Open Advanced System for Improved crisiS management (OASIS)

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ABSTRACT

The OASIS Project addresses the Strategic objective 2.3.2.9, "Improving Risk Management", of the second call for tender of the European Commission FP6 Information Society Technologies program. The objective of OASIS is to define and develop an Information Technology (IT) framework based on an open and flexible architecture and using standards that will be the basis of a European Emergency Management system. OASIS is intended to facilitate the cooperation between the information systems used by civil protection organisations, in a local, regional, national or international environment. This Disaster and Emergency Management system aims to support the response operations in the case of large scale as well as local emergencies.

Keywords

Disaster and Emergency Operations

INTRODUCTION

A few years ago, it appeared that civil protection organisations had not benefitted as much as other professionals from the new information technologies (IT). In many EU countries, the situation is now evolving but this evolution is conducted at national level and in a great number of cases at regional level. On the other hand, disasters do not necessarily respect national borders and have often trans-boundary consequences. Thus interoperability is a key factor to allow actors involved in emergency operations, possibly belonging to different regional or national authorities, to work jointly on the same event.

PROJECT AIM

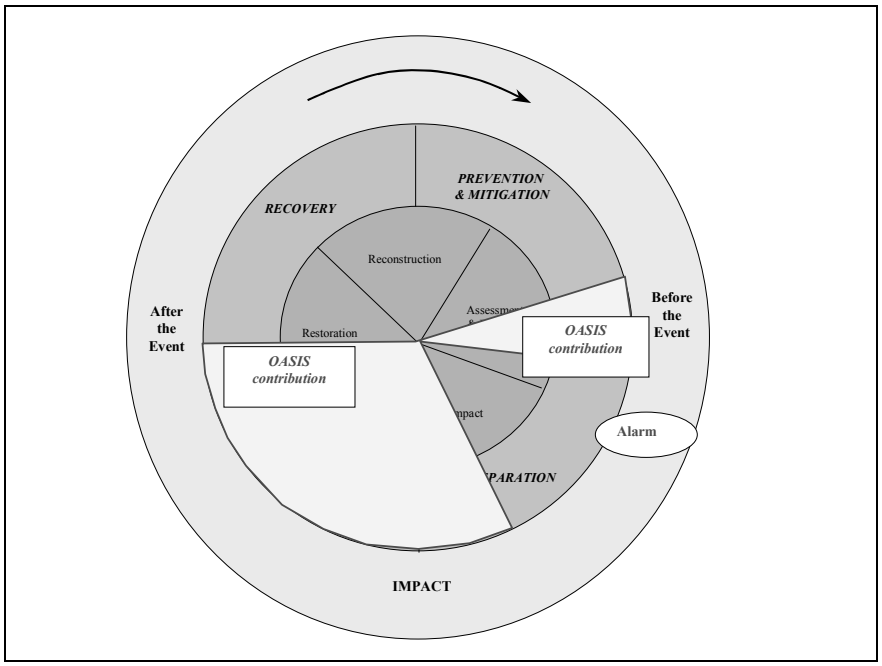
The aim of the OASIS project is to define and develop a first version of an open, modular and generic Disaster and Emergency Management (DEM) System in order to improve the effectiveness and efficiency of all agencies within the European Union who are likely to be involved in the management of Disaster & Emergency Operations (DEO). OASIS shall also be capable of supporting the whole spectrum of emergency operations, from large-scale national and cross-border crises, regional disasters down to local-scale incidents. In all cases, collaboration between a variety of different organisations and units is envisaged which may include Central Government a one end of the spectrum down to local people and support groups at the other end of the scale.

PROJECT OBJECTIVES

The principal objectives of the project are to provide a system as described below.

- The system shall allow all the agencies involved in the management of disaster and emergency operations
  - To communicate with each other in an effective and efficient manner.
  - To interoperate between, and within, all the national Civil Protections organisations, and with the legacy systems.
  - To guarantee information security between the system users.
- The system shall provide and demonstrate the following functions:
  - Situational awareness through the continuous production, in ‘real time’, of an accurate and consistent picture.
  - Resources management

- Access to approved internal information and data (lessons learnt or identified, standard operation procedures, prepared plans, etc.)
- Immediate access to data stored externally that might be of use in managing an emergency operation effectively
- Tools to assist decision making, planning and task management
- Information capture and storage (e.g. logbook, incident reports, casualty information, media communications, etc.).



OASIS contribution with regards to the whole Disaster and Emergency Management Cycle

OASIS APPROACH

The prevalent approach in the project is to take full advantage of, and leverage work from the previous projects (FP5, ESA and National initiatives) in the relevant domains, as well as dual-use technologies. The project methodology endeavours to collect significant users experiences by involving them in the study phase and by complementing existing systems in a modular way. The study phase within the OASIS project has been divided in the following tasks:

- The collection and synthesis of the Users Requirements
- The development and production of the System Requirements
- The definition of the OASIS Architecture (infrastructure and services).
- The development of scenarios.

The logic of the development will be incremental to allow the evaluation of 2 successive versions of the prototype, the first one in June 2006 and the second in 2008. The evaluation sessions will be performed in the frame of operational scenarios.

ARCHITECTURE

OASIS project will take advantage of the wide experience of the different OASIS partners both in the Civil Protection domain as well as in the Military domain. For example, a major achievement would be to allow responders from different countries to exchange information, even if they do not speak the same language, as it can be done between armies from different countries, due to the work performed in the NATO environment. The main goals of OASIS are:

- To provide an IT framework which can be used at the different levels of the Civil Protection organisations in Europe, compliant with existing standards,

- To provide inside this framework an initial set of applications which will cover the main needs that are identified by the end-users who help to define OASIS,
- The capability to replace one component developed for OASIS by an existing component which follows the OASIS defined standards,
- The capability to benefit from the services offered by the OASIS framework in order to add new components inside this framework.

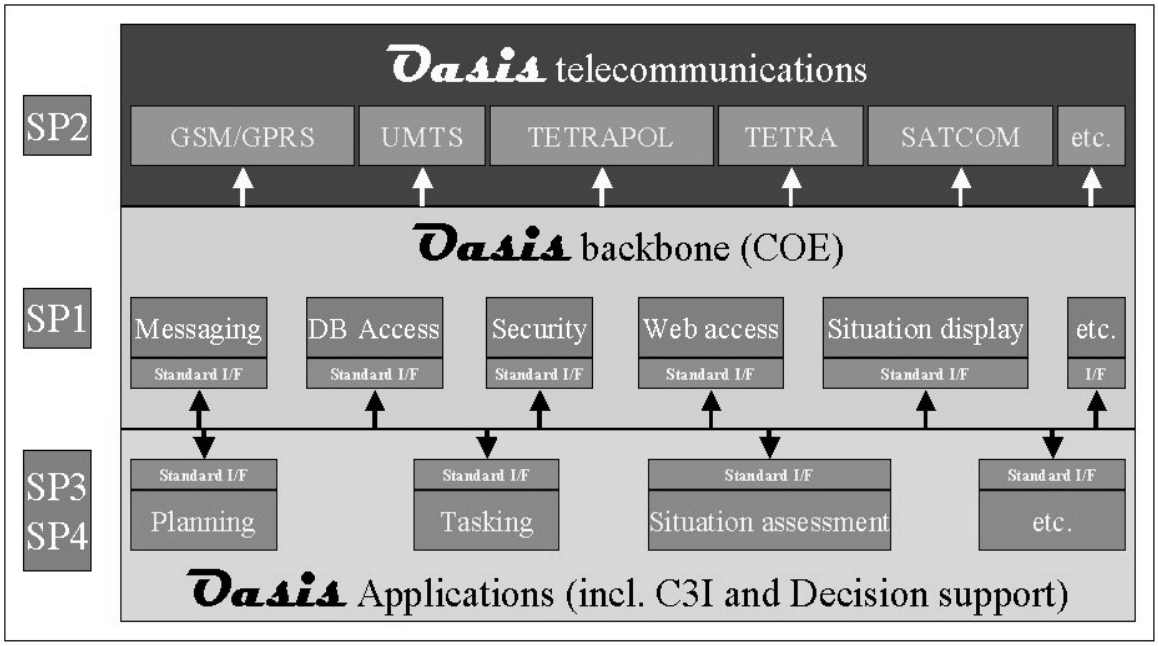
The output of the OASIS project will be:

- the description of an open architecture, largely based on a list of interfaces, either already existing or proposed by OASIS,
- a set of OASIS services, which are the major components required by a crisis management system.

This OASIS framework (the OASIS architecture and the associated standards) will allow the user community either:

- to keep their existing components, but a reasonable adaptation should allow them to communicate with the other OASIS-compliant components,
- or to adopt the OASIS components which suit their needs.

The following picture describes a view of the global architecture of OASIS, showing the relationships between the different sub-projects (SP). It emphasises the functional interfaces of the system. The components will be detailed during the requirement phase; the ones shown are only examples..



OASIS global architecture

THE OASIS CONSORTIUM

- EADS DEFENCE AND SECURITY SYSTEMS SA, France
- EADS Deutschland GmbH, Germany
- BAE SYSTEMS (OPERATIONS) LIMITED, United Kingdom
- ERICSSON MICROWAVE SYSTEMS AB, Sweden
- FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V., Germany

- DATAMAT S.P.A., Italy
- CRANFIELD UNIVERSITY, United Kingdom
- THALES NORWAY AS, Norway
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- EADS ASTRIUM S.A.S., France
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OASIS web site : http://www.oasis-fp6.org