Andy Hardy, Compellent

In tech industry terms, Compellent is in many ways a rarity; young, smart, forward thinking; a maverick thorn in the side of certain more established players in its space. You might even describe it as a bit of an upstart.

It also happens to be the world's fastest growing data storage company.

Andy Hardy, the company's Managing Director of International Sales, spoke exclusively to iQ to give us an inside track on the Compellent vision and the very different approach to storage that's fuelling the company's rapid and accelerating rise...

iQ: *Andy, Compellent recently announced its 9th consecutive quarter of growth and is now officially the fastest growing data storage company worldwide. What's given Compellent that impetus?*

Andy Hardy: Yeah, it's great to be up there and we're very proud of our record over the last few years. As regards how we've done what we've done, I think it's because we start from the perspective of trying to genuinely impact a number of the concerns and pain points that are most vital to businesses today rather than just the technology – reducing capital costs and Total Cost of Ownership (TCO) for instance.

I also think it's because we do things in a fundamentally different way from a technology point of view, and in a fundamentally different way from any other storage vendor.

iQ: *But what led Compellent to the conclusion that a "fundamentally different" approach was needed? There are plenty of storage incumbents out there who might beg to differ.* ↳

iQ &A

AH: Organisations of every shape, colour, and size are under pressure to boost efficiency, and to radically cut costs and reduce power consumption.

However, when measured in terms of TCO, traditional data storage solutions don't sit well within this agenda. They're inefficient and expensive to maintain, to manage, and to expand. That makes these traditional storage paradigms increasingly difficult to justify.

And yet you still find organisations allocating five terabytes of storage capacity for email; 10TB for databases; another 10TB for areas like finance and document storage. 10TB for something else. And that's every year.

Traditional storage provisioning forces the user to buy and pre-allocate disk space based on their estimates of current and future needs. In a rapidly growing environment, that can add up to a significant capital expenditure for disk storage hardware, much of which will probably go unused.

While installed storage is now increasing by up to 69% annually companies are using only 40 to 60% of that installed capacity, on average. So out of the 5TB that you've pre-allocated for say, email, only perhaps 2TB is ever actually used; the remainder is simply wasted, or "stranded" space.

That's a significant amount of wasted capacity and therefore wasted money. If you estimate that the cost of Fibre Channel RAID is currently around the $13.00 per GB mark, that unused 3TB is worth just under $40,000. That kind of profligacy needs urgent attention.

iQ: *So it's about shifting focus away from thinking purely about storage volumes and turning instead towards storage utilisation and efficiencies?*

AH: Absolutely. Gartner has predicted that between 2005 and 2010, storage demand as measured by terabyte capacity will increase by more than two thirds annually.

That astonishing pace of growth is going to tax enterprises of all sizes not just in terms of capital expenditure, but in critical areas such as head count, training, disaster recovery, capacity management, power and cooling, and regulatory compliance.

And this is where the conventional storage mindset – "another year, another 20TB" – really begins to break down. Companies simply cannot justify the huge – and growing – capital and operational expenditures required to keep pace with these storage demands.

iQ: *Are we saying that businesses need to change the way they think about data storage?*

AH: It's often been said in recent years that business has to start thinking about IT differently. But I'd say it's actually more the other way around. It's more a question of IT having to think differently about business.

In this case, it's grasping the realisation that you don't need to just keep blindly bolting on extra storage capacity time after time. Understanding that it is in fact possible to maximise the productivity and efficiency of your storage deployments whilst also minimising your costs; that these things are not mutually exclusive.

You can cut your outlay on drives, on power, on cooling, on real estate and create a leaner, faster, slicker, greener datacentre at the same time.

Compellent delivers princely solution to the RHS

The Royal Horticultural Society has cut its disaster recovery times from 12 days to 24 hours and is now even greener thanks to a new Compellent supplied data storage infrastructure.

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iQ: *OK, so how's it done? Storage architectures would appear to have a long way to go before they start displaying the kind of virtualised flexibility you get at the server...*

AH: That's precisely it. To realise the same kinds of tangible benefits we're seeing with server virtualisation, you have to truly virtualise your storage too.

Employing a SAN that enables multiple servers to share centralised storage resources is the first real step toward a truly virtualised datacentre. But traditional SAN solutions fail to deliver the potential of truly virtualised storage.

Administrators using these traditional SANs are still forced to pre-allocate storage space to accommodate applications' performance requirements and a high level of redundancy. Consequently, many enterprises that choose to deploy SANs still end up having to purchase, power and cool more capacity than they actually use.

Even then, they're still constrained by all sorts of other limiting factors. It's about freeing the SAN from those shackles.

iQ: *So you think that storage architectures will evolve in much the same way that server technologies have then? That we'll see similar evolution to that which has taken place server side?*

AH: Today, the storage industry is still, I feel, a considerable number of years behind the server environment.

Why? Because, for the most part, storage hardware still uses proprietary architectures and technologies; proprietary hardware boxes. And each of these boxes carries with it a physical constraint. They might be limited by the number of available front end ports. They might be constrained to only fibre channel or only iSCSI connectivity. They might be constrained to a certain number of disk spindles.

What we need to do in order to deliver the same kind of efficiencies and cost savings as we're seeing in the server space is decouple those hardwired hardware choices. And that's the direction I think we're going to see data storage taking – towards industry standard rather than proprietary hardware.

This means we'll no longer be constrained by the design of a particular box or a particular technology and that the hardware will therefore become much more malleable. It's getting it to reach the point where we're no longer locked in to either one technology or another.

I think we'll probably even start to see more virtual provisioning of the network fabric itself. I think that's the direction things will start to go in.

iQ: *What's the end game for all this?*

AH: In essence, it's about enabling businesses to address and deliver upon their key storage, financial, operational, and environmental goals at the same time.

It's about helping companies to reduce their storage-associated capital and operational costs whilst simultaneously getting greater value and usage out of the physical storage "tin" in which they've invested.

It's also about helping rationalise and save management time and overhead by enabling the business to spend less time having to manage the storage infrastructure (reducing this to a few hours rather than days every week), whilst also delivering a greater number and a greater variety of services – and at a higher quality.

These are innovations that can be cost- and operationally justified to senior management, and that can be managed without further overloading already strained IT resources.

iQ: *OK. But how exactly?* ↳

iQ &A

AH: In the traditional SAN, you might need to deliver 10 terabytes of storage to an application and 5,000 iops. What we're talking about here, is delivering the same 10TB and the same 5,000 iops, but with less physical provision of storage. In other words, with fewer disks.

Let's put it in real terms. In a typical 50 virtual server environment, if each one of those servers needed to have let's say 30Gb of boot volume alone (and that's a conservative estimate), that's an extra 1.5TB just to boot the individual application servers up. In our environment you can deliver that same capability with perhaps a hundred or a couple of hundred Gigabytes of space.

That's because we really are virtualising both the storage provision and the server provision.

This introduces cost savings on two levels – In terms of capital costs, because I have to buy fewer drives in the first place. And in terms of operating costs, because I'm also now operating fewer drives."

The ability to derive greater value from your tin in this fashion also drives down costs in another way – by cutting back on the amount of rack space, power consumption, cooling costs and so on that you're having to provision.

In fact, we believe a fully-featured Storage Center SAN can save companies up to 93% of the power consumption and power costs of storage when compared to traditional storage solutions.

The end result in one of our customer installations was a datacentre that shrank to two thirds the size it had been before we started. So not only are they realising cost savings; they've now got empty space that they can say, consider leasing out to other business units.

That means the IT manager can have a very different conversation with his finance director.

iQ: *So it's a model centred not just on reducing Capex and Opex, but broadening and adding to the IT department's value to the business?*

AH: Yes, a number of more subtle benefits emerge as we decouple the hardware (and the constraints that go with it) from our ability to deliver applications and services.

From the perspective of risk reduction and the fact that my investment is better protected for example.

Why? Because in a traditional storage architecture, if I decide to move from model A to model B, I've got to go through a complete forklift upgrade. Take out the controllers whose hardware design I've just exceeded and install new different ones and so on and so on.

With the storage system design we're talking about here – one that's truly virtual where the disk is decoupled from the controller – those hardware constraints no longer apply. You're suddenly able to share your storage between services, layers, or whatever at will; based on demand.

To put it slightly differently – in server terms – it would be ludicrous to throw away a server you bought last year just because you wanted to add something to its functionality such as additional connectivity.

You'd just put the appropriate HPA in the slot in the back of the box.

We think storage should and can work in exactly the same way – we think of Compellent as delivering the only SAN so sophisticated it's simple – and we can prove it.

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Compellent Storage Center

One of the industry's most energy-efficient SANs featuring automated storage and thin provisioning.