One Source for Multiple Platforms: Best Practices

Improving Quality and Reducing TCO on the Road to Intel® Xeon® processors Migration

Common Code Development for Multiple Platforms

For network equipment and software solution providers, developing and maintaining the same applications on multiple platforms are often the result of three use-cases: Migrating to industry standard platforms themselves (Solaris or Linux), dealing with customers moving from SPARC to industry standard platforms, or dealing with customers' heterogeneous systems comprised of all of the above.

> If coding in C or C++, at least 90% of the application is identical between a Solaris and a Linux platform.

During a software and solution project development lifecycle, continuous packaging enables the production of identical deliverables at each step of the development process including testing, integration, validation, or final delivery, while addressing and taking into account dependencies and potential conflicts. This very important task generates the need for packaging early and often.

Applications developed and packaged for telecom operators are frequently coded in C or C++, for which at least 90% of the code is identical between a Solaris and a Linux platform[1]. HP and Intel's experts took advantage of this favorable condition to reduce costs and enhance overall efficiency through the creation of a tool aimed at easier applications development, packaging, and maintenance on multiple platforms.

[1] "HP's SLPK and SHPK Tools: Enabling rapid migrations from Solaris to Linux and HP-UX", p.17

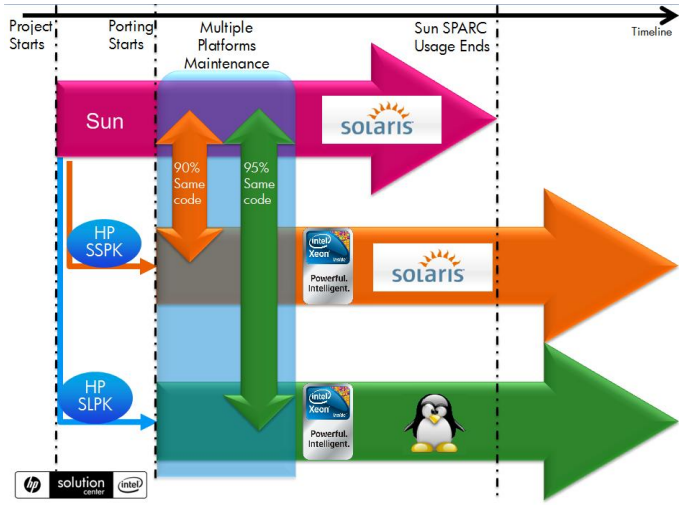

Fig.1: Timeline shows porting and maintenance on multiple platforms

Migration activities with support from HP and Intel

The centralized HP Lazer Team gathers Oracle experts who work closely with infrastructure project leaders on infrastructure management, provisioning, deployment, imaging and other related activities.

In addition the HP System Technology and Software Division (STSD) and team apply its expertise to the development of the Solaris to Linux Porting Kit (SLPK) while the HP Enterprise Services (HPES) is in charge of porting activities, consulting and outsourcing of ported systems and infrastructure.

Intel team of experts contributes at critical junctions when tackling Oracle, Java, compilers, and ported infrastructure tuning topics.

Description of the Development Process

Supporting several target platforms in the development process involves providing tools at two important steps:

Step 1: Code development

The customer may already have an existing process and build chain to produce the Solaris binaries from the source repository. Using the SLPK helps assess the code differences in regards to Linux and provides the low level modules to emulate the Solaris environment and produce the binaries on a Linux environment. The HP Intel CME Solution Center helps with the overall process and with the collaboration of both HP SLPK team and the customer's team.

Step 2: Software Packaging

Since 2007, HP Intel CME Solution Center contributors have developed the open source project-builder.org project in order to support continuous software packaging activities. This tool has been developed to avoid code duplication and provide separation from the project and management in a distributed source repository. In addition, it makes the code agnostic to the build environment and targeted operating system. Eventually, it provides macro and virtual machines/environments features.

Along with the code development, intermediary deliveries are packaged just like final deliveries of the applications. This tool allows customers to both minimize the risk and leverage maximum code re-use when moving from one to multiple platforms, while ensuring the quality of the software.

Steps 1 and 2 will soon be joined in one generic tool, supporting and performing code development and software packaging.

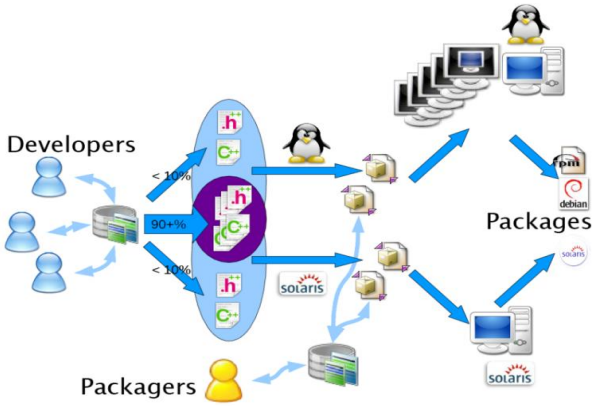

Fig.2: Development Process Principles

HP Intel Communications, Media and Entertainment (CME) Solution Center's team and facilities

In association with HP and Intel's teams of experts, the HP Intel CME Solution Center has developed a program on applications migration from SPARC to Intel Xeon processors platforms. Supporting telecom operators and service providers, a migration roadmap has been created, including services and tools such as:

- On-site Innovation Workshops
- Executive and Technical HP Intel Migration Workshops
- Solaris on Intel Xeon processors Proofs-of-Concept and Benchmarks
- Migration Project Management
- Single-source to multiple targets build environment
- Solaris to Linux, Solaris to Solaris Porting Kits

Demonstrations of the software migration tools are available in our facility, as part of workshops conducted at customers' sites or undertaking in-house PoCs using HP ProLiant G6 servers based on Intel Xeon processors 5500 series.

HP & Intel Key hardware components

HP Blade System c7000 Enclosure

The BladeSystem c7000 enclosure provides all the power, cooling, and I/O infrastructure needed to support modular server, interconnect, and storage components today and throughout the next several years. The enclosure is10U high and holds up to 32 servers or 16 storage blades plus optional redundant network and storage interconnect modules.

Intel® Xeon® processors

The Intel Xeon processor 5500 series are built with 45nm new Nehalem micro architecture with up to eight cores in a two-processor configuration. This new micro architecture delivers more performance in the same platforms and at the same power consumption, giving customers the flexibility to match performance, power and cost requirements with your unique requirements and delivering advantages beyond just pure performance.

The HP Intel Solution Centers provide complete telecom infrastructures for demonstrating the Communications Media and Entertainment Solution Portfolio to HP customers and partners. The centers are located in the three regions: Grenoble, France for EMEA; Plano, Texas, USA for Americas, and Shanghai, China for APJ. These unrivalled technical facilities offer our customers and partners, the unique opportunity to evaluate new services in real-world environments, test new technologies and select the solutions most likely to succeed.

Technology for better business outcomes

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