Medford School District 549C

Medford School District successfully migrates its Student System to
Microsoft Windows .NET and SQL-Server from the HP3000.

Project Snapshot

CUSTOMER FACTS: K-12 school district | 19 schools & 4 administration sites | enrolls over12,000 students | system serves up to 800 concurrent users

APPLICATION: Student Information System

LEGACY ENVIRONMENT: Programming Language – HP COBOL and VB | Hardware – HP3000 N4000/200 | Operating System – MPE 7.5 | Database – IMAGE | Superdex | Fantasia | Middleman | Homegrown security systems in IMAGE, VB6 and .NET

NEEDS OF THE BUSINESS: Platform change in response to HP's 'end of life' announcement for the HP3000 | Desire to leverage modern programming and database technologies

TARGET ENVIRONMENT: Hardware – DELL Servers | Operating System – Windows | Database – MS SQL-SERVER | Programming Language – Fujitsu .NET | Winform screens with Visual Basic
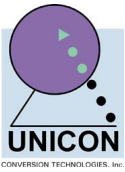
Medford School District 549C (MSD) serves nineteen K-12 schools with over 12,000 student enrollments. Over the years, MSD has developed a highly customized Student Information System (SIS) written in HP-COBOL for the HP3000. In 2001 MSD upgraded to a new HP3000 N4000/200 to resolve performance issues. But a few weeks after installation, HP announced its 'end-of-life' decision for the platform.

Over the next few years, MSD took a very close look at all the options available to replace their HP3000 and reviewed five main paths… 1: Purchase a new student system; 2: Stay on HP3000 for the foreseeable future; 3: Re-write the system in house; 4: Hire outside help to re-write; or 5: Migrate the existing system to a modern language and platform.

MSD's IT Director Keith Brabham explained… "While many companies panicked and spent vast sums on reactionary measures, we knew we were OK for a while and just kept on drilling down to identify the solution that made most sense for us, both technically and financially." Option 1, to purchase a new student system, was a path chosen by other Oregon districts, but on review MSD found these systems to be significantly behind its current SIS in functionality. In addition, the cost of such software was nearing $1,000,000. Even if MSD outsourced to another district, it still carried a heavy premium, compounded by high annual fees for life. Add to that the cost of modifications and dependency on outside entities, and the overall risk became too great. MSD looked at option 2, remaining on the HP3000, also known as 'homesteading'. Brabham wasn't convinced… "While the system might have been viable for another 3 to 5 years, if it went bad, it could do so dramatically and in a very short period of time. Our hardware was already getting old and leaving that potential for disaster to a

future administration to deal with seemed wrong… they'd end up with a multi-million dollar problem!" The prospect of option 3, re-writing the system in house, was also daunting. MSD spent resources exploring two different re-write paths, each time realizing it would be a painful 5 to 7 year process – those timelines and resource pressures were simply too risky to continue pursuit of that route.

This left options 4 and 5… have a third party re-write the system in a modern language, or migrate the existing SIS system and database to run on a modern platform. Previous review of such solutions suggested costs in the seven figure price range. Regardless, MSD issued an RFP to the market and in response received multiple bids and proposals. As expected, option 4 re-writing turned out to be prohibitively expensive, carrying long timelines and exposing MSD to too much inherent risk. In addition, there were other major considerations such as the culture shock and learning curve facing programmers and users when attempting to implement the new system. Option 5, Migration, could be achieved in two ways… Either emulate the HP3000 environment on UNIX or Windows and run the existing applications on the emulator, or convert the existing source code to a modern programming language to run in a native open systems environment without proprietary middleware. The problem with the emulation option was that it would have left MSD bound by the restrictions of the proprietary HP3000 environment AND inherently dependent upon the vendor of the emulation software going forward, a situation MSD definitely did not want to get into given that emulation by definition is a 'dying' industry. Also, emulation wasn't cheap! The option to convert the code to run in a native open systems environment made much more sense to Brabham… "Our Student System was highly customized so we liked the idea of being able to continue development after migration using .NET compliant modern languages. UNICON

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would automatically convert all our source, job files and data to run in native Windows, targeting .NET and SQL-Server, leaving us full ownership of our programs and in a position to further develop leveraging modern technologies." The price of UNICON's solution was also significantly less than other bidders. MSD ultimately selected UNICON's 'native' approach. FUJITSU COBOL .NET was chosen as the target programming language running on Microsoft Windows and utilizing Microsoft SQL-Server for the database. VPLUS screens were converted to Winforms using Visual Basic as the code-behind. The benefits were immediately apparent. From a staffing perspective, Brabham would on the one hand be able to retain his HP-COBOL programmers along with their invaluable knowledge of the applications and business rules since transitioning from programming in HP-COBOL to FUJITSU COBOL was relatively straight forward; but when these staff members moved on, replacement would no longer be a concern: "When staff turned over, we wanted to be able to select from a large pool of qualified applicants. We wanted a system that would be viable for at least 10 years or more. By migrating to native Windows .NET further development could be achieved in any .NET compliant language." Another major benefit for MSD was user impact. "Minimizing change (to our user community) was a driving force of every decision we made" said Brabham… "We didn't want the users to have to learn a 'new system' and while we knew some changes would be unavoidable when migrating to the new platform, UNICON helped us minimize the impact of our changes by working closely with us."

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>
> - *Keith Brabham, IT Manager MSD*

With up to 800 concurrent users on the system, MSD wanted a Windows platform that not only adequately handled the workloads, but one that would provide the room for growth and scalability well into the future. MSD selected DELL for its hardware needs and procured a system that effortlessly handled the required workloads at a price in the region of $50,000.

In addition to meeting MSD's needs to migrate away from the HP3000, UNICON's 'pure, native' approach also delivered major modernization to the applications. Not only did the solution empower MSD to preserve all the valuable investment made over the years in its custom software, it brought them to the forefront of today's computing and database technologies. MSD are now able to fully leverage the rich features and benefits that come with opens systems architecture and benefit from the power and versatility of full relational database management system. Brabham is in no doubt that UNICON's native solution was the right way to go… "We are very happy with our migration." When asked about the future… "I am extremely confident in the direction we have chosen. This will make it much easier to continue re-writing and enhancing our system in the .NET world. I would definitely recommend UNICON to anyone seeking to migrate to open platforms."

ABOUT UNICON

UNICON Conversion Technologies, Inc. is a privately held corporation founded in 1985, based in Laguna Hills, Southern California USA. UNICON performs automated migration services from HP3000, IBM Mainframe, DEC/VAX, IBM AS400, Unisys and Wang/VS to native open systems architecture, without the use of emulation middleware.

In contrast to other migration solutions, UNICON provides a 'true conversion' to native Open Systems environments. A true conversion fully converts all aspects of the legacy of the legacy system, including all program logic, screens, and data files to a true, native Open Systems environment. The converted system is constructed and fully supported by the features and functions of the new Open Systems platform. There are no proprietary inclusions and therefore no ongoing support concerns.

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