

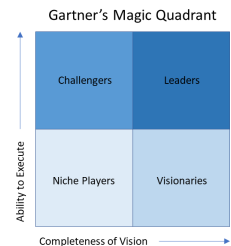
# The TMC ADVISOR

The Advisor is a periodical published by TMC containing articles of interest to Canadian Business Professionals

July 2022, Vol 9 #3

## How UCAAS Has Changed By Ellen Koskinen-Dodgson

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## If You Can't Stay Connected By Guy Robertson

Little things can overwhelm even the most sophisticated disaster plan. For example, your plan is based on the assumption that after an emergency, your power might fail but should return within three hours. But perhaps it will not be restored for several days. Never fear! At a substantial cost, your organization has purchased a state-of-the-art emergency generator. But will it work?



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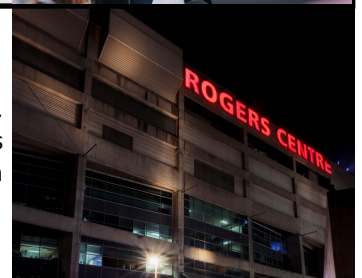
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## The Cost of Telecom Failures By Peter Aggus

Earlier this month, the Rogers network suffered a major outage whose impact was widespread. Clearly, as many have said, our reliance on telecom services needs to be reviewed. Whilst it is easy to blame Rogers, they are only the cause of this particular problem. Next time it could be a different carrier. So, if the real problem is the network design, what can we do?

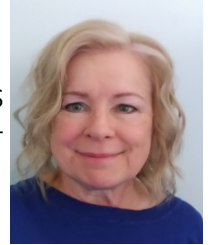


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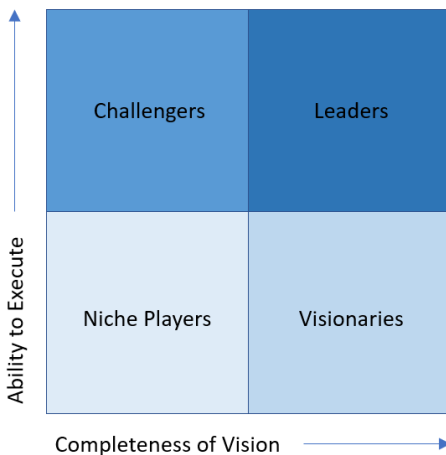


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### Gartner Magic Quadrant



The Gartner Magic Quadrant format identifies companies as Leaders, Challengers, Visionaries or Niche Players. The following table shows an extract of Magic Quadrant players over the years from 2009 to 2021.

### Traditional PBX Players

The major players used to be the PBX manufacturers. In 2015, most of traditional telephony players had fallen off the grid except for Mitel, who bought Aastra in 2013 and ShoreTel in 2017. Cisco didn't make the cut for 3 years, then bought Broadsoft and were back to being a leader. Alcatel-Lucent also disappeared for 4 years.

### IT Giants

IBM, Microsoft and SAP were early to the game but SAP disappeared by 2011. HP and Google (Google Hangouts,

Google Voice...) appeared in 2015 but HP did not make it to 2016.

### Carriers

Carriers got into the game in 2015 with AT&T, British Telecom, Verizon and others showing up. By 2019, most were gone, many brokering partnerships with RingCentral for UCAAS. Vonage remains.

### Going Forward

RingCentral is signing a lot of deals, locking in their position as a heavyweight in this space. They signed a strategic partnership last year with Mitel to become the exclusive UCASS supplier to Mitel's 35 million users.

Change will continue and I wonder which names will be missing in the 2022 Magic Quadrant?

Supplier	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
8x8							L	L	L	L	L	L	L
Alcatel-Lucent	L	C	L	C	C	C					N	N	
AT&T							C	C	C	C			
Avaya	L	L	L	L	L	L							
Cisco	L	L	L	L	L	L				C	L	L	L
Fuze								L	V	V	V	V	V
Google							C	C	C	C	C	C	C
IBM	L	C	C	C	C	V							
Microsoft	L	L	L	L	L	L	C	C	C	C	L	L	L
Mitel	N	V	V	V	V	L	V	V	V	V	C	C	C
NEC	C	C	C	C	C	C							
RingCentral							L	L	L	L	L	L	L
ShoreTel	N	N	N	N	N	N	N	N					
Verizon							C	C	L	L			
Zoom												L	L

### Cloud-only Players

2015 was the year of new cloud-only players like 8x8, RingCentral, Star2Star, and Fuze. Zoom is a recent arrival.

Consolidations continued as 8x8 bought Fuze and Sangoma bought Star2Star in 2021.

Our [complete table](#) is on our website.

If you'd like to comment on this article or explore these ideas further, contact me at [ellen@tmcconsulting.ca](mailto:ellen@tmcconsulting.ca).

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Ellen Koskinen-Dodgson is President and Managing Partner of TMC IT and Telecom Consulting Inc. She is an IT and Telecommunications Management Consultant, electrical engineer, author, speaker, media resource and Expert Witness.

## **If You Can't Stay Connected By Guy Robertson**

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### ***Don't Assume Anything***

The recent Rogers outage, which shut down telephone service and other essential online functions for two days, reminds us that such systems can fail. You cannot take operational continuity for granted. To do so is to risk serious inconvenience and possibly threats to personal safety, loss of reputation, and higher recovery costs. It can take months to resolve the problems that can arise after a telephone outage, during which your prime contacts, partners and clients might give up on you and seek alternative providers of products and services. After all, if another organization remains in communication with the public, why should people wait for you to recover your telephone lines and to deal with backlogs of messages, orders, and requests for information?

### ***Staying Connected During Disaster***

Your disaster plan should include backup options for all essential systems and business processes. Take nothing for granted. You realize the importance of backing up vital data, and your IT manager backs up all of the data that your organization needs for ongoing operations. Your property manager has reserved emergency office space for you and your staff at an accessible and secure offsite location. You have made arrangements with insurers, tradespeople, and temp agencies to



deliver what your organization needs after a disaster. But what about telephone service? If confusion and frustration prevail after a two-day Rogers outage, what should you do after a disaster that causes serious losses, downtime, and chaos over a much longer period?

### ***Stay Put, Stay Safe***

After a natural disaster such as an earthquake, windstorm, or wildfire, it is difficult to determine when telephone service will resume. Media updates can be vague. As well, there could be substantial damage to your local infrastructure—roads, bridges, power lines, and water supplies—that makes travel for even short distances dangerous. Thus, an effective disaster plan will include provisions for you to stay where you are, as long as you are safe and secure. Your office may be

cold and dark after an earthquake, and you may be unable to communicate with your family by telephone for days, but at least they will know that you will not put yourself at risk by attempting to make your way home. And they will stay home and not go searching for you. Staying in a safe place is frequently best for everyone after a natural disaster, at least until the situation is stable and local authorities are confident that travel is no longer risky.

### ***Learning from Rogers***

As for your telephone service, it will resume eventually. One positive outcome of the Rogers outage is that telecommunications vendors will need to consider backups and alternative options more seriously and strive to make their networks less vulnerable. There could be big solutions to the little things that threaten your operations.

If you'd like to comment on this article or explore these ideas further, contact me at [guy@tmcconsulting.ca](mailto:guy@tmcconsulting.ca).

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*Guy Robertson is a senior planner at TMC and an instructor at the Justice Institute of BC and Langara College. He has written five books and numerous articles on corporate security and disaster planning, and offered workshops and lectures at conferences across North America and in the UK.*

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### **What Went Wrong?**

Rogers have not yet admitted exactly, but it seems they did some maintenance on their core network that went badly wrong. It then took days to recover, during which time ALL of Rogers IP network services were down.

Network Engineers will all agree that these core networks should be designed to be highly fault-tolerant (with diverse routing and system duplication to protect against failures like this). All carriers will be looking closely at what caused what, and why so much of the network crashed—to reduce the risk of this happening again.

### **Reliability vs. Cost**

No technology is 100% reliable—period. If our application of technology is “Mission Critical” then we need to build closer to that 100% goal by designing our use of technology to be fault tolerant. Instrumentation systems in aircraft are always duplicated. Autopilots have more redundancy exactly because the designers want higher reliability than is possible from a single system. Designers of computer systems, sadly, often go for minimising cost as opposed to maximising availability. That includes systems at Interac, some banks, credit card agencies, and other financial services. These failures in turn impact many users who aren’t themselves served by Rogers, but found themselves out of business for days because their support services relied on Rogers. Rogers



cellphone users were unable to call 911—something the CRTC admits was never supposed to happen. There is no doubt that that was Rogers’ fault. Perhaps it is time for serious changes.

### **Cellular and IP Fallback**

Ironically, both Cellular and Internet (IP) services are highly fault tolerant. Cellular can (and DOES out of country) “roam” onto a different carrier. Sadly, it is policy that the carriers in Canada do not allow cross-carrier roaming—something that would have allowed Rogers cellular customers to seamlessly switch to using another carrier. It is for the CRTC to make that policy.

IP networks were originally designed to be virtually indestructible—but doing that means that edge routers need to have access to a backup carrier. Perhaps this too is for the CRTC.

### **Backup & Load Sharing**

A simple way, even valid for Home Office systems, is to employ a dual-port router as the network gateway. The primary port will normally carry traffic and the backup port might connect to a cellular modem (on a different carrier). You may never use the higher cost cellular data but it is there if your primary network fails.

An extension to this would be to rent two services from different carriers and load share 50/50. That is more expensive than basic backup but it will better support normal traffic.

### **What You Can Do**

Establishing an effective Plan B to be used if your normal business Plan A fails is an essential component of disaster planning and business continuity. Whether that failure is caused by a power outage or a network issue or cables being dug up, a well thought out Plan B can prevent downtime and maintain normal system processes.

If you’d like to comment on this article or explore these ideas further, contact me at [peter@tmconsulting.ca](mailto:peter@tmconsulting.ca).

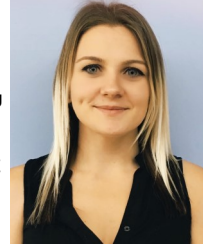
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*Peter Aggus, as an engineer & technology management consultant, has developed innovative & cost-effective solutions for clients in many industries.*

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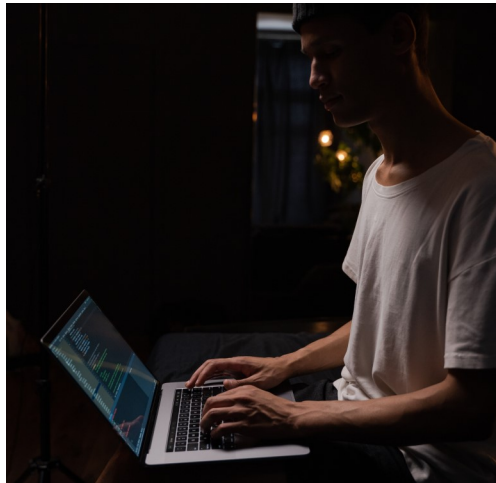
### **Current Advice**

A quick Google search of working from home during a power or network outage will yield the following advice:

1. Go to a café that has free Wi-Fi.
2. Use your cellphone to hot-spot your other devices.
3. Purchase a mobile broadband USB stick.
4. Use your car to charge your electronics.
5. Buy a backup generator.
6. Go back to the office.

What does all of this advice have in common? It puts the onus onto the employee to fix the problem, often funding it out of their own pockets. Many staff do not have the resources required to adapt to network failures or power outages. Almost half of all working Canadians live paycheque to paycheque, so they likely would not be able to afford the additional (but necessary) equipment or service costs. Alternatively, even if they could afford it, they may not have access to a car to relocate to an area that's unaffected by the outage, or they may not have childcare available on short notice.

So, what can companies do to ensure that their staff, especially essential personnel, can stay connected in the face of failure? Many of the suggestions listed above can be funded by



employers, including backup power, secondary network equipment, or company cell phones that can be used for hot-spotting.

### **Set Them Up for Success**

At the start of the Covid-19 pandemic when employees were first sent home, some employers also sent home equipment, and paid for a portion of the employees' personal internet. This was so that they would be able to complete their tasks even when they weren't in the office. Unfortunately, now that many organizations have re-introduced working from the office, the push to supply workers staying at home with the necessary tools for success has somewhat fallen by the wayside.

As we've seen from the recent Rogers outage, when networks fail,

businesses can take a huge hit. Just as disaster planning needs to occur in the workplace, continuity plans need to exist for essential employees that work remotely as well. Organizations need to harden their employees' connections (wherever they're connecting from), and shouldn't expect them to pay for it. After all, you wouldn't charge your employee in the office for the space their files take up on backup servers, or expect them to pay rent in the emergency office space if your workplace had to temporarily relocate.

### **The Future of the Office**

40% of Canadians in 2022 reported that they are doing most of their work remotely (up from 4% before the pandemic). It's time that they were included in business continuity planning, without having to fund it themselves.

If you'd like to comment on this article or explore these ideas further, contact me at [elleni@tmconsulting.ca](mailto:elleni@tmconsulting.ca).

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