

## DO YOU KNOW YOUR COST PER VM?

Today, everyone in IT is talking about using cloud services. Along these lines, one area gaining healthy interest has been Infrastructure as a Service (IaaS).

For those less familiar with the concept, IaaS is the act of providing infrastructure components—like virtual compute, network and storage resources—as a fast rollout, prepackaged service. IaaS is built upon some sort of virtualized infrastructure which applies consistency, efficiency, and lifecycle management—typically all through a simplified web page that anyone can use to request their applications. Consumers of IaaS, whether specific business units or whole enterprise organizations, then have the option to use such services to subsequently build, test or host their applications.

Where IaaS still gets a bit fuzzy, however, is deciding from whom to obtain your IaaS services. An enterprise IT organization might offer IaaS from its own private cloud environment. Public cloud providers—like Amazon Web Services (AWS) and VMware vCloud Air—also offer IaaS on a pay-per-use basis.

Biases aside, how do you decide which IaaS provider is best for your application workloads: Your organization's internal IT services or an outside provider? Industry pundits believe a hybrid cloud will be the ultimate end game. This means some of your application workloads may be running at a cloud provider, while others remain in-house.

But, again, who makes the call about which application workloads go where and how do you make it? Then, once the

call is made, how do you evaluate whether or not the service is worth the infrastructure cost, be it public or private cloud?

### PREPARING FOR ONE OF IT'S NEW ROLES: IAAS BROKERAGE

In the land of hybrid cloud, IT organizations must take on new roles. One of them is to be a broker of cloud services, including IaaS. Similar to a good insurance broker, a successful IT service team does more than just offer a list of vendors and services available. The broker is also able to measure and evaluate the cost/benefit between multiple vendor options.



**It pays to understand metrics that measure the amount of infrastructure resources needed to support each application workload.**

Remember those ROI and TCO calculations you do when scoping out big IT projects? How about when you first decided to virtualize the infrastructure and ran your ROI numbers? Cloud brokerage with IaaS requires a similar level of analysis. Even if your IT organization isn't yet ready to assume



the mantle of hybrid cloud broker, it still needs to evaluate how its own, homegrown IaaS services compare to the IaaS services users could obtain from an external provider.

Or, perhaps your enterprise organization may not yet be offering full-blown IaaS to its users. What it likely is doing, however, is providing a precursor to IaaS: An advanced virtual infrastructure with rapid resource provisioning times to enable faster rollout of new applications.

### ENTER COST-PER-VM AND COST-PER-WORKLOAD CALCULATIONS

No matter where you fall on the continuum—advanced virtual architectures to private cloud IaaS—it pays to understand metrics that measure the amount of infrastructure resources needed to support each application workload.

From here, it's a logical step to then assign a TCO amount to each resource element required based on a typical 3-year or 5-year cycle. A few more calculations then yield a clearer picture of your own cost per VM and cost per workload. Only then can you do similar, apples-to-apples comparisons with an outside provider. This type of calculation also lets you see if there are any possible efficiency gains you can make. It can also pave the way for either formal or informal showback or chargeback functionality.

If you want to do this exercise yourself, various resources from around the web may help you calculate cost per VM. Here are just a few:

- TechTarget's SearchServerVirtualization offers a VM cost calculation guide that covers fixed and recurring costs according to a 3-year deployment cycle.
- Wikibon's Steve Kaplan offers a detailed equation to calculate monthly infrastructure TCO per VM over a certain number of years of deployment.
- A blog post by Gabriel Kaplan walks you through his own, self-admittedly "crazy" attempt to break down his cost per ESXi host, followed by cost per VM.

- A Gartner 2013 report also describes how to calculate cost per VM in private clouds, including a guidance framework, risks and pitfalls.

Why not try one of these methods? If you are like me, there are things you may not have thought about when considering the cost per VM. Here's the end result: Understanding the hardware, software, infrastructure in the back-end, and operating costs of the virtual machine can make this a complex metric to understand. It can also make it hard to keep cost per VM up to date as the infrastructure changes.

### HERE'S WEI'S ADVICE

We often meet with clients and evaluate the nature of their infrastructure. We then use our own tools to assign a basic cost per VM to either your current infrastructure or to an outside cloud provider you might be using or evaluating.

Often, we can establish this baseline cost per VM within the first day of evaluating your infrastructure. Why not ask us where you stand in regards to your own costs per VM or costs per workload?

If you choose to do this yourself, here are some high-level tips to keep in mind:

- Start with the servers that run your infrastructure. What are the costs for JUST the hardware portion of your infrastructure?
- What are the other infrastructure costs? Don't forget to include the storage array, Fibre Channel and Ethernet switches. What about the disk based backup target?
- Software: Include everything from the Windows OS licenses to the VMware licenses to the backup software, the operations software, the monitoring software, and so on.
- Next, what is the ratio of VMs-to-hardware? Can you get 40:1 per ESXi host? 60:1? This number will change as your infrastructure changes. This can also affect your cost per VM.
- One final point: Cost per VM, while critical, is ONLY ONE of the metrics you need to determine if a VM should



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run in a private or public cloud. Other considerations—like security, locality of data, and other outside dependencies—may also dictate where your workload should run.



### TALK TO WEI TODAY

**Whether you do this exercise yourself or you want to partner with the cloud experts at WEI, these types of metrics can give you better insight into where your cloud resource investment can—and should—be spent.**

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### ABOUT WEI



**WEI is an innovative, full service, customer centric IT solutions provider.**

**Why WEI? Because we care. *Because we go further.***

At WEI, we're passionate about solving your technology problems and helping you drive your desired business outcomes. We believe in challenging the status quo and thinking differently. There are a lot of companies that can take today's technology and create a great IT solution for you. But we do more. We go further. And we have the customer, vendor and industry awards to prove it. WEI is a premier technology partner, who always puts our customers first while providing the most innovative solutions for over 25 years.



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