

VNUNet – Are we (virtually) there yet?

By Clive Longbottom, Service Director, Quocirca Ltd

Virtualisation is one of those words that seems so innocuous, but is more like the proverbial can of worms.

Ask vendors for a definition, and you'll get one. But is the definition correct, or are vendors taking a narrow view of virtualisation that plays only to their strengths?

And the majority of organisations see that they have only limited virtualisation if any, but is this the case?

Virtualisation is a means to an end, but it's an important end. If we take a very basic definition of virtualisation in that it takes a group of similar physical assets and presents them as a single logical asset, and that a single asset can be made to look like multiple assets, then we can start to look at where we are in the world of virtualisation.

Let's start at the base level: the network. Are we working in a virtualised environment here? You bet. TCP/IP is near ubiquitous, and not only can we roam our own networks at will, we can plug a single cable into a socket in the wall and we are a peer with everyone else's network, should their security settings so allow.

Going up a level, how about the servers that we are using? OK, not so far along, but we've been clustering systems for years.

With multi-core technologies coming along with built in virtualisation, we're going virtual whether we want to or not. And the likes of IBM with the z/Series and Series i5 have been doing virtualisation at the CPU level for a long time.

VMWare showed us the way, with Microsoft following along, and now Xen has disrupted the market and all of a sudden, operating system virtualisation is a commodity that will be built in to the next generation of OSs.

Storage area networks (Sans) give a virtual look at all the storage assets within the San, and software can increase the reach of this to network attached storage and direct attached storage.

And the use of federation across multiple databases gives a virtualised view across the data, enabling us to

look at single sources of truth and to minimise data redundancy. The thing with virtualisation is that, once you have made everything look like a single entity, you can break it down again into multiple logical entities.

You can make an area of your network deal with certain packets of data in a different manner to other packets.

You can make an area of slow-spinning disk look like tape, so that you can back-up more rapidly and test the backup before physically writing it to tape. You can federate all your data and then make specific logical views that respond faster to specific needs.

You can take a server and make it look like multiple servers, say development, testing and production all on the same box, or main application, dedicated security functions and content filtering all on the same machine, but run in different dedicated partitions to maintain performance.

But we're missing something when looking at the different layers of virtualisation: applications. And there's the rub: the independent software vendors have a bit of a problem.

You can make a standard application look virtual by applying all the previous stuff underneath it and then erecting a few mirrors and burning a little snake oil.

Or you can completely re-architect the application so that it is far more granular, i.e. composed of dynamic pieces of functionality that can be provisioned and de-provisioned at will on the infrastructure as needed.

It's called a service oriented architecture (SOA), and the majority of vendors are talking about it. The trouble is that many are just talking about it.

Re-writing monolithic applications to be service oriented is no easy feat, and it brings a certain business risk with it.

For example, let's say that we have a large monolithic customer relationship management (CRM) application and a large monolithic enterprise resource planning (ERP) application.



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Each respective vendor agrees to move to an SOA and we then see that behind the Emperor's new clothes lies a mound of redundant functionality.

Each application had its own database with the same data being held in it. Both have a billing engine. Both have interfaces with similar capabilities. Both want to be the centre of our world.

However, in the new virtualised world we can choose. We can stop using the billing engine in the CRM system and use the one in the ERP system. In fact, we can dump both and buy a specific, highly flexible (or very cheap) billing engine from someone else completely.

As we are not using so much functionality from the CRM and ERP vendors, we expect to pay less. But all of a sudden the revenues dip, Wall Street gets wary and the incumbent software companies catch a big cold.

Is this bad news for virtualisation? No. Virtualisation is happening as we speak, and SOA will happen with or without the blessing of today's incumbent software vendors.

Utility computing and grid computing architectures are dependent on virtualisation, and trying to force users to adopt a single vendor in this space is a non-starter.

The emphasis will fall on the software vendors, which must look at how granular they should go, and how they will license this functionality.

Otherwise, the memories of other large software companies that are no longer around should be borne in mind. The once-mighty Ashton Tate, WordPerfect and Siebel all point to how the markets can change.

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