Make Nonstop IT a Reality for Your Business

Three key considerations for building a strong, proactive infrastructure
Customers demand a lot these days—but they’re willing to reward the enterprises that deliver. Satisfying customers takes an IT infrastructure that is resilient enough to withstand outages and greatly reduce planned and unplanned downtime. Think of it as nonstop IT. It’s what the most successful businesses are beginning to master and it’s putting pressure on the entire industry to up its game.

Satisfied Customers Create Successful Businesses—It All Starts with 24/7 Services

Delivering a great customer experience has long been a priority for enterprises. But even with advances in technology, today’s businesses are falling short by a substantial margin. A recent study showed that 75 percent of businesses consider themselves to be customer-centric—but only 30% of customers agree.1

Customers are eager to reward enterprises that “get it”: Eighty-one percent say they’d be willing to increase the amount of money they spend with an organization in return for a better experience.2

Reaping the rewards of increased consumer satisfaction is the key to thriving in a fiercely competitive market. And one of the most impactful ways to make a customer experience great is to deliver nonstop services. Since IT capabilities are the foundation of what powers those services, that means eliminating downtime and maintaining high availability of IT resources at peak performance.

To a customer, that might mean a mobile app that is fast and convenient and that allows them to preorder products, interact personally with salespeople, or research their next purchase—anytime, anywhere and without delays. It means a customer support call that takes just minutes and doesn’t get bogged down by a slow computer system. And it means getting quick, personal assistance whenever and however they want it, whether in person at a brick-and-mortar location, on your website or via a mobile app.

There is real bounty out there for enterprises that make customers happy—by creating nonstop IT that enables the services that keep them coming back.

“We are always aiming to achieve the best balance we can between cost and capabilities, so that we can deliver great service at low cost to the taxpayer. SUSE Linux Enterprise Server is one of the elements that helps us to achieve this goal.”

Hans Lenting
IT Architect
SVHW

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2 Ibid.
Nonstop IT Calls for a New Approach to Downtime

Making nonstop services a reality certainly means reducing or even eliminating downtime wherever possible. But it goes beyond simply trying to keep bad things from happening. This paper is about creating a culture of nonstop IT with infrastructure and best practices that proactively deliver the tools and insight your business needs to keep operating productively.

Recognizing the Roadblocks to Nonstop IT

Many factors go into disrupting your business’s service availability, but hardware and software failures, application downtime and data loss are some of the most common issues. Other challenges include disparate data centers separated by geography, where data replication and geo clustering are necessary but implementation is more complex.

Even as the need for nonstop IT continues to rise, it can become harder to provide it. New IT infrastructures capable of enabling agility and innovation also increase complexity. That complexity increases the chance of your system developing hidden issues that could cause an outage, and it also makes human error more likely.

And as long as cybercriminals keep pace with evolving data security measures, data breaches will continue to pose immense threats—not only to your ability to deliver nonstop services, but also to more critical assets such as customer information, trade secrets and your business reputation. While addressing cybercrime goes way beyond high availability, having the right high-availability systems in place can help prevent data loss or help you recover from incidents, in some cases.

All of these factors point to one evident truth: Nonstop IT requires a strategy that spans the entire infrastructure, as well as the right processes and practices to ultimately ensure availability.

Nonstop IT Starts with a Holistic Strategy

Delivering always-available services requires a holistic approach to mitigating each risk factor at its source. One killer security system, for example, won’t suffice—nor will simply replacing existing hardware with today’s latest and greatest models.

You need business-continuity and disaster-recovery solutions to deal with application downtime and data loss. Comprehensive monitoring and management solutions can help with hardware and software failures. You can even reduce planned downtime, such as software patching and routine maintenance, with live patching and patch automation capabilities.

When it comes to security, your end goal should be high availability of your services. You want your data to be protected at all times. This can require a range of security features, from intrusion detection and prevention to virus and malware protection to encryption and advanced authentication capabilities.

“SUSE software-defined infrastructure (SDI) solutions enable IT to help drive innovation with greater agility, automation and reduced costs. They offer the flexibility and efficiency needed to improve time-to-market while ensuring service availability, so that customers can access applications and services any time they need them.”

Forrester
Get Started: Three Key Considerations for Enabling Nonstop IT

Like any IT project, achieving nonstop service doesn’t happen overnight. It’s a process that requires a lot of planning and forethought, as well as finding the right partners that can help you build a strong, proactive infrastructure.

1. Create a culture of nonstop IT

Your biggest priority in this step should be getting leaders across the organization to commit to devising and implementing more proactive processes. This requires helping stakeholders understand how critical nonstop IT is to your business success, and the potential implications of inaction. Help them realize that this is more than simply an IT issue. Include leadership from all relevant disciplines, including operations, finance, customer service and sales.

Some experts say that processes—not infrastructure systems—are the cause of two-thirds of data center outages. Analyze your business and IT processes to identify where and how downtime occurs. Does the system slow down when the call center phone lines get busy in the evening? Do applications fail more often during a specific action? Where is human error causing problems? What processes are holding your infrastructure back from delivering nonstop IT?

Changing a company’s mind-set can take time, but it’s well worth it. After identifying the processes that are preventing your business from achieving nonstop IT, determine how to best address the issues. At right are some examples and recommended solutions:

- **Inadequate training in operational processes.** Appoint one person as the training program owner, and rotate employees through comprehensive hands-on training for all infrastructure systems. Include regular mandatory emergency-response training.

- **Poorly documented procedures/instructions.** Assign someone to own the procedure documentation process, and audit all procedures for inaccuracies or ambiguities. Have a third party verify the procedures and make sure the documentation is clear and understood by the least knowledgeable person on the team.

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Ibid.
2. Address security and availability in every component of your end-to-end infrastructure

Industry analyst Forrester says that “availability is the aggregation of all availability factors of all architectural components supporting the application—including storage, the storage network, servers, the corporate network, and clients.”

Reacting to data security incidents will never provide the constant availability you need for nonstop IT. Proactive security approaches help you get ahead of the problem and address issues at their core. Look into company wide encryption or adopt continuous data protection, in which the system saves a copy of computer data on every change, so you retain every version.

Devise breach-prevention tactics that will document and reduce even serious vulnerabilities. These tactics include antimalware gateways, antiphishing email systems and internal intrusion-prevention devices. They can even be as straightforward as employee security training and the creation of comprehensive corporate security documents, including a data loss protection plan.

Track the uptime of individual infrastructure and software components, but also get insight into your infrastructure as a whole to better understand the customer experience and issues that might be keeping you from continuous service.

3. Select the right technologies and practices to support critical services

Today’s nonstop IT shops are putting a range of advanced technologies to use, including high-availability features, geo clustering, real-time operating systems and live kernel patching.

Recommended practices to achieve nonstop IT include:

- Live patching and automated patching to minimize planned downtime for updates.
- Extending the operating system lifecycle to reduce risks of migrations and systems upgrade costs.
- System snapshots and the ability to roll back to known good states to keep a planned change from becoming an unplanned disaster.
- Building geographically dispersed failover clusters to plan for hardware failures.
- Load balancing to handle higher volumes of traffic or requests by spreading them across a cluster.
- Rolling updates to ensure cluster uptime by sequentially updating nodes.
- Unified operating system that delivers the reliability, availability and serviceability you need across disparate hardware platforms.
- Security, security, security with the strongest encryption possible to help protect data in your environment.

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Partner with SUSE for Nonstop IT Success

SUSE® software-defined infrastructure can be a significant help in your journey to nonstop IT. It delivers the continuity, predictability and reliability your business needs today to stay competitive.

Maximize Service Availability

SUSE® solutions include open source clustering technology that enables you to easily set up physical or virtual clusters. It’s helped organizations like Ciclum Farma guarantee round-the-clock access to vital business systems and achieve 100 percent uptime in the nine months since implementation.

Maintain Business-Critical Continuity

No single solution can provide continuity of services, so at SUSE®, our entire software-defined infrastructure is geared toward this goal. That includes live patching for critical kernel security updates with no downtime; one-click rollback and system management tools to ease patching; and tools to simplify patching automation across your environment.

SVHW is a government organization in the Netherlands that has benefited from these SUSE solutions to support a number of large and mission-critical Oracle databases. It is saving two man-days a month due to automation and, more importantly, has a more consistently and securely patched environment.

Raise the Bar on Responsiveness

If your enterprise can respond quickly to new information and changing market conditions, you have a distinct advantage over those organizations that cannot. Real-time systems are used in fields like automotive safety, advanced simulations, aeronautics and more. SUSE real-time solutions can help enhance nonstop IT with precision timing and predictability.

Don’t Just React to Downtime—Prevent It and Reap the Rewards

With a resilient infrastructure and a companywide mind-set focused on continuous uptime, you can deliver the always-available IT capabilities that your business requires and that create seamless customer experiences. Over time, things break, outages happen. But your proactive plan for the unexpected can keep your services available, predictable and reliable. Customers will appreciate it, and so will your bottom line.

“Even in the unlikely event that an entire server goes down, we can automatically transfer the workload to a secondary system and work to restore the affected production services while business continues as usual. This is an incredibly valuable benefit, and ensures that our employees can continue to meet customer demand and get products out the door no matter what.”

Antonio Damas
IT Manager
Ciclum Farma