



Research Report

Novell in Linux

Executive Summary

This document is a high-level overview of the SUSE Linux Enterprise strategy and product offerings from Novell. It is meant to complement a previous *Clabby Analytics Research Report* on Red Hat Enterprise Linux (RHEL). As was the case with the Red Hat write-up, this report describes the differences between RHEL and SUSE Linux Enterprise from the vendor's perspective (in other words, this report describes how Novell views itself as compared to Red Hat). *Clabby Analytics* provides very little comparative analysis in this report — we essentially restate what the vendor told us.

By reading both reports, readers should gain a better understanding of the differences between each company's Linux offerings.

According to Novell, the primary differences between its Linux product offerings and those of Red Hat are:

- Novell is a mixed-source company—focused on helping customers achieve critical business objectives;
- Novell offers a wide range of platform, systems, identity and security management solutions;
- Red Hat is a pure open source company—unable to meet customers' heterogeneous IT needs;
- Novell recognized the need for Linux to interoperate with Windows and is the leader in supporting mixed IT environments;
- Red Hat offers limited interoperability with Windows — and has no strategic relationship with Microsoft; and,
- Novell also has an unwavering focus on delivering the best Linux application platform for customer.

The remainder of this *Research Report* examines Novell's strategy in greater detail — and provides additional perspectives on the points articulated above.

Background: About Novell

Novell has been in the computing business for over 25 years — starting as a provider of file/print servers and eventually moving into open systems based on the Linux operating environment. As Novell has matured, it has developed expertise in:

- Operating environments;
- Systems resource management;

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- Application integration;
- Infrastructure integration;
- Applications/systems management; and in
- Microsoft Windows/SUSE Linux Enterprise integration.

Novell's moved into Linux in 2003 with the purchase of Ximian, followed by the purchase of SUSE Linux in 2004. In 2006, Novell acquired eSecurity Inc., improving Novell's position in infrastructure and secure systems.

One of the most interesting developments at Novell over the past decade has been its partnership with Microsoft. In the 1990s, these companies clashed repeatedly in the file/print server market as Microsoft's NT challenged then leader Novell NetWare. In 2005, a patent dispute arose between these two companies as each claimed the other had infringed upon respective technology patents. But, instead of waging all-out-battle in the courts, these two companies had the wisdom and the vision to settle out of court. On November 2, 2006, Novell and Microsoft announced a strategic partnership that includes technical collaboration, business collaboration and patent collaboration elements, the last of which extends patent protection to users of one another's respective products. The technical collaboration work helps customers to bridge Windows and Linux environments. Today, both companies jointly market Windows and Linux solutions.

Also noteworthy is Novell's involvement in the "Mono" project — an open source effort to host Microsoft's .NET infrastructure on Linux. More information on Mono can be found at: <http://www.mono-project.com/About>.

Novell's Strategy for SUSE Linux Enterprise: Three Areas of Focus

In short, Novell focuses its Linux implementation in three areas:

1. Windows interoperability;
2. Application availability; and,
3. Virtualization and management.

Further, Novell points out that, after 25 years in enterprise computing, the company also has considerable expertise in high-performance computing (HPC — six of the top ten supercomputers in the world currently run a version of SUSE Linux Enterprise) and in mainframe computing (more specifically, Linux on the mainframe) — and can, accordingly, provide guidance based upon this experience for HPC and mainframe users.

Windows Interoperability

Clabby Analytics believes that the computer marketplace is in the midst of a consolidation around three server architectures: x86 multi-cores; POWER, and System z (mainframes) — see <http://www.clabbyanalytics.com/uploads/ServerMarketViewFinalFinal.pdf> for more details on this perspective. In the x86 multi-core space, two operating systems dominate: Windows and Linux. And many, if not most information technology (IT) buyers will have both environments within their information systems environment.

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For customers who have both environments, a common infrastructure and a common means to manage both environments will prove highly desirable. A common infrastructure helps enable applications and databases in both environments to interoperate transparently — thus saving IT organizations from having to purchase connectors/adapters and from having to perform application integration work. A common management environment helps reduce overall management costs (which, in many geographies around the world represents 40-50% of enterprise data center budgets). Novell's activities in the open source Mono project serves to help drive a common infrastructure (.NET — Microsoft's infrastructure — akin to Java on Linux), helping to simplify interoperability between Windows and Linux. Novell also works with Microsoft to integrate Linux/Windows management schema, helping to create a common management environment.

The scope of joint research and development between Novell and Microsoft extends beyond infrastructure and management and also includes:

- Virtualization interoperability and support;
- Systems management interoperability;
- Directory and identity federation;
- Document format compatibility;
- Silverlight plug-in for Linux: Moonlight; and,
- Accessibility interoperability.

Finally, Novell and Microsoft operate a joint Linux/Windows interoperability lab in Cambridge, Massachusetts — illustrating a commitment by both companies to Windows/Linux integration.

Application Availability

Novell's NetWare dominated the "network operating system" market in the late 1980s through the late 1990s. But key to holding its dominant position was the concept of "applications capture". To grow beyond the file and print server market, Novell's NetWare needed to turn the corner and become an application server. But, after several attempts at winning in the application space (NetWare Loadable Modules, SuperNOS, etc.), NetWare failed to become the application magnet that Novell hoped it would become — and, accordingly, Microsoft captured the low-end and midrange application server marketplace at NetWare's expense. (Note: Microsoft did have an edge over Novell in that Microsoft was an application builder of mail and messaging systems, office automation products, databases, etc. — so Novell's loss of file and print market share was partially due to Microsoft's application portfolio advantage).

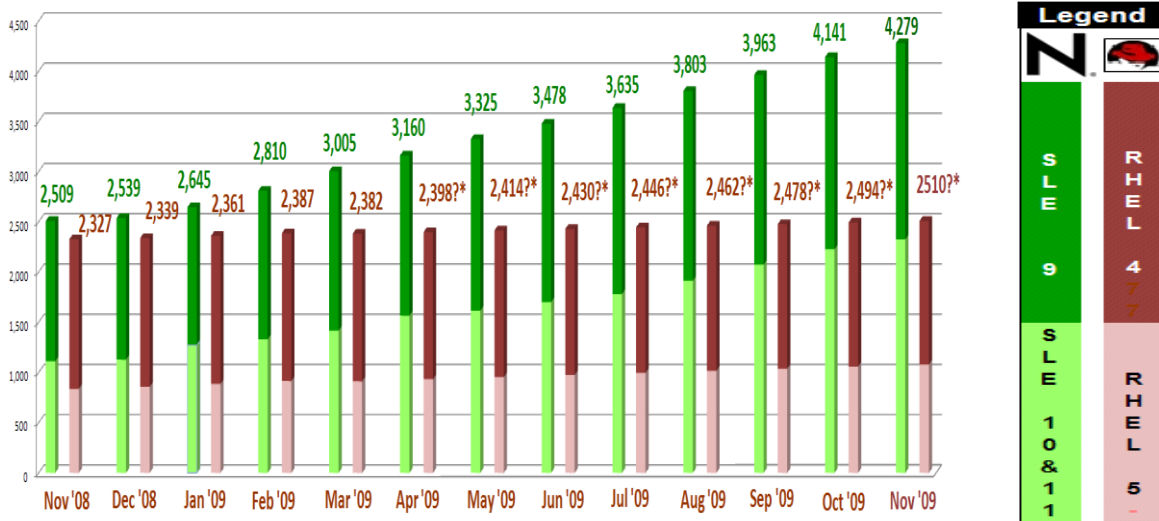
When Novell decided to move into Linux, Novell remembered its Microsoft application server lesson and immediately embarked on a program to certify applications to run on its SUSE Linux Enterprise implementation. As Novell told us: "a few years ago, Red Hat had significantly more applications than we did on their Linux implementation — but now, that is no longer the case". By aggressively recruiting independent software vendor partners,

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and by assisting in the certification process, Novell now believes that it has 50% more certified applications running on its Linux implementation than Red Hat (see Figure 1 — next page).

As an example of Novell's success in the application capture space, consider the company's relationship with SAP. Novell has formed a close relationship with SAP — a leading maker of enterprise resource planning, customer relationship management, and supply chain management software. As part of this relationship, SAP recommends Novell when SAP products are to be deployed on Linux (part of a joint SAP/Novell referral program). Novell and SAP also collaborate on joint development projects in virtualization. And Novell now offers six identity and security Management solutions that run with SAP. Further, Novell is the first and only company to be certified with SAP GRC solutions (in governance, risk, and compliance). Working this closely with an application vendor gives Novell a clear advantage when competing with other Linux distributions in the mission-critical applications space.

Figure 1: The Rapid Growth of Applications on SUSE Linux Enterprise



Source: Novell, March, 2010

In addition to traditional applications capture on Linux, Novell is also actively working with partners to build “virtual appliances” (these are systems images that can sit on virtual/logical machines on a server and execute specific functions [for instance, security functions]). To assist their “appliance” partners, Novell provides guidance in the areas of licensing and distribution — and Novell also offers several tools that can help partners build virtualized appliances. For more information on these tools, see: <http://susestudio.com/>. (Also, note that Microsoft Windows has no licensing provision for equivalent “appliances.” What this means is that Novell can help its customers and partners build appliances on top of .NET on Linux — creating a very interesting sub-market that Microsoft does not currently address).

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In summary, Novell has made a strategic customer commitment to be the Linux application leader. And the company stresses that it offers the largest set of certified applications; the Linux industry's leading appliance program, enabling software vendors to build and sell software appliances; .NET applications on Linux (the only vendor to do so); and joint offerings and support with SAP

Virtualization and Management

In virtualization, Novell emphasizes its 1) heterogeneous “host” approach to hypervisors; 2) its behavior as a guest in other vendor’s virtualization schemes; and 3) its management capabilities. And Novell describes a big differentiator in “intelligent workload management”.

From a virtualization host perspective, Novell claims to have more experience and success in the virtualization host hypervisor market than Red Hat (meaning that it has been doing virtualization longer and supports more hypervisors than Red Hat). This may be true, but the most important element of this claim is that Novell supports both Xen and KVM hypervisors, while claiming that Red Hat has failed with its Xen strategy and is starting over with its own KVM strategy (leaving Xen customers in the lurch as Red Hat moves to KVM).

Note: Novell took issue with Red Hat's claim that Novell did not support the KVM hypervisor (as claimed in our January Red Hat write-up). Novell states that KVM is included with SUSE Linux Enterprise 11 — and that official support will be available in its next service pack (due in mid-2010).

From a virtual machine guest perspective, Novell portrays itself as a “perfect guest” on VMware, Microsoft, Citrix and its own Xen implementation.

In the area of virtualization management, Novell offers its PlateSpin management solutions to simplify the management of physical and virtual machines—across hypervisors and operating systems. *Clabby Analytics* refers to this type of product as a “manager of hypervisors” — and we consider this type of technology to be important in heterogeneous virtualized environments because using a common management schema can help reduce costs by eliminating virtualization management silos (managers and administrators can use the same tools to manage across virtualized environments — instead of needing specialized skills to manage across specific virtualization silos).

Workload Management

For years, *Clabby Analytics* has described the logical progression toward systems virtualization as: 1) consolidate; 2) then virtualize; 3) then automate the provisioning (build-up/tear-down) of system images to make way for new workloads; and 4) automate the flow of workloads (such that prioritized workloads can gain access automatically to available resources. With intelligent workload management, Novell has created a set of solutions to help IT managers build, secure, manage and measure workloads and business services—across physical, virtual and cloud environments.

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A closer look at Novell’s workload management offerings shows quite a bit of product depth, including products to help build, secure, manage, and measure workloads (see Figure 2 — next page). Clabby Analytics cannot attest to the level of integration between these products — but, from a high-level perspective, this product offering is quite advanced when compared to other workload management products available in the Linux/x86 world.

Workload management appears to be a big differentiator when compared to Red Hat’s Linux implementation — we found no functional equivalent in the Red Hat product offering.

Figure 2 — Novell’s Intelligent Workload Management Solutions

Build	Secure	Manage	Measure
SUSE® Linux Enterprise Server	Novell® Identity Manager	PlateSpin® Migrate	Novell® Business Service Manager
SUSE® Studio	Novell® Access Manager	PlateSpin® Orchestrate	Novell® Business Service Level Manager™
SUSE® Linux Enterprise JeOS	Novell® Roles Based Provisioning Module	ZENworks® Configuration Management	Novell® Business Experience Manager™
ZENworks® Configuration Management	Novell® Access Governance Suite	PlateSpin® Recon	Novell® myCMDB™
SUSE® Appliance Toolkit	Novell® Privileged User Manager	PlateSpin® Protect	Novell® Sentinel™
Novell® “Workshop”	Novell® SecureLogin®	Novell® Cloud Manager	Novell® Sentinel™ Log Manager
	Novell® Cloud Security Service	PlateSpin® “BlueStar”	Novell® Compliance Automation
		ZENworks® “Workbench”	

Source: Novell, March, 2010

A Pricing Note

In the Red Hat Research Report we produced in January, we noted that Red Hat acknowledges that its Linux implementation often costs 20-30% more than Novell’s implementation. Novell shed further light on this cost differential by pointing out that Novell is more flexible in virtualization licensing than Red Hat. According to Novell, its SUSE Linux Enterprise is more generous in the number of virtual guests that it allows to be run under a typical license than Red Hat Enterprise Linux (apparently, when the number of virtual machines exceeds 4 on RHEL — users must move to the more expensive RHEL Advanced Platform. And, according to Novell, RHEL Advanced Platform costs 90% more than its basic Linux platform). SUSE Linux Enterprise provides for an unlimited number of virtual machines for the price of a single subscription per physical system.

A Mainframe Note

Novell emphasized that SUSE Linux Enterprise Server for System z (a product that has its 10-year anniversary in 2010), has an 80-85% share of the Linux for mainframe marketplace.

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Summary Observations

If you, the reader, would like us to state our opinion on the comparative differences between these two products (in other words, perform more comparative analysis), please contact Joe Clabby, president of *Clabby Analytics* at jclabby1@AOL.com. If there is enough demand for such a comparative analysis, we will produce a follow-on *Advisory* report.

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