

The Fossa Project: Novell® Technical Vision

If you talk to CIOs today, they'll tell you that their IT infrastructure is anything but agile. CIOs want nothing more than infinite flexibility to deploy their IT resources in support of their business objectives. Delivering on this promise—infinite IT flexibility and agility—is at the core of the Novell® technical vision.

The Vision

Our vision, which has a working title of "The Fossa Project," is all about computing and collaborating with agility. It's built on the foundation of the Novell corporate vision of "Making IT Work As One." Through its infrastructure of open source software and ecosystem of partnerships, Novell harmoniously integrates mixed-IT environments, allowing people and technology to work as one. The Fossa Project provides a roadmap for the technology necessary to deliver on that promise. Today's IT managers struggle with business problems such as growing revenue and cutting costs; dealing with governance, risk and compliance; reducing time to innovate and getting to market more quickly; enforcing better security and access control; dealing with heterogeneous workplace and IT environments; and managing information flow. The Fossa Project aims to provide solutions to these problems.

At the same time, change is coming to the compute and collaboration infrastructure from many dimensions. Consider the forces exerted by the following enabling mega-trends:

- **High-bandwidth communications** enable fluid workloads to be executed and data

to be stored anywhere, even outside of the traditional enterprise boundaries.

- **High-speed, networked multi-core computers** provide ever more computing power.
- **Virtualization** allows efficient usage of computing resources while abstracting the underlying platform.
- **Policy-driven orchestration of tasks and resources** allows access to services and data based on acceptable risk tolerances.
- **Identity enablement** uses policy to control all devices, systems, users and processes.
- **Collaboration and social networking** encourage people to work together in new ways, effectively blurring lines between enterprises and work groups, organizations and homes, work and personal lives.
- **Complex regulations** safeguard the privacy of data and personal information.
- **Open source innovation** provides new alternatives to business processes.

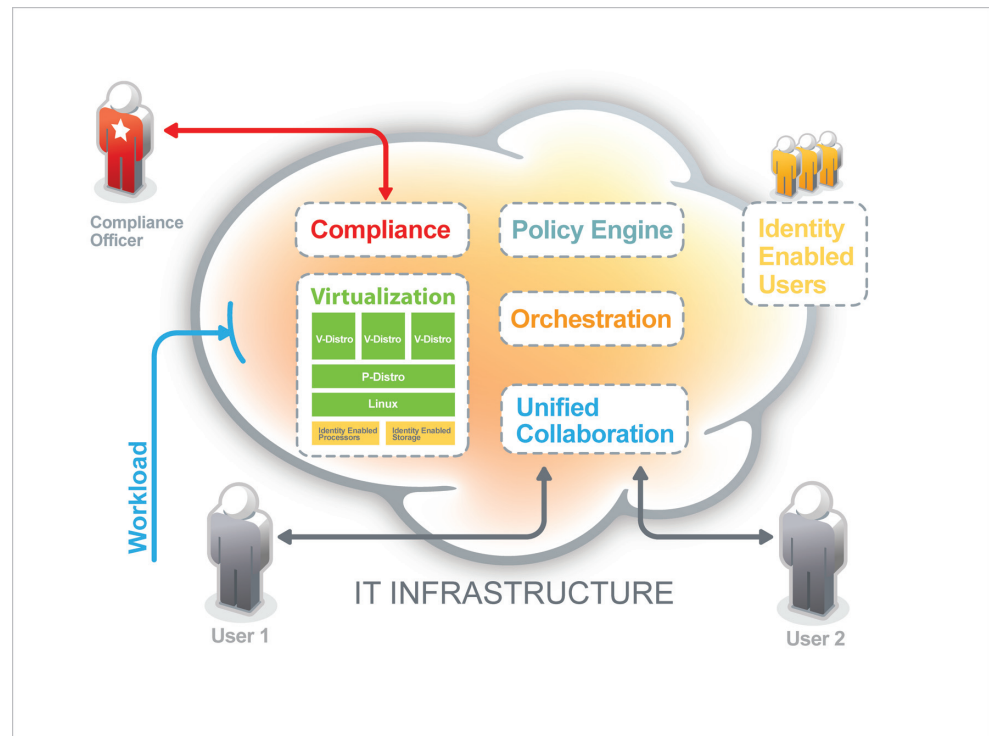
These forces need to be channeled and organized under a technical architecture that describes how businesses can move from the fragile to the agile.

Key Customer Benefits

- **The Vision:** Infinite flexibility to deploy IT resources against business objectives
- **The Architecture:** The Fossa Project delivers a new and compelling architecture that embodies and enables agility

The Fossa Project embodies and enables agility. Everything is founded on identity and policy so compliance can become part of the solution, not the problem.

The Architecture



The Fossa Project delivers a new and compelling architecture that embodies and enables agility’s five key attributes: coordination, strength, balance, speed and reflexes. This architecture provides the agility needed to embrace and capitalize on a change that would slow or cripple less agile enterprises. The architecture enables access to structured and unstructured data, multimedia streams and other soft resources without regard to the location of the actual storage technology. The amount of storage needed, the quality of the storage and the location of the storage will be immaterial to the user because stored items will be quickly available without the concerns of infrastructure management. Likewise, processing resources, network access and application availability will evolve to become “cloud-like” where the boundaries will be hard to discern. The Fossa Project delivers all of this while still providing the necessary policy controls to comply with regulatory mandates—even as regulations increase in complexity. This archi-

ture signals the decline of monolithic operating systems. Both IT professionals and users will be able to “just get their work done,” without having to cajole hardware and software and operating environments into allowing an application to operate. Best-of-breed applications will work side by side without regard to operating environments.

The Fossa Project embodies and enables agility. Everything is founded on identity and policy so compliance can become part of the solution, not the problem. This concept of policy-constrained identity construction and identity-enabled policy resolution will enable storage, processing and collaboration fabrics as pervasive as today’s network fabric. Whenever a compute task needs to be executed, the infrastructure should find the best place to execute that task. The subjective meaning of “best,” however, is where the magic lies. The compute infrastructure needs to accept different notions of what it means to be “best” (identity, policy, compliance) and

respond with agility, since that definition can and will change, often rapidly.

On top of that base, we add virtualization and orchestration. The infrastructure must be able to provision and deprovision physical and virtual resources. New terms that we use are pDistro (the lean, physical hosting operating system) and vDistro (the hosted virtual machine). This must be done easily and rapidly by using algorithmic automation and policy to continuously monitor, manage, analyze and respond. This new platform can support both traditional compute tasks as well as emerging collaborative tasks and social networking.

All of this is driven by Linux* and other open source innovations and supported with usability and standards-based interoperability. In the end, despite some complexity, the user gets simplicity. The user can access and collaborate with applications, services and data that are optimized across virtual storage and processing fabrics while maintaining full compliance to corporate and government policy and regulations.

In summary, the Fossa Project¹ architecture consists of:

- **Identity Enablement** *that allows policy engines to reason about parts of the system because more of the system elements have identity, and identity has become more interoperable and transportable*
- **Policy** *that expands to cover more services, applications and platforms with increased flexibility and automation, providing simplified, yet authoritative, resource management*
- **Compliance**, *which is in-process assurance that the right work is done in the right way*

- **The Virtualization Engine**, *which is the thin Linux based virtualization layer at the core of the system and is the home for dynamic workloads. Services are relocatable for changing business needs, including high performance, high availability or predictive computing service agreements*
- **Orchestration**, *which provides an efficiently managed, service oriented infrastructure that exemplifies ITIL best practices across industry standard commodity systems on behalf of re-locatable services*
- **Linux and other open source projects** *that support various other operating systems and applications*
- **Collaboration**, *which is the key to making your organization agile by enabling the right people to work together, anytime and anyplace using a diversity of communication devices and mechanisms*

The Fossa Project² represents our technical vision for the future of enterprise IT. The project represents 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.

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¹ Once we have finalized the vision, we will give it a more formal name.

² Why Fossa? Because the Fossa is most the agile animal on the planet. See http://en.wikipedia.org/wiki/Fossa_%28animal%29

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.

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