



State of Washington Department of Licensing Converts to NetCOBOL for .NET

PROFILE

The State of Washington Department of Licensing (WADOL) had 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 were controlled by over 50,000 lines of job control language (Unisys' ECL and SSG). The applications support the core of WADOL's business.

CLIENT CHALLENGES

- 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 Service Vendors (ISVs) are no longer developing add-on tools for the platform.
- Workarounds created to provide more flexible reporting involved regularly downloading data to other platforms and, in some instances, entering data twice.
- With each year there were fewer people available who were 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.

SOLUTIONS AND BENEFITS

WADOL decided to make the move from the Unisys mainframe to commodity hardware in the form of Windows-supporting computers. This move brings 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, in mid-2003, they retained the services of Fujitsu to migrate by mid-2005 all the applications supporting the various licensing activities including vehicle licensing and drivers licensing and other administrative services to the .NET framework, using Fujitsu NetCOBOL.

MIGRATION REQUIREMENTS

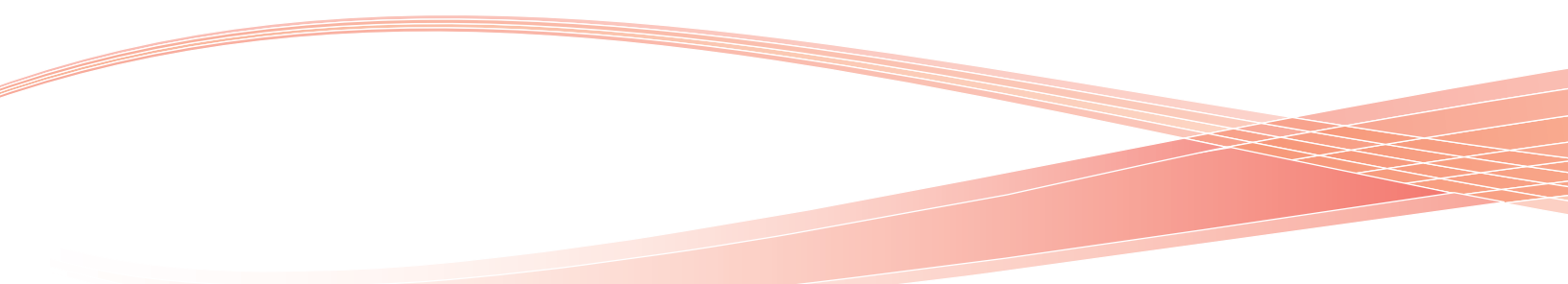
Key requirements for the migration project were:

- Migrate the remaining 35 Unisys based applications to Windows/SQL Server. Many of those are mission-critical and run on a 24X7 basis
- Perform the migration quickly with lowest risk possible
- Retain the Unisys format, style and navigation of the user interfaces and reports
- All applications were to be operating routinely on the new environment by mid-2005
- Applications for migration consisted of:
 - 773 ECL scripts
 - 788 COBOL programs
 - 1241 Procs
 - 323 Screens
 - 180 Electronic interfaces, many of them real-time

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

The Fujitsu 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 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 the Fujitsu NetCOBOL to generate native Microsoft .NET executables
 - 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.
- Migrate TIP and DPS screens into ASP.NET Web Forms to create a thin-client Web application (IE)
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- 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

Fujitsu provided teams of consultants already familiar with the Unisys and .NET environments, and delivered each phase of the project within planned target dates. By mid-2005, all DOL ex-Unisys applications were successfully running in production on the Windows platform, with equal or better performance and end-user satisfaction.

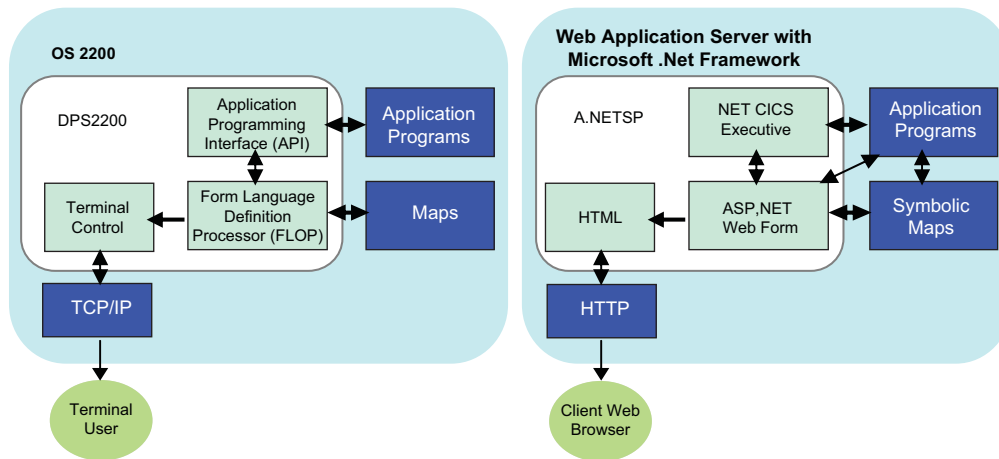


Figure 1: Comparing DPS 2200 and NetKicks/ASP.NET Architectures



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BOTTOM LINE

Fujitsu, together with Microsoft, brings years of experience, credibility, skills and the tools to help you move forward with confidence to accelerate a migration process. The Fujitsu Legacy Modernization solution offering realizes the fundamental value of IT through measurably lowering the total cost of ownership. The company utilizes its award winning methodology with the latest technologies that are most responsive to a client's requirements.

By using NetCOBOL for .NET, Fujitsu can maximize the use of the existing COBOL code, minimizing the changes and consequently minimizing the risk. Through using NetCOBOL for .NET and the Fujitsu

CICS migration solution, there will be minimal training required by both the programming staff and the end-users.

.NET makes the migration of COBOL applications easy, and with Microsoft .NET technology a lot of new opportunities are available once the migration is complete. Modern technologies, such as XML web services, are easily incorporated with Visual .NET to extend the legacy applications. NetCOBOL for.NET was designed specifically to leverage the .NET Framework to help developers accomplish this important task.

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