

# OBJEKTUM SOLUTION'S CASE STUDY

## Legacy Modernisation and Managing Obsolescence

### Automatically Moving into & Maintaining UML



#### The Issue

Our client - a global leader in defence technologies, specialising in airborne mission critical systems and a wide range of battlefield capabilities, had recently won a contract to supply defensive aids on a major multi-national project. A solution had already been developed using HOOD, a legacy design methodology that is no longer supported by any of the leading development tools. In order to enhance the existing system the HOOD design first need to be migrated to a modern, supportable technology such as UML.

To perform this migration manually would have been prohibitively expensive and taken several man years. In addition there were other risks, associated with the migration, including; project delay and human error. The challenge was to find a cost effective way to migrate from HOOD into UML and in such a way that it conformed to current software development practices and maintained design integrity.

#### The Solution

Objektum Solutions deployed the LegacyBridge technology to implement the required solution. We used the configured HOODBridge, which is a standalone utility that migrates HOOD design information into a UML model without loss of any design data or integrity.

HOODBridge analyses the HOOD design and builds a readable, navigable intermediate view that can be checked before UML model generation. Once the HOOD design has been migrated, projects can then exploit the richness of the UML notation to further develop their systems.

As the client required a highly tailored and project specific solution, we worked closely with their engineers so that they could influence the tailoring of HOODBridge to suit their needs. For example, our client was using IBM's Rhapsody toolset for UML model generation. To fit in with this modelling environment we tailored HOODBridge by developing an interface so that it could support full Ada83/Ada95 and implemented the Rhapsody model generation.

This activity also led to several other significant changes being made to HOODBridge. These changes included:

- Incorporating project specific mappings between elements of their HOOD designs and the Rhapsody Model.
- Incorporating the AdaBridge and changes to the Ada/HOOD analyser so that it could integrate with the new Ada Parser and implemented full Ada support.
- Developed a new feature that allowed the client to synchronise changes in source code with the model.

#### The Outcome

The client has been able to effectively move away from legacy design methods, which carried risk of tool and skill obsolescence and are now able to benefit from the more modern UML.

Objektum Solutions and the HOODBridge have protected the client's substantial investment in technology and have allowed timescales to be cut as well as providing significant cost savings. With the new features developed specifically for this project, the client can reconcile the design information and the code base for the software so that it is maintainable for the future.

The technical lead on this project was Derek Russell.

Please contact Derek on +44 (0)845 199 9932 to find out what Objektum Solutions can do for your organisation.



The Legacy Bridge is modular technology to aid software modernisation. This can be adapted to meet the demands of a specific migration project. The HOODBridge and AdaBridge (combined into one executable) are variants which in this case migrated HOOD and Ada83 to UML and Ada95.