DATAMATION™

Bidding On Bandwidth To Control Costs

By Nathan Segal
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When dealing with streaming media, allocating and purchasing bandwidth is an important issue, as is cost. Many companies are locked into long-term, fixed-price contracts for bandwidth, which is expensive for customers of IP service providers, and does not accommodate fluctuations in bandwidth needs.

"The big problem that they're trying to solve is that the bandwidth market is based on what is known as 95th percentile pricing," says Mark Friedler, CEO of Gigex, a company that promotes and distributes game software.

"As an example, let's say you had a heat wave for three days and you had to crank up the AC, turn on the fans and all the stuff to keep cool," Friedler says. "At the end of the month, your electricity bill would be really high for those three days. Let's say that your average unit usage with the exception of those three days would have been 10, but during those three days, you used 20. When you get the bill, it might be 10.8 or 11, because it averages in those three days of peak usage.

"Now let's take that same example, but instead of buying electricity, you're buying bandwidth. The bandwidth company would note that your peak usage was 20 and that the 95th percentile of your usage was 19. So we're going to chop off the top 5 percent of your usage and we're going to bill you at the 95th percentile for the entire month. This means that instead of paying 10.8, you're paying 19."

An alternative to this approach is StreamingHand, a new service developed by InvisibleHand Networks, which offers a different approach for flexibility and control of bandwidth access.

StreamingHand has created a pricing system that allows for the fluctuating bandwidth needs of streaming media providers. This is particularly effective when media and software downloads occur during peak usage times or following a product release.

Web-based Platform Uses Agents

This is accomplished using Merkato, an open-software platform that automates all aspects of buying, selling and allocating bandwidth in a dynamic, real-time marketplace. Leveraging game theory and patented market mechanisms, the software automates price discovery and allocates bandwidth, as it's needed, at optimal prices.

Buyers and sellers of network resources log in to Merkato via a Web portal, and configure intelligent software agents, which represent them in the market. Based on its

own market rules, the automated resource agent receives bids and asks from buyer or seller agents, calculates how much of the seller's available resources to allocate to each buyer and at what price, and communicates with the network elements to allocate the specified amounts, and records transactions in a database.

Merkato gives users the ability to buy bandwidth in the amounts they need, when they need it, at the price they want to pay. Merkato is Web-based, giving users a quick path to using it to buy bandwidth on demand with dynamic pricing. As a buyer of bandwidth, all you need is Web access with a currently supported browser in order to configure your intelligent software agent.

Once the agent is loaded on to a remote server, the entire buying process is totally automated. For the buyers of bandwidth, there is virtually no cost. For the service providers and exchange operators who offer bandwidth based on market demand, the Merkato software is licensed based on transaction fees.

For companies such as Gigex, the challenge is to keep usage level. As Mark Friedler says, "Here's the problem. Today we're pushing 100 megabits. But if put out a new Star Wars game that moves 400 megabits at the 95th percentile, we'd be moving 380 megabits/second. We need a way to deflect that peak load. What Streaming Hand lets us do is to buy bandwidth by the hour, so we can deflect some of our costs."

Another issue is network utilization. Rob Woodward, an analyst for Frost and Sullivan, says, "There are many companies that have run up tens of billions of dollars of debt, such as Quest and Worldcom. These people need any way that they can to have an opportunity to sell bandwidth beyond the normal channels of selling to each other and to other carriers. Invisible Hand offers a solution, which allows some of that excess bandwidth to meet areas of demand that aren't being met or a way you can optimize the bandwidth that's being used.

"There's a lot of talk about there whether there is a capacity glut, whether there's too much fiber in the ground and too many carriers chasing the same dollars and the same customers," he says. "Whether that argument is true or not, there's a capacity glut when your capacity is not being used. Invisible Hand offers a solution that can go out there and scout for bandwidth and pick up on those needs of providers and allocate bandwidth as needed and to better utilize some of these networks."