



# Save up to 85% on Your Oracle Costs

With:



**redhat.**





At MYRA systems, it is about better IT service delivery. Are you finding you are paying increasing costs for your UNIX environments? Advances in technology have created an opportunity to consider an alternative server and operating system infrastructure to your proprietary RISC/UNIX platforms. By utilizing MYRA's 26 years of experience providing IT solutions and service management, as well as leveraging our vendor relationships, we can help to reduce your operating costs up to 85%. MYRA will support you through your migration to mitigate risk and to ensure reliability and availability aren't compromised.

**Reduce your operating costs by 85%**

# The Opportunity

Running your mission-critical Oracle database systems in a RISC/UNIX silo can be expensive. You need the power of Oracle integrated into your business processes, and you need the platform it runs on to be stable and reliable – that's why you made the investment in your RISC/UNIX infrastructure. But it costs money, requires specialized expertise, locks you in with one specific vendor and isn't standardized with the rest of your datacentre. Fortunately, choices have now emerged.

Oracle 11g supports 3 proprietary UNIX platforms – Solaris, HP-UX and AIX, each running on their vendor-locked RISC hardware – SPARC, Itanium and POWER, respectively. Unfortunately, Oracle support for HP-UX on Itanium has been announced for end-of-life. However, Oracle 11g also supports 3 non-proprietary UNIX (Linux) platforms - Red Hat, SuSE, and Oracle, with all the Tier 1 hardware vendors to choose from – HP, Dell, IBM, Fujitsu, NEC, Hitachi, Oracle and Cisco. Whatever the rest of your datacentre looks like, you can choose to have a supported Oracle-on-Linux platform that aligns with it. Red Hat is the very clear leader in the Linux support marketplace and is partnered and certified with each of the hardware vendors listed.

Beyond the obvious savings and rationalization that would come with aligning your UNIX platform with your Intel® infrastructure, there has been a quiet transformation in the Intel® Architecture server space – performance



has caught up with RISC! The highly-regarded Standard Performance Evaluation Corporation (commonly known as SPEC) database of benchmark results shows how Intel® Architecture has now surpassed RISC performance.

Oracle Enterprise database is licensed on a per-core basis, with different pricing for different types of CPU. Intel® Architecture cores are less expensive to license than Itanium, POWER7 and SPARC64. Meanwhile, Intel® processors, particularly the latest Intel® Xeon cores, deliver more performance. On a cost-weighted basis for running an Oracle database, the best Intel® Xeon cores outperform the best POWER7 cores by a factor of 1.75-to-1, the best SPARC64 cores by a factor of 2.4-to-1 and the best Itanium cores by a factor of 4.9-to-1. Customers with older RISC hardware will have even greater Oracle cost-performance opportunities. The performance margin of Intel® Xeon can be leveraged to reduce Oracle Enterprise costs by these factors – with *massive* savings.

Put very simply, the opportunity brought by the growth in the Linux support base and by the ever-increasing performance of Intel® Architecture is to migrate your RISC/UNIX Oracle platform to an Intel®/Linux platform, freeing you from vendor lock-in, rationalizing your datacentre, consolidating your capacity, reducing your administrative overheads and recognizing huge savings on your Oracle costs in the process.

**It pays to move to an open, flexible, standards-based environment.**

# Proposed Solution

MYRA proposes to demonstrate with an onsite Proof-of-Concept that your mission-critical Oracle Enterprise databases can successfully be run in your environment using a Red Hat / Intel® platform. Return-on-Investment figures will be prepared against your actual costs.



## Description:

The key to success for this solution is to outperform the legacy RISC platform on a core-vs-core basis while still providing the stability of UNIX. To achieve this, we propose the coordination of specific vendors who can provide technology, services and support. Those partners are MYRA, Red Hat, and Intel®.

By combining the enterprise functionality of Red Hat Enterprise Linux (RHEL) with the high performance and low cost ownership of Intel® Architecture, Intel® and Red Hat provide a cost effective and flexible alternative to the RISC/UNIX platform. Leveraging the performance gains from the latest Xeon processors, your Oracle costs can drop dramatically.

In any migration, risk needs to be addressed as a top priority. MYRA has over 20 years of professional services experience in mission critical Oracle-on-RISC environments. Combined with our Red Hat Advanced Business Partnership, and the capability to deliver a

Proof of Concept (PoC) for a targeted system, risks are greatly mitigated. MYRA will analyze your current environment and help identify the appropriate candidate systems for migration. We will then work with your organization to develop a high-level target architecture and business case, which, upon approval, will lead us to proceeding with a PoC.

MYRA will leverage our expertise with Oracle and RISC/UNIX based enterprise solutions to demonstrate that savings can truly be achieved in your own environment. Beyond the PoC, combining our expertise in RHEL and our migration methodology, MYRA can successfully lead you through the migration process. Developed by our experienced systems engineers and managed by our Service Delivery Managers, this offering provides the insight and proven processes needed to proactively plan and execute a migration to RHEL on an Intel® Architecture platform.

**The key to success for this solution is to outperform the RISC processors core-for-core while still providing the stability of UNIX.**

# Benefits

The example solution below shows immediate cost savings, dominated by reduced Oracle licensing fees, but also with substantial advantages in hardware and operating system support. A full environment migration can provide an alternative to the continued expense of RISC/UNIX infrastructure, bringing Red Hat's enterprise-grade manageability, flexibility and reliability while aligning your hardware support arrangements with the rest of your datacentre.



Item Specification	RISC/UNIX Annual Costs	Intel/Red Hat Annual Costs	Annual Savings per Server
<b>Server</b>			
Oracle (Sun) M5000 (8 CPUs SPARC64 VII 2.53GHz, 128GB RAM), with support <b>SPEC CFP2006Rate: 234 Cores: 32</b>	\$59,333		
Fujitsu RX200 (2 CPUs Xeon X5687 3.60GHz, 48GB RAM), with support <b>SPEC CFP2006RATE: 237 Cores: 8</b>		\$2,433	<b>\$56,900</b>
<b>Operating System</b>			
Solaris X, with support	\$16,000		
Red Hat Enterprise Linux 5, with support		\$3,249	<b>\$12,751</b>
<b>Database Licensing</b>			
SPARC/Solaris Oracle Enterprise licensing: 1 year term with support for 24 Processor Licences (32 Cores x 0.75 Oracle Core factor)	\$478,800		
Intel/Red Hat Oracle Enterprise licensing: 1 year term with support for 4 Processor Licences (8 Cores x 0.5 Oracle Core factor)		\$79,800	<b>\$399,000</b>
<b>ANNUAL TOTAL</b>	\$554,133	\$85,482	<b>\$468,651</b>
Peak Power	4,590W	549W	<b>4,041W</b>
Peak Cooling (BTU/hr)	15,661	1,875	<b>13,788</b>
Annual Power Use @ 50% load @ PUE 2.0 (kWh)	26,718	4,135	<b>22,583</b>
Footprint	10U	1U	<b>9U</b>

- list prices, 3 year hardware amortization, annual costs
- The SPARC64 VII CPUs have an Oracle Core Factor of 0.75 compared with the Xeon 56XX Oracle Core Factor of 0.5. Other RISC and x86 CPUs have different Oracle Core Factors.
- The Fujitsu RX200 used for comparison is just one example of several Tier 1 vendors with Intel Xeon X5687 servers. Fujitsu also happens to be the underlying manufacturer of all SPARC Enterprise series servers.
- Note that the servers above are specified with the amount of RAM used in the SPEC testing. Production workloads often benefit from more RAM. The HP ProLiant DL370 G6 with dual Intel Xeon X5687s can be configured to 384GB of RAM, for example.

# Conclusion

Over the past few years, more powerful, cost effective Intel® servers running open source Linux have been increasing performance at a much faster rate than RISC-based servers. This performance can be leveraged to reduce your Oracle core count, and hence your Oracle licensing fees. As Intel® Xeon processors have increased in scalability and as Red Hat Enterprise Linux has matured and gained enterprise-wide support, there are significant savings you can take advantage of when replacing your organization's RISC-based servers.

MYRA would like the opportunity to help you to identify systems appropriate for a migration from RISC/UNIX to Red Hat Enterprise Linux on Intel® Architecture. MYRA will work with you to collect the pertinent data required to conduct a Proof of Concept. The PoC will demonstrate the low risk efficient migration to RHEL and provide the Return on Investment metrics specific to your environment.

**MYRA would like the opportunity to identify potential systems for an Oracle migration from RISC/UNIX to RHEL on Industry Standard Intel® Architecture servers.**



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