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Google Eating Fiber for Optimal Growth

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Cyberspace is almost always bigger than we think but big does have its limits. Logic tells us that the environment known as cyberspace is finite. It can grow but there are always definite numbers or statistics that can be used to measure its boundaries. To be practical, the boundaries of cyberspace are defined by bandwidth-capacity. Google, which lives in a world of infinite possibilities doesn't accept the concept of finite gracefully. Faced with the obvious limitations of growth to the Internet as we know it, Google is doing the most logical thing possible. It is grabbing more bandwidth-space in order to allow it to expand the current finite boundaries of cyberspace.

In the realm of cyberspace there exists a virtual land that time forgot. It was buried years ago, before the crash. Cyberspace exists wherever its energy flows. Back in the wild days of the pre-millennial tech-boom, lots and lots of fiber was laid, likely under a city near you. After the dot-com crash, this network of fiber optic cable was rendered virtually useless by the sudden absence of anyone with enough cash to access it. The boom built the backbone but the crash made much of it surplus. Real estate is almost always a good investment, especially when land gets scarce. Google is said to be buying surplus, pre-laid fiber optic cable wherever it can. It is also looking for folks who know exactly what to do with it.

In a recent blog post at [searchenginelowdown](#), Andy Beal suggests Google might be developing a new cyber-network. Yesterday, my colleagues and I were thinking along the same lines. Andy is known to be a very smart guy and serendipity says this is a good theory to start on.

A New Net?

Google could be creating an alternative Internet. We understand the current Internet environment simply because for most of us, it is all we know. Aside from the evolving laws of electro-physics, is there anything preventing a group of young geniuses from dreaming up an alternative Internet after a short game of street-hockey?

There are some interesting factors that support this theory. First and most importantly, the United States constitutes the world's largest user-market. Now that the majority of that market is accessing the Internet using a high-speed (broadband) connection larger file types, like movies, can be downloaded by home-users very easily. The commercial infrastructure to support legal entertainment distribution is being built at breakneck speeds, but it comes five years too late. Now the legal distributors are in the unfortunate position of having to call for a virtual clampdown on illegal file-trading while trying to rebuild their businesses to meet the REAL new-economy. This, of course, has threatening implications for Google and the way Google does business.

Another factor is the mounting complaints around AdWords and AdSense. Click-fraud has been noted as a major concern for businesses. Much of that stems from unscrupulous webmasters finding ways to fool Google into paying them much more than they deserve. A critical flaw in the AdSense business plan makes Google dependent on a high AdSense click-through rate. Some analysts have estimated click-

fraud to represent 5% or more of Google's billable income. That is a huge problem that threatens to undermine advertiser confidence in AdWords. As a business model, AdWords may not be sustainable without a massive overhaul that might generate as much bad PR as it would stabilize confidence.

The third factor adding credence to the concept of a Google-built alternative universe is the mix of cool/good-works kind of company Google wishes to be. I actually believe them when they say, "Don't be Evil". I just don't believe the real world will let them be good all the time. Commercial and legal pressure is quickly making the Web a much more regulated space. Consumers are starting to realize the extent of behavioral monitoring that currently happens on the Internet. Now that personal data-mining has become the finest of the rotten sciences, monitoring of user-behavior happens to virtually everyone. Knowing about consumers is one thing. Using that knowledge to deliver a universe particular to their desires is quite another. Would it be "evil" of Google to attempt to do this? Not if you asked them to create a universe for you.

That universe might be a better space than the current version of the Internet. The net has some significant problems, the greatest of which is also one of the biggest attractors for young net users. The lack of commercial broadband access for US consumers led to the development of massive offshore piracy networks. Most people know someone who has downloaded pirated music or movies. The real root cause for the growth of online piracy was a lack of commercial infrastructure to allow consumers to get the goods legally. That critical infrastructure is only now being built and the web is liable to become the massive shopping mall that marketers dream of. I grew up around shopping malls and in my rebellious adulthood, I simply can't stand them anymore. I think most Net users feel the same way and vision the Internet as a better place to do commerce than the mall.

What if Internet users wanted something different? William Gibson, the author who popularized the term cyberspace, wrote of virtual representations of the physical universe that users would enter and virtually exist within. There are actually models that exist on the Internet aside from gaming communities but consumer home-bandwidth limitations stifled growth. Now that bandwidth is not the factor it once was, Googliters can really start to think differently.

Just as "Thinking Different" was easier for Apple to say than do, creating different in the current Internet environment is easier said than done. You need to control the infrastructure. Even if that control means making sure that nobody really gains control, the creators of something new need to control the basic environment in which that something evolves in. That's what the unused sections of the backbone might really represent to Google. If you can't join them comfortably, create another universe. Infinity is possible, but only for the creator.

While user acceptance might slow implementation of an alternative online-network; why not dream of one now, acquire the infrastructure to facilitate its growth and crank out the code that makes it work. The alpha-test phases can be run out of the equivalent of several large filing cabinets without disturbing the current Internet in any way. When conditions are ready for mass-market acceptance, give the people what they tell you they want. That's not really evil. It is effective long-term planning.

But what if Google is not considering building another universe? There is still a lot that can be done with that much bandwidth. There are at least two other credible theories that are based on Google stocking up for a more robust version of the current Internet.

Google's future is based on the continued growth of the commercial Internet and the exploitation of new consumer applications. Within the next two years, the Internet will become one of the primary conduits of

home-entertainment options. It will also play a larger role in helping time-harried consumers plan their basic-life tasks such as shopping, bill paying and home maintenance.

Microsoft is extremely interested in home-networking which is one of the reasons I think Longhorn's release has been so delayed. There is going to be a lot more information to examine in the near future than there is today. Television can be created on the fly and posted rapidly. World events like music festivals or football matches can be broadcast to billions. Desperate Housewives can come into our hard-drives anytime we want them too. Miss the Godfather trilogy? Soon you won't have to hope it is in at the video store. It will always be in stock and crisper than ever before. The home-entertainment/life-management phase of the information revolution is about to begin.

Buying surplus fiber optic networks will allow Google to do at least two essential things. First, it lets Google create full copies of file-types that would make most e-commerce sites look tiny. Secondly, it allows Google to support tools and applications that require a lot of user-server interaction. Google has access to technologies that have not been commercially introduced as yet. Some of the stuff they have been treated to, as recently as last week is virtually unknown to all but the programmers and those who read between the lines of press releases religiously.

Google is full of sensible geniuses who understand that fiber is an essential part of any diet designed to create the conditions for market domination. Remember the "size-wars" of previous years? Google needs the added bandwidth muscle to move files that are simply too big for anyone else. In many ways, this theory makes a bit more sense than the original theory that Google may be creating an alternative Internet. The Internet is changing and Google is gearing up to meet new challenges.

A last theory says Google is preparing to become one of the world's largest ISPs. Google is buying fiber in a number of places and could create an international ISP if it wanted to. This would make sense and would allow Google nearly unlimited freedom to do whatever it wanted to do with the network it establishes. Distributed networking, in which Google makes use of users' CPUs when they are not using them may be part of the end-user agreement for a free Google ISP account. Becoming an ISP might actually save Google a lot of money in the long run and allow it to emulate the successes of AOL. By harnessing the immense power of unused processors that are almost always connected to the net, Google might be able to cut the costs associated with running the massive server-farms that power their search engine. It would also provide the ultimate branding tool and could provide a stable base for financial growth. In some cases, it would also allow Google to exercise a bit more control over AdWords/AdSense by providing webmasters with free space to post pages AdSense ads appear.

Becoming an ISP would also make Google a global telecommunications provider. With the expected rise in VOIP applications, owning bandwidth is going to be tremendously important, much like ownership of telephone or cable lines is today.

What do you get when you take the world's largest information resource and add the biggest amount of unused but very real bandwidth-space in existence? I don't really know myself but I can't wait to find out. Whatever emerges, it will be built on a uniquely powerful foundation.

There is one final finite factor that rules all others and is the one that made the surplus of fiber in the first place. That factor is money. Right now, Google has lots of money, peaking above \$206/share earlier today. I remember when lots of firms had lots of money. So does Google. They used to be neighbors.