



## The people side of Converged Infrastructure

Accelerating business outcomes by bridging the IT capability gap

Business white paper

### OVERVIEW

In many companies the world over, IT is undergoing a massive shift. CIOs are looking for more flexible architectures that will allow them to react to business needs in hours and days—not in weeks, months or years. The Converged Infrastructure delivers the flexibility that CIOs need, with a high level of simplicity and automation that vastly accelerates business outcomes while also reducing costs. Along with the new technologies of the Converged Infrastructure, a new level of cross-domain knowledge and skills is needed by the IT professionals who work in this environment. HP is solving this organizational problem through the new HP ExpertONE program, which is building a global network of IT professionals and service providers whose skills are honed to maximize the benefits of the Converged Infrastructure and provide the largest return on IT investment. CIOs and business owners can feel confident that HP ExpertONE delivers the highest level of quality expertise to build and sustain the modern data center environment.





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## Background

Businesses and organizations of all sizes and orientation are undergoing a massive shift in how they acquire IT services and solutions. Today, provisioning new applications and services can be a complex design and integration exercise, with the business itself having to bear the risk and burden of the deployment. More and more, CIOs are looking for simplified approaches like cloud services and managed services relationships that enable them to focus on their core business. It is in this context that HP has been talking about [Converged Infrastructure](#) (CI) and why it is so important.

HP's extensive research shows the typical IT department spends 70% of its budget on maintaining its existing infrastructure and only 30% on innovation to generate a competitive advantage for the business. The biggest challenge CIOs face is the need to react much faster to business demands and to get ahead of the curve toward using IT as a competitive differentiator. Converged Infrastructure is HP's answer to this problem because it takes complexity and cost out of the IT equation and enables the business to reinvest the savings into innovation. More importantly, Converged Infrastructure significantly reduces the time required to provision new services—from months to hours—enabling IT organizations to react much more quickly to business demands.

## The organizational problem

As CIOs are realizing the power of this approach to provisioning IT services, they are also realizing that they have some organizational and skill barriers to implementing a Converged Infrastructure in their organization.

### **There's an organizational gap...**

HP found that its customers are at various levels of evolution in their IT business practices. Most companies buy and manage IT at a point technology level. IT departments are organized by technology: there is a server team, a storage team, a networking team, a management operations center, and so on. Each team consists of IT workers who are highly specialized in a single area of the overall picture. However, using IT service management (ITSM) practices implies that a different organizational structure is needed, where IT workers see the bigger

picture beyond their technology silos. Using a manufacturing analogy, this is similar to the shift from assembly line to cell based manufacturing. Rather than individual workers performing one isolated task, teams are assigned to end-to-end applications or services and each individual (whether a generalist or specialist) has the context of the end business outcome.

### **And a skills gap...**

When implementing an end-to-end solution where servers, storage, networking and software are now converged, it is necessary for the IT staff to have an integrated baseline of skills across these technologies. Few people have actually achieved this level of knowledge today; instead, their knowledge tends to be focused in one technology area.

### **And a business process gap...**

Even well-intentioned business processes can get in the way of quickly provisioning new and innovative IT services. An example is the typical IT governance model where the departmental approval process for a new purchase and provisioning request can take weeks or months. Many CIOs are finding it necessary to reengineer their business processes to take full advantage of the capabilities their new technologies afford them.

## The IT industry problem: a capability gap

Businesses need IT workers who have end-to-end technology skills combined with business acumen to address these challenges. The problem within the IT industry is that current IT certification and training programs are not meeting current customer needs.

### **There's a content gap...**

Most IT certification and training programs are very product focused. Though many vendors have product specific certifications on software, servers, storage, networking, etc., IT professionals need training programs which help people and organizations develop the knowledge and skills to build multi-vendor, end-to-end solutions in a converged environment. It is not simply sufficient to obtain several individual product certifications (server, storage, operating system, network, etc.) and expect the combination to meet the skill needs. A new and different "converged knowledge" approach is required at an industry level—something more than just the sum of the

### **The HP Converged**

**Infrastructure** provides a blueprint for the data center of the future that eliminates costly and rigid IT silos so companies can spend much more of their IT budget on business innovation. This is achieved by converging server, storage and networks with facilities—all managed through a common management platform. The result is an infrastructure that delivers a new level of simplicity, integration, and automation that can accelerate business outcomes that matter most, including faster time to revenue; lower costs of acquisition and implementation; the flexibility to respond to business changes; and lower risks.

separate parts. In addition, deep technical skills are no longer enough. The most valuable IT professionals are able to cross business and technology lines to help their companies gain the maximum business value out of their IT investments.

#### **And a relevancy gap...**

The IT certification industry has become less relevant to IT professionals and their employers over the past few years. Most certification programs provide good entry-level training for new technologists but their higher level training offerings lag behind current state of the art and therefore do not provide the cutting edge skills required to create significant economic value. What company wants to spend significant money to train and certify its IT workers on things that no longer differentiate the company in the marketplace? For certification and training programs to be valued, they must create cutting edge skill sets that help organizations reverse their technology spend from maintenance and operations to innovation, because increasing IT innovation is a driver of future revenue for most businesses.

#### **And a flexibility gap...**

While having standardized IT skill assessments can be helpful to prospective employers, most certification programs provide skill sets that are technology-siloed and often product-line specific. Given that every IT implementation is unique, there is a need for training programs that are much more specific to an organization's actual IT environment. In addition, when developing cross-technology skills for Converged Infrastructure, each IT team member will have a different starting place based on his or her individual skill portfolio, hands-on experience and training history. Training and certification programs must become much more modular and flexible to accommodate the needs of unique, multi-vendor environments and diverse learning styles of the individuals.

## **What businesses and individuals need: meaningful certification and training**

Most IT professionals get their product and technology training from the vendors who sell those products or from vendor-neutral agencies such as CompTIA or the Linux Professional Institute. The certification and training programs are sometimes behind the times in meeting what individuals and businesses need today.

#### **What CIOs and IT managers need**

As we talk to customers, we are finding that at least two training programs are needed:

1. In a large organization there are typically three to four people in the entire IT department who are involved with end-to-end data center architectures and/or the evolution of IT at a company level. These people need a comprehensive training program with a wide-angle view to help them leverage next generation technologies in the evolution of their data center architectures and business processes.
2. The rest of the staff members tend to be in one of the technology silos, and they need training paths that will broaden their skill sets to incorporate more of an end-to-end view—like taking the employees from the assembly line to a production cell. In a Converged Infrastructure context, the server specialists require deeper skills in networking and storage. The storage specialists require deeper skills in networking and how to present shared storage to pools of virtualized servers. The networking specialists require a deeper understanding of new storage and video applications and protocols and how those impact network performance. They also need to understand innovative new technologies like [Virtual Connect](#) and how to interface the network to servers and storage in a virtualized and consolidated way. Finally, the management specialists must be able to look at everything through a single pane of glass.



HP has the distinction of being able to integrate a variety of technology trainings into a simplified portfolio of training and assessment building blocks that can meet the skill development needs of IT workers, regardless of their individual job role, technology specialization or present skill level.

#### **What small and medium business owners need**

Owners of small and medium businesses do not have the same affordability threshold for IT skills as do larger corporations. And yet, their requirements for IT solutions are almost as complex. These organizations need a small number of highly effective people that can maintain their daily operations. End-to-end capability is even more critical because the affordability model does not allow for specialization. And for many, it is preferable that they do not have an excessive certification portfolio, which simply drives up the cost. In addition, when there are new applications or services to provision, they want a “pay as you go” model for qualified design and implementation skills without having to carry the cost full time.

#### **What value added resellers and service providers need**

In the context of simplified end-to-end services, numerous types of new organizations are emerging—each with unique needs in terms of skills and competency. Network Service Providers, Application Service Providers, and Cloud Service Providers are all vying to meet customers’ needs via end-to-end services that hide the complexity and provide the key business outcomes that customers seek. Each of these providers has a unique set of skill requirements that are not adequately represented in current certification and training programs.

#### **What IT professionals need**

Let’s not forget the individuals themselves. Each IT professional is unique in his or her level of experience, prior certifications and training, and current knowledge and skill sets. IT workers need individualized training paths that take all this into account and get them where they need to be in the most cost effective, streamlined fashion. In addition, they need cutting edge skills that are going to be “in demand” in order to differentiate themselves with potential employers and customers.

### **The HP solution: the HP ExpertONE program**

In order to assist HP customers to achieve the maximum return from their IT investments, HP is building a global network of IT professionals who have the proven capability to create end-to-end, converged IT solutions that can adapt to rapidly changing business needs. These people go through extensive training and assessment programs to develop and validate their capabilities, including both technology skills and the business acumen to gain maximum return on the IT assets.

Beyond the traditional certification benefits, these IT professionals are supported by a collaboration network that enables them to leverage the vast resources of the world’s largest technology company on behalf of their employers or customers. Designing

and implementing an enterprise level Converged Infrastructure solution may require a team of people with specialized skills. By leveraging the HP ExpertONE program, CIOs and small business owners can hire highly skilled and proven IT professionals and ensure that their solution partners and managed services providers supply the most qualified resources available.

HP is uniquely positioned to build Converged Infrastructure solutions because HP is the only company to offer a full portfolio of standards-based server, storage, network and management building blocks that are pre-integrated specifically to solve the complexities of the data center. Moreover, HP is the only company that offers extensive training and certification on every one of these elements today. Therefore, HP has the distinction of being able to integrate those offerings into a simplified portfolio of training and assessment building blocks that can meet the skill development needs of IT workers, regardless of their individual job role, technology specialization or present skill level.

#### **Customized skills, customized training**

With the extreme breadth of skills and technologies required to implement and maintain a modern data center, it is unlikely that all the requisite skills can reside in one individual. Therefore, a successful Converged Infrastructure implementation will require a team of people with different specializations and skill levels as the project moves from design to implementation to operation and maintenance. How companies implement their Converged Infrastructure varies greatly. Each business has a unique set of platforms and applications and has made distinct design choices, resulting in the need for a unique combination of training around multi-vendor elements.

HP's vision is to apply Web 3.0 style "mass customization" to training programs in order to solve the problem of the extreme breadth and depth of skill requirements to cover the entire data center. This involves modularizing training and assessment elements into atomic units that cover specific job tasks for a specific technology domain at a particular skill level (basic, intermediate and advanced). A target skill

set can then be customized based on the particular needs of an IT organization, and the training program leading to that skill set can be customized to the particular skill portfolio and learning style of an individual. This approach provides great flexibility and leads to much more effective and efficient training programs. An IT worker can quickly pinpoint training that will provide immediate business impact with high return on training investment.

## **How HP is evolving certification and training**

Implementation of this approach will be a multi-year journey; however, HP is evolving its training and certifications toward this vision starting with the following announcements in October 2010:

- The new HP Master ASE—Converged Infrastructure Architect certification
- A new suite of networking specialist certifications supporting the new HP Networking product portfolio
- Fast track training and certifications for the HP Networking certification portfolio for holders of Cisco certifications

#### **A new master ASE architect certification**

For the enterprise architect looking across the entire data center, HP is announcing a new certification: **HP Master ASE—Converged Infrastructure Architect**. With the emergence of next generation technologies and complex data center environments, the CI Architect skills are specifically honed to architect and manage the most complex CI solution rollouts. Additionally, the CI architect engages across the customer's entire IT landscape, ensuring that change management and governance process are adapted to meet the requirements of a successful CI implementation.

Candidates for this certification are board certified, at which time data center, product and technology, and design skills are validated. CI Architects have the breadth of product and technology skills to ensure that the ultimate data center solution is designed to meet a company's needs. In addition—and this is a first for

Board certification ensures that the Master ASE—Converged Infrastructure Architect can design a CI solution that is both technically and financially sound. This is a first in the IT certification industry.

the IT industry—candidates for the architect role must cost-justify their solutions, thus proving the business value and the expected ROI of their plans.

### **Certifications for the design and implementation specialists**

For the design and implementation specialists, HP is offering a suite of certifications aligned to the various technology areas that comprise a CI implementation team. For each technology domain, HP will provide a training path to enable an IT professional to design and implement solutions in a broader Converged Infrastructure context.

#### Networking specialist skills

HP is announcing a new suite of networking specialist certifications supporting the new [HP Networking portfolio](#). HP offers networking that is tightly integrated with a server, storage, and management-integrated Converged Infrastructure. With [HP FlexFabric](#) as the blueprint for a data center interconnect built to deliver predictable performance, high availability, and security, HP networking data center solutions are built on products and technologies that offer scalability, cutting-edge features, energy efficiency, and reduced complexity. HP Networking certifications are unique in that they develop and assess the skill sets necessary to design and implement networking solutions in a Converged Infrastructure context, from SMB to enterprise and from core to edge.

#### Server and storage specialist skills

The best-kept secret is that HP's existing server and storage technology specialist certifications are already cross-technology in nature. An HP Accredited Systems Engineer (ASE) with a server certification today already has been trained on elements pertaining to storage, networking and management. Today's HP ASE storage certifications already include elements of server and management skills. As a result, an individual that possesses an HP ASE certification already has a huge head start in the market place as it trends toward Converged Infrastructure models. As we move forward, HP will introduce newer versions of these certifications that will drive the integration elements deeper and deeper, thereby maximizing the value.

### **Fast track training and certification**

As HP's first step toward realizing the vision of the totally modular Web 3.0 style of customized training, HP is introducing today a flexible new approach toward leveraging and extending prior skill investments. We recognize that most IT infrastructures are multi-vendor and that many IT professionals and employers have made investments in training and certification on multiple technologies. Because Converged Infrastructure incorporates many of these competencies, HP recognizes and embraces a wide range of IT professional certifications from partners and other vendors such as Microsoft®, Cisco, VMware, EMC, CompTIA and others.

For those individuals who already have key skills in a particular technology silo, there is an opportunity to leverage and extend their previous investments and continue their career growth by moving into design, implementation and management of next generation data center solutions. HP's modular learning approach enables prior skills and competencies to be validated via third party certifications, and "Fast Track" training programs are available which focus only on the incremental skills needed. This streamlines both the cost and time of acquiring critical new skills.

### **And more is yet to come**

Beyond October 2010, HP will continue to bring more of the ExpertONE strategy to life. In stages HP will launch more cutting edge certifications covering Converged Infrastructure; front office technologies and solutions; back office technologies and solutions; advanced virtualization; and more. There will be certification initiatives aimed at academia so that entry-level professionals can begin to leverage the resources of the world's largest technology company. HP will expand our corporate training programs through our HP Authorized Training Centers (ATCs) and deliver more content to meet local needs. HP will enhance the benefits for members of the ExpertONE program by providing access to more critical tools and resources. Every quarter over the next few years, HP will deliver more and more as we build a totally unique kind of training and certification program designed to get everyone focused on maximizing the potential of IT.



## This is not just another certification program...

The CIO's recurring nightmare is that the needs of the business seem to accelerate faster than the IT capability of the organization. Given the rapid acceleration of technological advancement, the key to success is not always what IT workers already know, but how quickly they can learn what they need to know. HP has created two initiatives in order to streamline this process.

### **Communities through social media**

HP is growing a global community of IT professionals with proven capability in designing, implementing and managing Converged Infrastructure solutions with maximum return on investment. By leveraging a broad set of social media applications and tools, we build connections, enhance communication and facilitate collaboration among the IT professional community, business technology professionals, HP and its customers. By providing this community with instant access to each other and to HP information, tools and resources, we enable these experts to wield the resources of the world's largest technology company on behalf of their employers and customers.

### **Continuous learning**

HP continually updates its certification and training programs to help customers get maximum advantage out of their existing IT investments and to quickly and efficiently leverage new sources of productivity as new technologies come to market. New certifications are launched in very much the same way HP introduces new generations of ProLiant servers. Through the modular learning approach, with each revision, HP can provide "upgrade" paths for each revision that will enable people to update their skills and knowledge in a very efficient and effective way.

## What does this mean for the stakeholders?

The HP ExpertONE strategy provides value to every stakeholder in the IT skills value chain, including the individuals who take the training and certify their skills; the companies that employ them; the companies that provide the training; and the business units within HP that design and produce the technologies and products that comprise the Converged Infrastructure.

“Because we have strong relationships with the HP Certified Professionals around the world, built from years and years of working together, we are able to proactively seek out their input to help us make critical decisions. When you combine an HP engineer’s knowledge of the technology with an HP Certified Professional’s knowledge of our customer environment, you end up with the best design team in the industry—bar none. The best part of my job is watching this magic happen.”

Laurie Robinson, HP Industry Standard Servers Communications Manager

#### **Value to the CIO or IT manager**

The HP ExpertONE network makes it easier for IT executives to find and select the people with the right knowledge and skills to design and build their company’s Converged Infrastructure. Whether hiring people for their own staff or contracting these experts through a systems integrator or value-added reseller (VAR), CIOs and IT managers know that they have highly qualified experts that can future-proof their data centers and maximize their return on IT investment. Moreover, the HP ExpertONE network is global, with consistent standards throughout the world. A CIO can feel confident that there are solution experts who are trained and ready wherever in the world they are needed.

HP ExpertONE professionals have the full power of HP and the entire network community behind them. They have access to subject matter experts, tools and technologies, and other resources to make IT implementations successful. And because these certified professionals aren’t hoping for “on the job” training, they are more productive and less likely to make mistakes.

By embedding HP certification into the points of acquisition for IT skills in the marketplace, HP is facilitating customer access to this highly skilled and valued community for:

- Hiring high quality, proven talent
- Ensuring solution design and implementation quality through HP resellers and system integrators
- Sourcing high quality Managed Services / Cloud Services through third party providers

#### **Value to the IT professional**

HP ExpertONE is a true career development program that lets an IT professional build upon the knowledge and skills he/she already has. HP is embracing the world of the multi-vendor data center and we are inviting all technical IT workers to upgrade their skills to go where the industry is going—to the converged data center. HP helps them get there so they can provide the maximum benefit to their employers or customers. And they become more valuable as IT professionals as they develop and enhance their cross-domain skills and business acumen.

HP ExpertONE provides the opportunity to build a long-term relationship with HP and the rest of the network members. Through this community, IT professionals have access to the people, resources and tools that can help make them successful. Coming in the future, HP will add a rewards program and other specialty programs to recognize members’ contributions to HP and the community. For example, we want our certified professionals to get involved in HP product design and development by providing their feedback to our engineers. We highly value their skills, and others will too.

#### **Value to the HP value added reseller, systems integrator and managed services provider**

By having their people skill up and get trained across technology domains, HP solution partners can take their businesses out of the commodity market and into the role of trusted solutions provider. This allows these companies to offer more valuable, higher margin products and services. In addition, they get access to adjacent markets that they didn’t have access to before; their total addressable market goes up and they can grow their businesses more quickly.

These solution providers will discover that, when their people are well trained on today’s cutting edge technologies, their cost of doing business goes down as the cost of support falls while productivity rises. They can deliver their services at a lower cost than their competitors because they have expertise and access to people, tools and resources at HP. What’s more, they can leverage the HP brand—the brand of the Number One technology company in the world.

For solution partners, HP invests in their businesses once they invest in HP training and certification. HP helps to create demand for their solutions and services, and steers business their way. HP ExpertONE shouldn't be viewed as a cost of doing business with HP. Rather, it is a partner's gateway to higher revenue, higher margin solutions at a time when the rest of the industry is delivering commodity products.

#### **Value to the HP authorized training center**

HP believes that the Converged Infrastructure is the next generation of technology—"the next big thing"—and we are barely at the starting point today. Over the next three to five years, HP along with our training partners wants to up-skill hundreds of thousands of IT professionals. There are vast opportunities for the ATCs and other training service providers that agree to partner with HP.

To make it easy to do business with us, HP is designing an entirely new training partner program whereby we will be much more responsive to the business needs of these important partners. HP wants to capitalize on the entrepreneurial skills and innovation of these companies. We want to unleash their creativity and remove their barriers to success so they can reach more people in more places to get them skilled up for the Converged Infrastructure. HP will provide a level of support that will help the training partners grow their businesses faster.

#### **Value to HP (business units/partner programs)**

With HP ExpertONE, internal business units have a framework that enables them to ready their partners and customers for their new products and solutions. Channel partners are trained to articulate the full HP story—not just technology, but also the business value and ROI of the HP solutions. Partners are able to sell a total value proposition, and at a lower cost model than through direct sales.

The extensive global framework of HP ExpertONE already exists and is fully operational. An HP business unit can simply plug in its content and take advantage of the existing community to expand its reach immediately.

## **What to expect from HP**

HP is announcing these new enhancements to its training and certification program immediately. In addition, over the coming months and years, HP will accelerate innovation around these critical areas and will release new certifications with efficient and effective upgrade, fast track and modular training programs to help IT professionals upgrade their skills. HP also will be evolving its collaboration network to enable its community to further leverage HP and network resources in support of its customers. We are spending a lot of time with IT professionals, CIOs and service providers to make sure we understand their needs and get this right. HP will become much more visible about how its training and certification offerings enable IT not only with technology, but with the highly skilled people that enable customers to gain the most value out of their IT investments.

## **How to get started today**

Many aspects of the HP ExpertONE program already exist today, and other elements will be released over time in the next few years. This is an evolutionary process as we mobilize the numerous resources to get behind the Converged Infrastructure and the HP ExpertONE program. Nevertheless, we invite all our stakeholders to get on board and get started with us now.

#### **IT professionals**

IT professionals can get started now by going to [www.hp.com/go/ExpertONE](http://www.hp.com/go/ExpertONE) and following the current requirements for Accredited Systems Engineer (ASE) certifications in server, storage and networking technologies. These certifications already have the cross-domain content and are foundational for the IT worker who wants to broaden his or her skill set. As we continue to announce more aspects of the HP ExpertONE program, we will package the certifications and trainings to make it easy for people to build on the skills they already have to develop a well rounded set of skills for the converged data center. HP is committed to enabling HP ExpertONE professionals to upgrade their skills through highly efficient and effective continuous learning offerings as the state of the art advances.



### **CIO and IT managers**

CIOs and IT managers can put their people through HP training to begin to develop the critical new data centers skills. As new hiring takes place, or as systems integration contracts go out for bid, IT managers should require that workers hold HP credentials. This is a guarantee of the level of experience and quality that the workers bring to the job.

### **HP channel partners**

HP Resellers, System Integrators and Service Providers must ensure that their people are fully trained and HP certified according to the needs of their businesses and the requirements of their regional partner programs. Cross-domain training will help solution partners expand their businesses by having a larger addressable market. As HP brings new certifications to market, especially in the area of Converged Infrastructure, solution partners should invest in the training and certification to build the critical new skills for more sophisticated, higher margin types of projects.

### **HP ATCs**

HP Authorized Training Centers and other training solution providers should prepare for a new way of doing business with HP. We are going to ignite their entrepreneurial spirit and allow them to address the training market in new ways. For example, HP will remove geographic barriers and encourage ATCs to develop the means to address the needs of multinational corporations. We want ATCs and other training providers to customize and innovate on how they deliver HP's intellectual property, especially in local languages and in new form factors. Most importantly, HP will listen to what ATCs and training providers need to be successful in business.

The new world of HP ExpertONE begins October 20, 2010. HP invites all our customers and partners to join us on the journey to create the next generation of IT experts that will revolutionize the data center.

## About HP

HP creates new possibilities for technology to have a meaningful impact on people, businesses, governments and society. The world's largest technology company, HP brings together a portfolio that spans printing, personal computing, software, services and IT infrastructure to solve customer problems. More information about HP (NYSE: HPQ) is available at <http://www.hp.com/>.

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