Net neutrality: a debate about nothing?

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It is going to end the Internet as we know it. It will save the carriers and allow them to build the Internet we need. Net neutrality is a big issue, with everyone from network experts to politicians weighing in. Net neutrality basically means that the carriers treat all traffic equally. Carriers are questioning this logic and want to be able to charge extra for better treatment.

The problem with the arguments about net neutrality is that they miss an important point: Can the carriers provide differentiate service? Sure they can set priorities, but does that mean people will see the difference -- that it will really matter? I don't think so.

Carriers would implement "net non-neutrality" through quality of service and bandwidth management. Both have little effect except at high utilization. When utilization is at 62%, there is an average of one packet in the queue and even at 75% utilization the average only climbs to a little over two packets in the queue. Assume the packet arrives at a bad time, when the queues are above average. At 60% utilization, 95% of the time there will be only approximately two messages in the queue; at 75% utilization, it would increase to approximately eight packets. That may sound bad, but it really isn't. Assume a T-3 line is used -- not that fast by today's standard -- and all messages are 1,500 byes, near Ethernet's maximum. The wait only adds a few milliseconds.

How often are lines at 60% to 75% utilization? Not that often. Most carriers have engineered their networks to run at lower utilization, and if it is that high, it is only for short times during peak hours. The majority of the time, they are running at lower rates, with no or very small queues.

The result is that paying for premium service over the Internet backbone would be paying for nothing; you would get the same level of service at the cheap rate. But is there a way for the carriers to make it have a difference? Yes: They could artificially cause problems. For example, they could make the allowable queue length for low priority traffic very small, causing lower-priority messages to be discarded at an unnaturally high rate.

Even this may not work. Any carrier that does this would affect a lot of traffic, since most users would not pay the premium price. Word would get out that they run a poor quality network. Enterprises, DSL and cable providers would hesitate to use them.

The move from net neutrality would have little real effect. Sure, carriers could sell a service to real-time media people to put them at the front of the queue for temporary problems, but I am not sure their customers would even notice. It was tried with frame relay a long time ago and didn't work then either. Sit back and enjoy the debate, but don't worry because it will have little effect no matter which way things turn out.

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