

# Start Building Your Cloud for Tomorrow—Today!

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# The Right Cloud for Your Business

The widespread adoption and easy acquisition of cloud resources is creating both opportunities and challenges for business and IT. Cloud opens up new, unprecedented opportunities for expanding services, growing revenue, and entering new markets

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But the ease with which cloud services can be acquired creates significant challenges that need to be addressed: compliance, vendor lock-in, data sovereignty, security, and Shadow IT—to mention just a few.

Choosing the right cloud for your business can go a long way to simplifying and accelerating your journey and realizing the benefits you're looking for.

## State of the Cloud

As IT becomes increasingly dynamic to meet the needs of a mobile, “on-the-go” society, both cloud users and cloud providers are maturing and hybrid cloud adoption—using a mixture of private and public cloud services—is ramping up. According to RightScale's *2018 State of the Cloud Survey*<sup>1</sup>, 81% of enterprises have embarked on a multi-cloud strategy, with hybrid cloud adoption dropping from 58% in 2017 to 51% in 2018. However, 81% of those surveyed had a multi-cloud strategy, using or planning to use multiple public or private clouds.

Private cloud adoption continues to grow at a rapid pace, with 32% of enterprises running more than 1,000 VMs within the security and control of their own data center environment. At the same time, 31% of enterprises now have over 1,000 VMs in the public cloud, taking advantage of the ubiquity and cost-efficiencies on offer.

## Private vs. Public vs. Hybrid

The challenge of making the right cloud choice is highlighted in 2018—the average enterprise used or experimented with up to five different clouds at any one time. To make the right choice for your business, you first need to understand the specific requirements of each workload, and then match it to the right deployment model.

**Private cloud:** Among the three options, private cloud continues to be the preferred delivery mechanism for business-critical applications that demand high security, low latency, and consistent quality of service (QoS) delivered according to pre-defined SLAs.

Running on a dedicated infrastructure—either in-house or with a cloud service provider—private cloud offers the security, control, and performance that enterprises are looking for. While this has often in the past translated to a higher cost structure, the use of industry-standard infrastructure, open cloud solutions, and flexible, consumption-based pricing models is driving down costs and creating parity between private and public cloud economics.

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<sup>1</sup> *2018 State of the Cloud Report*, RightScale, January 2018, <https://rightscale.com/ip/2018-state-of-the-cloud-report>

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**Public cloud:** The promise of instant availability and lower costs continues to attract workloads to public cloud. While moving test, development, QA, and non-core applications to the public cloud initially fueled adoption, increased confidence means that additional workloads are being transitioned.

With low upfront investment, the availability of public cloud allows enterprises to “try out” new ventures and markets with minimal risk. Completely independent of the enterprise data center, public cloud is also becoming an increasingly popular option for disaster recovery and business continuity initiatives.

**Hybrid cloud:** With a mixed—or hybrid—cloud strategy, workloads can be moved between private and public cloud environments based on the specific needs of the business in terms of performance, data protection, and compliance. Workloads that include regulated data or data sovereignty requirements can be developed and tested in the public cloud—offering elasticity and costs aligned to resource usage—and then deployed to a production environment in a private cloud for security and control. Alternately, some companies choose to develop in a private, on-premises cloud environment for privacy and easy manageability, and then run the workload in a public cloud or hosted private cloud where they don’t have to worry about scalability.

### **The Need to Simplify Choice and Complexity**

Despite the number of enterprise workloads being shifted to cloud, challenges still exist for a large number of enterprises. The number of cloud offerings on the market, the ambiguity in recommendations surrounding the choice of cloud models, and the perceived complexity of transitioning to cloud muddies the waters, complicating the decision-making process and impeding the realization of cloud aspirations.

One clear indication of the gravity of the problem is that security—once the primary concern for all things “cloud”—has been superseded by a lack of resources and expertise as the #1 challenge for cloud, even among the most security-conscious enterprises.

### **ASSIGN IT THE ROLE OF CLOUD BROKER**

The result is that many business units—including those that previously resorted to Shadow IT initiatives—are beginning to recognize the role of central IT when it comes to selecting public clouds and private cloud technologies, and establishing cloud governance models.

This shift in the role of the CIO and IT department empowers them as cloud brokers to look at the cloud needs of the enterprise as a whole. It carries with it the responsibility to seamlessly aggregate, integrate, and manage both cloud and non-cloud services with the goal of accelerating innovation and DevOps, while optimizing funding and ensuring business agility without jeopardizing the fundamental attributes of private cloud—privacy, control, QoS, etc.—when mandatory for business-critical workloads.

Restoring IT to its rightful place as cloud broker both ensures that regulatory compliance and governance requirements are satisfied, and provides the opportunity to realize significant costs savings. While few companies focus on optimizing cloud costs, centralizing cloud cost management within the IT organization allows for unused workloads to be shut down, and clouds or regions with lower-cost structures to be selected based on the specific needs of the workload.

### **CHOOSE THE RIGHT GUIDE FOR YOUR CLOUD JOURNEY**

Moreover, centralizing cloud responsibilities allows you to engage strategic partners that can guide you on your cloud journey. Partners that understand your business and are invested in your success. Partners that can cut through the complexity and mixed messages to deliver business outcomes.

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**“We wanted a flexible, reliable, cost-effective foundation on which to build our business and stand out from the crowd. Additionally, many companies have strong in-house technical teams that develop solutions themselves. To win business, we knew we needed to offer added value above and beyond what an internal IT department could provide, using our scale and expertise to make bigger and smarter investments than any single company could do in its own data center.”**

**SUNDER MUTHEVI**

*Vice President of Products and Strategy*  
Pi DATACENTERS

### **Innovating for Business Growth: Pi DATACENTERS**

Founded in Amaravati, India, in 2014, Pi DATACENTERS runs a state-of-the-art, green-field data center offering a full spectrum of solutions across Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Disaster Recovery-as-a-Service (DRaaS), together with complementary cloud-enabled services.

With many competing public clouds hosted overseas, Pi DATACENTERS wanted to offer clients a cost-effective and technically superior experience with full transparency as to where their data was physically located to ensure compliance. Moreover, “client requirements are changing all the time, so it was crucial that we focused on creating an architecture that would be able to support all future possibilities” says Sunder Muthevi, Vice President of Products and Strategy at Pi DATACENTERS.

Pi DATACENTERS looked for a cloud platform that offered ease of implementation, support for clouds within clouds—to host Software-as-a-Service (SaaS) solutions for clients, and significant automation so that a relatively small team could effectively manage a large number of hosted private clouds.

Such a capability would also enable it to outcompete both internal IT departments and other cloud providers on cost, and bring enterprise-class IT service provision within the financial reach of smaller clients.

After researching available options, Pi DATACENTERS made their choice. “We wanted all the benefits of OpenStack but packaged and supported by an expert. To get the integration and ongoing support and enhancements we wanted, we chose to deploy SUSE OpenStack Cloud,” explains Muthevi.

After experiencing the benefits of building their cloud platform with SUSE, Muthevi concludes: “SUSE OpenStack Cloud has given us a stable platform on which we can provision independent and isolated clouds, enabling multiple clients to have their own distinct cloud environments but all within the same data center fabric. This means that clients can choose to have the security benefits of running in their own separate physical landscape but still within our flexible, low-cost cloud—it’s the best of both worlds. SUSE OpenStack Cloud enables us to offer secure, dedicated clouds—this degree of security is crucial for those in sensitive sectors such as government—but with centralized control to keep service costs low.”

### **The Cloud of Tomorrow**

Cloud computing has changed the way people think about technology. Consumer cloud services—such as Dropbox, Google Drive, and iCloud—have driven demand and increased user expectations with regard to how they both access and use digital content.

#### **Driving Innovation and Enabling Growth**

While cloud computing initially started as a way to abstract physical infrastructure and data centers, it only became a major force when organizations began to realize that it wasn’t just about increasing flexibility and cutting costs. The real opportunity comes from (1) driving datacenter transformation by hosting and/or optimizing more traditional workloads for improved efficiency and cost effectiveness, and (2) enabling innovation with new cloud-native workloads.

As cloud adoption ramps, the increase in cloud-native utility computing services—delivered via private and public clouds—is revolutionizing information-sharing and business management, spawning new business models, and disrupting markets.

The result? In the enterprise sector, the debate is no longer about whether or not cloud should be used, but of how extensively it should be used and with what deployment model, with many enterprises implementing a “cloud first” strategy.

Cloud has quickly become the preferred option for enabling continuous integration and development (CI/CD) and DevOps, delivering apps and services faster to grow and retain market share. IT departments are seizing cloud as the opportunity to re-establish themselves as the de facto technology providers for their companies, driving increased adoption as a differentiating factor for their business as they attempt to balance cloud usage and cost savings.

At the same time, inhibitors to cloud adoption are shifting from reliability and interoperability, to building the right network, choosing the right deployment model for the workload, moving data between private and public clouds, and tackling issues such as data sovereignty, government regulations, privacy, security, and vendor lock-in.

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## Revolutionizing Operations and Portability

As the development of cloud-native apps accelerates and more traditional application workloads are moved to cloud, unified management of hybrid clouds is becoming a hot topic. A plethora of service providers is fueling complexity and testing the limits of app, workload, and data portability across clouds, with many users experiencing significant challenges. The rapid growth of container technologies is indicative of the desire to enable seamless movement of applications and workloads between clouds for optimal execution.

Next-generation cloud computing will focus on further abstraction of the virtual infrastructure—for example, containerization—and the operational processes used to manage it. Complex technologies like machine learning will be made simple, so data scientists can focus on the data, and developers can focus on creating currently inconceivable new applications without having to become experts at the underlying machine learning such as neural networks.

With infrastructure available as code via open APIs in the Software-defined Data Center (SDDC), each application will dynamically determine what resources are required, automatically provisioning and releasing infrastructure resources as required to support the precise needs of the workload. This eliminates the time and resources required by each DevOps team to build out systems that can scale and failover as part of the software development life cycle (SDLC).

This concept—known as NoOps—allows developers to focus solely on the business requirements, leaving management and scalability of the required resource pools to the provider of the cloud services, whether internal or external. As the underlying technologies become increasingly abstracted, the number of operational tasks required to manage them are reduced. While IT operations will still be required, the focus will shift to managing workloads instead of infrastructure and ensuring that the cloud platform meets its SLAs, including the ability to burst from private to public cloud facilities to meet capacity and performance requirements of the business.

## OpenStack: The Right Platform for Your Cloud

As enterprises look for agile solutions to meet the needs of the digital economy, an overwhelming 90% of senior enterprise IT professionals are on record as stating that they've either moved—or are planning to move—to OpenStack private cloud, according to a study commissioned by SUSE<sup>2</sup>.

Why has OpenStack become the obvious platform of choice?

### 1. OpenStack Technology Has Matured

Eight years is a long time in the high-tech sector, and OpenStack is definitely ahead of the curve when it comes to platform development. The OpenStack community—now consisting of over 84,000 individuals and more than 672 supporting companies working across 179 countries and producing in excess of 20 million lines of code—collaborates according to a six-month, time-based release cycle with frequent development milestones.

Like many open source software projects, early OpenStack releases were designed for software development, research, and engineering organizations with the expertise to manage the limitations of code cobbled together by various groups of people each focused on their own needs. While those first versions lacked the stability and feature sets required for enterprise use, the OpenStack platform of today is completely different.

When OpenStack's first version—"Austin"—was released in 2010, it included just two components, Nova and Swift. The February 2018, "Queens" release was the 17th version, and included thirty-nine components. One of the aims of this release was to make OpenStack more enterprise-ready while supporting expanding use cases for cloud computing, such as GPUs, containers, edge computing and machine learning.

With each of the six core projects (Nova, Neutron, Swift, Cinder, Keystone, and Glance) under active development for over seven years, enterprise-grade stability is a given. Targeted efforts have

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<sup>2</sup> *New Study Shows Cloud Adoption Boom is Fueling the Transformation of IT*, SUSE, October 2017, [www.suse.com/c/news/new-study-shows-cloud-adoption-boom-is-fueling-the-transformation-of-it/](http://www.suse.com/c/news/new-study-shows-cloud-adoption-boom-is-fueling-the-transformation-of-it/)

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**OpenStack mission: “To produce a ubiquitous Open Source Cloud Computing platform that is easy to use, simple to implement, interoperable between deployments, works well at all scales, and meets the needs of users and operators of both public and private clouds.”**

OPENSTACK.ORG

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resulted in a comprehensive portfolio of new features including the simplification of the installation and deployment process, support for high-availability services, and simplified upgrade capabilities.

For example, the Mitaka release (April 2016) improved scalability and enhanced the user experience, adding a number of manageability features to simplify rolling upgrades and live migrations, improve interoperability, and integrate support for containers. The Newton release (October 2016) extended these new capabilities to organizations with heterogeneous environments that want to utilize new technologies alongside workloads that require virtual machines or high-availability architectures under a single control plane. The Ocata release (February 2017) continued to further enhance these features for enterprise computing environments.

OpenStack has rapidly evolved to become the common, enterprise-grade platform for many cloud technologies with rapid development cycles, fast problem identification and resolution, and shared best practices. For the end user, this translates to accelerated time-to-value and increased confidence with simpler, faster, and cheaper cloud deployments.

According to Mark Collier, Chief Operating Office of the OpenStack Foundation, “consider the vGPU and containers enhancements in the Queens release: they address opposite ends of the use-case spectrum and demonstrate how OpenStack has the flexibility and ability to support changing open infrastructure requirements.”

## 2. The OpenStack Community Is Delivering

One of the key drivers behind the success of OpenStack is the overwhelming support of its users. The thriving OpenStack global community has evolved to encompass a wide variety of individuals and companies with unique skills and diverse interests, all actively contributing to developing code, fixing bugs, release management, and planning project details for future releases.

The Queens release is a typical example of this cooperative effort. A global team of 1,433 developers from 164 organizations were involved in ensuring that every critical feature was built, tested, packaged, and delivered according to schedule.

One of the key focus areas of the OpenStack Community is the stability of each core project and overall release as new features and capabilities are added.

For the Mitaka release, industry leaders sponsored a Global OpenStack Bug Smash event—an around-the-clock collaboration of the entire global developer community to find and fix as many bugs as possible across the full scope of OpenStack projects. It also helped to attract new interest and increase the pool of OpenStack developers by sharing the community’s collective knowledge of OpenStack tools and processes.

In addition, the OpenStack Foundation is actively working to address the issue of OpenStack skills shortages in the marketplace—previously seen as a barrier to adoption.

New online training and certification programs are available to help expand the talent pool and establish a consistent standard for OpenStack expertise and skills worldwide. Since the launch of the OpenStack Training Marketplace in September 2013, the number of training courses available has grown from 17 classes in eight cities to more than 50 classes—offered by a number of providers—in cities around the world, as well as on-demand, online.

Announced in October 2015, Certified OpenStack Administrator (COA) is an online assessment for OpenStack professionals around the world. Aimed at individuals with at least six months’ OpenStack experience and sufficiently skilled in day-to-day management and operations, it provides a baseline assessment

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of OpenStack knowledge and—in a practical way—certifies the participant’s ability to manage an OpenStack deployment and dynamically provisioned infrastructures.

With over 40 cloud-related services or projects available under the OpenStack umbrella, another tool—Project Navigator ([www.openstack.org/software/project-navigator](http://www.openstack.org/software/project-navigator))—helps new users make informed decisions about how to consume the software by differentiating between core services—the six projects most commonly deployed across every OpenStack cloud—and optional services they may or may not elect to deploy, depending on their use case.

Project Navigator presents all of the critical information about each project—such as maturity, release schedule, packaging, and documentation support—in a simple, graphical interface to help users quickly decide which components they need for their own deployments, along with configurations based on real-world user case studies and white papers.

Also in 2015, the OpenStack Foundation launched the “OpenStack Powered” brand as a significant step towards realizing the vision of a globally federated set of OpenStack-powered public and private clouds. This initiative allows users to quickly source and consume cloud services by plugging into a global network of “OpenStack Powered” cloud service providers offering greater choice across geography, service, price, and performance. Offering a consistent set of core services, it allows applications to be written once with full confidence that they can run on any of the “OpenStack Powered” public and private clouds globally.

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**“In the early days of cloud, the use cases were fairly narrow, but the scope of cloud use cases today has expanded to include a massive variety of workloads. Just as the scope of cloud evolves, OpenStack evolves as a platform.”**

**MARK COLLIER**

*Chief Operating Officer*  
The OpenStack Foundation

In addition, a new federated identity feature enables a seamless user experience for hybrid and multi-cloud scenarios.

More than 18 public clouds—including China Telecom, Deutsche Telekom, Telefonica and many others across the globe—have passed the comprehensive interoperability tests and been branded as “OpenStack Powered.” Numerous other industry-leading vendors have already tested their products—including public clouds, hosted private clouds, distributions, and appliances—against the standards and made them available through the OpenStack Marketplace.

### **3. Industry Vendors Have Closed the Gaps**

While OpenStack—at its core—is an open source project, what makes it come alive and thrive are the vendors that have helped transform raw code into a business enabler.

To help grow the community and accelerate market acceptance, OpenStack relies heavily on technology leaders to make investments and provide resources for developing the OpenStack platform. SUSE and Fujitsu—among other industry vendors—invest significant time and resources into making OpenStack enterprise-ready with code contributions to enhance stability, manageability, and interoperability. In addition, industry-leading vendors are actively engaged with providing training and documentation, as well as coordination of the OpenStack user groups.

As an example of industry support, it’s estimated that around 60% of the developer resources required for the Queens release were provided by eight industry vendors. Industry leaders are also focused on broadening the OpenStack developer and user base, with joint initiatives to accelerate the enterprise readiness of OpenStack and speed up adoption.

The strongest support for the enterprise readiness of OpenStack is the number of companies that now offer OpenStack in the form of either distributions—incorporating additional tools to fill perceived gaps—or valuable services to address resource shortages and accelerate deployment.

The OpenStack Marketplace now includes over 18 public cloud providers, 13 hosted private cloud providers, 21 training providers, and over 150 consulting and integration partners with offerings

ranging from pure distributions of OpenStack, integration with other OpenStack projects and specific vendors tools, to integrated appliances.

As a Gold Member of the OpenStack Foundation since July 2015, Fujitsu has been a major contributor of enterprise-class enhancements to recent OpenStack releases, including its log-management function for Monasca, a project for monitoring resources deployed in OpenStack.

Without a doubt, OpenStack has evolved into a viable cloud platform that meets the demand of enterprise IT—including support for both cloud-native and traditional workloads—enabling them to reap the benefits of cloud while standardizing on the same open platform and APIs that power a global network of OpenStack public and private clouds.

## OpenStack and You

If this is your first foray into OpenStack for your enterprise, there are some key considerations that you need to take note of to help ensure a smooth rollout and accelerate adoption.

### 1. Phased Rollout

It's critical to start with a pilot project to help familiarize yourself with OpenStack and its features. You'll also need to identify the additional capabilities you need, and the OpenStack consumption model and partners that makes the most sense for your business. If possible, avoid using the migration of traditional applications as your first venture into OpenStack. Typical use cases for experimentation include development, test, and QA, or web-based applications.

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**“Today, the OpenStack community is putting app developers in the driver’s seat, giving them the power to choose the price, performance, and geography that best suit the needs of their apps, matching workloads to the best resources. No other cloud platform promises what OpenStack can deliver.”**

JONATHAN BRYCE

Executive Director

The OpenStack Foundation

### 2. OpenStack Resources

To be successful, your IT department needs to have a proper understanding of OpenStack technology, approach, and deployment models. Staff must undergo training and establish an OpenStack knowledge base prior to initiating a pilot project. Even if you plan on using resources from an OpenStack partner, your internal teams need to understand the OpenStack approach and how it differs from the traditional virtualization environments deployed in your organization.

### 3. Deployment Strategy

OpenStack technology is used across all types of cloud environments including, public, private in-house, private hosted, and hybrid clouds. Accelerating your rollout and time-to-value requires that you understand your desired adoption model and deployment strategy right at the beginning of your project. Once you understand the model that's right for your business, you are in a better position to choose the right distribution, and identify and fill the gaps within your IT department.

### 4. Choose the Right Partner

Some 60% of companies have found trying to implement OpenStack cloud on their own to be difficult, with some quitting as a result<sup>3</sup>. Rather than finding yourself in the same situation, consider partnering with the OpenStack technology vendor that offers what you need in terms of distributions, software tools, services, and support. Choosing the right partner can translate to richer features sets, easier staffing, best practice sharing, accelerated deployment, and reduced risk, significantly increasing your likelihood of success.

### SUSE OpenStack Cloud: Accelerating Time-to-Value

At first glance, OpenStack's rapid design cycles, new code releases, and complex and disruptive upgrades can be daunting. On top of that, 72%<sup>3</sup> of IT executives state that a lack of available skills within their organization is hampering their move to the cloud, and 72%<sup>3</sup> also report a lack of available skills in the marketplace.

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<sup>3</sup> *New Study Shows Cloud Adoption Boom is Fueling the Transformation of IT, SUSE, October 2017, [www.suse.com/c/news/new-study-shows-cloud-adoption-boom-is-fueling-the-transformation-of-it/](http://www.suse.com/c/news/new-study-shows-cloud-adoption-boom-is-fueling-the-transformation-of-it/)*

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That's why SUSE OpenStack Cloud is the open source, private cloud solution of choice for enterprise business, with a business-oriented 12-month release cycle. It provides the innovation and agility you need to accelerate time-to-market and quickly respond to the ever-changing demands of business.

Here are just a few of the reasons enterprises around the globe are choosing SUSE OpenStack Cloud to power their business:

- *SUSE is a founding member and Platinum sponsor of the OpenStack Foundation.*
- *SUSE OpenStack Cloud makes it easier to modernize or transition existing workloads with the widest choice of hypervisor support—including KVM, VMware, Hyper-V and z/VM—and container support for Kubernetes with SUSE CaaS Platform, enabling you to more easily deploy, manage, and scale your Kubernetes-based applications and services, or to bring alternative container orchestration frameworks through OpenStack Magnum. Bring Your Own Hypervisor (BYOH) makes it easier to rapidly develop new applications using the most appropriate hypervisor and more easily migrate existing virtualized workloads.*
- *SUSE OpenStack Cloud includes enterprise-grade high availability capabilities—including protection for virtual machines and workloads to complement existing HA support for the control plane and compute nodes—enabling you to move business-critical applications to your cloud with confidence.*
- *SUSE was the first vendor to market—in 2012—with a commercially supported, hardened, and truly enterprise-grade OpenStack distribution. Now in its 8th release with automated, high-availability infrastructure deployment and smooth, non-disruptive upgrades, SUSE OpenStack Cloud is the gold standard and leads the way in private cloud platforms for business-critical enterprise workloads.*
- *SUSE OpenStack Cloud is built on SUSE Linux Enterprise Server (SLES)—the leading open source operating system for business-critical workloads—and leverages over 25 years of SUSE experience in turning open source innovation into enterprise-grade solutions*
- *SUSE OpenStack Cloud includes delivery of non-disruptive upgrade capabilities to avoid downtime and service interruption experienced when migrating to new OpenStack releases.*
- *The SUSE global ecosystem of 5000+ business partners is available to provide comprehensive hardware and application support, along with our key alliances SUSE OpenStack Cloud has the widest hardware certification, the most comprehensive workload support, the best interoperability on the market, and offers industry-leading support for the entire OpenStack platform, reducing vendor lock-in while allowing you to redeploy your existing investments.*
- *SUSE is recognized for delivering exceptional Linux support, with the same quality, extended support, and business-oriented release cycle extended to our OpenStack private cloud offering.*

When you choose SUSE OpenStack Cloud, you not only get the best private cloud distribution, you also get to partner with the best. Commenting on their cloud deployment, T. Lakshminarayana, Vice President of Operations, Governance and Delivery at Pi DATACENTERS stated: “Thanks to SUSE OpenStack Cloud, we have got our business off to a flying start, and look forward to offering our superior service to even more clients as we grow.”

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**“SUSE is helping customers build a robust software-defined infrastructure to transform their IT, run business-critical solutions and drive business growth. SUSE OpenStack Cloud makes it easier for customers to enjoy the value of OpenStack and take full advantage of rapidly evolving technology trends such as containers and DevOps. As the open, open source company, our products make technologies like Linux, Ceph, OpenStack, Kubernetes and Cloud Foundry easier to implement, manage and maintain so that enterprises can better focus on growing their businesses.”**

**DR. GERALD PFEIFER**

Vice President, Products & Technology Programs  
SUSE

## Delivering New Capabilities for SUSE OpenStack Cloud

While SUSE OpenStack Cloud's ease of implementation and high-availability support is well recognized in the marketplace, that's just the beginning. When Fujitsu interviewed hundreds of C-level managers and key decision makers in early 2017<sup>4</sup>, nearly half of them stated that digitalization is boosting business, enhancing customer relationships, strengthening product competitiveness, and improving business efficiency.

To help enable your digitalization, both Fujitsu and SUSE are investing heavily to create the solutions you need to implement a true hybrid cloud environment. These include delivering a Containers-as-a-Service Platform (CaaS), Application Delivery Platform (Cloud Application Platform), and cloud management solutions. Moreover, SUSE solutions will continue to support the APIs needed for future hybrid cloud environments.

### Scalable Monitoring and Management Capabilities

SUSE OpenStack Cloud Monitoring is an open source software solution that simplifies the monitoring and management of OpenStack private clouds. Based on the OpenStack Monasca project, it delivers the reliability, performance, and high service levels for OpenStack clouds that enterprises are looking for. It also helps reduce costs by automating cloud monitoring and management with preconfigured templates and a single, powerful dashboard to manage, track, monitor, and optimize complex, distributed OpenStack private cloud environments.

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**“Since our HPC cluster runs SUSE Linux Enterprise Server as the operating system, SUSE OpenStack Cloud was the natural choice to expand our computing capabilities. We wanted an enterprise solution from a vendor we could trust and, having partnered with SUSE for many years, we knew that we could rely on them for support.”**

**DR. BORRIES LUBERACKI**

*Head of HPC Operations*

Gregor Mendel Institute of Molecular Plant Biology

“As customers move to large-scale production they need operational tools to maintain their private cloud. The Monasca open source project makes this data manageable and valuable for enterprise users. We have worked closely with Fujitsu and other contributors to bring this capability to SUSE OpenStack Cloud,” says Michael Miller, SUSE President of Strategy, Alliances and Marketing.

Katsue Tanaka, Fujitsu SVP, Head of Platform Software Business Unit, added: “Fujitsu engineers have worked closely with SUSE engineers and others in the OpenStack community on the Monasca project to create a solution that provides the means to collect, store, display and analyze monitoring and logging data from a production OpenStack system. SUSE OpenStack Cloud Monitoring is the fruit of our close collaboration and reflects our strong commitment to continue bringing production-ready open source solutions to market.”

### Increased Agility and Innovation

The release of SUSE OpenStack Cloud 8 in May 2018 provided new Container-as-a-Service (CaaS) capabilities using Kubernetes through integration with SUSE CaaS Platform to make Kubernetes easier to implement and manage, and to help accelerate the development of new cloud-native applications to support DevOps initiatives. These enhancements offer customers the ability to accelerate innovation and improve agility to deliver value faster and overcome the shifting challenges of today's business environment.

According to Gerald Pfeifer, SUSE vice president of Products & Technology Programs, “SUSE OpenStack Cloud has been developed to make it easier for customers developing new, innovative business workloads and DevOps environments. Widely regarded as a complex technology to implement, SUSE OpenStack Cloud makes it easier for customers to enjoy the full value of OpenStack so that they can take full advantage of new business opportunities and rapidly evolving technology trends such as DevOps and containers.”

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<sup>4</sup> *Fujitsu Survey Highlights how Digital Transformation is Driving Business Growth, Fujitsu, April 2017, [www.fujitsu.com/fts/about/resources/news/press-releases/2017/emeai-20170424-fujitsu-survey-highlights-how-digital.html](http://www.fujitsu.com/fts/about/resources/news/press-releases/2017/emeai-20170424-fujitsu-survey-highlights-how-digital.html)*

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## Accelerated Deployment

In addition, the PRIMEFLEX for OpenStack SUSE edition Reference Architecture—jointly developed by Fujitsu and SUSE—includes a high-performance and energy-efficient Fujitsu hardware stack, SUSE OpenStack Cloud based on the Pike release, one-stop support, and an optimized deployment service to help get your OpenStack cloud environment up and running as quickly and smoothly as possible.

## The Future Is Now

Embracing digital is not a choice; it's a necessity if you want to compete and thrive in the digital economy. At the same time, you need to make the right choices for your business, choosing the right cloud infrastructure, the right deployment model, and the right cloud partners. You need to transform your organization while protecting your current investments and minimizing disruption. You need to balance opportunity with risk and costs, and digitalize with confidence. In a 2016 Fujitsu survey of 1,180 global C-suite decision makers, over half (53%) said that digital disruption gives them cause for concern about the future of their business, while 52% stated that they believe that their own organization will not even exist in its current form in five years.<sup>5</sup> It's clear that the road to the digital future may not be a smooth one.

## The Journey Isn't Over

While many organizations have already made significant progress in their digital journey, this is by no means over yet. In the survey carried out by Fujitsu, more than half of respondents (54%) said that they expect "significant" digital disruption still to come.

Factors contributing to the challenges organizations face includes the blending of traditional and new, digital technologies, finding the right skill sets and technology partners, and the lack of experience in planning and defining digital projects. As a result, rather than trying to navigate the muddy waters on their own, more and more enterprises are turning to partners who have proven capabilities in enabling digital transformation.

Half of those surveyed (49%) say that they see great benefit in finding the right technology partner to help shape their digital

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<sup>5</sup> *Fit for Digital: Co-creation in the Age of Disruption*, Fujitsu, 2016, [www.fujitsu.com/global/Images/Fit-for-Digital\\_Report.pdf](http://www.fujitsu.com/global/Images/Fit-for-Digital_Report.pdf)

future. Working with a technology partner is key to organizations undergoing a digital journey, and some would like to go one step further—around one third (31%) say that they would gain confidence not just from finding a technology partner, but from actually being able to co-create innovation with one.

## Partner with the Experts

The alliance between Fujitsu and SUSE provides the integrated infrastructure, operating system, and cloud platform you need to support both cloud-native and traditional workloads across multiple deployment models. It also allows you to reap the benefits of standardizing on a common architecture offering cost-efficient capacity and support wherever and whenever you need it.

## Innovation for the Future

Moreover, SUSE has a clear vision of what the future holds and a defined strategy on how to execute on that vision. Using the right deployment model for the workload—to optimize performance and cost while meeting user and compliance requirements—requires that services be orchestrated by automating workloads and enabling seamless migration across the different cloud models.

Realizing this vision includes offering the capability to "burst" from private cloud into the public cloud domain based on seasonal or business demand for additional capacity without compromising security or violating government regulations. With Fujitsu and SUSE, you'll be able to run your private cloud on SUSE OpenStack Cloud and purchase additional "bursting" capacity from Fujitsu with full confidence that you're using a common platform and a consistent governance model.

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**"Hybrid cloud is not about moving IT workloads between clouds. The importance of hybrid lies in enabling enterprises to easily allocate those workloads to their 'best execution venue.'"**

**WILLIAM FELLOWS**

*Research Vice President*  
451 Research

To enable these capabilities, SUSE's OpenStack Cloud distribution includes tools for simplified deployment and non-disruptive upgrades. Fujitsu has also acquired cutting-edge technology, most recently in the form of UForge application delivery software that automates the building of new, cloud-native applications—or migrating existing applications with no re-coding—and governance of applications in a multi-cloud environment. It supports virtual machines and containers on bare metal servers, virtualized datacenters, and a variety of major public and private clouds. Combined with a fully automated delivery process, DevOps integration, and self-service access to applications, UForge's hybrid support allows workloads to be placed where they make the most sense for the business.

Building on its open source credentials, in October 2015, Fujitsu released its own service catalog management software as open source under the name Open Service Catalog Manager (OSCM). The

self-service portal effectively provides a “single pane of glass” for the automated execution of workloads in either a private—OpenStack—or public cloud to ensure they run in the optimal environment based on your specific business needs.

### **Realize the Vision**

These enhancements provide just a brief glimpse into how Fujitsu and SUSE are focused on creating and delivering the building blocks you need to support your strategy for hybrid cloud—through industry-leading innovation and engineering collaboration based on a common vision.

Now's the time to realize your own vision for your enterprise by partnering with SUSE and Fujitsu. Stay in control of your applications with fine-grained governance and consistent deployments across clouds. Build your cloud for the future—today—by putting into place the building blocks you need to ensure a true hybrid experience with SUSE and Fujitsu.