

Crossing the Digital Divide (v83)

“Hello”

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for the Observer

Modern financial services, enterprise businesses, and almost every grocery store, clinic and gas station cannot afford to have key applications and services unavailable because a network carrier's system is down. As news emerges daily of Telecom mergers and acquisitions presenting consumers with fewer choices, true carrier diversity becomes increasingly difficult to achieve.

Let's let that sink in for a minute...

The modern world runs on the Internet. True, we live in a community where rolls of Jackson's are more common than a credit card, but let's consider the implications of a single telecommunications service provider experiencing an outage:

- Any business that relies on credit card sales may well lose revenue
- Grocers who accept EBT will have to send customers' away, hungry
- Banks will not be able to deposit checks and return cash
- Clinics and Pharmacies will be unable to validate insurance, and may not be able to order medicine
- Cellular traffic, long distance phone calls, voicemail and more will fail when a service provider loses Internet access.

You've all heard about the “final mile”, and this country's aging (legacy) copper telephone infrastructure. There are alternatives, from fixed wireless, coaxial cable and fiber optics. Having a contemporary “connection” to your home or business is important. Of greater importance, and one this community has been subjected to many times in the past year or so, is service provider Quality of Service. The three-lettered provider whose fiber optic cable runs from county to Stateline has yet to deploy route diversity. Why not?

A short story to drive home the importance of Internet route diversity for any business, but increasingly imperative for any serious provider of services to rural communities.

I was working for IBM/ROLM at the tail end of the last century. My office on the 23rd floor of 425 Market was walking distance to a handful of Investment Banking, Credit Unions and Financial Services companies to support and sell services into. I also inherited Goldman Sachs, *the* name on the street.

I made a call to the CIO of Goldman, introducing myself and requesting a meeting date. Greg was responsible for all Goldman offices west of the Mississippi River. Upgrading Goldman's telecommunications platform would have made my year.

Greg and I spoke for ten minutes, I had naively scheduled our meeting during trading hours. Greg made a point of this when I arrived for our meeting, as well as a far more critical point as he invited me to view their active Trading Floor.

“Hoot and Holler” megaphones, massive displays of flashing lights, red/green/yellow buttons splayed across a massive “phone” bank, every starched-white clad sales guy screaming buy/sell orders with half burnt cigarettes hanging from their lips (it was a different time). I was mesmerized.

Greg asked me if I had seen one of the new, V-Band digital turrets yet. Of course I hadn't, they were BRAND NEW, BLEEDING EDGE technology at the time. Greg then took me to the end of the turret, where there was a huge cable with a gen-lock (had to twist to unplug). I looked at Greg, and froze as he grabbed the gen-lock, gave a quick twist to the left, and yanked the power from a turret bank supporting eight sales guys.

Not a single flashing light went out.

Greg says: This is the level of redundancy we demand from any vendor. I have three different telecommunications carriers supporting this branch office. We will not lose a call. One trade might be worth millions, and yes, those are quite common up here.

So, my take away: every carrier will have issues. Every piece of equipment will fail. How to anticipate for and plan for those failures is the difference between a sale and lost revenue (or, in the case of emergency services, the difference between life and death). Some companies understand continuity, and implement as many safeguards as is economically viable

Natural and man-made disasters will occur. 100% uptime is unrealistic, but near perfection is plausible with planning. Large businesses demand and receive uptime figures of 99.999% (5-9's). Smart network managers (and well run independent ISP's) purchase services from multiple carriers, and pay less for 3-9's, or uptime commitments of 99.9%, then aggregate those circuits so that one failure may slow things down, but not stop them entirely.

What does this uptime commitment mean in terms of outage time:

Daily: 5-9's is less than .9 seconds a day. 3-9's means up to 90 seconds

Weekly: 5-9's is less than 6 seconds a day. 3-9's means up to 10 minutes

Monthly: 5-9's max 26 seconds down, 3-9's, 45 minutes.

So, Hello AT&T, your service delivery to the businesses, public and private customers in Sonoma and Mendocino is far below your own lowest grade commercial uptime rate of 99.9%. No route diversity, no apologies, no action. Natural disasters will happen, but your single fiber strand is not reliable, by commercial standards, and your demonstrated lack of response socially reprehensible.

Control those things you can, and keep the surprises to a minimum!