

Porting from 32-bit to 64-bit Solaris Environment

Client: A leading SCM solution provider
Location: USA

Client Description

A leader in the SCM industry, the core competencies of the client surround the end-to-end Supply Chain that include products in Supplier Relationship Management, Supply Chain Management, Demand Chain Management, Service Parts Management and Transportation.

Business Need

Merchandise Planner Product (MPP) would enable effective planning and decision-making for the client's retail customers. The client wanted to make its existing product more efficient and capable of solving complex problems.

MPP was based on a 32-bit Solaris 8 Environment. With the constant evolution of applications and the growth in the size of datasets, the memory and processing requirements of MPP kept changing significantly. This in addition to the ever-expanding business models of the end-customers required that the product be ported to a 64-bit Solaris 8 Environment.

The client also wanted the same code to work for both 32-bit and 64-bit since they had existing customers who used the 32-bit version.

The user interface for the product was a 32-bit Client and the customer wanted the 64-bit ported product to communicate with the 32-bit client.

Solution Offered

As the client needed the solution in 4 months, Blue Star Infotech (BSI) chalked a detailed strategy for the timely completion of the project. The steps below outline the systematic process / methodology employed to port 32-bit application to 64-bit under Solaris 8 environment

- Study of the current build environment for modification of the appropriate Environment, Variables, Compiler options and Makefiles. Creation of new build environment for 32-bit and 64-bit application based on the above modifications
- Review of all the data structures and interfaces for validity under both environments

- Usage of productivity enhancing tools like Lint and Flexelint to identify all the differing 32-bit to 64-bit issues
- Development of solutions to address all warnings generated by Lint tool. Identification of other potential non-lint traceable issues and their solutions
- Examination of all occurrences of memcopy, sizeof to ensure code is safe under both the environments
- Compilation of the code as both 32-bit and 64-bit. Testing the application by executing the 32-bit version on 32-bit and 64-bit operating system and 64-bit version on the 64-bit operating system.
- Perform tests on all modules as per the client test scripts, with any modifications if needed.
- Perform scalability test to check functionality with huge memory requirements (>4GB.)

One of the major challenges of this project was that the client had a strict deadline of four months to deliver the product to their end customers. This was achieved by BSI without compromising on the scope or quality aspects.

TECHNOLOGY

- C/C++, Solaris (32 & 64 Bit), WinNT, Oracle (32 & 64 Bit), Lint, Flexelint, Corba, SQA Robot, WinRunner

Benefits to the Client

- A complex project was successfully executed due to the strategies laid at the start of the project and BSI's expertise on diverse technologies
- The delivered solution ensured the satisfaction of the customers using both 32-bit and 64-bit versions

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