

# waters

## Close to You

As more firms and exchanges outsource their IT functions to third-party utility service providers, the hosts find new ways for their guests to interact. *Waters* takes a look behind the scenes at Savvis' New Jersey datacenter. *By Emily Fraser*

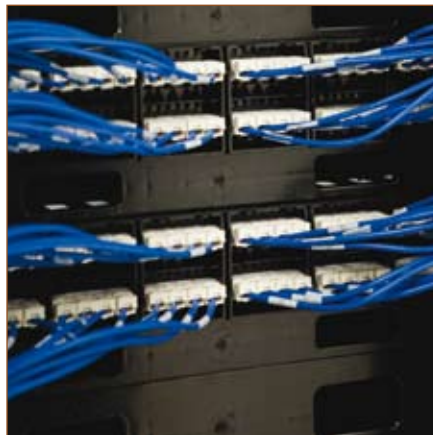
Varghese Thomas, Savvis

The speed of market data dissemination is now so fast that the only way a firm can reduce market data latency any further is to actually share datacenter floor space with the exchanges themselves.

Three ECNs and two US exchanges—the American Stock Exchange (Amex) and the Philadelphia Stock Exchange (PHLX)—connect to IT infrastructure services provider Savvis' new proximity hosting service, launched Sept. 17. Savvis already hosts and manages parts of all five trading venues' IT infrastructures at its 120,000 square-foot Weehawken, NJ, facility.

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*Varghese Thomas, Savvis*



Savvis' financial services customers rent out virtual server space in a special locked room that puts their trading applications as physically close to an exchange's trading systems as possible. In addition to ultra-low-latency market data and connectivity to the trade execution infrastructure within the exchange or ECN, the service provides the server capacity for firms to process

Network cables in the Proximity Hosting area.



Above: Server racks form an orderly line in the fully virtualized utility computing area.

Below: The tidy, organized wiring issuing from the back of them.



that data on site so that only a subset needs be relayed back to the user.

According to an anonymous respondent to sibling publication *Inside Market Data's* roundtable questions in a special report on latency, published in June, the tolerable latency within the New York metro area is currently 10 to 12 milliseconds, and as many as eight of those precious milliseconds are taken up by exchange or ECN dissemination. Since the speed of light is the ultimate limitation, the further a firm is from the exchange, the longer it takes for data to be delivered.

"While open to all financial services firms, this service will be particularly beneficial to hedge funds domiciled outside of the New York and New Jersey area," says Varghese Thomas, vice president of financial markets at Savvis. The latency added by transferring data from New Jersey to California, Texas, or even Greenwich, Conn., currently puts these firms at a competitive disadvantage.

The proximity hosting service serves as a complement to Exchange Express,

the network portion of Savvis' low-latency offering, launched Aug. 20, which provides Ethernet access from the customer's location to market data feeds and trade execution applications from these same exchanges.

Savvis' competitor BT Radianz offers a similar proximity service, hosting customers' trading engines alongside the hosted servers of certain execution venues—for example, Bats ECN in the US; and Project Boat, LiquidityHub and Equiduct in the UK—or in datacenters geographically close to that of an exchange. "If a buy-side or sell-side firm uses Radianz Ultra Access in New York City, the latency to the exchanges is sub-millisecond," says a BT Radianz spokesperson.

### **UTILITY COMPUTING AREA**

Amex selected Savvis in 2005 for its fully managed hosting services, the location of its datacenters in New Jersey, and the availability of network connectivity, says Constantine Gavalas, vice president, exchange technology at Amex. "The partnership has expanded

Right: Tangled wires cascade from the back of customer-managed servers in the co-location cages.

to include hosting of other services such as our options trading system, ANTE, and Amex.com,” Gavalas says.

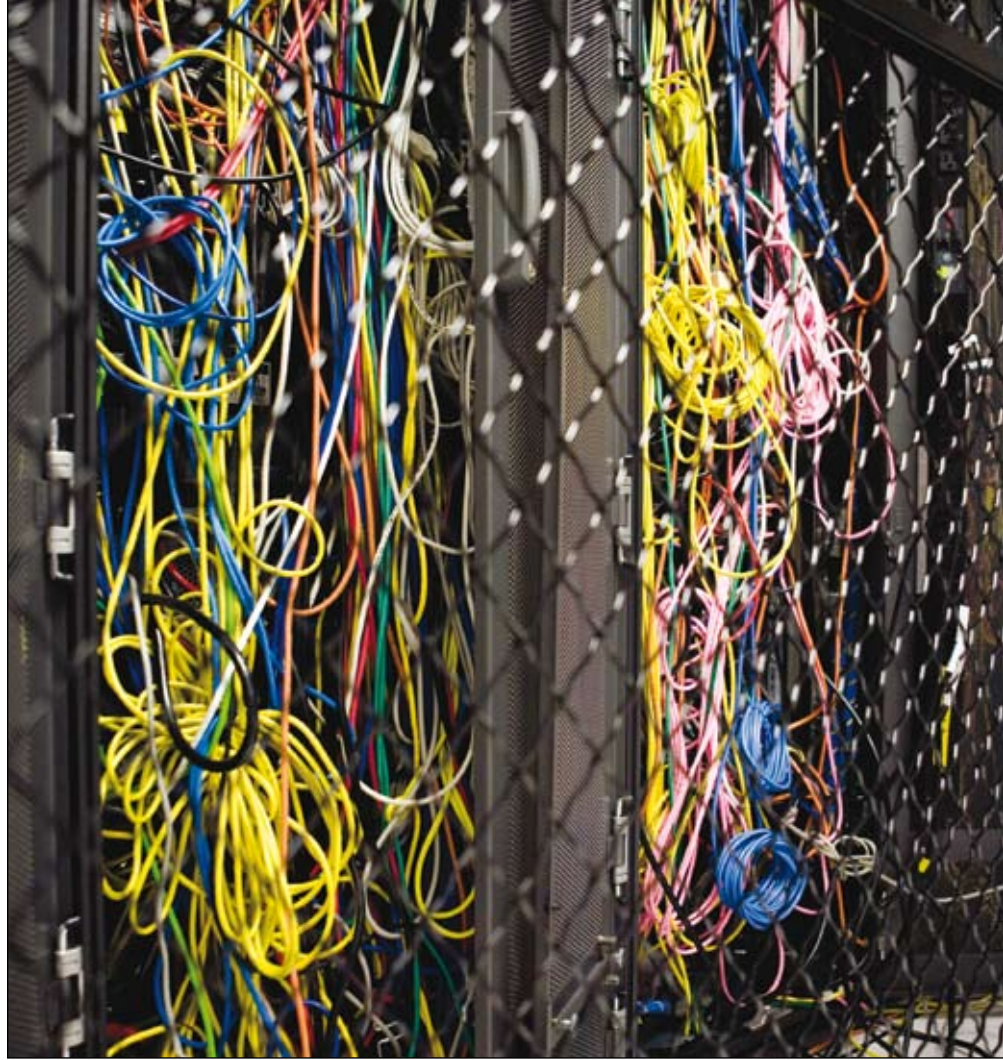
Savvis’ managed hosting services allowed for the rapid setup and deployment of the over 200-server infrastructure running Amex’s equities trading system, AEMI, he says. “The location of the datacenters and the fiber infrastructure interconnecting them allows the Amex to perform synchronous data replication, ensuring application redundancy with no data loss,” he says. It also provides the flexibility to increase network bandwidth with very little lead time in order to support ever-increasing market data rates, he adds.

The fully virtualized environment of the managed utility service gives customers access to server power and capacity for their applications as they need it. “The managed utility services allow Amex to manage complex server, network and storage environments with limited staffing resources, and deliver large-scale, complex projects on time, while utilizing Savvis’ turn-key systems monitoring and alerting capabilities,” says Gavalas.

The utility service is where firms such as Savvis start to differentiate themselves from traditional hosted datacenter service providers, says Nick Carr, author of *Does IT Matter?*, published in 2004. Carr’s book suggests that the future of IT lies in the utility computing model, as IT had become commoditized and no longer provided a strategic advantage for firms.

Although vendor firms and CIOs resisted this message back then, Carr says that the world is indeed heading fast in that direction. Small and midsize firms were the first to seize the opportunities represented by utility computing. “Large firms were the laggards in the switch,” he says. Now, even larger firms are definitely moving toward using more and more utility services, he says.

Savvis customer profiles seem to confirm this trend. According to Thomas, users of the utility services



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*Frank Ziegler, PHLX*

come in all shapes and sizes. “We have some small hedge funds that are very tech-savvy and some larger firms that are just happier to outsource their IT infrastructure and focus on what they’re good at,” he says.

### **CO-LOCATION CAGES**

Some firms choose simply to install their own servers on Savvis’ site, housed in locked co-location cages. Co-location

is the traditional and more straightforward version of hosting, also carried out by the likes of Sun Microsystems and IBM. The benefits are mainly derived from the economies of scale provided by shared real estate and labor—supplied by Savvis’ engineers. The host provides the real estate, maintenance manpower, power and cooling as well as the network infrastructure. The application



A hand scanner permits authorized personnel only.



**The “vaults”:** three private rooms are available to customers who do not want their competition to see even what machinery they are using.

setup—that is, one application per server—is the same as it would be at the customer site.

PHLX chose Savvis' co-location hosting and network services over the fully managed utility model for its equity trading system. “We own our own systems, and we don't outsource on the trading side of the house,” says Frank Ziegler, a spokesperson for PHLX. The exchange has its own datacenter facility in Philadelphia, but the rise of black-box trading and Regulation NMS created a need for the exchange to locate its equities trading engines within the New York metro area, Ziegler says. “It became imperative that we find a location that would enable us to satisfy the requirements of our user community with speed and access to the system,” he says.

### **STRICT SECURITY**

Aside from the location, PHLX chose Savvis for the high level of security it offers. Once past the strict security desk officers, each floor is equipped with a security portal requiring the swipe of a company ID and a full-hand digital scan.

Closed-circuit television cameras monitor the locked cages within the co-location area from many angles. Only the vendor's own representatives and Savvis engineers may gain access. For a couple of the datacenter's largest clients, even this level of security is not sufficient, and these firms rent out what the datacenter staff refer to as the “vaults.” Three private rooms are available to customers who do not want their competition to see even

what machinery they are using. A hand scanner admits approved, drug-tested and background-checked personnel only.

Security on the virtual layer is as important as the physical. Firewall and intrusion detection software guarantees the data security and privacy of customers' applications. ■

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