

Command and Control Workstation (C2WS)

Royal Netherlands Army



Introduction

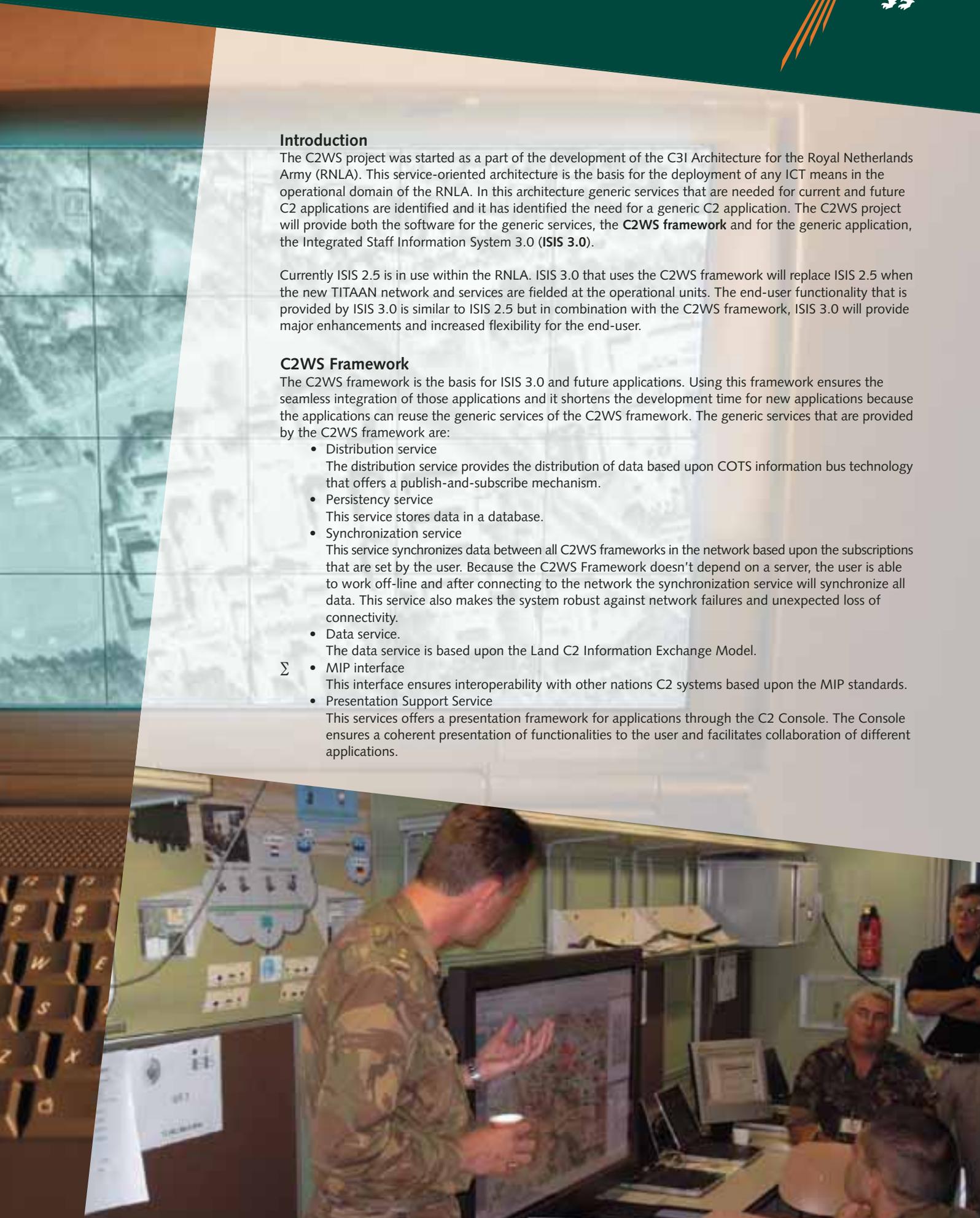
The C2WS project was started as a part of the development of the C31 Architecture for the Royal Netherlands Army (RNLA). This service-oriented architecture is the basis for the deployment of any ICT means in the operational domain of the RNLA. In this architecture generic services that are needed for current and future C2 applications are identified and it has identified the need for a generic C2 application. The C2WS project will provide both the software for the generic services, the **C2WS framework** and for the generic application, the Integrated Staff Information System 3.0 (ISIS 3.0).

Currently ISIS 2.5 is in use within the RNLA. ISIS 3.0 that uses the C2WS framework will replace ISIS 2.5 when the new TITAAN network and services are fielded at the operational units. The end-user functionality that is provided by ISIS 3.0 is similar to ISIS 2.5 but in combination with the C2WS framework, ISIS 3.0 will provide major enhancements and increased flexibility for the end-user.

C2WS Framework

The C2WS framework is the basis for ISIS 3.0 and future applications. Using this framework ensures the seamless integration of those applications and it shortens the development time for new applications because the applications can reuse the generic services of the C2WS framework. The generic services that are provided by the C2WS framework are:

- Distribution service
The distribution service provides the distribution of data based upon COTS information bus technology that offers a publish-and-subscribe mechanism.
- Persistency service
This service stores data in a database.
- Synchronization service
This service synchronizes data between all C2WS frameworks in the network based upon the subscriptions that are set by the user. Because the C2WS Framework doesn't depend on a server, the user is able to work off-line and after connecting to the network the synchronization service will synchronize all data. This service also makes the system robust against network failures and unexpected loss of connectivity.
- Data service.
The data service is based upon the Land C2 Information Exchange Model.
- Σ • MIP interface
This interface ensures interoperability with other nations C2 systems based upon the MIP standards.
- Presentation Support Service
This services offers a presentation framework for applications through the C2 Console. The Console ensures a coherent presentation of functionalities to the user and facilitates collaboration of different applications.





ISIS 3.0

ISIS 3.0 offers the user generic functionalities that support the C2 process at the staffs of operational units. All information is categorized, grouped and managed in contexts in the Common Operational Picture (COP) catalog. The user can create his own COP by setting subscriptions on contexts and can contribute to the COP of others by creating new contexts or by adding information on existing contexts. The COP catalog is the central starting point for the user. It shows what information is available in the network. To manipulate the contents of the contexts different viewers are available.

- A GIS viewer that presents operational information on a geographical background. On the GIS viewer the end-user can view multiple overlays (context views), which enables him to combine information from different contexts, for instance combine the current situation and a fire support plan or an obstacles overlay. Furthermore the GIS viewer offers tools like zooming, panning, a gazetteer and distance measurement.
- An Orbat viewer that provides functionality to manage the order of battle and that offers the possibility to show the Orbat in different views.
- A context viewer with the possibility to enter operational information in tables. This is needed at command posts where based on voice or text reports information has to be entered on units that are currently not equipped with modern C2 systems.

The development

The C2WS project is carried out at the Command & Control Support Centre of the RNLA in Ede. At this centre systems are developed in an evolutionary way by *Planning a little, building a little, fielding a little and learning a lot*.

The future

The first version of the C2WS framework and ISIS 3.0 will be fielded in 2004 together with the TITAAN project although small-scale deployments have been going on since June 2002 (fielding a little). The software will be improved in successive versions throughout the coming years based upon user experiences and requirements of new applications that are built. The next version will provide integration of the Battle Field Management System (BMS) targeted to be ready by the end of 2004. After that, applications are planned for intelligence, fire support, air defense and logistics.

For further information please contact the project manager at h.trouw@mindef.nl