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## VC zeroes in on data center consolidation

By [Bob Brown](#)

Network World Fusion, 06/13/02

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*Gary Little, a general partner at [Morgenthaler Ventures](#), says one of the best start-up opportunities these days is in data center consolidation. As a veteran of Apple, IBM and Sun, among others, Little is attempting to put his expertise in the systems business to use in funding companies that can exploit what he sees as the inevitable redesign of data centers. He recently shared his thoughts on these opportunities with Network World News Editor Bob Brown.*

### What's your outlook on enterprise network opportunities for start-ups?

Where a lot of venture capital firms are full of gloom and doom, we see opportunity, since valuations are down to attractive, if not historical levels. There is a lot of good executive and technical talent looking at what to do next. Rents are down dramatically, too, so the basic infrastructure is much more amenable to starting companies.

The level of technology and business due diligence that is being done on these companies is much higher, so they should have a much higher chance of being successful than the wave of companies started up a few years ago. Companies a few years ago worked under the mantra of "Get big fast," and they got into fairly large spending cultures, took on more space, locked in at high rates and had high burn rates. The companies getting started now will be much more attractive acquisition targets as opposed to those started in 1998-2000.

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is the larger companies that historically have been doing the buying -- Cisco, Nortel, Lucent -- they have their own issues. But we've seen Cisco make some acquisitions recently. The other guys that were not acquisitive in the past, the Suns of the world, are starting to acquire

more, though don't have a history of paying out.

### **What areas of investment are you pursuing these days?**

Enterprise spending is in fact down from last year, so companies are not looking to take on any brave-new-world projects. They are spending money on maintenance support and integrating what they have and digesting the inventory. As part of that, they are trying to become more efficient, such as by consolidating their data centers around the world.

It's interesting to talk to CIOs at some of the major financial institutions. A couple of years ago they didn't have a good handle on how many servers they actually had around the world, and when they started counting they found literally thousands of servers they didn't know they had. So they are now trying to consolidate that down into several data centers and consolidate all those servers running at 50% utilization so that they are at more like 70% capacity and sharing disk drives. We see them applying better techniques to manage the complexity with fewer people. Meanwhile, you've got the 'Webification' of applications going on, where you can get to them anytime from anywhere via a browser-based client. You've also got the emergence of broadband pipes tying all this together. These forces have created a fundamental re-architecting of the data center... the biggest such re-architecture we've seen in decades. And wherever there is turmoil and change, technologically speaking, that's a rich area for venture investment.

### **So overall, you see a move back to centralization?**

There has been a cycle from centralization to decentralization and

we're now at the recentralization stage. But fundamentally, it is always a look at what function needs to run on the client and what functionality can be best served in a centralized fashion. The problem in the past is that the pipes didn't always support that optimal view. In the past, if you were trying to do something computational-intensive centrally and then display it on a desktop, the connectivity was not there. So you had to have that application running on the desktop. With the better connectivity, bigger pipes and browser-based software, it's been much easier to suck that shared functionality back into central servers.

### **What issues are companies running into as they consolidate these data centers?**

As you Webify apps and at the same time consolidate data centers, there is an issue of response time. So if you used to have a data center down in Latin America and you now want to serve that region out of your San Jose data center, even if you run Web applications across 10G bit/sec pipes, performance actually degrades with the distance away from the data center. I know from my time as a bag-carrying sales rep at IBM that whenever response time got over one second, customers even in the early '80s would do multimillion-dollar upgrades to their mainframes. So if you're planing to consolidate your data centers, which means serving remote users through these big pipes, something breaks and that's your response time.

We just closed on a company [which he declined to name] in an \$18 million financing that delivers sub-second response time globally from a single data center. It involves a network of boxes, but is not a caching solution and requires no tags or retagging of data.

### **What other opportunities to do you see in the data center?**

Say each of these data centers had their own firewalls, IDS, encryption and so forth. That means they probably have a full line of appliances and software running on hundreds if not thousands of servers. Once you start to consolidate data centers, you may have a chance to consolidate those front-end processors, as I call them, and manage that with a logical view.

In the data center, you've got storage, servers and front-end processors. In storage, you've got giants like Network Appliance, EMC, IBM and Hitachi and there's a lot of funding of new companies. Having spent a lot of time in the data center with CIOs, they are reluctant to turn their keys over to start-ups in this area and would rather wait six to eight months to get new technology from a proven storage provider. The same is true in servers. There's a lot of innovation going on by

start-ups, but it's likely that Sun, HP, Dell and others are working on the same sorts of architectures, so companies will wait to buy from them. The front-end processor opportunity, on the other hand, is up for grabs in that a Sun or Cisco is not dominant in that area. We have the opportunity to create an incumbent in that space.

**What role are applications vendors playing in the changing data centers?**

They are looking at things like how to adapt their systems to blade computing. Speaking of which, that's not an area for us right now -- to create a server company to compete against Sun, Dell and Compaq, even though a number of companies are being funded in that area.

**Is there any evidence the server vendors are doing anything innovative?**

They do have projects in-house in the area of blade computing with server virtualization software riding on top of it. These may start out based on one technology but the second generation is probably going to be InfiniBand servers that you can configure as a pool of commodity processors and parts. You'll be able to configure them as high-end SMPs or horizontally scaled clusters, and you'll also configure them to whatever kind of failover you like. IBM is probably furthest ahead with that with its grid computing initiatives. Sun has announced initiatives too.

**As a former Apple executive, what do you make of Apple's recent server announcements?**

Apple servers were always handicapped -- they were running Mac OS, which was neither multithreaded nor multiuser nor multiprocessor, and it was sort of a spaghetti code of an OS that was difficult to extend. The other type they tried was using AIX around the whole IBM-Motorola alliance. The issue there was if you were going to buy an AIX box, why not just buy from IBM? It wasn't in Apple's blood to really develop AIX capabilities.

What's new now is their most recent operating system is pure Unix, and it's a pretty modern architecture with the Mach kernel out of Carnegie Mellon and has open source components in the bowels of it. But it is a fully multithreaded, symmetrical processing, multiuser Unix OS that has the Mac user interface and runs applications like Microsoft Office. It's pretty interesting that they have an operating system that runs both at the desktop and can scale on the server, so they have the assets of a Solaris on the server side now but also support the use of Windows at the desktop. Longer term, this will enable Apple to

compete more effectively vs. Microsoft at the server and desktop levels. Apple obviously has a very strong presence in the creation of content, graphics and video. What the server gives them is the opportunity to attack the media companies as customers.

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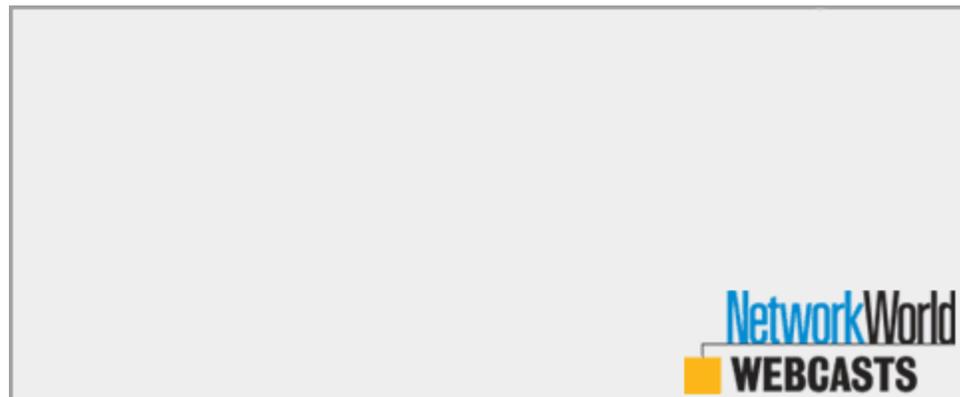
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There was nothing in particular in Chris Baldwin's background that would necessarily lead you to believe he'd become so heavily involved in funding storage companies as a partner at Charles River Ventures. But Baldwin currently has what he calls a "healthy exposure" in the storage market with investments in five storage-related firms - Acopia, EqualLogic, Mariko, Pirus and Storigen.

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Michael Feinstein joined the ranks of venture capitalists back in 1999, following stints in product marketing at remote access equipment makers Shiva and New Oak Communications, which were acquired by Intel and Nortel, respectively. Feinstein, now a principal at Atlas Venture in Waltham, Mass., currently keeps his eyes open for the next big investment opportunity in the network industry.

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