Objectivity Case History

Customer Information

Customer: Motorola Iridium

Status: (X) SOLD   ( ) Prospect   ( )Integrator
Industry: Satellite Telephone Provider
Application Domain: Cellular Phone Wholesaler
Status:
Platform: Solaris
Compiler: Native
Other Tools: Orbix

Buying Criteria

The general overview of this document is to provide some history as well as some facts about Objectivity and its influence on the Motorola Iridium project. Originally, the same atomic number as the element Iridium, was the satellite count. Even though the number has increased, the current number of satellites remains a mystery.

The project grew out of the conception of Motorola management. ▮▮▮▮ The incremental release of money has been an influence on software delivery. The software has also had to prove itself successful during these incremental releases in order to receive the target amount of dole. This was to also have an influence on the code cycle and the ability to deliver.

▮▮▮▮ With three main control facilities in the world and the main development happened in Chandler AZ. Virginia MCF was the test bed for the creations at Chandler. With such a large software integration effort the integration from St. Louis MO (mostly GUI), Houston TX (Orbital Services)and then the some 60 programmers at Chandler was quite an accomplishment. Chandler produced Database tools for programmers in both Houston and St. Louis. This was a key ingredient to success with Objectivity. Another important player was the satellite control software out of Florida. They too were a client for the Chandler Database product. ▮▮▮▮

In the beginning there was a large bake off with Objectivity and its competitors. Although the [low volume] trial was close in speed Objectivity won on merit and ease of use and political clout. The Iridium crew wrote a DBTools layer to interface all the diverse components into an efficient system.

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The Objectivity crew (Jake Doan, Brendan, and his boss) was diligent and thorough to the largest degree possible. There were problems with the configuration management system and some of the important persistent changes were not released causing a backlog and frustration at the MCF and testing facilities. ▮▮▮▮

The prototype (Merlin) could not keep up with the enhancements, so it was used to maintain a sanity check on a smaller number of satellites. The big system now used the persistent store in version 2 of the software. By now the dbtools were almost three years old and there was an impressive quantity of code that used them. Everything from the Orbit services group to St. Louis GUI group.. The satellite control software was integrated with the current Chandler version. This software was stressed and boasted running 50 odd satellites at one time.

A problem with an overloaded Lock Server was quickly diagnosed and fixed. An obscure Objectivity/DB kernel bug took longer to fix. The new version of Objectivity and other improvements and streamlining of the application code led to profound improvement over the pilot experience.

Today (9/98) Iridium is going live and can accurately predict and control the large number of satellites and cross connections. It will link the new world markets driven by the third world cellular push and lack of copper wires. The software exercise as well as the lessons learned will be great and many. The next venture with Teledesic (Microsoft) and Motorola will make a T1 (24line) capacity available to the large number of telephone poles in the sky. The Iridium satellites are only made to live between five and six years. So something has to take its place.

Why Objectivity

Objectivity's speed and ability to perform well proved that this is a formidable product capable of world class problem solving. Given the bugs and other sticky political and engineering efforts, Objectivity has come out on top. Being a new company did not help Objectivity. Many of the mistakes by the customers' programmers could have been avoided with better account management and more technical assistance from Objectivity, although the latter was made difficult because of project security. Despite the seemingly ominous hurdles, Objectivity has survived a real world political and engineering gauntlet. If anything, this is impressive.

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