

[REFERENCE CASE]

Product: Ascom Access Node

Customer: The Finnish Defence Forces

Platform: Ascom openAccess®



MISSION-CRITICAL COMMUNICATION BASED ON ASCOM openAccess® TECHNOLOGY IN THE FINNISH DEFENCE FORCES

In 2001, the Finnish Defence Forces saw a clear need for a new communication solution which bases on a commercial product in order to integrate different systems and perform different functions simultaneously. This product should also meet new challenges in mobile warfare from a management and command point of view. Traditional technology was considered to be limited in its ability to provide sufficient interfaces, flexibility, capacity, mobility, scalability, security and possibilities for decentralized operations. The new technology should offer higher capacity, quicker response and more efficient communication for both fixed and mobile troops. This was the basis for the development of the Ascom openAccess® technology and the Ascom Access Node as a first product built upon it.

Ascom Tactical Access Nodes can be securely interconnected to form highly scaleable communications networks for transmitting voice, data, and video over copper, fibre, or existing wired and wireless networks and infrastructures. As an all-IP solution, the Ascom Tactical Access Node enables the full benefits of powerful QoS, traffic prioritization, and security features for all network traffic.

The Ascom Tactical Access Node is easy to setup and manage and can be deployed in a full range of operational environments. It is customisable and supports all the required network interfaces and functional features necessary to enable modern voice and data communications infrastructures to be rapidly, easily, and flexibly constructed.

The Ascom Tactical Access Node is ideal for a large variety of permanent and ad-hoc deployments. It connects office and field devices, both wired and wireless, into a fully functioning all-IP network. It can connect scattered local area networks into virtual LANs over various transmission technologies, including SDH, DWDM, and satellite infrastructure. The Ascom Tactical Access Node can create virtual private networks within IP networks and secure these VPNs with effective encryption. Traffic of different security levels can also be separated physically so that each connection carries only the traffic from a specified security level.

“The Ascom Access Node is developed to be suitable for wartime use. In addition, the Ascom Access Node has been used in crisis management operations. The Ascom Access Node is part of wartime equipment of the Finnish Defence Forces, and it was developed for local communication corps’ use. I can’t imagine how we would manage without the Ascom Access Node anymore,” colonel Halonen says.

The Finnish Defence Forces’ Communication Needs

In the Finnish Defence Forces, communication and command play a vital role. In recent years the role of communication has changed and become more important than ever before. “Communication in all of its forms plays a central role in the Finnish Defence Forces. With the help of communication and technology, we can utilize our resources more efficiently.

Communication systems play vital role during co-operation and joint operations within our organization and with other parties.

Earlier, the biggest problem was that our information system consisted of several separate systems that did not communicate properly with each other. Transferring data from one system to another was difficult, since these systems were not compatible. Maintenance of these systems became expensive, and our own organization needed a system that would be generally interoperable from one system to another within the Finnish Defence Forces,” says colonel Kyösti Halonen from the Defence Staff of the Finnish Defence Forces.

Ascom Access Node in an Integrator Role

“At the moment, the Ascom Access Node integrates our systems. As the Army, Navy and Air Force have different and separate systems, the Ascom Access Node functions as an integrating interface enabling these systems to communicate with each other. On the other hand, the Defence Staff is responsible for the Finnish Defence Forces’ core network and common services. At this interface, the Ascom Access Node functions as a device which connects the Army, Navy and Air Force to the network maintained by the Defence Staff. Thanks to the Ascom Access Node, different data networks and information systems now work better together”, colonel Halonen says.

Now we can transfer information electronically from one system to another. This technology is compatible with various systems used both nationally and internationally. Taking a long-term view, it becomes a cost effective solution as well since we don’t use overlapping systems for the same tasks. Furthermore, this technology and the network is secure. The information is standardized in order to be used by every person of our organization. This improves our means and capabilities in management and command”, Halonen continues.

Advantages to the Finnish Defence Forces

- All-IP solution: IP-only networking. One communication solution fits all applications: data, voice and video are transmitted simultaneously over the same network
- Cost-effectiveness
- Security and robustness
- Flexibility: fast and simple installation
 - Scalability :the system scales through a series of available expansion units
 - Mobility
 - Compliance with international standards
 - Simple management: only one device performing different roles has to be managed
 - Form factor: small size and low energy consumption compared to traditional tactical communication equipment
- Network integration: interconnects incompatible communication networks. Connects office and field devices, both wired and wireless, into a fully functioning all-IP network. Ideal for collaborational operations where different military organisations, civilian organisations and commercial operators should work together.
- Fast deployment
 - ✦ Tailor-made solutions available: customer specific extensions can be integrated easily

Ascom Access Node in International and Cooperational Crisis Management

“The benefits of the Ascom Access Node can be attained particularly well in international crisis management operations. Soldiers, civilian authorities and international telecom operators work together in crisis management operations. Some of these operators use their own communication systems, and some of them use commercial services. The Ascom Access Node fits well in interfaces where military organizations, civilian organizations and commercial operators should work together. With the Ascom Access Node, integration between all these systems is easy.

There are several possible roles in international crisis management operations and joint operations with various public authorities. The Access Node integrates incompatible communication networks to work together in these operations as well. Ascom Access Node technology is ideal for international collaboration and ensures interoperability. We have used the Ascom Access Node technology in a number of crisis management operations such as the peacekeeping operations in Bosnia and Herzegovina, Kosovo and Afghanistan.

Military operations or civilian crisis management operations – the Ascom Access Node fits almost every situation, since it enables us to utilize existing networks. The Ascom Access Node can be used if there are local networks already in place, but it can also be used when building totally new systems. On the other hand, when building a totally new communication architecture in a disaster area, the Ascom Access Node can be easily moved to be operated by a commercial operator. This means that there is no need for military personnel to manage the system in the way there would be when a purely military system was used. The Ascom Access Node enables the extension and transformation of a military operation into a civilian crisis management operation and further into a network operated by local operators,” colonel Halonen continues.

Esa Kaakinen, Senior Manager at Ascom (Finland) Oy, has extensive experience in the fields of communication and command systems. Concerning the impact of the Ascom Access Node he states: “The Ascom Access Node technology has proven to be a decisive technology in fulfilling the communication needs in crisis management and disaster relief. Thanks to this technology, we are now able to provide versatile solutions for both demanding conditions in the field and broadband service environments in offices. The Ascom Access Node is also an excellent solution for connecting multinational organizations within the same communication infrastructure, without having to give up established working procedures.

Advantages for the Finnish Defence Forces

In urgent situations a quick response is needed. The Ascom Access node can be easily moved from one location to another. On the other hand, the Ascom Access Node uses internationally standardized interfaces and commercial technology which makes it a cost effective solution. "The Ascom Access Node can be used to integrate almost any systems. When the system changes, only a change of interfaces is required. There is no need for customizing the system itself for every change. This means that the Ascom Access Node technology is also cost effective. Benefits of this system are especially apparent in crisis management operations: when the operation's lead country changes, communication systems traditionally have changed also. With the Ascom Access Node, interoperability problems can be solved," colonel Halonen comments and continues: "a lot of times tactical communication equipment is heavy and consumes a lot of power. We benefit from the Ascom Access Node's small size and low energy consumption."

Cost Efficiency through Partnerships

The Finnish Defence Forces have concentrated on partnership programs with different companies. The goal of the partnership is to secure and lead development, and to produce services cost effectively and reliably. High standards in the partnership and risk management are guaranteed by guidance and control procedures and internal management procedures. Relating to this partnership-oriented strategy, the Finnish Defence Forces have chosen Ascom as a strategic partner for the implementation and development of integrated communication systems. The Finnish Defence Forces have ordered further development work with Ascom for additional products based on Ascom's openAccess® Technology. The contract value amounts to approximately € 0.9 million. A budget of € 10.7 million is foreseen for the purchase and maintenance of Ascom openAccess® technology based products in the years 2007-2011.

To colonel Halonen the cooperation between the Finnish Defence Forces and Ascom is very important: "The only possible way to find a solution for our needs when we don't have sufficient resources is to develop our systems with partners. Our cooperation has been very successful. Our needs as a customer have been taken into account very well. We hope we can have influence on the development work in the future as well."