

Thin Links

By Hunter Newby



In a recent study conducted by yours truly on the subject of physical layer network vulnerabilities it was determined that there were at least 7 major undersea

cable cuts from 2000-2006. There were almost certainly more, but I only needed to go two pages deep in to my web search to get all of the examples I needed to prove my point. The evidence is in the newspapers of the countries and cities where the cables were cut. The headlines and the highlights of the impact on the region, people, economy, peace and stability were all relatively the same and practically identical. The really scary thing is just how predictable a total and complete loss is. It will happen, it does happen and the results are not pretty. The shocking part is how simple it would be to protect against the loss, but yet it is not addressed. I wonder if the insurance companies know about this.

Michael Richardson and Thomas Crampton with the International Herald Tribune highlighted the key points about an undersea cable cut between Australia and Singapore in November, 2000.

- The break in a key undersea cable link between Australia and Singapore this week underlines the vulnerability of global telecommunication networks and the need for access to alternatives in case of emergencies

- Communication satellites offer Asian and Pacific economies only a fraction of the capacity they need

- The region is dependent on increasingly powerful fiber optic cables laid on the seabed to meet the surging demand

for high-speed Internet access

- A specially equipped ship is due to leave Singapore Thursday to locate the broken section of cable in Indonesian waters and repair it — an operation that is expected to take “some days,” said Ivan Tan, director of corporate communications at Singapore Telecommunications Ltd.

- The company is one of more than 80 mainly telecommunications operators that own the damaged 39,000-kilometer (24,000-mile) SEA-ME-WE 3 fiber optic cable, which links Australia, Asia, the Middle East and Europe

The key points that can be taken away from this are that there was an undersea cable cut and they were not prepared. The first bullet really says it all. “Underlined” really means “uncovered” the vulnerability and the need for a Plan B which clearly didn’t exist. The second bullet is a classic. Satellite doesn’t cut it as a backup. Why? There is just too much traffic currently flowing on the fiber based networks and satellite cannot handle the rollover. Oh well, so much for that myth.

Given that the “region is dependent” on fiber wouldn’t you think that they would have a plan? In the absence of a plan there is also a reliance on a “special ship”. I wonder what the regular rate for that vessel is and how much it increases on a bad day. The Mean Time To Repair is another gem. It will take “some days” to repair. Some is not very specific. Keep in mind folks that the SLAs you all get from your service providers are based on realities just like this one. This SLA is more like SOL.

The final point is a clear indicator of the cost cutting measures driven by corporate profits that got everyone in to this fine mess. There are more than 80 different operators that own this cable. That is a whole lot of interests to contend with. After the fiber was repaired I wonder

who got their links back up first. Was it the biggest member of the group, or the one that paid the most? Maybe there are some other criteria, but I sure wouldn’t want to be a customer of the last network that came back up. It is difficult to know the answer to that, but it is a really good question to ask when you are signing off on your mission critical network deal. By the way, this particular cable system has had identical issues since.

These findings were presented at a session on the topic at PTC in Hawaii in January. One of the members of the audience had an interesting, but misguided, perspective on the presentation that it was a scathing tirade on the undersea cable community. It was not. The focus was not to pick on them, but the vulnerability of physical paths everywhere. The truth is that risk is risk and loss is loss and prevention and avoidance are prudent.

The undersea cables of the world were highlighted because they are the “thin links” between the continents that connect our nations and create the basis for world financial markets and the underpinning of the global economic system and civilization itself. Metro and long haul cuts happen every day and for various reasons, but they are easier to deal with because they are on land. They are easier to get to and repair and as a result cost less to fix.

The point is that all networks are in the same boat (no pun intended) and so are the users of those networks. Physical vulnerabilities are the most understated and misunderstood weakness in all networks including the Internet. Ignorance to this fact has and will continue to have an ever increasing impact on global economies, stability and peace if it is not addressed. **IP**

Hunter Newby can be reached at hunternewby@gmail.com