

State of Washington Department of Licensing Selects NetCOBOL for .NET as the Most Technically Viable Solution

The State of Washington Department of Licensing (WADOL) has a mature set of applications running on a Unisys 2200 mainframe. These applications, developed over 30 years, comprise close to 1.5 million lines of COBOL code, accessing thousands of files, large databases (DMS and RDMS), and hundreds of user interface screens, and are controlled by over 50,000 lines of job control language (Unisys' ECL and SSG). The applications support the core of WADOL's business.

Over the last few years WADOL has also built up applications and expertise in Microsoft Windows and SQL Server.

Problems

- Mainframes are expensive machines to purchase and maintain – often an order of magnitude more than similarly powered PC configurations.
- The software on the Unisys mainframe was perceived to be falling behind that available on other platforms in terms of usability and flexibility of data reporting.
- Independent Software Vendors (ISVs) are no longer developing add-on tools for the platform.
- Workarounds created to provide more flexible reporting involve regularly downloading data to other platforms and, in some instances, entering data twice.
- With each year there are fewer people available who are experienced in the Unisys environment, and WADOL could foresee significant reduction in its internal group of experienced people through retirement.
- WADOL's Unisys applications use Unisys' proprietary 6-bit character set which limits the applications to using ALL UPPER CASE CHARACTERS. (Switching to ASCII on the mainframe would involve an expensive transformation project and increase disk space costs by over \$500,000 per year.)
- Internal and external analysts warned WADOL that its operations could be at serious risk if it delayed a replacement/migration plan beyond June 2005.

Solution and Benefits

WADOL decided that the time had come to make the move from the Unisys mainframe to commodity hardware in the form of Windows-supporting computers. This move is expected to bring the following benefits:

- Savings of over \$1 million per year in maintaining their hardware and software environment.
- Significant productivity gains, allowing DOL to lessen its dependence on outside contractors and improve its responsiveness to legislative changes.
- Elimination of the need for specialty Unisys skills.
- Access to thousands of off-the-shelf products providing greater power to DOL users and efficiencies in the development process.
- Better systems integration, removing the need for awkward workaround processes.
- Improved information access through the tools and functions available from storing the data using SQL Server. Both the usability and quality of data are expected to improve.

To this end they issued an RFP describing their needs – basically to migrate all the applications to the .NET Framework using COBOL or Visual Basic by May 2005.

RFP

Key elements of the Request for Proposal were:

- Migrating the remaining 35 Unisys based applications to Windows/SQL Server
- Use .NET-compliant COBOL or Visual Basic
- Perform the migration quickly with lowest risk possible
- User interfaces and reports to retain their format, style and navigation
- All applications to be operating routinely on the new environment by May 31, 2005
- All migration work and any necessary end-user training to be provided by the vendor
- Priorities expressed as:
 1. Schedule
 2. Cost
 3. Scope
- Applications consist of:
 - 773 ECL scripts
 - 788 COBOL programs
 - 1241 Procs
 - 323 Screens
 - 180 Electronic interfaces

- The project would start with a Proof of Concept on a particular application to demonstrate that the selected vendor could perform the migrations successfully, and to demonstrate that the technology performs as expected.

The Fujitsu Solution

Fujitsu Consulting's winning proposal met the RFP criteria in a way that minimized the migration risk while helping staff build contemporary skills. Utilizing the architectural similarities between the Unisys transaction processing system (DPS 2200), CICS and ASP.NET, Fujitsu proposed to transform the various parts of the applications into corresponding entities using a combination of Fujitsu Software's CICS Migration Solution, NetCOBOL for .NET, SQL Server, and ASP.NET.

The key advantages of the Fujitsu approach were to:

- Minimize Source Code Changes (COBOL to COBOL):
 - Reduce risk by preserving investment in the business logic that's embodied in the applications
 - Enable staff to build skills in new areas like VB.NET and Web Services without making current skills obsolete
 - Use Fujitsu's NetCOBOL to generate native Microsoft .NET executables.
- Use of Fujitsu Software's CICS Migration Solution to migrate TIP and DPS screens into ASP.NET Web Forms to create a thin-client Web application (IE).
- Provide a two-dimensional translator between the converted COBOL programs and the SQL database that allows the programs to access and update data as they did on the Unisys.
- Simplify maintenance, since there was no need to deploy special components on the client side.
- Eliminate the need to upgrade client hardware.
- Transform DMS/RDMS to SQL Server 2000.
- Retain Sequential/Indexed file (legacy flat file) in the new .NET environment using NetCOBOL.

To execute all the details of the proposed solution, Fujitsu Consulting provided teams of consultants already familiar with the Unisys and .NET environments.

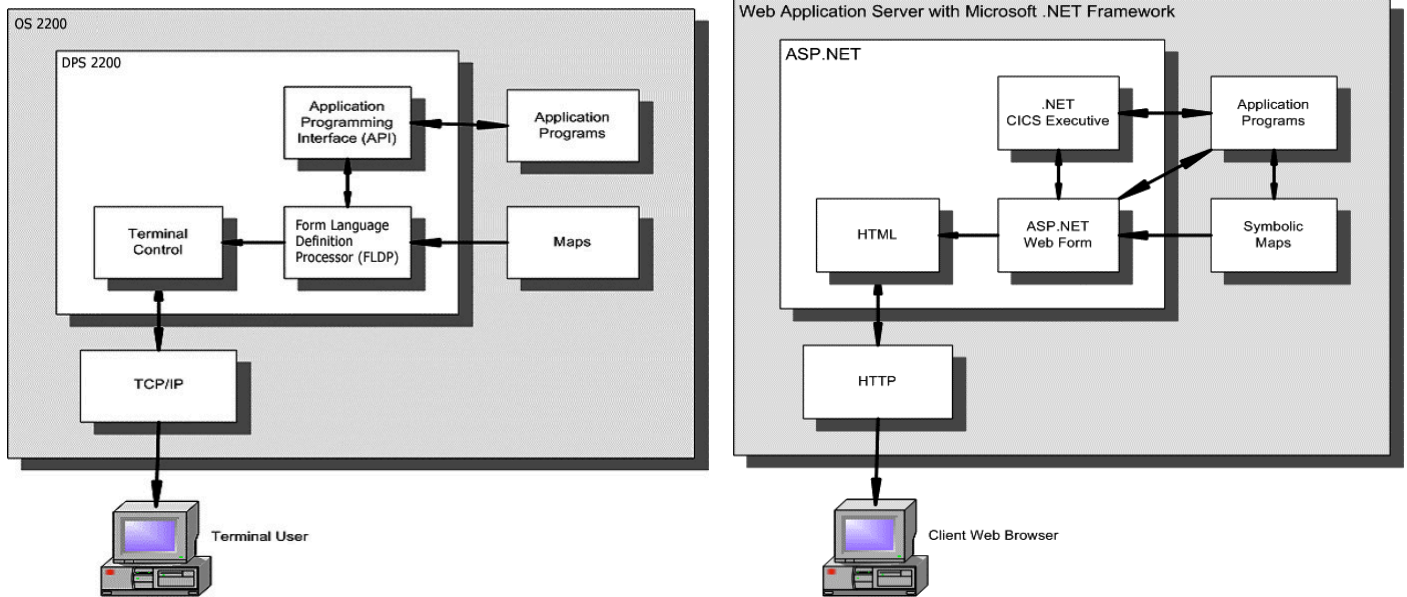


Figure 1: Comparing DPS 2200 and the CICS Migration Solution/ASP.NET Architectures

Why Fujitsu?

Although not the cheapest of the six proposals considered in the final decision round, WADOL decided to partner with Fujitsu because the use of NetCOBOL for .NET gave it the strongest technical feasibility, and hence the highest probability of success.

By using NetCOBOL for .NET, Fujitsu can maximize the use of the existing COBOL code, minimizing the changes and consequently minimizing the risk. As .NET was the target platform and Fujitsu NetCOBOL for .NET was the only COBOL compiler producing .NET MSIL code, it was clearly the right COBOL compiler to choose for the migration solution.



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