

# The Lean, Green Computing Machine

Digital resources are a cost of doing business in today's world. The average business needs to purchase enough resources to do the job and yet carefully watch the budget. The current attention to "green" computing is a result of power-hungry machines that require cooling. The cost of energy for cooling is significant and in many places prohibitive because of local energy grid concerns. The agile company runs a lean shop. The optimal amount of digital resources running at the optimal efficiency, consuming the least amount of electricity and cooling is the goal of the agile company.

### Customer Scenario

Excelsior Widgets has experienced a number of good years and growth has been constant. However, the price of energy to power and cool its data center has risen significantly in the past three years. The community in which the main campus is located has begun to push back on the company's data center expansion plans because it is raising demands on the local power grid to unacceptable levels. Excelsior has begun to carefully reassess the need for each server and storage device in the data center. The hardware vendors who worked with Excelsior were very responsive at producing more energy efficient machines from which to reconfigure the data center, but hardware was only part of the problem. To align the hardware with the service demands required a lot of analysis.

Each component now has to justify its existence to a much higher standard. Because of the limits on power and the analysis of resource utilization, Excelsior now feels that it has to engage in consolidation of both hardware and services. The company has

had to implement new processes to regulate the user demand that will hit a reduced number of servers.

Although the company has made great progress in implementing Sarbanes-Oxley safeguards, the amount of data stored rose dramatically. The company now sees that it will have to take even more data off-line for long-term storage in order to deal with storage device sprawl in the data center.

### Fossa Project Today

By selecting Novell® technology, Excelsior was able to continue the progress that it had made with the hardware vendors. Excelsior understood well what the changes in hardware configuration would bring to them. Blades often replaced pizza box servers, and 64-bit machines replaced 32-bit machines to help consolidate services while using power more efficiently. Novell has a long tradition of working with the major hardware vendors to ensure that Novell software can exploit the latest developments in hardware. Novell now works to ensure

### Key Customer Benefits

- Optimize power management and continuous consolidation of services
- Lower costs through more efficient use of computing resources both at the hardware and service levels
- Provide a competitive advantage by using a predictable computing environment for real-time quality of service

**The Fossa is the most agile animal on the planet. We're working to make IT just as agile. Join us on the journey. Together we can define a world where IT is truly agile and where people and technology work as one.**

that its virtualization technology can exploit the multi-core processors developed in the past few years.

Excelsior looked up the stack to see what else could be done after the hardware layer had been optimized. The next task was to optimize the use of the services consumed by the employees and customers every day. Deploying Novell virtualization technology not only helped to abstract the more energy efficient hardware, but also removed the inefficient service silos that had evolved over time. Not only was the service virtualized, but Novell ZENworks® Orchestrator was also able to move the various services around to optimize its consumption of the hardware resource. Finally, Excelsior was able to move many of its services from older UNIX\* platforms to SUSE® Linux Enterprise.

### **Fossa Project Vision for 2012**

As the Fossa Project architecture evolves, it will do so with an eye toward the evolving new reality of the enterprise data center. Novell recognizes that a virtual foundation is only the beginning of a truly agile IT infrastructure. At the lower level, Novell will augment the virtualization platform and orchestration services with a storage resource manager, a physical server manager, a performance monitoring service and a complete audit, compliance and event and report service. These services will provide a solid platform upon which to offer still other services.

Recognizing the need for improved security in the virtual world, Novell continues to adapt our long-standing identity fabric to this environment. Novell will take identity to all elements of the IT world. This will facilitate the allocation of resources, the application of policies and automation, the provisioning of employees and virtual teams, and the securing of critical information and access. Novell continues to push SAML adoption and looks toward the tokenizing of identity so that companies like Excelsior can more easily interact

with other companies and focus on their core competencies.

As companies like Excelsior continue to look up the stack, the optimized lower layers must be matched by optimization in the provisioning and consumption of services. Novell is actively building upon its existing collaboration and data management infrastructure. By facilitating virtual teaming, providing an optimized data store for the data that grows from such services, and continuing to enhance data relocation to optimize the virtual storage capability of a company, Novell will help to provide that higher-level optimizing element.

Finally, Novell will make it easier to implement complex policies that provide optimal service provision, optimal hardware usage, optimal user provisioning, and the whole concept of fluid work. Novell systems will provide not just automation, but the capability to learn from patterns of usage and provide predictive services that will improve productivity.

The Fossa Project represents our technical vision for the future of enterprise IT. The project is a key building block of our corporate positioning around Making IT Work As One™. It is also a key element in our strategy as an enterprise infrastructure software company. This strategy leverages the world's best-engineered Linux\* and IT management software. Our Fossa Project is about computing and collaborating with agility.

Novell invites you to join us on this journey. We offer applied technology that provides real solutions for today while bracing for, and in fact helping shape, the inevitable changes that are coming. Whether you are a customer, partner, Novell employee, a member of the open source community or just an interested observer, we welcome your input. Together we can define a world where IT is truly agile and where people and technology work as one.