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Dave McClure • Nov. 13, 2013

From the [Bleeding Edge](#) blog.

The 21<sup>st</sup> Century brought to the American language a slew of new terms and concepts, from Googling and Sexting to Unfriending and Tweeting. But by far the least understood of the new terms, and the one that puts users at risk of serious limitations or financial penalties, is the Cell Phone Data Cap.

Anyone who has allowed a child to play with a smartphone or has traveled overseas without shutting off their cell phone, knows the financial penalties involved. The outrageous phone bill for hundreds of hours of Angry Birds game play, or the non-stop data downloads as your phone pings off of foreign cell towers to push email and update data.

This situation evolved so rapidly that virtually no one could predict the chaos it would create. In the beginning, and even as late as 2006, the data demands of smartphones were modest. A little email here, a discrete web enquiry on a three-inch screen there...it just didn't add up to much. Three things happened after 2006 to change all of that:

1. **The recessions.** Successive recessions since the housing market crash in 2006 have left families in cost-cutting mode. And while Internet connectivity at home is one of the last things most families cut, they have delayed investing in new laptops and desktop computers. Instead, they have invested in lower-cost tablets and smartphones, shifting many of their online tasks to these lesser devices – each of which has to have its own data plan to carry the load.

## 2. Changing telephone markets. There was a time when cellular phones were little

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...phones, they were expected to do more, and do more quickly. This meant that each smartphone used more data, and required faster throughput. Streaming video emerged as an information source of choice, as did streaming audio for music. The cell phone companies, scrambling to keep up with this demand for data, were forced to invest billions of dollars to build out their networks and increase capacity. Billions that had to be recovered through bills to users.

The history is interesting, but it doesn't help the accounting professional understand data caps, how to avoid them, and how to manage the costs of data in a reasonable framework for the firm's finances. The initial strategies for cost control – only giving smartphones to those who really needed them for work, and only paying for data used for work – quickly crashed in the face of crushing demand.

First, understand that there is no such thing as “unlimited data.” Some cellular companies, like Verizon, are very upfront about the fact that you can buy up to 6 GB of data per month, and if you go over that allocation you will have to pay more. Others scream “unlimited!” in their ads, but in the fine print you will discover that once you go beyond their threshold of usage they will quietly throttle your throughput down until the phone becomes virtually useless for the rest of the month. In many cases, the cell phone company will deny they do this, or will refuse to tell you when this threshold is reached.

Worse yet, many companies impose another, equally secret limit – a throughput limit. This is designed to combat the increasing use of high-definition video by throttling back the amount of data than can be transferred to the phone. The reason is simple – a few users streaming high-definition video to watch movies on their cell phones will eat up all of the bandwidth at that cell tower, making it inaccessible to other users.

This is a simple – actually, very simple – explanation of data caps. The real question

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are any), call tech support instead. Tech support people understand what you are going through, and are not paid according to what they sell to you.

- **Learn how much data you use for what.** Not knowing the streaming rate for Pandora or Netflix, for example, is an easy way to bust your data cap. Both AT&T and Verizon have calculators online that can help with this. Verizon's Calculator (at <http://www.verizonwireless.com/b2c/splash/datacalculatorPopup.jsp>) estimates that for a 4G cell phone the data usage rate would be:
- Email (text only) = 10 KB
- Web Access (internet and Intranet) = 400 KB
- Audio Streaming = 60 MB/hr
- Audio Track Download (3 1/2 min at 192 kbps = 7MB
- 3G Video Streaming = 250 MB/hr
- 3G Verizon Video & NFL Mobile Streaming = 125 MB/hr
- 4G Video Streaming = 350 MB/hr
- Digital Photo download/upload (Hi-Res) = 3 MB
- Navigation Turn by Turn Directions<sup>\*\*\*</sup> = 5 MB/hr

(Where 1 MB = 1,024 KB and 1 GB = 1,024 MB.)

- **Monitor your data usage.** This is especially true if you are on a “family share” or “business share” data plan. Remember that one wayward teen or new associate who downloads a couple of movies a month – or likes to watch TV shows when commuting – can bust the data cap before you even realize the danger. To monitor your data usage...well, there's an app for that.
- **Watch for new plans.** The cellular companies are in the midst of a competitive meltdown, and it is likely that several of today's brightest stars won't be here in a year or two. In the meantime, competition for customers is fierce – which means they are practicing the age-old marketing game of Limbo Rock (How low can you

go?). New plans, with looser limits, are emerging every day but may not be widely

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See your phone's data in ways that enhance your mobility, but not at the cost of running up a massive tab.

- **When all else fails, call Customer Retention.** So you spend two weeks in Europe, forgetting to turn off your cell phone, and get a bill for thousands of dollars in data roaming charges? You are likely to be stuck with the bill – but don't roll over and play dead. Every communications company – phone, internet, cable, satellite, etc. – has a Customer Retention Department. Unlike the customer service reps, who have little ability to do anything for you, the Customer Retention Department really, really wants to keep you as a happy customer. If anyone can do anything to help you, it will be them. But you have to ask to be transferred to them...it is not automatic.

Sometime in the next decade or so, we will look back on the cellular companies and their silly data caps and wonder how we ever endured it. Our children will look at us as though we were crazy, talking about the data caps and big clunky phones of our youth. Much in the way that my grandson laughs when I tell him I used to watch television in black and white.

The pace of technological change, competitive pressures in the marketplace and consumer demand for ever more instant communication are already dooming data caps and plans, just as surely as the advancing science of teleportation will soon change how we travel and commute. But those are topics for another blog post and another day.

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