2iC CASE STUDY

AIRBORNE VIDEO SHARING FOR GROUND-BASED TROOPS

MISSION SCOPE

A major defence force was undergoing a strategic transformation. Closely related to a number of focus areas was the desire to take full advantage of the accelerating rate of technological change.

Every new solution, therefore, must be as effective as possible in the battlespace so that aircrew, ground-based troops and systems were all ready for a full spectrum of operations.

Effective human capital is the competitive advantage in the battlespace. But that capital is often wasted doing sub-optimal tasks that should be automated, such as juggling different communications systems between ground and air.

To address these digital interoperability challenges, the defence force wanted to undertake trials to demonstrate how an open standard, software-only solution—added to in-service aircraft and ground operators working across multiple radio networks—could deliver immediate operational benefits.

As Graham Booth, Chief Executive of 2iC, explains, “This was the ideal project for us. 2iC’s software automatically connects different systems, devices and platforms. Regardless of whether they were procured at different times, from different vendors, under different contracts or to meet different needs, 2iC makes them work together—and for a purpose for which they weren’t necessarily designed.”

CHALLENGE

The over-arching challenge: could 2iC solve a problem and enable ground-based troops to digitally discover and view, via their TacRover video receivers, real-time video feeds transmitted from military aircraft with little to no manual input? (Until now, any departure from pre-set, pre-determined settings required time-consuming and error-prone manual intervention.)

“The troops on the ground needed something that worked seamlessly, without requiring distracting and complex setting-up procedures,” explains Booth. “In a battle or high-stress situation, such video feeds could provide a valuable tactical ‘edge’. The operators wanted something that was as simple as pressing a button—because there might not be time or spare mental capacity for anything more complicated.”

That said, adds Booth, the challenge wasn’t to be underestimated. The customer recognised that the era of point-to-point communication was coming to an end: the future called not just for configuration automation, but a ‘many-to-many’ multi-node communications architecture with automatic discovery, deconfliction, data workflows and security segregation, and the ability to communicate across a huge range of data links and networks such as Link 16 and MANET.

WHY 2iC?

2iC, recognised the customer, was the inventor and author of the UK Ministry of Defence Lean Services Architecture, an open schema based request/response and event message protocol and supporting architecture designed for the mobile platforms and low powered environments that are common in the operational and tactical military environment.

2iC’s track record was compelling with customers including the UK’s Ministry of Defence, the US Department of Defense, the Australian Department of Defence and the New Zealand Defence Force.

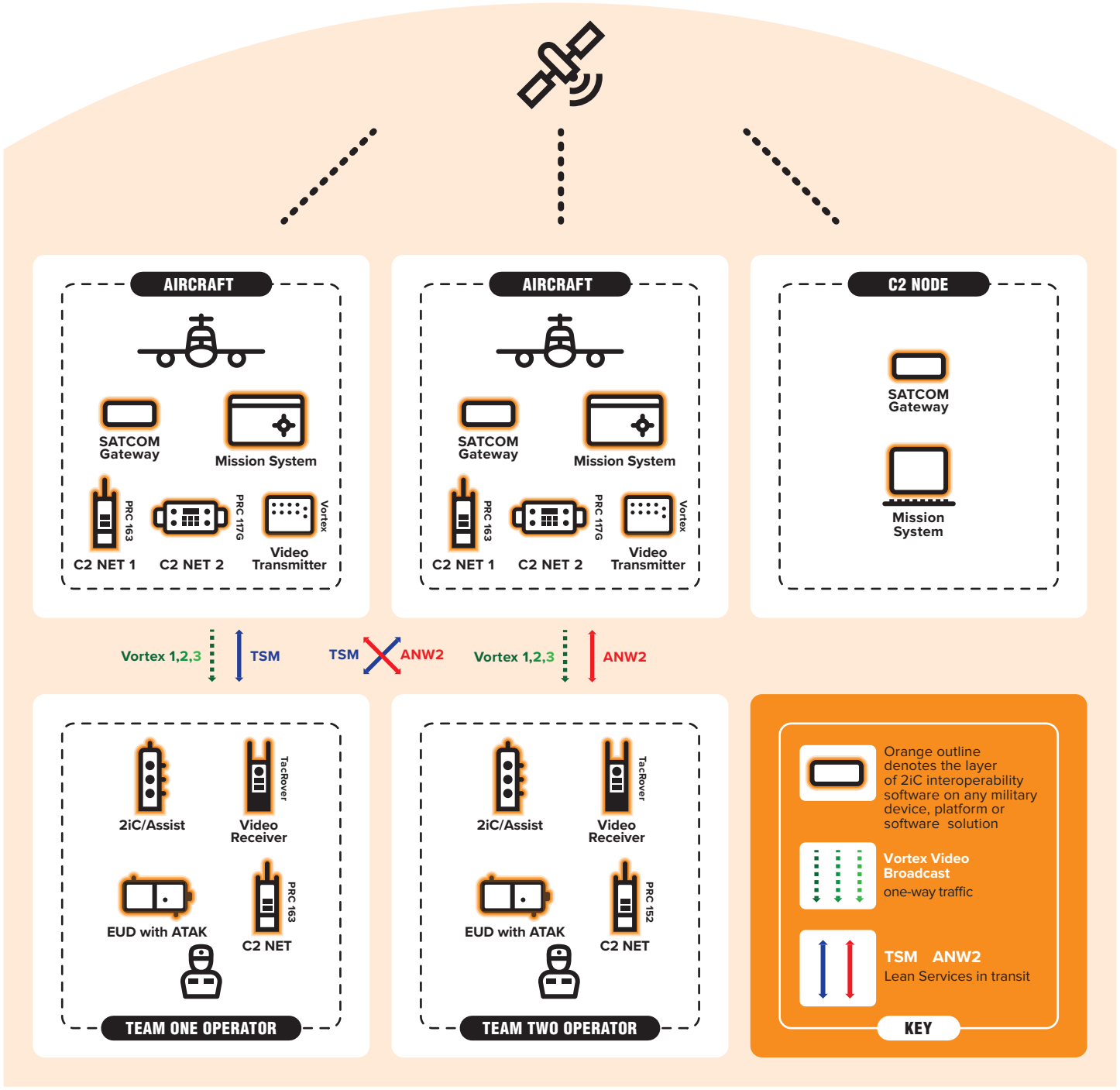
If, as had quickly become clear, the Lean Services Architecture standard was the solution for this customer’s challenges too, then it made sense, they concluded, to work with the global experts in deploying that Lean Services Architecture standard in the field.

ABOUT 2iC: GLOBAL LEADERS IN DIGITAL INTEROPERABILITY IN THE BATTLESPACE

2iC’s unique software layer liberates human capability in the battlespace by digitally automating the exchange of mission-critical and actionable information between commanders, operators and equipment across land, sea and air.

Designed for the very leanest of digital conditions in the modern battlespace, 2iC’s solution delivers two-way communications in environments with low-power computing, low-bandwidth connections, physical landscape challenges or interrupted communications. It effectively delivers the benefits of IoT (the Internet of Things) when there is no viable internet.

Find out more at **www.2iCworld.com**



"Using the already-developed open Lean Services Architecture standard, 2iC software assisted this defence force in enabling ground-based troops to connect to, control the configuration of, and make use of the airborne video cameras on board its aircraft"

WHAT 2iC DELIVERED

Initially, 2iC worked alongside a small number of the defence force's existing suppliers, together with a local technology partner—required for compliance with this country's security requirements—to demonstrate a working solution, first in a laboratory environment and then in flight.

Essentially, explains Booth, we demonstrated how the 2iC software, together with the open Lean Services Architecture standard, delivered the previously unachievable connection and control capabilities. This rapid and easy integration of existing systems was shown across two typical operational scenarios, Sensor Video Dissemination and Casualty Notification.

The scenarios included both air and ground assets, with the ground system being the in-service Android Team Awareness Kit (ATAK). This Android smartphone geospatial infrastructure and military situation awareness application had initially been designed for precision targeting, situational awareness, navigation and data sharing. For the ATAK component of the project, 2iC worked closely with its partner to create an ATAK plug in that exposed discoverable Lean Services.

The systems involved were not only tailored and controlled across different radio transports and networks, but could also discover, identify, publish, receive, deconflict and auto configure, with little or no configuration activity by the user, other than making a choice of sensor information or the physical triggering of a casualty alert.

MISSION ACHIEVED

The entire programme, from initial workshop, through working solution and cyber security penetration tests to live flight trails and final approvals, was a complete success and was completed in eight months.

2iC's proven software solution seamlessly integrated multiple systems from multiple suppliers. At the same time, it saved this defence force significant sums, minimised development risk and slashed years from the development timescale.

No new equipment was required, stresses Booth—simply 2iC software, running on ground-based systems, and in the air. In short, it is another success story for 2iC and its specialist battle-proven military systems integration and interoperability capabilities.

"Traditional approaches to developing new military equipment to deliver new capabilities are slow, expensive, and risk-prone," concludes Booth.

"Using software to achieve those same capabilities is far quicker, costs less and slashes risk exposure. And when that software is proven in action, and built around an open, published standard, the argument is even more compelling."

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