase 2B acquisition contract, the NAM provided for up to six capability 'bricks' to be plugged into the case depending on the mission's need. This is being expanded through the Capability Enhancement Program, with additional bricks under development to respond to the evolving threat environment. Unlike similar hardware in use by armed forces around the world, the NAM's innovative lightweight design makes it easily portable for small units on the move.

The centrepieces of the NAM, and the essential 'bricks' for every mission, are the Tactical Edge Server and Tactical Services Router – both of which host IP networking, routing, video, voice and data services. Specifically, the compute and storage capacity of the Tactical Edge Server makes it ideal for hosting deployed applications.

Also core to every mission is the Mission System Management software. Currawong provides access to six types of Wide Area Network (WAN) transmission devices, or bearers. From long-haul fibre to satellite communications terminals, each bearer type covers differing distances and uses differing technology. The Mission System Manager intuitively identifies the optimal bearer for the mission, depending on the environment, cost of data transfer and communications needs. It also switches seamlessly between bearers should the need arise.

External Network Access Point

One of the revolutionary features of the system is the External Network Access Point which, for the first time, allows Australian Defence Force personnel to securely communicate using untrusted public networks, such as the internet. It eliminates the traditional restriction of needing to use specific Australian data links, giving deployed forces the ability to securely communicate in any environment.

Radio Interface System

Another first-of-its kind delivered as part of the system is the Radio Interface System (RIS). The RIS allows for six analog or digital Line of Sight radios to be cross-banded and connected to the network to provide voice capability to mission commanders across the globe. This includes IP routing, Radio over IP, bridging, radio net recording, external VoIP telephony interfaces and the ability to remotely manage tactical radio nets via the latest in web multimedia technologies. It can be can be operated on low power, providing the unmatched ability to be deployed for extended periods without organic power.

Medium SATCOM Terminal

For large deployments, vehicle-mounted capability such as the trailer-mounted SATCOM terminal, which can access military Wideband Global SATCOM (WGS) and civilian satellite networks from anywhere, and the Deployable Data Centre which provides between 50 – 500 users with access to classified networks, provide unprecedented capability to scale-up communications and establish deployed headquarter operations.

The final deliverable which signals the completion of Currawong capability is the Headquarters On the Move (HQOTM) – a mobile version of the battlespace communications system which is integrated into the Bushmaster Protected Mobility Vehicle and gives commanders superior situational awareness and decision-making capability from the back of a vehicle anywhere, anytime. Even in the most remote locations, and when travelling at speed, the vehicle can link to the global WGS network, giving commanders real-time information and the ability to communicate with land-based forces and headquarters. The WGS certification also ensures the system is compatible with Australia's coalition partners.

Deployable Data Centre Assembly

Headquarters on the Move

CURRAWONG BATTLESPACE COMMUNICATIONS SYSTEM

Acquisition Contract Deliverables

109

Radio Interface Systems – crossbands and connects up to six radios to the network.

340

Network Access Modules – rugged hardware case which provides the power and services needed to enable secure communications.

Mission System Manager – intuitively identifies the optimal bearer for the mission and switches seamlessly between bearers as needed.

26

Deployable Data Centre Assemblies – provides between 50 – 500 users with access to classified networks.

64

External Network Access Points – provides secure connection using untrusted public networks.

246 & 286

Tactical Edge Servers & Tactical Services Routers hosts IP networking, routing, video, voice and data services.

24

Medium SATCOM Terminals – accesses military Wideband Global SATCOM (WGS) and civilian satellite networks from anywhere.

35

Troposcatters – uses particles in the earth's atmosphere to reflect communications signals to enable them to travel beyond line-of-sight.

126

High Capacity Line of Sight (HCLOS) - provides microwave communications between nodes over long distances where terrain allows for radio line of sight.

18

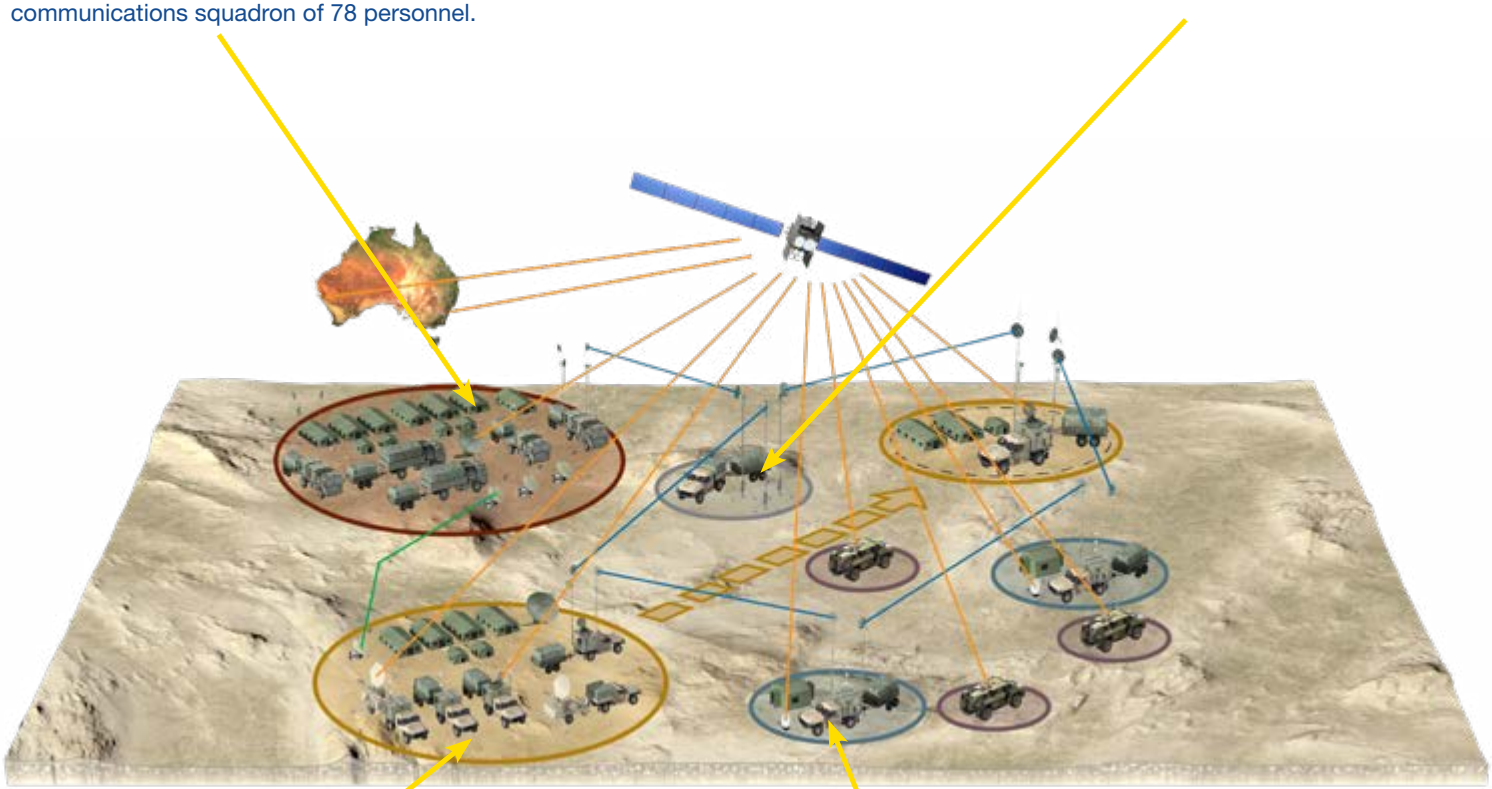
Headquarters on the Move – a mobile version of the battlespace communications system which is integrated into the Bushmaster Protected Mobility Vehicle.

1

Force Node (Division Headquarters/Major Joint Task Force) – between 100 and 500 concurrent users supported by a communications squadron of 78 personnel.

23

Relay Nodes – operated by 3 personnel and provides for relay of High Capacity Line of Sight (HCLOS) links between three nodes.



26

Formation Nodes (Brigade Headquarters) – between 25 and 100 concurrent users and supported by a troop of 27 personnel.

37

Unit Nodes (Unit Headquarters) – comprise between 5 and 25 concurrent users and are supported by a section of 8 personnel.

USERS OF CURRAWONG BATTLESPACE COMMUNICATIONS SYSTEM

Australian Army

- 1st Signal Regiment
- 1st Combat Signal Regiment (1 CSR)
- 3rd Combat Signal Regiment (3 CSR)
- 7th Combat Signal Regiment (7 CSR)
- 145 Signal Squadron
- Defence Force School of Signals (DFSS)
- 20th Regiment, Royal Australian Artillery
- 1st Aviation Regiment
- 5th Aviation Regiment
- 8th Signal Regiment
- Combat Training Centre Townsville

Royal Australian Air Force

- No 1 Combat Communications Squadron (Amberley)
- No 1 Combat Communications Squadron (Williamtown)
- No 1 Combat Communications Squadron (Edinburgh)
- 114 Mobile Control and Reporting Unit (114MCRU)