



EDA project No. 13-115-CAP

COMMUNICATION SERVICES

Video Service

Video Service

Provision of situational awareness is based on gathering situational reports and information delivered by different sensors and collectors. Many of them derive from automated systems and cameras mounted on manned and unmanned vehicles.

Delivering video stream from the Area of interest can be crucial for mission success. However the communications media have scarce resources, low bandwidth and communications interruptions that result in errors in communications while sending video streams.

Video service offers the possibility to send the video stream adapted to the possibilities of communications media. It allows to change video resolution and frame rate making it possible to transmit interesting images and make use of available network resources.

The user selects available streams and opens it. Video can be played in any of the available media players using Flash technology or web browsers.

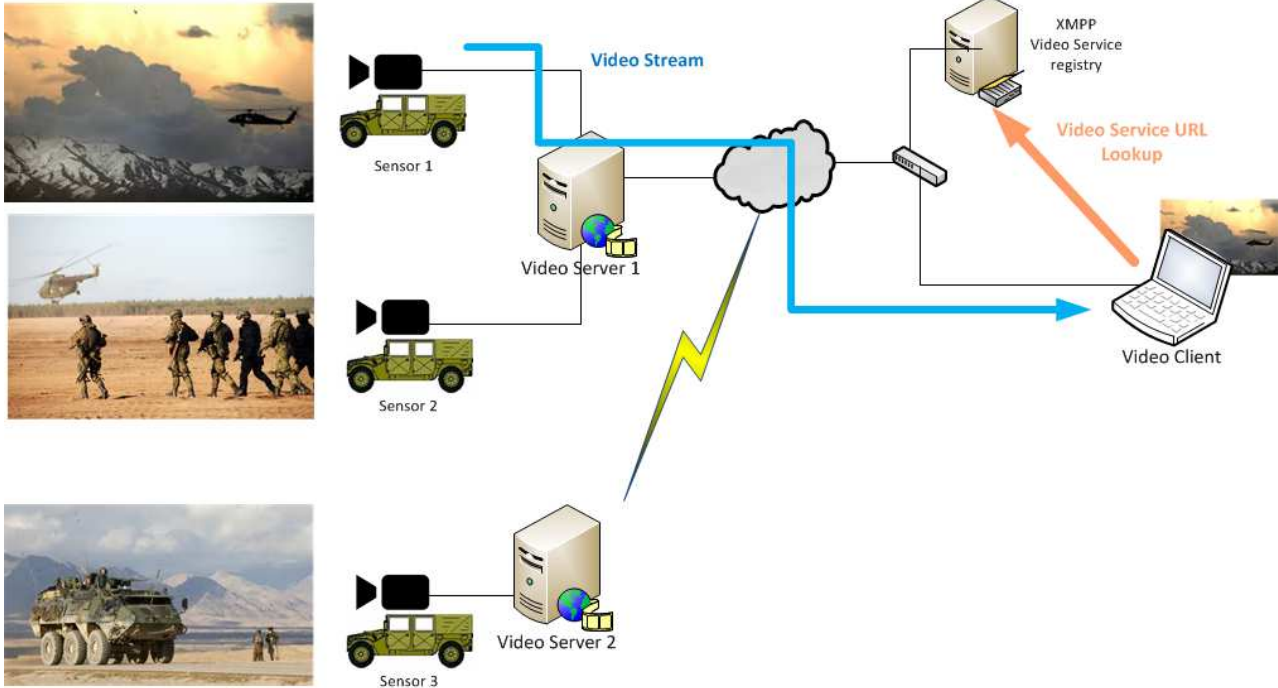
Benefits

- Supports creation of shared situational awareness.
- Provides easy access to available streams.
- Enables to downgrade the quality of the video when the network is not able to transmit it in full quality.

Architecture

The solution is based on client-server architecture. Each Video Sensor is connected to a Video Server. All streams are registered in the Video Service registry and their URLs can be retrieved by users on lookup. Each Video Server can give access to multiple streams with different quality parameters. Video Service Client retrieves the stream using Flash technology, integrated into web browser.

If the communications network is disadvantaged it is necessary to downgrade the quality of the stream. Video Server enables to request video stream with given resolution and frame rate.



Technology

Video service is based on the following standards and solutions:

- RTMP – used as video streaming protocol on the both client and server side.
- HTTP, TCP – used as transport protocols for video stream in inter and/or cross-domain environments. Also utilized in the presentation layer on the client side.

TRL: 5.

Technology provider

Service provided by Military Communication Institute.

UE NEC Demonstration - PT NEC initiative for a collaborative project between EDA and pMS to host a practical demonstration of operational relevance of NEC started in late 2010. Out of 7 pMS proposals, Polish consortium was selected with "Shared Situational Awareness in EU-led CMO" demonstration. Project started in January 2013 with the demonstration planned for 27/28 November 2013 in Warsaw.

The demonstration scope included: Presentation of CSDP driven EU-led CMO scenario; Presentation of capabilities prepared by Polish consortium members to form a distributed CIS/C2 environment, as a configuration of their selected IT assets (PL NEC). These capabilities included inter alia situational information presentation (pictures and portals), knowledge management, information assurance and cyber threat identification & assessment; simulation of three operational episodes: Civ/mil response to IED incident, Ad-hoc civ/mil collaboration and Terrorist threat identification and response; Demonstration of PL NEC architecture, services and tools.

NEC Demonstration was provided by a consortium led by Asseco Poland S.A. with partners: Military Communication Institute, Military University of Technology, iTTi Ltd. and Filbico Ltd.

 **International Organization and Security Sector Solutions Department of Asseco Poland SA** specialises in designing and development of specialised military and double use software including advanced security solutions. As a member of the largest software house with Polish capital and seventh largest software house in Europe, we are proud to successfully compete with the worldwide market global companies and provide services to NATO, European agencies and other international organisations. We have successfully passed a SCAMPI-A formal appraisal which confirmed that all processes adopted by PRW were implemented on the Level 3 of CMMI-DEV.



Military University of Technology is the largest military academic facility in Poland, providing educational, research and development capabilities to Polish Armed Forces and government institutions. Cybernetics Faculty was founded in 1968 in response to the growing demand for specialists in the domain of computer systems and in particular decision support, computer simulation, cryptology, operational research and methods to assist the decision-making processes of military commanders. Scientific research has been applied in many products deployed for Polish and foreign DoDs providing software and hardware components (Military Decision Support Systems, HLA based virtual and constructive simulators, cryptographic modules, crisis management tools).



Military Communication Institute is an R&D institute supervised by Ministry Of National Defence, funded in 1951. It realizes researches and development projects inter alia in the area of cryptographic and electromagnetic protection, information assurance, cyber defence, building C4I systems' mechanisms and services, communication systems, radio-communications, reconnaissance and electronic warfare systems. Many of the MCI products are applied in practice and fielded in Polish Armed Forces. MCI has ISO and AQAP certificates, Ministry of Interior licence and 1st degree certificate of industrial safety (EU, NATO SECRET and national up to TOP SECRET).



Filbico is an engineering company which provides the Information and Communication Technology solutions for forces and uniformed services. The company supports the full life cycle of ICT systems: from research up to the maintenance. Our business areas are the air traffic control and management, cyber security, crisis response, command and control as well as fire control. Filbico's capabilities are recognized in several certificates required to successfully develop mission critical systems for military customers. Web page: www.filbico.pl.



iTTi Sp. z o.o. is a private company focused on technical consulting and applied R&D in the area of IT and telecommunications as well as on development of innovative applications and software solutions. ITTI has been working in EU Framework Programmes, PASR, EDA projects (e.g. JIP-FP) and in NATO Industrial Advisory Group studies. ITTI has been awarded the prestigious "Cristal Brussels Prize 2010" and has received an award for the high performance in R&D projects for European Defence Agency granted by Polish Ministry of Defence. ITTI is a member of the following international organisations: PSCE, IMG-S and ITIC Group.