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How Moving to IaaS Changes IT Staffing

ISG

ISG WHITE PAPER

INTRODUCTION

Enterprise leaders moving infrastructure from in-house data centers to off-site public clouds need to know how this transformative decision will affect their organizations from a staffing perspective. Which needs will change? Which will stay the same? Will there be unanticipated increases in staffing requirements?

The answers will certainly vary from one organization to the next, depending on a number of factors, including the existing sourcing model and efficiency levels, available skill sets, the degree of IaaS adoption, the type of workload and the cloud service provider's capabilities. Still, some general expectations can be set regarding how specific staffing numbers and functions will change after the move to public cloud. Insight into these changes is essential to assessing potential risks and developing an effective business case for a cloud initiative.

This ISG white paper examines the staffing impact of moving infrastructure services to a public IaaS model. By applying well-defined staffing categories used for benchmarking and other types of analysis, this assessment is designed to ensure a comprehensive and common view of how a transition to IaaS will affect infrastructure functions and roles.

STAFFING BY CATEGORY

The table below summarizes the various infrastructure staffing categories and indicates how levels will likely change as the penetration of IaaS increases. The categories shown are strictly functional and can apply across multiple technology architectures, such as Wintel Servers, Linux Servers, Storage, etc. Several in-house functions are decreased or eliminated during the move, to the extent that they are associated with the affected applications. Labor cost savings should always be considered when developing the business case for IaaS, in addition to the more obvious savings on hardware and facilities. Note the absence of magic here – the functions provided by certain types of infrastructure personnel are not disappearing with public cloud, but are moving to the IaaS provider where greater economies of scale can be applied across many customers.

Infrastructure Function	In-house Staffing Change		
	In-House Private	**Public Cloud**	**Comments on Public Option**
Planning & Design	No change or Increased	No change or Increased	In hybrid environments IaaS represents one more option with numerous instance types to choose from. Less time is spent on hardware configurations, however.
Hardware Move/Add/ Change	No change	**Eliminated**	No more rack & stack for public cloud apps.
Software Distribution	No change	**Decreased**	You still have to distribute applications and most OS patches, but hypervisor and (optional) DBMS patching are done by the provider.
Support	No change	**Decreased**	Hardware support moves to the provider.
Hardware Maintenance	No change	**Eliminated**	You don't own the hardware, and you don't need to manage or work with the hardware vendors that fix it.
Monitoring & Supervision	No change	No change or Decreased	Monitoring service is available, but with automated failover you may not need it as much.
System Administration	No change or Increased	No change or Increased	You'll spend less time configuring servers, but more time managing hybrid cloud systems.
Backup & Restore	No change	No change	
Archival	No change	No change	
Batch Processing & Scheduling	No change	No change	
Database	No change	**Decreased**	DBMS patching and tuning is done by the provider when using their database service.
Middleware	No change	No change	
Security	No change	No change	Multi-tenancy adds requirements, but those are handled by the provider.
Disaster Recovery	No change	No change	Still have to plan and test.
Methods & Tools	No change	No change	
Procurement	No change	**Decreased**	No more data center hardware to buy.
Premises[1]	No change	**Eliminated**	No more physical facility requirement.

[1]Space/power planning, cabling, physical security, plant maintenance, etc.

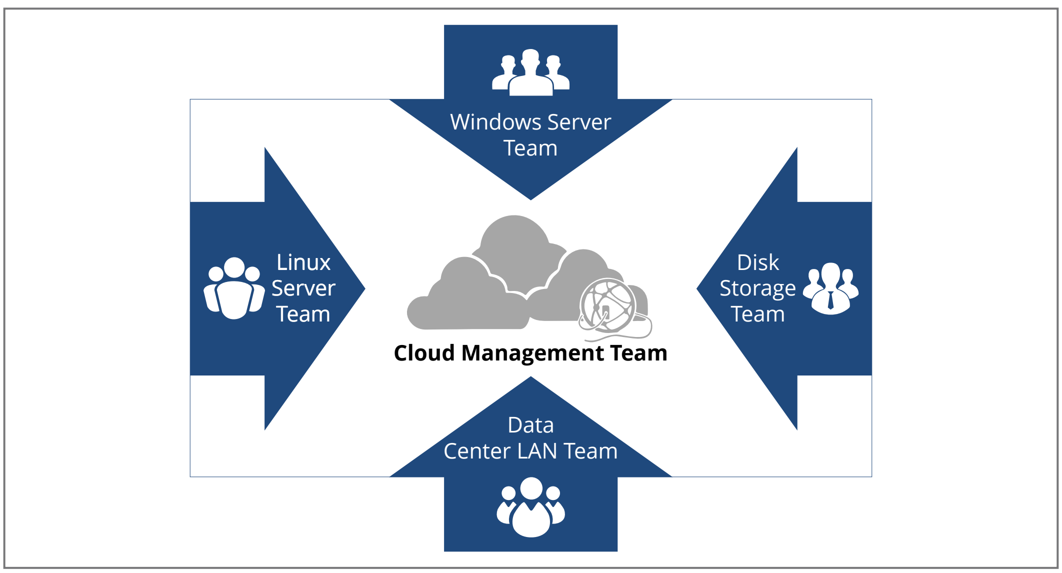
To summarize, the most obvious changes result from eliminating the need to deal with the hardware. Clients no longer have to purchase it, install it, move it, configure it, support it, repair it, upgrade it or refresh it. Similarly, installs and changes for the lowest levels of the software stack, optionally including the DBMS, are also managed by the provider, so while expertise to run middleware and applications on the platform is still needed, some of the more routine tasks are off-loaded.

Additional complexity can increase staffing requirements.

One factor that can increase staffing requirements is the additional complexity produced by introducing IaaS in a hybrid configuration, which must work with on-premises systems and/or other cloud-based systems to form a total solution. This gives both architectural planning and system administration staff more technology to deal with, but also additional tools for delivering value to the business.

In addition to these functional changes, organizational structure will evolve as IaaS comes to represent a larger percentage of the organization's overall infrastructure. As the responsibility of the IaaS provider grows for the lowest levels of the technology stack, the need for separate skill sets to manage different architectures gives way to the need to simply manage the cloud platform.

This type of organizational consolidation enables increased productivity as the environment being managed becomes more homogenous and commoditized. Note, however, that the greatest benefits are only achieved with a full cloud migration.



The third and most often overlooked impact of IaaS is on governance processes. Any time services are outsourced governance requirements will change, but the standardized, commodity nature of IaaS leads to different requirements compared to fully outsourced managed services. The key governance processes are listed on the next page, along with indicators on how process requirements change when migrating from an insourced private cloud to both an outsourced private cloud solution and a public cloud solution.

Outsourcing a private cloud increases governance requirements in key areas.

Outsourcing a dedicated private cloud increases governance requirements in certain areas due to the introduction of a two-party relationship (performance, relationship, financial and contract management). Although a public cloud also introduces a second party with a relationship to be managed, the more commoditized nature of the service eliminates the need for managing things like human resources and assets, which are now behind the service provider curtain and assumed to be adequate as long as service levels and pricing meet expectations.

Change Management is similarly hidden, with the exception that the provider's standard change windows must be acceptable to the client for each application. Request management has little relevance in this model since the service is standardized; the only services available are simply chosen from the standard menu. Similarly, Strategy and Innovation, which has to be actively managed in traditional outsourcing relationships, is evaluated when the provider is selected and must be demonstrated to the entire marketplace rather than individually to each customer.

Governance Process	**Change vs. In-house Private**		
	Outsourced Private	**Public Cloud**	**Comments on Public Option**
HR Management	No change	**Eliminated**	Provider manages the people associated with the service.
Asset & Configuration Management	No change	**Eliminated**	Provider manages the assets.
Request Management	No change	**Eliminated**	Standard service.
Demand Management	No change	No change	Even more important when scaling is automated.
Change Management	No change	**Decreased**	Nothing beyond managing the change window.
Performance Management	Increased	Increased	External provider to manage.
Relationship Management	Increased	**No change or decreased**	Provider replaces your hardware vendor relationships.
Issue Management	No change	No change	
Financial Management	Increased	Increased	Unless moving all infrastructure, more choice means more invoice complexity, but there are tools to help manage.
Contract Management	Increased	No change	Standard contracts.
Strategy & Innovation	No change	**Decreased**	Market driven.

Clearly, those organizations that move aggressively to adopt standard service delivery models, leverage economies of scale, streamline organizational structures and reduce process overhead via IaaS will achieve significant savings.

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