

Modern voice communications solution makes operational command and control more effective

Finnish Defence Forces deploy Lotus Sametime Unified Telephony

Overview

Challenge

The Finnish Defence Forces needed an effective, easy-to-use and secure voice communications and collaboration tool for operational command and control that supports swift planning and decision-making.

Solution

The Defence Forces chose IBM's Lotus Sametime Unified Telephony (SUT) as the unified communications solution. It integrates telephony functions and collaboration tools on the user's workstation into a single package. The SUT communications solution can be connected to both conventional and IP (Internet Protocol) based private branch exchanges. It facilitates communications from the Defence Forces' operational network to all other official networks as well as public telecommunications networks.

The Finnish Defence Forces are adopting the Lotus Sametime Unified Telephony solution that improves usability, reachability and data security in the Defence Forces' voice communications in its operational command and control. The solution also facilitates cooperation between different organizational levels and branches, and makes planning and decision-making faster.

Commanding people through voice is just as important in the Defence Forces as it used to be. Command and control systems on the whole include common operational picture systems and other electronic solutions, but verbal commands have a strong place in the big picture.

"Speech has a lot of elements and expressions of will that cannot be transmitted by text or image only. We have decided to keep voice, and voice must remain one of the possible command and control options," says Colonel Pertti Hyvärinen, head of the Finnish Defence Forces C4 Agency.

The Command System Center has taken part in the development of the Lotus Sametime Unified Telephony (SUT) solution supplied by IBM, and it will assume responsibility for its maintenance and production use at the Defence Forces.

SUT is a software-based communications solution that integrates versatile telephony functions and real-time collaboration tools into a single entity on the user's workstation. It expands the Lotus Sametime software into a general communications and collaboration platform.

All command and control tools on the same workstation

According to Colonel Hyvärinen, when making the decision in favor of the SUT solution, the Defence Forces was looking for a system for its operational activity that would allow secure voice communications within the Defence Forces' operational environment and with outsiders.

In the SUT solution, voice is encrypted when talking within the operational environment. When a call is transferred to the outside world or comes from the outside, the operational network user hears a signal tone in the headphone, indicating that the person at the other end is not within the secure system.



Benefits

SUT improves the availability and data security of voice communications as well as the reachability of people. It combines voice and collaboration tools on the same workstation with all the user's other command and control tools. The ease of organizing conference calls supports swift planning and decision-making, and it also offers time and cost savings. Cooperation with other authorities becomes easier, as the SUT communications solution enables secure communications also with the outside world directly from the Defence Forces' operational environment.

"This is an incredible improvement compared to the previous technical solutions," Hyvärinen states.

So far, landline telephones have been the voice communications tool of choice for the Defence Forces' operational command and control. SUT integrates voice and collaboration services on the user's workstation that already has all the other command and control system components, such as common operational picture-related functions.

"SUT is a tool for every user in the operational network. There is no need to go anywhere from one's workstation, all the services are available on the same workstation. There is no need for a separate telephone device, so one unnecessary terminal can also be eliminated from the desktop," Hyvärinen suggests.

The user makes a call from the workstation using the SUT soft phone by clicking a recipient's name from the contact list. A conference call between several people can be started by clicking more names on the list, even in the middle of a call between two people. Text-based instant messaging can be transformed into a voice call or conference call in the same way.

The users have a single telephone number in the system from which they can be reached, whether they are at the workstation or on the move with a Tetra phone or a cell phone. The calls are automatically connected to the terminal from which the user is currently reachable.

"This improves reachability considerably," Hyvärinen says.

Via SUT, the conference call participants can share documents on the workstations; via Web conference, they can also share the same desktop view and discuss it on the telephone. According to Hyvärinen, the common operational picture displayed by a map solution, for example, can be analyzed jointly in a conference call.

"No film, paper or fax is needed, and no one has to go anywhere."

Good prerequisites for cooperation

Some of the functions offered by SUT have already been in internal use within the Defence Forces' administrative environment via the Lotus Sametime solution.

"We have had good experiences of it, and now we are able to duplicate the same operating model to the operational environment. The technical realization of conference calls is, however, even easier with SUT," Hyvärinen says.

Also, SUT offers a better sound quality in conference calls, a higher number of simultaneous users can take part in the call, and the bidirectionality of voice works more flexibly than in the Sametime solution. Conference calls can be recorded, so someone who could not take part in the call is able to, within the limits of his or her access restrictions, listen to the conversation afterwards and stay up to date on the situation.



According to Colonel Pertti Hyvärinen, Lotus Sametime Unified Telephony is the Defence Forces' solution for voice communications during peace time, special conditions as well as military crises.

SUT integrates with all traditional and state-of-the-art IP private branch exchanges, so the organization does not need to renew its PBXs due to SUT. It is not a closed system; it offers voice communications with all other networks, such as the Defence Forces' Tetra network, Finnish authorities' Virve network and all public telecommunications networks.

An operational user is able to call not only other users in the operational network, but any external party using his or her personal workstation. Correspondingly, someone at the police, Border Guard, Customs or an international partner can reach an operational Defence Forces person directly using the operational number.

"It is an extreme improvement in the possibilities for cooperation that we do not have a closed system that no one can call from the outside," Hyvärinen states.

Easy to expand the user base

According to Hyvärinen, the Defence Forces are expanding their operational environment, whose core has traditionally only included the Defence Command and service branch headquarters and not much else.

"The SUT solution makes it possible to expand the user base of the operational environment so that we can reach the detachment level even in a normal situation. We aim at an environment of several thousands of users," he says.

Expansion is easy, as the operational environment can be commissioned anywhere where an operational workstation can be connected to an IP network. No separate network needs to be built for voice communications.

"No film, paper or fax is needed, and no one has to go anywhere. SUT improves reachability considerably."

Pertti Hyvärinen

According to Hyvärinen, SUT is intended to be a voice communications solution in all phases of preparedness, i.e. for peace-time, special as well as military crisis conditions.

Time and cost savings as an additional benefit

Hyvärinen considers improved usability, reachability and data protection the key benefits of the new voice communications solution, as well as compatibility with the Defence Forces workstation environment and the more extensive communications solution being built.

Even though the SUT solution was not primarily acquired for seeking cost-savings, its collaboration tools help to reduce unnecessary travel, thereby providing time and cost savings, Hyvärinen says.

In its administrative environment, the Defence Forces have already developed meeting procedures and other operating models as enabled by the Sametime solution to the effect that cost-savings area achieved. Now, the same will be possible in operational activity as well.

"We are very open to changes, and do not mind reviewing our operating models to get the most out of the new tool."

Hyvärinen thinks that acquiring the voice communications solution as a commercial service that is as complete as possible was extremely important, as even the armed forces of the superpowers are no longer able to develop customized military solutions for everything.

"However, we have been able to influence the properties of the solution and test it in our own operating environment, which has resulted in a solution that is perfect just for us."

IBM Global Technology Services were responsible for the planning, design and implementation of the solution, with its solid competence in conventional and modern collaboration and communications systems and integration competence in realizing strict functionality and security specifications. The project started with a thorough survey of the Defence Forces' existing environment and needs, and the solution was designed and developed based on it in cooperation with the development department of the Defence Forces' Command System Center.

SUT is intended to enter production use in autumn 2010. The solution is about enabling operational command and control, so it is in the very core of the Defence Forces' activity.

"We cannot fail here. This is the degree of seriousness and commitment with which we are doing this job and adopting this solution," Hyvärinen emphasizes.



Commodore Kari Takanen says that voice communications and collaboration tools offer obvious added value to the increasingly rapid operations required of the Defence Forces in today's world.

"The coordination of joint operations requires continuous contact, and the new voice solution offers obvious added value for this."

Kari Takanen

Useful tool in rapid operations

Commodore Kari Takanen, Chief of Current Operations in the Defence Forces, considers the voice and collaboration services of the SUT solution an extremely and feasible tool in operational activity from the user's point of view.

"It complements communications possibilities and makes them more versatile. One important factor is also that it increases data security," he says.

According to Takanen, the tempo of situations and operations has become more quickened in the Defence Forces operations. Previously, one often had the time to compose a document or relay information in other ways. Nowadays, people must be reached right away and it must be possible to agree on things immediately.

"This means that voice is actually the only way to communicate. Situational data can be presented in the background as an image or otherwise, but the final decision or order is issued verbally. In this case, new methods that also offer the possibility of conference calls are very important."

According to Takanen, command and control used to be more chained in the Defence Forces, meaning that matters advanced from one organizational level to another step by step. However, as the tempo of operations has picked up, parallel planning has been adopted, performing tasks that are associated with the same task at the same time at different levels of the organization.

The voice and collaboration tools of the SUT solution make it possible to, e.g., view the same situational picture at different levels, make verbal questions about it and provide instructions verbally. Takanen says that this introduces a new element that makes operations more effective in the entity of different command and control methods.

"In parallel planning, everyone takes part in the work, and a decision is then made or an order is given and action is taken. The new voice solution provides opportunities for this in operations where speed matters. With it, information exchange is continuous."

According to Takanen, the Defence Forces are currently also engaged in joint operations where all service branches participate in the same operation under the Defence Command.

"The coordination of these operations requires continuous contact, and the new voice solution offers obvious added value for this," he says.



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