



**Hewlett Packard
Enterprise**



All for One, One for All:

How a Homogeneous Infrastructure
Can Save Money, Time and Frustration

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Introduction

As your company grows, so do its IT needs. Priorities change. New issues surface. It's a common scenario: Just to get by, you amass a load of IT equipment from various vendors, creating a mishmash infrastructure that isn't as efficient as it should be, and one that may not be reliable.

This “Frankenstein” setup can cause headaches for your IT team. While all infrastructure vendors manufacture to industry standards, sometimes there's a slight quirk—and suddenly, your equipment from this vendor won't quite fit in the rack from that vendor.

Calling on a warranty or getting sales or technical help becomes an uncertain process. If you're trying to install an HPE server in an APC rack, for example, who would be responsible for helping if you have an installation issue? The headache and wasted time can leave your IT team members frustrated when they have other pressing projects they need to focus on.

The far simpler solution: Build or fill in your IT infrastructure with equipment from a single vendor that provides top-of-the-line servers, storage and networking equipment with power management and rack solutions designed to work together.

This eBook explores the benefits of a homogeneous IT infrastructure that works seamlessly, eliminating incompatibility issues and freeing up IT staff to move on to other projects.



CHAPTER 1:

The Inefficiencies Inherent in Multi-Vendor Infrastructures

“It would be silly, a waste of money, to buy a whole new rack. But who wants to bang on a server every time you close a rack door? So we ended up taking the doors off just because of that one server.”¹

NICK ANTONE
Director of Information Services at ESN

Buying the day’s most affordable equipment might make short-term sense to your organization’s bottom line, but maintaining multi-vendor environments can easily cost more in the long run because of inevitable support and service issues.

It begins with the need for IT professionals to study up on multiple pieces of equipment and processes. While the same type of devices may perform the same task, the vendor implementation is likely different. And when experienced IT pros leave, they take extensive knowledge with them, requiring organizations to train up a new pro on multiple processes.

Although vendors make rack equipment to standard dimensions, there can be slight variations in the final product. For defense contractor ESN, these very slight variations resulted in a rack that couldn’t close without scraping against the server inside.

“It would be silly, a waste of money, to buy a whole new rack,” Director of Information Services Nick Antone said. “But who wants to bang on a server every time you close a rack door? So we ended up taking the doors off just because of that one server.”¹

This lack of a front door leaves the infrastructure vulnerable, which is not advisable for any organization interested in keeping data safe and the network up and running. Frankenstein systems can lead to problems between different pieces of equipment, issues that require time-consuming work from IT specialists to solve.

If your staff wants expert advice to solve an issue, it must determine which vendor to contact—which often won’t help, because in multi-vendor environments, it’s hit or miss getting one vendor to take ownership of such an issue.

Plus, there are multiple vendor relationships to maintain, multiple support contracts to renew, and multiple Service Level Agreements to keep track of. For an already-busy IT team, this can seem overwhelming.

Clearly, neglecting to converge infrastructure into a single vendor can cost an IT team more energy in the long run—and cost your company productivity.



CHAPTER 2:

The Benefits of a Homogeneous Infrastructure



“In a bid to cut costs and streamline maintenance, many companies are turning to single-vendor IT systems as opposed to a ‘best of breed’ solution.”

IT CONSULTANTS
TeamQuest²

The answer to this mishmash infrastructure? A meticulous approach to a single-vendor setup for your entire IT infrastructure. Organizations can also opt to acquire new industry-standard equipment that works with current mission-critical servers, networking and storage systems.

Homogeneous networks are less expensive to support because regular maintenance and troubleshooting are easier, and there’s one point of responsibility when a problem arises. Most vendors have a shared operating system and troubleshooting tools across their entire product line, meaning the IT team only has to learn one process. And because the vendor’s support engineers are familiar with all components from end to end, they’re more capable of troubleshooting problems.

IT professionals in a recent Spiceworks SpicePanel experienced first-hand just how seamless a homogeneous infrastructure could be—and how much easier it made their jobs. Eighteen professionals from the Spiceworks IT Community, across industries, tested an HPE rack and power infrastructure. They were given an HPE 42U Advanced Series rack, Metered power distribution unit (PDU), Basic PDU, rack-mount uninterruptible power supply (UPS), rack-mount KVM switch and console to plug into their existing systems.

Their feedback reflects the value of the single-vendor approach.

Jeremy Rockow, network administrator with Cascade Die Casting Group Services in Michigan, commented on how everything fit beautifully together in the rack, saving space and eliminating clutter in the server area. “We were able to put in our existing server, switch, patch panel, and the other items provided by HPE. This worked out excellent as we have been trying to implement 5S at that location and we really needed some extra neatness for our area.” Said Matt Morris, tech support coordinator for Belpre City Schools in Ohio: “It’s a lot better than what

I had to deal with before, when I had different bits and pieces from different manufacturers to work with.”

While some might point out that everything is standard in racks, it’s different—and so much easier to assemble—when you have something premade for specific equipment, said ESN’s Antone. For example, the PDU could be mounted on the side of the rail instead of going across the front, which was a big deal to Antone. “You’re using the rack as it came; you don’t have to adjust anything; you’re able to open the box, pop everything into the rack, and it’s just done. Yes, it’s standard rack space mounting as far as the distance from the holes, but the placement of these things sometimes precludes putting them in certain configurations [in multi-vendor setups]. It’s the little things that make life easier.”

Many of today’s vendors understand customers are seeking a wider range of equipment from their suppliers. They’re responding with tools that allow customers to more easily build their infrastructure from their inventory all at once, allowing them to map out an infrastructure that meets their needs.

In this way, the single-vendor approach speeds design and deployment of the infrastructure and provides better integration.

Single-vendor doesn’t mean “the same as everyone else’s.” Larger vendors have enough offerings to allow IT teams to customize their infrastructures to better meet the needs of a unique organization that fits together better—physically and virtually—than an infrastructure customized with parts from different vendors.

Benefits of a single-vendor IT infrastructure:



There’s a single negotiation partner



There’s no finger pointing between vendors when issues arise



Buying, delivery and support procedures are set up once and stay in place



Less staff training is required because the IT team only has to focus on one product line



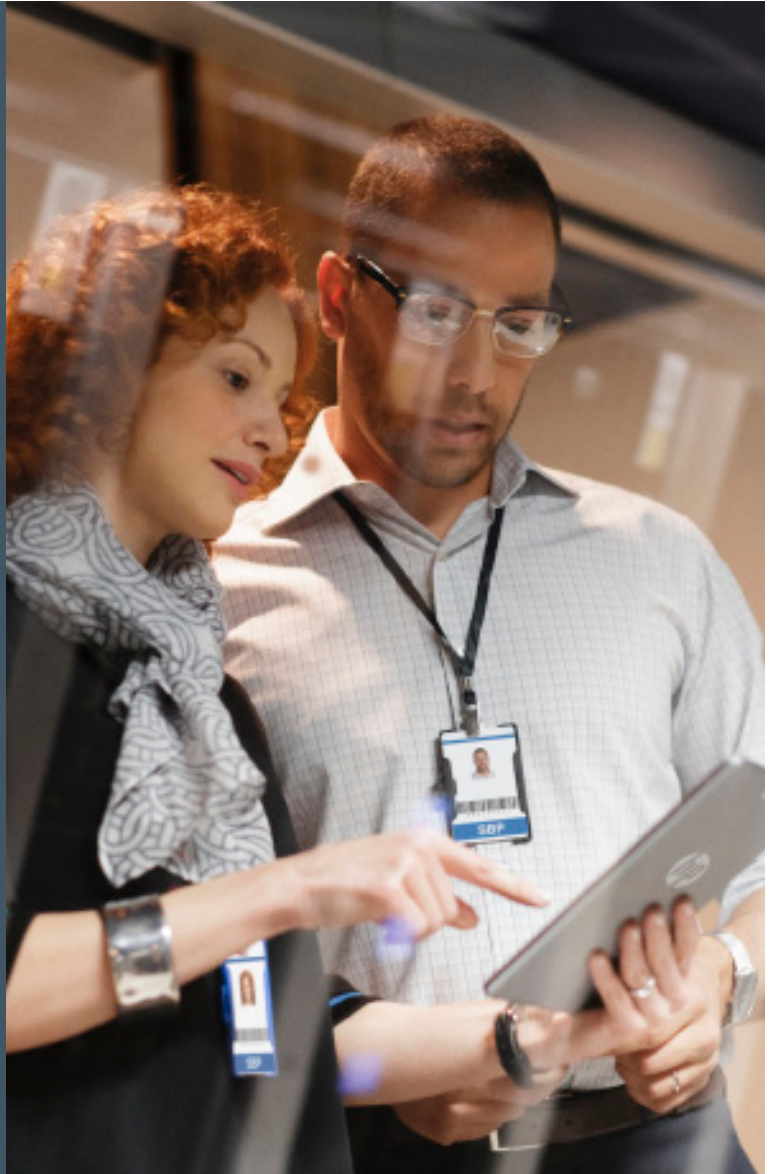
It’s easier to build trust in a single vendor



There’s less risk new products will have a negative impact on running systems or be incompatible

Some commentators argue the single-vendor solution could take away some degree of an organization's control over infrastructure. What if an organization finds itself stuck with specific technology that may lose its relevance in the future, or is unable to adapt to a new OS or protocol?

An experienced, proven vendor is likely to grow and adapt as technology changes. **That's why finding the right vendor and the right equipment is essential.**

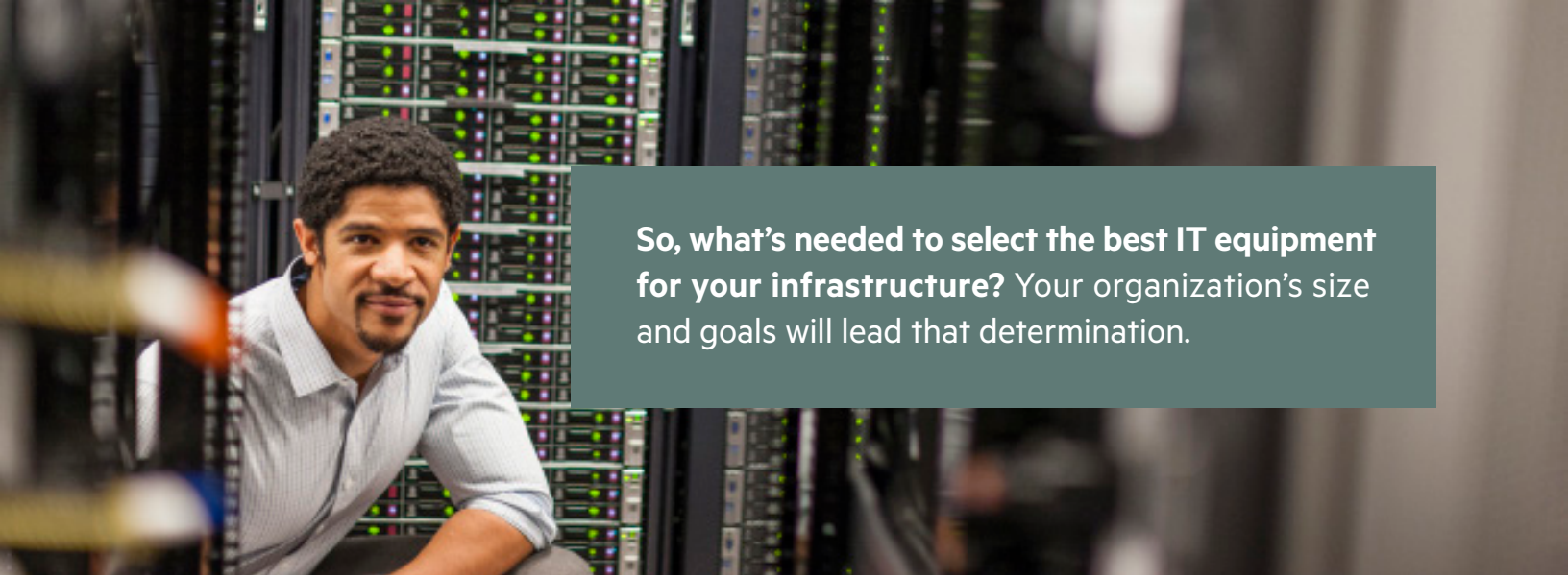




CHAPTER 3:

Building the Right IT Infrastructure for Your Business





So, what's needed to select the best IT equipment for your infrastructure? Your organization's size and goals will lead that determination.



What are your power needs? Choose enough to not only handle your present load, but also to grow as your organization grows.



How much equipment will you install in your racks? You'll need specific equipment sized to your needs or workload. Is this a workload-specific rack? A data storage system enclosure? A security-sensitive system?



Where you house your IT equipment is important in determining your needs. Vendors make racks to different specs, so planning your IT location will help you select your rack. Is it housed in a data center, server room or IT closet? The answer to this will dictate how much and what kind of IT infrastructure you can realistically incorporate.



How much control do you need over your infrastructure? Will you need to remotely access the infrastructure and IT equipment in your racks? Do you need to monitor and secure power usage and access to IT equipment in your racks?



Of course, your IT budget will determine what you can buy. As we've pointed out, savings now may mean higher costs later. If your budget supports a new infrastructure today, getting equipment designed to work together—even if it has a higher total price tag than the equipment bought through value shopping—may well be the best route, because it will save costs down the road when there may not be money in the budget.

HPE has tools to help you select the right rack and power equipment. **The HPE Power Advisor** is an easy-to-use tool that estimates your data center power requirements for your server and storage configurations.



CHAPTER 4:

Putting It All Together

“Now I can turn around and say to my other administrators, ‘Look, our equipment is secure now.’”

MATT MORRIS
Tech Support Coordinator, Belpre City Schools

One participant in the SpicePanel, an IT professional in the manufacturing industry, was using a baker's rack for his IT infrastructure. Another IT professional, Matt Morris, with Belpre Schools, was using a secondhand rack that didn't lock, leaving it vulnerable to passing teachers or upset students.

For both, replacing these with the hardy, lockable HPE racks created security, organization—and peace of mind.

“The biggest benefit [of the HPE rack] is the ability to completely manage the whole infrastructure in the cage... now I can turn around and say to my other administrators, ‘Look, our equipment is secure now.’ This was the biggest thing to me, better managing the equipment,” Morris said.

In fact, if the power supply elements, servers and other hardware are the heart and circulatory system of the infrastructure, the rack is the backbone, providing a solid foundation to protect an organization's investments and able to accommodate the growing needs of an ever-changing IT infrastructure.

A high-quality rack can significantly reduce service costs by creating a smooth install process free of extra labor charges, as well as making future service calls less time-consuming.

As IT power requirements have increased, so have rack densities. They're now available in taller, wider and deeper options than ever before. Toolless installation has decreased set-up time, while side-breathing needs have increased rack widths to meet manufacturers' specifications and enhanced equipment performance and life through hot-aisle/cold-aisle arrangements.

[HPE's Rack Selection Tool](#) helps organizations find the perfect rack for their needs. In five simple steps, you'll have a rack that meets your requirements, the accessories specific to the rack, and the ability to download your rack selection and share it via email.



Conclusion

Participants in the SpicePanel experienced the benefits of a homogeneous IT infrastructure firsthand. For many, this was the first time the components of their infrastructure fit so tightly and worked so well together.

Having one vendor for the entire IT infrastructure or as the primary provider of critical path equipment means there's just "one neck to choke" if something goes wrong—but also decreases the likelihood that something *will* go wrong, since the equipment is designed to work together. Incompatibility issues disappear, and instead of searching for the best vendor for each piece of equipment, you can be confident that you're already getting the best for your system.

HPE has complete rack and power infrastructure—including power distribution units and uninterruptible power systems, rack-mounted KVM consoles, and switches—to build your IT system or insert alongside your current mission-critical servers, networking and storage system. Plus, HPE rack and power infrastructure is covered under HPE Server Foundation Care services at no additional cost.³ HPE provides the tools to help you design the system that meets your organization's goals.

Ready to build your new infrastructure?

[LEARN MORE](#)



About Hewlett Packard Enterprise

Hewlett Packard Enterprise is a newly formed enterprise-focused organization that offers worldwide IT, technology and enterprise products and solutions. We help customers use technology to slash the time it takes to turn ideas into value. In turn, they transform industries, markets and lives.

Some of our customers run traditional IT environments. Most are transitioning to a secure, cloud-enabled, mobile-friendly infrastructure. Many rely on a combination of both. Wherever they are in that journey, we provide the technology and solutions to help them succeed.

Sources

¹ Case study, "Harmony Comes to the Data Center," HPE, 2016.

² "Hyper-Converged Systems: Trend or Fad?" TeamQuest, December 4, 2015. www.teamquest.com/en/news/blog/2015/12/hyper-converged-systems/

³ Batteries for 8kVA and larger systems are not included in coverage extension.