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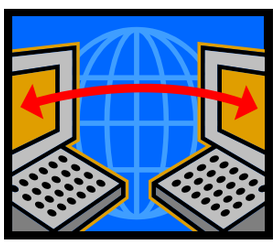
THE M&H MONITOR

M&H CONSULTING

Internet and Network Technology Advances

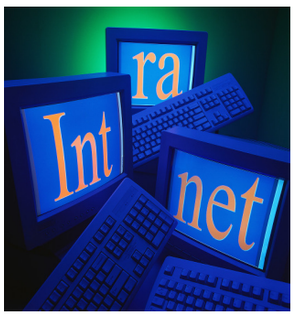
Matt Carrerio

Over the past few years internet providers have started offering much higher bandwidth speeds. Verizon, for instance, went from offering 768Kbs download speeds to offering FIOS with a maximum of 50 Mbs (50,00Kbs) download speed. The internet provider's ability to offer higher speeds depends on several factors, but the two most important ones are how many people are using the service and how fast their hardware can connect those people to other equipment such as web servers or email servers.



Since the number of people using the Internet is always increasing, the best way for an internet provider to raise their maximum bandwidth is to get their equipment to communicate with each other faster. It was not too long ago that the fastest two pieces of equipment could communicate was 10 MBs, but technology was developed to increase that to 1000 MBs or 1 GBs, and then 10 GBs. The current standard connection a provider can use is 10 GBs, but experts anticipate that with current advances in technology providers will be able to use 40 GB lines in the next few months and 100 GB lines some time in 2010. Some research experiments have already been able to reach almost 200 GBs over a single line.

So what does this mean for businesses? It means that over the next few years there should be drastic increases in the maximum speed internet providers offer. This will greatly increase the quality of VOIP (Voice Over IP phone systems), video conferencing, and remote access. The best way to be sure you can take advantage of these upcoming speed increases would be to not sign any long term contracts with an internet provider, especially if that term is more than 1 year as you could sign up for a Verizon DSL line and then find out that the cable company offers twice the speeds at a lower rate. Also, you would want to look at replacing equipment in your network that may be over 3 years old. With faster speeds, you would need equipment that can handle the added bandwidth. You would not put old sparkplugs in a car you are tuning up, in the same way you would want to make sure that you are using new equipment so you get the best performance on your network.



At M&H Consulting, we can help you find what the best option would be for you in replacing network equipment and in picking the right internet package for your business. For more information in upgrading your network, please contact us at info@mhconsults.com.

Inside the Numbers

As shown in the graph below the expected bandwidth usage will grow in huge numbers. The bandwidth usage is measured in Petabaytes, which is equal to 1,000 Terabytes or 1,000,000 Gigabytes. The largest increase we will see is in the bandwidth usage for mobile devices such as the Blackberry, and Iphone. The largest usage overall will however be in consumers homes viewing photos, video streams, and online gaming.

IP Traffic 2006–2012								
	2006	2007	2008	2009	2010	2011	2012	CAGR 2007–2012
By Type (PB per month)								
Internet	3,339	4,884	7,394	10,666	14,984	20,662	28,339	42%
Non-Internet IP	895	1,693	3,353	5,630	9,244	12,321	15,179	55%
By Segment (PB per month)								
Consumer	2,641	4,359	7,674	12,003	18,261	24,760	32,183	49%
Business	1,586	2,193	3,008	4,140	5,622	7,479	9,839	35%
Mobility	7	26	65	153	345	744	1,496	125%
Total (PB per month)								
Total IP traffic	4,234	6,577	10,747	16,296	24,228	32,983	43,518	46%

Source: Cisco, 2008

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The Wireless Office

Steve Stryhalaleck

Many times at M&H Consulting, clients ask us about switching to a wireless network in their office. There are some pros and cons to setting up a wireless network compared to a wired one. There are also a few different ways that this can be setup depending on your needs.

Wireless has become all the rage the last few years for a few reasons. One reason may be the idea of not having your laptop tethered by a cord to the wall. The overall cost for the equipment to implement a wireless network is also enticing. Let's face it, wiring a building for Ethernet can be quite costly. Another reason may be to provide wireless access to the office for guests without granting them full access to all of you company's data. The bottom line is wireless access lets you go where you want to go, it allows flexibility, and it is relatively cheap compared to a wired solution.

There are, however, some downsides to going with a wireless network. Since not every building is built the same way, the range that your wireless signal will achieve will vary from building to building. There are also occasional problems with connectivity. It is not rare to see instances where dropped connections are a constant problem due to low signals in certain areas of the building. Another downside is the overall network speed. While wireless gives you the flexibility to move around, it is much slower in transferring large files over the network compared to a wired solution.

There are also different levels of security for wireless connections, and by having a wireless signal broadcast to the surrounding area, it may leave the network vulnerable to outside attacks.

Even with all of these drawbacks, it is still possible to have the luxury of a wireless router with limited downside if planned out correctly. The following is a short list of things that should be considered when deciding whether or not to use a wireless network over a wired network include: What materials are used in the building structure? How big of a range does the wireless connection require? Are there any other wireless networks nearby? Who requires wireless access to the network? Is an occasional dropped connection acceptable? Are there programs that use large amounts of bandwidth, such as Skype, video conferencing, or streaming audio?

For help answering some of these questions and assistance in determining whether to implement a wireless connection in your office, contact our Operations Director, Adam Gadoury, at 866-9MH-TECH extension 75 or email: support@mhconsults.com to setup a consultation.

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