This entire jury-rigged scheme needs some work

The Net Broke After Christmas

The internet is just half a century old and yet it is a vital means of communication which the entire world now depends upon. However, it is becoming increasingly obvious that, like so much of the aging infrastructure of modern society, the whole system is barely withstanding the huge strains placed upon it.

Right after Christmas, a series of events occurred that demonstrated how intertwined, complicated, and fragile this amazing telecom system is, and how little we understand about how these connections work. And what is perhaps even worse is that the few answers being provided, all wrapped in tech jargon, do not make it at all clear what really happened and what it might mean for the future.

A major outage mainly affecting CenturyLink customers began on the morning of December 27, lasting two full days before being fully resolved. It knocked off residential phone and net service around the country. There were numerous other problems scattered about that also seemed associated with it. But a **cyberattack** against various major US newspapers a day after the outage was likely unrelated.

In any case, **911 emergency services** were knocked out in sections of Arizona, Idaho, Massachusetts, Missouri and elsewhere. Here people were advised to call the local police numbers which were unaffected. Plus, **phone service** was shut down to Idaho prisons, patient records were inaccessible in some hospitals, **ATMs** produced errors or didn't work in scattered locations. And **Verizon Wireless** service was disrupted in Albuquerque and parts of Montana. Many websites, such as airline ticket sellers, were knocked out and phone service was likewise impossible.

So many of our members couldn't get online that here at SWCP that we had too many calls to answer and had to resort to an automatic message on our tech support line as we could do nothing about it .

CenturyLink claims that the **root cause** was a network management card in Denver that somehow went bad and started spewing so much garbage data that it filled up not only the massive fiber-optic channels it ran but also the secondary back-channels used to provide emergency controls during outages.

So technicians had to physically locate and remove the bum card, add "polling filters" to screen out the garbage, and disconnect the secondary channels, which took time. Then they discovered that the "sickness" of the first network card had somehow mysteriously spread to others across their entire network.

Repair teams were dispatched in New Orleans, San Antonio, Kansas City, Atlanta, and Chicago. The original misbehaving card was pulled but not replaced, and both it and various logs are being carefully examined. The FCC has promised to **investigate**.

There are a *lot* of questions about all this. Yet CenturyLink has been noticeably reluctant to release information. Basically what little we know came from a **leaked trouble ticket**. Technical experts, including the ones running SWCP, seem to be mainly shrugging their shoulders in puzzlement at the moment.

They mutter about the complexity of the systems, where software often performs what hardware used to do. It's all intermeshed in giant server farms. Everything is done "just in time" with little margin for error. There is a lack of redundancy and backups across the system which was shown in how severely the loss of just one big provider disrupted all kinds of services.

Part of the problem seems to be that the fault happened at a deep level just above hardware. Occurring below the control software that could direct or manage the flow, it unleashed a flood of useless ones and zeroes that simply overwhelmed the entire system.

If that is what happened, then the failure of the network card was like a water valve breaking in the basement, flooding the house. The big mystery is not only *why* did it fail in such a manner, but *how* could it cause other cards across the network to likewise fail.

The fact that CenturyLink has *not* replaced the card, but is holding it for forensic exam while it works around it may be quite telling. They claim the event was unrelated to any maintenance. But at this point, it is unknown whether it was a hardware bug, a new weird network effect – or a deliberate malicious act.

Cyberwar is here

Sabotage or not, however, it's a safe bet that this whole thing was closely monitored by the NSA and their foes as a potential **cyberweapon**. For online attacks, of course, are the greatest threat – and strain – on the internet today or in the foreseeable future.

An **undeclared war** is constantly raging across cyberspace, 24/7, 365 days a year, and has been for years, if not decades. It is a war of all-against-all on many fronts: nations spying on other nations, Chinese companies stealing competitors' data, Eastern European hackers phishing for consumer info; even domestic online stalkers and trolls are all part of it.

Like all wars, the truth about the Worldwide Cyberwar is guarded by a "bodyguard of lies" – not just from **state-run propaganda farms** spreading political and social disruption, but the tech corporations who harvest and sell our data while giving **false reassurances** about safeguarding that information.

One reason is that the net is legally unregulated. There are the **basic protocols** that have been agreed to by experts around the world that make it function. But these basically work by trust, and a number of factors are conspiring against such faith.

There are no general laws or treaties that govern online behavior of anyone – individuals, companies, or nations, save perhaps in the **European Union**. With few penalties and the chance of staying unidentified, the net presents an alluring arena where the weak can attack the strong and get away with it.

Like bands of robbers attacking lone travelers, they've taken full advantage of any opportunities. Some countries like China have responded to the situation they helped create by hardening themselves. But their **Great Firewall** seems to be mainly to protect their political system from their own people.

Others are seeking to regain control of people's own data. Tim Berners-Lee, the inventor of the web, is now working on "**Solid**", a new platform that will separate user data from the applications that use it. Microsoft is also working on a similar project using a personal data bank called "**Bali**" but no matter how sincere that effort is, as a product of a tech giant, its ultimate purpose is more than a little suspect.

The web has been said to be going through a "Wild West" phase since it was born. Unfortunately, no cavalry or white-hatted sheriff is coming to save the day. What is needed against these rustlers and highwaymen is a **posse**. More trust and transparency between peoples is the only real solution, not less.

Let's hope this happens before the net *truly* breaks.

Gaming for Geezers

Video games are not just for the young anymore – or at least, they shouldn't be. Studies have revealed many significant physical and mental health benefits for older players. Gamers over 63, for instance, seem **happier and less depressed** than non-gamers.

Balance and walking speed were improved by games requiring **fast thinking**. Elders playing World of Warcraft for 2 hours a day over 2 weeks had **significantly improved** mental focus and spacial ability. Senior players of an experimental 3D multitasking game even **reversed the effects** of aging on the brain. After training on it for a month they were able to beat 20-year-olds who were first trying it out. Another 3D study showed that just playing 15 minutes a day might be enough to **stave off** Alzheimer's disease.

Unmentioned in these studies are the social benefits. For seniors, it's also a way to connect with their peers and relate to younger members of the family. The problem is not just that older players don't have the reflexes of youth, they don't have the **same interests**.

Studies show that the **competitive urge** declines rapidly in adulthood, far sooner than the craving for danger and excitement or the body's abilities.

Though video gaming is thus not the **waste of time** many older folks tend to think it is, it's not all shoot-em-up scenarios and violence. That has the biggest market share because like so many movies, games are aimed primarily at young, unmarried men. Yet **almost half** of adults over 50 play games, and most of that on computers rather than phones or consoles.

Fortunately, nowadays there is a rich universe of other challenging genres of games for which a killer instinct is not required. Therefore brain teasers, puzzles, and especially strategy games are more appealing to seniors than first-person-shooters.

Most popular in the over-50 crowd are card or tile games, followed by puzzles and logic games, then trivia, word play, or traditionally-based games. Follow us on the SWCP blog (**https://www.swcp.com/our-blog/**) as we explore these brave new worlds.