

# A **Googol** Ways To Take Over The World

**A Strategic Assessment of Google's Potential  
Entrance Into the Telecom Industry**

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# Introduction

Recently, telecommunication companies ('telecoms') have been exploring the possibility of restricting Internet access based on bandwidth. There are two main proposals. The first proposal is to offer an Internet with different levels of membership to individual customers through their ISPs. Some plans include levels labeled "silver," "gold," and "platinum." Each membership would offer certain services, with the gold at least encompassing everything that the silver has and the platinum encompassing everything offered in the gold level and additional features. The higher levels would of course come at a higher cost to the consumer. While this situation may anger some and will probably decrease overall usage of the Internet, this problem is much less severe than problems that arise from the other proposed tiered Internet structure.

The other main proposal involves charging websites for bandwidth priority. Highly viewed websites such as Yahoo and Google use a significant amount of bandwidth provided by ISPs, which the ISPs feel they should be charged for. In this situation websites will be forced to outbid others to have premier bandwidth from ISPs. This proposal is currently in violation of network neutrality laws that provide that information that is distributed through Internet providers can't be discriminated, data from Yahoo has the same priority to be sent as data from Google. However there is ongoing debate about these topics and possible future rulings by the government are most likely to determine this debate.

The institution of either of the tiered Internet plans would be a detriment to the health of Google. If consumers were forced to pay, Google would experience a drop in the number of consumers that would visit them. If websites were forced to pay, they would either have to undertake the new burden to finance becoming a premium provider, likely engaging in price wars with other search portals like Yahoo or MSN. Given that Google already knows that the telecoms plan to, or are at least exploring the idea of tiered Internet, Google has been given a significant time period to respond. This time period could be extended even further if Google uses the government to delay the explicit approval of tiered Internet by forcing hearings and helping to create a grassroots movement that would concern politicians. As we will see, the government does not seem prone to outlawing tiered Internet so Google will have to make a contingent strategy in the very likely case that tiered Internet comes into existence. Google has about four major avenues of reaction. First would be to create a coalition or other group to create bargaining power to collectively bargain with the telecom companies. The coalition would have to be enough of the market such that its bargaining power rivals that of the bargaining power the

telecoms would have with tiered Internet. The second option would be to create a capacity to become a telecom and not use it. This capacity would create bargaining power for Google because the telecoms would be afraid to push too far and cause an entry by Google. Thirdly, Google could expand into the telecom market itself and force the telecoms to behave in a more neutral fashion. The final option that Google has is to not respond.

Given the choices that Google has, its best option is to test the telecom market. This strategy is risky in that it would take a large expenditure to enter the market and the fiber optic cable itself is a limited commodity. Google would have to enter in such a way as to catch the telecoms by surprise and to position itself so as to discourage retaliation from the telecoms. In the past, the fiber itself and the costs to bury it were major barriers to entry. Any new entrant would have to put down new cable, which would be redundant and create too much supply in a region, or would have to rent from another company. Now with the emergence of wireless networks, a reasonable substitute for most wired networks over short ranges, Google can test a single metropolitan area without committing a huge amount of resources to put down or purchase “wire” from other companies. Google has and should take advantage of a unique chance to enter the telecom market utilizing a whole different system and redefine the telecom market. By developing and deploying wireless network technology, at least in metropolitan areas will leave the telecom industries in a race to catch up rather than Google trying to catch up with the telecoms’ vast superiority in amount of cable.

## **Tiered Internet**

The main argument that the telecoms have for tiered Internet is that they want to develop proprietary high definition video content as well as other real time services that require the timely transmission of mountains of data packets. Data like an email does not matter too much whether it is received one minute or the next and in what order since the computer reconstructs all the data packets after the entire package of data is sent. Video content, on the other hand, requires on time sending of all the data packets, otherwise the image or sound can be choppy. Internet phone companies could also have this problem, where the people on the telephone are not able to understand the person on the other end because the audio packets exit garbled or out of order. The telecoms want to make sure that if they were to develop this feature, they would be assured that they would be able to guarantee customers would see their favorite sports games or have Internet telephone conversations without fear of interruption. If the transmission capacity continues to grow like it has in the last decade, there will not

be a problem of adequate bandwidth for all of these new services. However, in the present, increasing the strain on their capacity could cause major holdups for the telecom industry and destroy the profitability of new growth into the area of higher demand broadband.

If the proposals are implemented, the telecoms are not the only players that will be hugely affected. Websites that have a large amount of visitors and do some form of business online, whether it be through advertising deals or actual transactions, may have to factor this additional cost into their financial statements. If consumers have to pay for priority content, then they will use websites less unless the demand for the website is completely inelastic. A loss in hits for the website means less money from advertising or less deals through transactions. If websites have to pay for priority, then the cost is an actual price that subtracts from their profit margin. In December of 2005 alone, Google had “16.5 trillion sponsored link impressions” and Yahoo had 9 trillion.<sup>i</sup> In the interest of not being held up by the telecom companies, Google is rumored to have bought up a massive amount of “dark fiber,” which is unused or excess fiber optics cable that the telecoms have laid as an expectation in need. The fiber itself was originally laid and then afterward it was discovered that each fiber’s transmission capacity could be increased 16 times by splitting up the beams based on the color spectrum.<sup>ii</sup> If true, this expenditure could prove to be the Achilles Heel of the tiered Internet scheme. The success switching over to tiered Internet is vitally dependent on all of the major Internet service providers (ISPs) doing so such that there is no consumer bargaining power to switch over to the current system of provision under a different provider. This switch alone would provide a difficult coordination between the telecom companies because if any one defects, it could take a substantial gain in market share because consumers show a big preference of non-tiered to tiered Internet. Adding Google to the equation, which seems to have the biggest motivation to defect or create a different kind of service, could stop tiered Internet before it is implemented. According to the FCC, in 2004, only 53% of Americans even had a choice between broadband providers.<sup>iii</sup> Google would be hurt by any plans for a tiered Internet and thus would try to provide, through its purchasing of dark fiber, free or inexpensive unrestricted internet access to as many consumers as possible in order to undermine any attempt for the telecoms to holdup websites. A new entry by Google could lead to price competition, which leads to lower prices. It is obvious that the telecom companies are currently not pushed to the point of an efficient output because places like Japan or South Korea offer “up to 100 Megabits per second for \$50 per month.”<sup>iv</sup>

AT&T's Return on equity in 2005 was 11.2%.<sup>v</sup> The domestic telecommunication industry return on equity was 12.2% in 2005.<sup>vi</sup> Of course if Google entered the market, it would erode these profit levels through competition, but the profit levels seem so high that Google might be able to justify entry.

## Government

The Government will also play a major role in determining what Google's strategy should be. If tiered Internet is determined to be an illegal setup, then Google will have to evaluate an entry into the telecom without the benefit of keeping free of the telecoms. The FCC chief, Kevin Martin, has come out in favor of some parts of this restructuring, such as charging Internet sites, like Google, because they require a large amount of bandwidth. However, Martin said that the telecoms should obey network neutrality, in essence keeping the telecoms from deciding how their networks are used. The interpretation of "network neutrality" will play a major role in determining what kind of restructuring, if any, is legal under current regulations. This support is the first step to major talks with the FCC about so called "tiered Internet."

In an article in the Washington Post, a Verizon executive "Calls for End to Google's 'Free Lunch.'<sup>vii</sup>" In a hearing in the US Senate Commerce Committee regarding the possibility of tiered Internet, Senator Dorgan responded, "It's not a free lunch, the reason that I would have paid for [cable broadband / DSL] is that I want access to content that exists." Senator Dorgan is a strong believer in network neutrality. The main concerns of the committee in general seem to be preserving the ability of networks to make a return on profit and to "keep the Internet 'free.'"<sup>viii</sup> One key item that a committee member mentioned was that the US, the country that "invented the Internet" is now 16<sup>th</sup> in broadband deployment.<sup>viii</sup> The mantra of network neutrality could cause Congress to legislate for or against tiered Internet.

However, just recently, the House Energy and Commerce Committee voted 23 to 8 to not pass a bill to the full house that would ban tiered Internet.<sup>ix</sup> This signal that the house will probably kill any bill passed by the senate to protect companies from tiered Internet is a very big step towards allowing tiered Internet to come into existence. The house, or at least the committee seems set in its stance, but the 2006 midterm elections could potentially shake things up, especially if tiered Internet is not already invested in by the time the next congress is sworn in.

If the switch to tiered Internet comes into existence, as it looks like it will, Google needs to have a plan of action. The switch would be a major undertaking by the telecom companies. Not only would they have to make sure that consumers understand the switch, but also to make sure that all the telecoms agree to switch over pretty much simultaneously. Under the consumer pay version, many consumers may be reluctant to switch to a tiered system if they are locked into a proprietary high bandwidth system. Under the website pay version, some websites may refuse to pay for the service, so that consumers will not buy into a “partial Internet.” Either way, the telecom market needs to coordinate the building of the tiered Internet, which will take significant time.

This significant time period can be a major advantage to Google. First of all, the more that Google lobbies against and delays or denies the approval of tiered Internet from the government, the longer Google will have to act. Since telecoms have already signaled that they would want a tiered Internet, Google should use this time to prepare a counteroffensive. Google should consider entering the telecom industry to either destroy the tiered Internet setup by offering consumers an alternative, or even to share in the new profits of tiered Internet. Google should also consider a nontraditional telecom entry, utilizing the newer technologies of wireless or satellite Internet. Since Google is not known to have cables, it could possibly avoid them altogether. If Google were able to implement either technology at or below the cost of entering as a standard, wired telecom, it would be one step ahead of the major telecom companies, which are tied to their lines. Instead of entering and chasing the market, Google could potentially enter and redefine the market of Internet provision.

## **Google’s Dilemma**

A very serious question is whether Google should use the fiber as a deterrent for tiered Internet or to actually expand into the Internet service provider industry. As a deterrent, the fiber could keep the telecoms from holding up Google, but Google could also use the fiber to threaten the telecoms in their base market. Such a threat could cause major retaliation by the telecoms and if Google does enter, it should do so in a way that decreases the incentive for telecoms to retaliate, or it should prepare for a corporate war of attrition because the telecoms would be forced to fight back to a major assault on their main customer base: consumers who buy Internet and telephony services.

The top 4 telecom companies by market capitalization are AT&T, Verizon, Bellsouth and Alltel. Their market capitalization ranges from 24.8 to 102.0 billion dollars. Google's market capitalization is 115 billion dollars.<sup>x</sup> This means that in order to enter the telecom business it would have to expend a significant portion of itself. Also, because the wires themselves must either be owned or rented, Google cannot really test the conventional landline market without risking a huge portion of their capital.

On the other hand, the difficulties that Google would face in entering the telecom market are the very barriers to entry that will allow the market to stay profitable should Google establish itself as a major telecom company. There are only a finite amount of wires that have been laid, and putting in more is a very expensive process of getting the right permits, buying all the fiber and finally installing it. If Google somehow managed to acquire fiber without needing to install its own, it would make it even more difficult for new companies to come in and lay new fiber.

However, there is a developing technology that can be used to get around the need for fiber, which is the wireless Internet. It would appear that Google also seems to be looking to the future of the wireless Internet service provider industry and has begun testing plans and technology for a city-wide wireless network in San Francisco.<sup>xi</sup> Google plans to offer both pay service via EarthLink that customers can buy, and also a free service supported by advertisements. If successful, this venture could possibly circumvent all of the cable laid in the ground by the telecoms. The cables themselves represent a large barrier to entry because an entrant would either have to buy or rent the cable or lay some of its own, a major undertaking in its own right. Also, by offering a free service, Google essentially is trying to expand the market for wireless Internet. If wireless penetrates the market, consumers could move throughout the city or even change apartments and keep their provider without hassling to install new cables or having someone from the cable company to come out to set up the service, making people more likely to purchase a wireless network than a wired one. Essentially, at this point, the wireless acts like a network good in that the more people that have it, the more the word will spread and the more consumers will consider it as a viable alternative to cable-based Internet.

In addition, the city-wide wireless network can be its own self-contained bubble, in which Google tests the market, without actually making the expenditure to buy or build all the wire at once. The wireless

deal, if successful, could also provide Google with protection from entrants, since Google has an exclusive deal with the city of San Francisco to provide wireless Internet.

A possible backlash could come from the collection of information the Google is suspected of using, which could be more prevalent when consumers start using Google's wireless access. Google says that it will keep the information only for 180 days and only to help personalize advertisements to the region that the person is currently in. Privacy advocates worry that law enforcement or other agencies could potentially be drawn to use of Google's database of users. In response to this concern, the city of San Francisco is requiring Google to modify some of its plans to increase the security and privacy of information. However, the same issue came up with Gmail, Google's version of free email service and it is still largely successful. Gmail itself accounts for 9% of Google's total daily traffic.<sup>xii</sup>

In addition to San Francisco, Google is also currently providing wireless Internet in Mountain View, California. EarthLink, Google's partner in the San Francisco deal, is providing a pay service in Philadelphia, Pennsylvania, covering 135 square miles, compared to 47 in San Francisco.<sup>xiii</sup> Also, EarthLink has made bids for providing wireless services in Anaheim, California; Minneapolis Minnesota; Portland, Oregon; Brookline, Massachusetts; New Orleans, Louisiana. If Google plans to permanently expand into the wireless market, it should seriously consider an acquisition or a more formal partnership with EarthLink. With Google's large cash reserves from its IPO it would not be difficult to buyout EarthLink, which has a market capitalization just over two billion dollars. With shares of EarthLink (ELNK) currently trading around nine dollars a share, Google could buy EarthLink out at an attractive premium, possibly as high as twenty dollars a share. Most if not all of the transaction could be in cash, depending on the financial and tax benefits debt or equity will have on the buyout.

Voice Over IP (VOIP) is another area Google could possibly enter. The two current major retailers of VIOP are Skype and Vonage. Skype, which was recently purchased by EBay for 2.6 billion dollars, is a free service for inter-member calling and fairly inexpensive charges for calls to landline phones. Skype is software based and requires the use of a computer and there are currently options for USB phones, but it continues to be a technology that, in the eyes of the average consumer, may not be a direct replacement for their current landline phone service. Vonage, on the other hand, is trying to replace landlines completely by having standard calling services and using VOIP phones which directly replace the ones currently occupying most households. Recently Vonage IPOed and the stock has slid down

from its initial trading price of seventeen dollars. This indicates the public's lack of support for a paid VOIP service that stems from the difficulty VOIP faces as a disruptive technology for landline phones and having to pay for a service when there are others such as Skype who offer it for free.

As a mode of entrance into the VOIP market, Google has introduced Google Talk, a messaging service similar to AOL Instant Messenger (AIM) or MSN Messenger, but it has features which link it to Gmail, Google's free email system, and also allow people to call each other through a simplified VOIP system. Google Talk is having a relatively slow start mainly because of network effects of messaging services which require many users before many consumers will consider using it. Google is attempting to speed up this process by making it cross compatible with AIM, one of the most popular Internet messaging services. This will help avoid networking problems by starting with a larger customer base. In another effort to increase Google Talk's reach, Nokia is installing the software on their new 770 Internet tablet devices.

## **Reaction**

The one partnership that seems best poised to counterattack is SBC, now AT&T after the SBC's purchase of AT&T, and Yahoo, who currently team up to provide DSL service. The Telecommunications Act of 1996 deregulated the telecom industry, bringing it closer to a competitive market. Google can take advantage of this by vertically integrating into the sector of providing Internet service, and purchase or merge with an ISP as mentioned earlier. Yahoo could react by doing something similar with AT&T or another telecom company. These results are unlikely due to the size of these mergers and the limits to synergies that could be derived above those of a basic contract agreement between an ISP and Google or Yahoo. Also, the AOL Time Warner merger has illustrated the downsides of a merger with similar synergies, AOL as an Internet portal and Road Runner as a broadband cable service.

The one thing that is critical for Google is to have a strategically favorable position in the telecom industry to deter the current ISPs from attempting to hold up Google through a tiered Internet system.

It does seem that there is still room for more telecom competition, however. That is the US consumer is paying an average of "10 to 25 times more" than the Japanese consumer for broadband service.<sup>xiv</sup>

## **Conclusion**

Google, search engines and websites as a whole have something to lose with the institution of a tiered Internet. It is not year clear whether the concept of net neutrality will block the institution of a tiered Internet, supported by the major telecommunication companies. Google should vigorously push for a restriction on the telecoms to not be able to use a tiered Internet strategy. However, Google should, and seems to be, preparing for a case in which the battle in the capitol does not go Google's way. If the rumors about Google's dark fiber are true or if Google/EarthLink's partnership to create metropolitan wireless networks is successful, Google is in a prime position to flank the telecom companies. It does appear that the telecom companies have been slow to react to Google's probable entry into their market. This may be partly due to the fact that Google has kept any major developments or signals of entering the market as just rumors. If Google were to enter into the telecom business and face off directly against the established competitors, its best strategy is to grow as much as possible without the telecoms knowing. That way when it becomes obvious that Google is entering, the telecoms will have to respond to a fully capable telecom provider rather than a new entrant.

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