ENVITIA

GI²RA

Geospatial Intelligence Integrated Reference Architecture

GI²RA is a three year research project to investigate an architecture to support the provision of consistent and unambiguous geospatial data to and from the deployed user. The ultimate purpose being to 'enable the delivery of correct and coherent information in the appropriate form at the right time'.

The Problem

Geospatial Information is currently available from a number of Specialist Environmental Centres (SECs). The provision of this data is currently stovepiped and can lead to the user being delivered the same feature, multiple times, from different sources in different formats.

Within the UK MoD this has long been recognized as a problem. However effective deconfliction, coordination of production and the consistent application of information management into a fused and reliable picture is a complex and, as yet, unresolved issue.

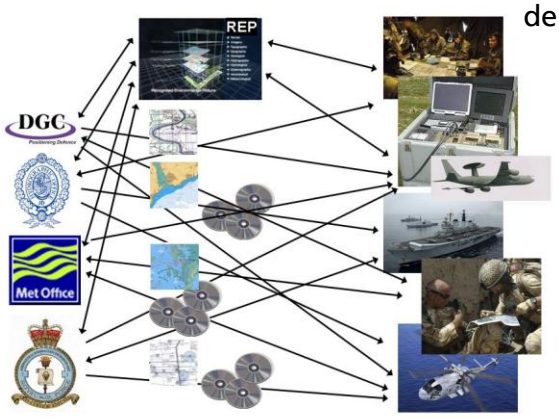
The Research

To undertake the research Envitia are leading a team of recognized experts, including: Galdos Systems, ITT Visual IS and Independent Consultants. The research has 3 key elements:

1. Information Model

The GI2RA information model defines a single, coherent model from which feature types can be derived.

It is defined in terms of features and properties, each having their own metadata and owning authority. The modelling is based on the ISO 19100 series.



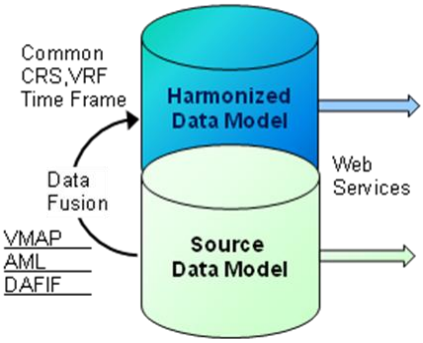
Envitia

- A world leading provider of geospatial solutions and high performance COTS software, Envitia works with the Ministry of Defence, other nations, leading system integrators, local government and utilities companies.
- A UK privately owned company with secure premises; over 15 years' experience of delivering geospatial solutions and software for mission critical systems and technical advice to deliver Networked-Enabled Capabilities.
- An approved supplier in accordance with MoD's Framework Agreement for Technical Services (FATS) and NATO's Basic Ordering Agreement (BOA).

The process developed for the information modelling is to first model source products in a close approximation to their raw form, mitigating potential loss.

A separate harmonized model which references the source model is being defined. This implements concept fusion, product neutrality and instance data fusion

GI2RA Global Data Model

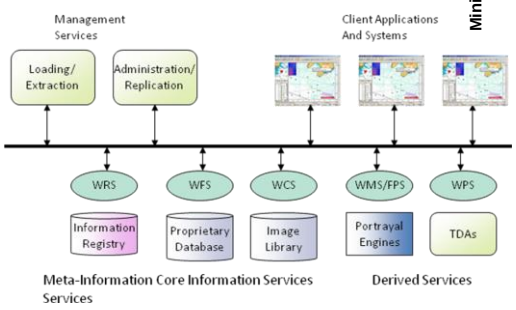


Information from both the source data model and the harmonized data model, will be available to support legacy and future systems.

2. Persistent Testbed

Part of this research is to develop a framework which is continually available, to de-risk the research. The testbed, hosted on the internet, is bringing together software technologies identified during the research. It can, as required, be integrated with other demonstrations, such as CWID.

The trials being undertaken on the testbed include: initial modelling and data ingest, how to update the



model, authentication and access control, replication of the information and Coverage Data Management.

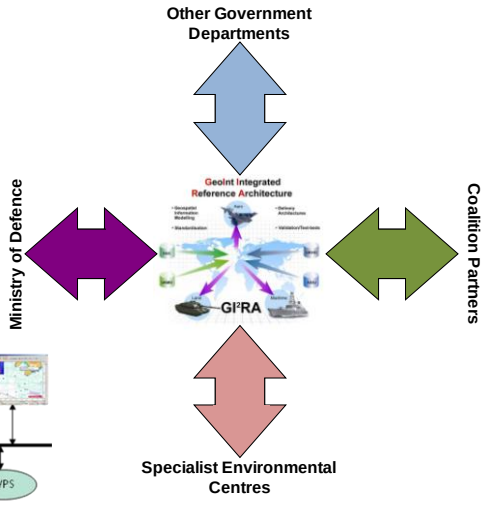
3. Information Bearers

Compression techniques as well as information management, assurance and exploitation techniques are being defined. Automatic replication across security domains will be addressed.

Exploitation

It is the intention that elements of the GI²RA research will be exploited within a number of areas.

This includes within the UK MOD, other government departments and coalition partners.



The research being undertaken, although focussed on geospatial information, is equally applicable to other types of information.

The ENVITIA Team

Through Envitia's combined research, development and consultancy expertise we provide sophisticated technology, innovative research and expert technical advice and support. Combined with our service delivery Envitia offers outstanding support, always there for our customers, and willingness to provide that extra level of expertise every time.

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