



## Your Datacenter Makeover: Have Someone Else Do It

Dennis Barker, Staff Writer, On-Demand Enterprise, August 17, 2008

Running for the office of Springfield sanitation commissioner, Homer Simpson promised that his crews wouldn't just pick up the trash, they'd wash cars and provide any other personal domestic service citizens wanted. His successful campaign slogan: "Can't someone else do it?"

Maybe you can imagine an IT manager reacting with that question when he's told, again, he has got to turn the datacenter from a cost sink into a strategic business advantage. Rebuilding systems to meet the demands of specific business goals or service levels and driving down real-estate and energy costs sounds like a priority, but it can end up low on the to-do list, always a few notches under "keep things running." A rethinking and overhauling of infrastructure is the kind of massive task where someone else doing it makes the most sense, especially with the cost of building, powering, and cooling datacenters rising at record rates. You want to get it right.

"A lot of firms are optimizing their datacenters in the wrong way," says Tony Bishop, co-founder and CEO of Adaptivity, a company that helps organizations bring IT strategies, architectures, and operating models in line with business goals. "They're designing from the bottom up, then trying to manage it. They look at the facility, the floor space, the power lines, then try to guesstimate what the growth will be. Then they organize the floor based on grouping resources by type: servers here, storage here, firewalls over there. They're organizing by what works best on the floor, not what works best for the business. Instead, you've got to be thinking that sales applications need market data and tools to be near each other because of the physics of data proximity. You've got to be business-process-driven rather than resource-driven."

Formerly chief architect in Wachovia's Corporate Investment Banking Technology Group, where he led a team that built a utility-computing infrastructure, Bishop has walked the walk of designing a datacenter around business objectives.

Adaptivity and partner DataSynapse propose to be that "someone else" who will come in and figure out how to turn your IT systems into a resource no one even notices because it handles each transaction as if it were the most important transaction in the pipe. (The two have worked together before, and Adaptivity uses DataSynapse technology in its solutions, but earlier this month announced an official joint services agreement.) They have a shared concept of what the ideal core of IT services ought to be, and they call it the Next Generation Datacenter (NGDC). They say that with their methodologies, software technology, and combined know-how, they can transform a datacenter into one that's flexible enough to meet changing business demands while reducing complexity, using fewer resources, and not wrecking the budget.

"The primary pain we see is that datacenters are spending a growing percentage of the IT budget, but it's inefficient spending due to poor capacity planning," says Joe Schwartz, chief marketing officer at DataSynapse. A McKinsey study found that average server utilization among datacenters studied was a sad 6 percent, and facility utilization was 56 percent. Naturally, this results in all sorts of unnecessary complexity, but the biggest drag it causes is on profitability.

The NGDC is intended to avoid such inefficiencies by being built from scratch to meet business demands; bring the experts in to study those demands, then build accordingly. One way to think of the NGDC concept is datacenter as a service.

"We tailor the infrastructure so that it operates as a service utility," Bishop says. "We develop a demand-based model, where services -- processing, storage, and so on -- are allocated as needed and shut down when no longer needed. With our approach, you end up with a real-time, demand-based utility. That's the most efficient way to operate. Our methodologies, the technologies we implement, DataSynapse's application management technology, it's all aimed at letting customers deploy a utility infrastructure."

### What's in the NGDC

"We've created methodologies and templates for building an adaptive datacenter," Bishop says. "Think of it like a franchise. You're going to have everything you need. Templates, methods, processes, tools to map your business models to infrastructure. The technology to distribute work and dynamically allocate resources. Processing-specific 'ensembles' that guarantee low latency and high throughput. Optimized networking services. The components needed to change your infrastructure so it's more responsive and efficient are here."

The NGDC architecture incorporates offerings from both companies. For example, DataSynapse's Dynamic Application Service Management software platform for delivering and optimizing scalable enterprise-class application services. Adaptivity's Fit for Purpose Design framework "takes business-driven workloads and resource consumption behaviors and encapsulates them in service execution contracts," Bishop says. DataSynapse's orchestration model "takes those policies and makes sure they execute." Workloads are sent to Processing Execution Destinations, "self-contained logical fabrics housed in a single container footprint and interconnected with high-speed fabrics." This is the hardware stuff: multicore processors, I/O (10GigE, Fiber Channel, Infiniband), storage, memory, networking gear, in a cooled container. Legacy apps would be migrated to these PEDs. The NGDC reference architecture also includes technology from third parties, including Cisco and VMware.

"We're essentially offering a datacenter in a box," Schwartz says. "It's geared toward your business applications, optimized for your specific types of applications and workloads. You can plug-and-play PEDs based on your workload and application mix."

Adaptivity and DataSynapse offer a 10-part program to help organizations implement an NGDC. It's aimed at defining services and quality levels and the roadmap for getting there. Through workshops and iterative sessions, "we'll help design the right infrastructure," Schwartz says. "We take a look at your applications today, classify them, study workloads, and then help you design your datacenter so you can move apps to available processing units when they need to execute. Ultimately, you can manage your datacenter as a virtual resource pool that you allocate to applications as needed."



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Adaptivity and DataSynapse have most of their customers in the financial world, where they've been delivering the benefits promised by the NGDC. Bishop tells of one Adaptivity customer "where ripping and replacing hardware translated to one-third the footprint, and they were able to do 50 times that volume in that smaller datacenter. We were able to identify four types of processing patterns, and the workloads associated with those. Once we looked top-down and understood the demand, how things were consumed, we were able to use DataSynapse technology to dynamically match workloads to resources." In another case, by re-orchestrating workloads, they were able to reduce three racks to one small cluster. "When you get rid of three racks of big Sun SMP machines, that's a good chunk of money you can save," Bishop says.

If phrases like "business process alignment" and "business value" seem like things that happen in some misty, far-off time, what Adaptivity and Data Synapse are promising with their approach can be put very plainly. "Lower cost of transactions is our goal," Bishop says.

"Volumes of content are exploding. Equipment is getting increasingly dense. People are trying to transfer labor into automation -- productivity comes from automation, but that automation has to go somewhere. That somewhere is the datacenter. As a result, datacenters are growing while their costs are going to double over the next five to 10 years, and that ends up consuming the entire IT budget. How can you innovate if you can't get this strategy under control?"

Maybe have someone else do it?

[http://www.on-demandenterprise.com/features/Your\\_Datacenter\\_Makeover\\_Have\\_Someone\\_Else\\_Do\\_It.html](http://www.on-demandenterprise.com/features/Your_Datacenter_Makeover_Have_Someone_Else_Do_It.html)



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