

# Taking the TOUCH Out of Outage



Mike Gieson

But sometimes the lure of maximizing savings (and an indulgent faith in 100% uptime of every network component) cloud better judgment. And, it really shouldn't, because it costs so little to implement adequate contingency access (and costs so much if you don't — when there's an outage).

Tales from the "I should have known better" Archives ...

By Joan Burek

There is a lot of discussion in IT these days about HA (High Availability), but when it comes to critical communications infrastructure, what business really wants is continuous availability.

## Some truths about DSL services ...

1. High bandwidth capability: 1 – 6 Mbps (download) and 640 – 800 Kbps (upload)
2. Savings of up to 90% of monthly connectivity cost when compared to legacy services
3. MTTR (Mean Time to Respond) from 24 – 48 hours, dependant upon Telco provider

After the applause and fanfare of points #1 and #2 have subsided, point #3 should give rise to a slap of reality. The Mean Time to Respond — not Repair — is 24 to 48 hours, meaning that after your problem is reported to the Telco, the Telco has that interval to launch problem resolution. There is no guarantee that the problem will be resolved within the 24 to 48 hours, or that escalation would be accepted.

It's not like the Telco providers have kept this a big secret — they're very open about the 24 / 48 hour interval which occurs

Monday through Friday and, about the fact that weekend and holiday hours aren't considered countable within MTTR accumulations.

DSL has a very different service commitment than Frame Relay's 4-hour MTTR, but that's not necessarily a bad thing. It just means that contingency access should be evaluated based upon the site's and application's accessibility priority.

## Case Study A

Merchant A operates a specialty eight (8) lane grocery store where its busiest times are Thu–Fri 5–8PM and Sat–Sun 10AM–5PM. Debit/credit for those lanes had been supported by four (4) shared business lines (for dial-up authorization), but was replaced by one (1) DSL link. The merchant secured a brand-name basic business grade router. The costs and savings are shown in **Table 1**.

Let's all do the cartwheel — demonstrating our glee at saving \$1K the first year and \$6K over three years!

Merchant A <sup>1</sup>	Pre-DSL	DSL
<b>Monthly Costs</b>		
- One (1) Business Line	\$ 320	\$ 40
- DSL Services	N/A	\$ 55
- ADSL Modem Rental	N/A	\$ 5
<b>Total Monthly Costs</b>	<b>\$ 320</b>	<b>\$ 100</b>
<b>One-Time Costs</b>		
- DSL Self Installation	N/A	\$ 100
- Router	N/A	\$ 1,500
<b>Total One-Time Costs</b>	<b>\$ 0</b>	<b>\$ 1,600</b>
12-Month Cost Comparison	\$ 3,840	\$ 2,800 Savings = \$ 1,040
36-Month Cost Comparison	\$ 11,520	\$ 5,200 Savings = \$ 6,320

**Table 1.**

<sup>1</sup> Pre-DSL modem costs are sunk costs and have not been entered; DSL Router configured/installed by the merchant. All costs are approximations.

But, now to reality... The merchant is exposed on a few fronts:

- The merchant's busiest hours are not traditional business hours for the DSL provider. That means fewer support staff with less seniority and expertise are at the Telco's help desk, which could translate to a longer outage.
- If a DSL problem were to occur on a Thursday or Friday, it's reasonable to assume that resolution would not occur until early the following week (remember that 24 – 48 hour and no weekend MTTR). While the majority of problems occur during implementation, outages still occur when change happens (and outage due to change could be caused by regular maintenance at the Telco's central offices).
- The brand-name basic business grade router is an entry-level router and does not support failover.
- Eight lanes are too much for DSL to support — not from a bandwidth/transaction size perspective, but more from the application's criticality. (No debit/credit = abandoned carts/no purchases = loss of thousands of dollars.)

The business survivability recommendations include:

- Keep two (2) business lines instead of just one (1).
- The brand name router is great, but comparable quality routers can be secured WITH an automatic failover capability for a fraction of the price. Some include an integral dial modem, but in this scenario the dial modem was separate.
- Subscribe to dial internet service (for the failover access).
- Get a professional to configure, install and end-to-end test the solution.
- Of course, the contingency dial service has much lower bandwidth than DSL and will result in slower transactions. But, the lanes will still be operational. Even if this configuration is used only once or twice in its lifetime, it will have more than paid for itself — in saved profits, business and customers.

### Case Study B

Merchant B operates a multi-departmental franchise with multi-lanes and external payment stations with similar busy times as Merchant A. Debit/credit for those lanes


had been supported by one (1) Frame Relay link, but was replaced by one (1) DSL link. This merchant — having read my earlier articles — secured a business grade router with failover-to-broadband capability. Failover-to-broadband was selected due to the bandwidth requirements of payment and point-of-sale applications. The merchant specified that the DSL provider must provision redundant broadband links, to ensure that guaranteed connectivity.

Savings, in this scenario were gained, even though guaranteed connectivity was the primary objective... **So, what went wrong?**

In its simplest definition, redundant broadband links mean two broadband links, so the Telco provider provisioned two DSL links using the same service, same central office and same network.

This really was pointless from a survivability sense!

What should have happened was the provisioning of a redundant, diverse service, preferably from different Telcos or carriers that ensure that an outage on one service does not immediately translate to an outage on the second service. The primary service, DSL, could have been paired with cable, T1, SDSL, line-of-sight wireless or any of the other high-bandwidth, but network diverse alternatives.

DSL is the better way — for bandwidth and cost, but it doesn't hurt to invest in a little insurance to smooth out the occasional bump in the road. 

**Jo (Joan) Burek** has designed and implemented systems and communications solutions for retail, finance, government, manufacturing, oil/gas and Internet companies for over twenty years. Ms. Burek has held technical and management positions at Radiant Communications, Ameritech (SBC), Canadian Satellite Communications, Bell Canada, Sprint Canada, and Motorola; and now works for TELUS. **Gateway or IP networking questions?** Please contact Jo at (647) 200-4924 (cell) or joan.burek@telus.com.

Merchant B	Pre-DSL	DSL
<b>Monthly Costs</b>		
- Two (2) Business Lines		\$ 80
- DSL Services	\$ 320	\$ 55
- ADSL Modem Rental	N/A	\$ 5
- Dial Internet Access (for failover to dial access)	N/A	\$ 25
<b>Total Monthly Costs</b>	\$ 320	\$ 165
<b>One-Time Costs</b>		
- DSL Self Installation		\$ 100
- Router	N/A	\$ 700
- Dial Modem (assume not integral to the router)	N/A	\$ 100
- Professional Services		\$ 300
<b>Total One-Time Costs</b>	\$ 0	\$ 1,200
12-Month Cost Comparison	\$ 3,840	\$ 3,180 Savings = \$ 660
36-Month Cost Comparison	\$ 11,520	\$ 7,140 Savings = \$ 4,380

Table 2.