

## Azul's Vega systems scale the opportunity as it guns for Sun and high-end x86 markets

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**Sector: Storage & Systems**

**Azul Systems'** recent funding event shone a light on a bunch of things that it would rather have held more closely. But, as is rightly the case, money always brings things into sharper focus. This climate of increased (if unsolicited) attention has also allowed Azul to steer said attention toward its own agenda: new products and a gold-standard client list in the financial services industry (FSI).

The company introduced two new Vega 2 Compute Appliances back in June. The 7240 and 7280 models, with 768 processor cores (48 per processor) and 768GB memory, are targeted at the needs of organizations that want to build at scale, operate at scale, manage at scale and change at scale, too.

### IMPACT ASSESSMENT

#### The message

Azul is pressing on into the capital markets and telco sectors with Vega 2 7200 appliances. Its customer wins validate the company's approach as it focuses on Sun and high-end x86 systems.

#### Competitive landscape

Azul is gunning for Sun, now that it's not staring down the barrel of litigation. Enemy number one – Sun's Niagara T2 – is followed closely by IBM, HP, Dell and other server suppliers. Azul claims a six-to-one server reduction ration when using its appliance versus this kind of server equipment.

#### The 451 Assessment

The company's Vega 2 7200 line targets FSI, telco and B2C retail enterprises, and Azul has use cases in each of them. Users need fewer systems from the likes of Sun and high-end x86 vendors as a result. Azul seems likely to extend its Java Virtual Machine (JVM) environment to support PHP and Ruby on Rails – effectively creating appliances for those languages – since they're not a million miles away from Java. It will be interesting to see if and how a user might be able to mix and match cores for these different activities in a single system. The shape of things to come perhaps? "I'll have 10 cores for Java and 10 cores for .NET, 10 cores for XML and 50 cores for general processing in my server, please."

#### Context

PHP and Ruby/Ruby on Rails versions of its appliance appear likely because Azul will be able to extend its existing JVM technology for this purpose. A .NET (C#) version is further out, but Azul has already been asked for this by **BT** and one FSI organization – and they in turn have already approached **Microsoft** to request it. The issue is that most .NET is on the client. There's not much on servers, Azul notes, suggesting that even if it had a .NET

appliance available today, it wouldn't likely sell many. The company will also need a very close relationship with Microsoft.

Azul's business is roughly 70% in New York and 30% in London. All of its business is direct now, but it is anticipating that when it gets to a run rate of tens of millions of dollars per quarter (in 12-18 months time, it forecasts), it will move to a channel sales model.

The issue with licensing software for use on its systems hasn't been resolved by the industry at large since Azul came to market. Azul continues to deal with ISVs on a per-customer basis to help ensure software suppliers don't charge users a license for each core in one of its deployed systems. There's a range of approaches too, as **Credit Suisse** notes.

### **Customers, use cases**

Credit Suisse is pursuing a number of 'game changing' strategies in its R&D activities, including customization, service-oriented computing, information transparency and high performance. Azul plays directly here, it says, providing scaling, virtualization (and provisioning of shared resources), automation and power/cooling savings. It also supports the bank's goal of being the greenest bank out there. Azul plays into the bank's software development strategy, too. Most software at the bank is managed (i.e., Java or .NET), and the aim is to increase developer productivity and reduce complexity.

Credit Suisse has tens of applications on its Azul deployment, which has been in production for a year. It has implemented many generic technologies, such as WebLogic, rather than only custom finance applications like Calypso, which other Azul users are running. Something to note is that Credit Suisse's applications weren't designed with Azul in mind – when they are implemented specifically for Azul, it should see even greater benefits. BT is using Azul to underpin its OpenReach platform, which provides local loop unbundling, wholesale line rental and Ethernet services to third-party service providers.

In addition to Credit Suisse (also an investor) and BT, Azul counts the likes of **Wachovia**, **Bear Stearns**, **British Sky Broadcasting** and **Avaya** as clients.

### **Competition**

Azul says it doesn't see any direct competition for at least three to five years. Is the company being too anti-**Sun Microsystems**? Surely it augments Sun and other server environments and needs to play within heterogeneous environments, especially as it seeks to expand to other audiences and address other kinds of problems, such as data caching. After all, Azul's users have equipment from Sun and other vendors, too – potential clients will as well. As far as Azul's concerned, buying its systems will ultimately mean buying less Sun or other high-end server equipment.

If it's a success, Azul is likely to end up inside one of the larger chip or system vendors, just as the graphics chip (GPU) companies were mostly swallowed by CPU suppliers. Typically, when some sort of new activity creates a material system performance overhead for users, such as parsing large amounts of XML data, the task is usually taken out of the system and performed on a dedicated appliance. These are often supplied by a startup spun off from a larger vendor for this purpose. Eventually, system performance improves, and the functionality is abstracted from the appliance back into the system, perhaps after the appliance maker has been bought or its technology is made available as a software function. (**Intel** acquired **Sarvega** and **Conformative Systems** for this purpose, while Azul cofounder Steve DeWitt built the Cobalt Linux appliance business and sold it to Sun.) The

logical conclusion here is to put this kind of function onto the wire (say on a PCI Express card) then onto a core.

Azul's concept of network-attached processing offload hasn't caught on in the industry at large. There is renewed interest in running bare-metal applications and infrastructure in the software world from such companies as **Ingres** and **BEA Systems**.

<b>SWOT ANALYSIS</b>	
<b>Strengths</b>	<b>Weaknesses</b>
Azul has had a bit of a rocky road so far, and the jury's still out on its appliance model (customization rather than commodification). But a roll call of FSI clients is starting to look like a movement rather than experimentation.	Can it appeal to a wider audience, or is it going to be permanently tied to the New York-London FSI axis?
<b>Opportunities</b>	<b>Threats</b>
The world does appear to be turning Java (or Java-esque).	Azul has taken a very anti-Sun stance in its latest positioning, considering the recent litigation settlement; however, Sun's T2 is expected to compete more directly with it. Other server suppliers, including HP, Dell and IBM, are also in its crosshairs.

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