# BC2A HQ

## Command and Control Solution for Headquarters

BC2A HQ® gives headquarters staff a single, shared view of the operational situation and the tools to plan, decide, and disseminate orders from it. Near-real-time information on friendly forces, enemy, events, and obstacles is layered over GIS, kept synchronized across echelons, and exchanged with other C2 systems through NATO-standard interfaces. The system is built on three foundations:

| Common Operational Picture | GIS Capabilities | Standardized Data Exchange Exchange |
|---|---|---|
| COP and recognized pictures — near real-time information over GIS layers: friendly forces, enemy, events, obstacles | 2D and 3D display, topo-geodetic calculations, and map contrast adjustment for terrain-aware planning | Reliable transport over combat radio (HF, VHF, Multiband), LAN and WAN, with QoS and data compression |

| Own forces position update | Tactical chat and file transfer | ORBAT / TASKORG editor | Operational documents documents and orders orders | Alerts and requests |
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# Operational Functions

**COMMON OPERATIONAL PICTURE**

Near real-time information over GIS layers — friendly forces, enemy, events, obstacles — shared as COP and recognized pictures across the headquarters.

**GIS CAPABILITIES**

2D and 3D display, topogeodetic calculations, and map contrast adjustment.

**OWN FORCES POSITION UPDATE**

Own position updated from GPS information received from a combat radio or any other GPS receiver.

**TACTICAL CHAT**

Send and receive text messages and files of any type, with messaging organized by priority level and receiver group.

**ORBAT / TASKORG**

Editor tool to create and edit ORBATs and TASKORGs, exportable in XML format.

**REQUESTS**

Generate, edit, submit, transmit and receive requests in accordance with the ADatP-3 standard, with integration for custom request types.

**OPERATIONAL DOCUMENTS**

Analysis, estimate, plans and orders — an unlimited number of documents built on predefined STANAG 2199 templates. New templates can be defined and saved, in either STANAG 2199 or non-standard format.

**ALERTS**

Display and exchange alerts with other C2 systems — Contact Alert, AIR Alert, CBRN Alert — including proximity alert settings.

**MULTI-ECHELON COLLABORATION**

A collaborative environment for commanders and their HQ staff, based on the need-to-know principle, using RBAC and Single Sign-On mechanisms.

**TERRAIN ANALYSIS**

Line of Sight, Radial Line of Sight and Viewshed analysis over the mapped terrain.

**REPORTS**

Generate, edit, submit, transmit and receive reports in accordance with the ADatP-3 standard.

**STANDARDIZED DATA EXCHANGE**

Reliable Data Transport Protocol over radio, LAN and WAN, with IP-level QoS priority policy, ordering and expiry time, SOA-based architecture, per-medium configuration, and data compression.

# Interoperability and Standards

## Interoperability

- MIP — Multilateral Interoperability Programme, versions 3.1, 4.4 and 4.5
- FFT — Friendly Force Tracking, compliant with NATO FFI (STANAG 5527)
- NVG — NATO Vector Graphics: NVG 1.5 & 2.0.2
- TDL — Tactical Data Link (Link 16, JREAP-C, SIMPLE)
- VMF — Variable Message Format
- OTH-Gold
- JC3IEDM 3.1
- MIM 5.2

## Standards compliance

- STANAG 2199 — Operational Documents
- STANAG 5525 — JC3IEDM database model
- STANAG 2019 — APP-6(A) and APP-6(C)
- ADatP-36, Edition 1, Version 1
- ADatP-3 Baseline 12, 12.2 and 14
- ADatP-4733 — NATO Vector Graphics
- MIP DEM Specifications MTIDP v3-1-2, MIP-DEM 3.1 (MIP Block 3), MIP4-IES v4

## Key benefits

- Improves the decision-making cycle by automating standard operating procedures
- Open architecture, with an SDK available for further independent development
- Easy integration with other CS and CSS systems, such as ISTAR, fire control, other engineering support
- Secure access based on Role-Based Access Control and Single Sign-On
- Flexible solution, easily configurable to operational and FMN needs
- Standardized data exchange over LAN/WAN and combat radio networks
- JCOP (Joint Common Operational Picture) displayed in a browser
- Meets national and NATO interoperability requirements; implements NATO Joint Military Symbology
- System designed in accordance with NAF and FMN

## References

BC2A HQ® has been tested in exercises and interoperability working groups:

- Coalition Warrior Interoperability Exercise (CWIX), 2011–2026
- Validated for FMN Spiral 3/4
- MIP working group activities for interoperability, 2007–2025
- Other operational exercises, as a fielded solution

# Deployment and Support

## Technical requirements

### BC2A HQ SERVER

**Hardware**

- CPU: Intel, 2.4 GHz
- 10 core processors
- Memory: minimum 16 GB RAM (recommended 32 GB)
- HDD Space: minimum 200 GB

**Software**

- OS: Microsoft Windows Server 2019 or newer
- Microsoft .NET Framework 4.8
- Microsoft SQL Server 2019 or newer (inclusive Express Edition)

### BC2A HQ CLIENT

**Hardware**

- Processor: minimum 2 GHz
- Memory: minimum 2 GB RAM (64-bit)
- HDD Space: minimum 100 GB (64-bit)
- Graphics: DirectX 9 device with WDDM driver

**Software and Communication**

- OS: Microsoft Windows 8.1, 10, 11
- Microsoft .NET Framework 4.8, Microsoft SQL Compact 4.0
- Combat network radio environment and LAN/WAN networks

## Implementation services

- Requirements analysis and estimates
- Solution design
- Integration
- Installation, configuration and testing
- Training and customized manuals

## Support

- User and technical support
- Custom extension with new functionalities
- Assistance with participation in interoperability exercises

