

TMC'S ADVISOR

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Staying Up To Date Issue



Just When You Thought You Were Safe—Perils of Google

By John Glover

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Head to Toe Wearables: Google Glass is the most well-known of the wearable technologies. Apple and an army of others are pushing smart watches. You can find smart shoes, camera ties, keyboard pants and even an electroluminescent dress that lights up with an incoming call. The opportunities are staggering and a little frightening.

[Voice over LTE \(aka VoLTE\)](#) - By Peter Aggus

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[The Unnecessary Disaster](#) - By Len Garis et al

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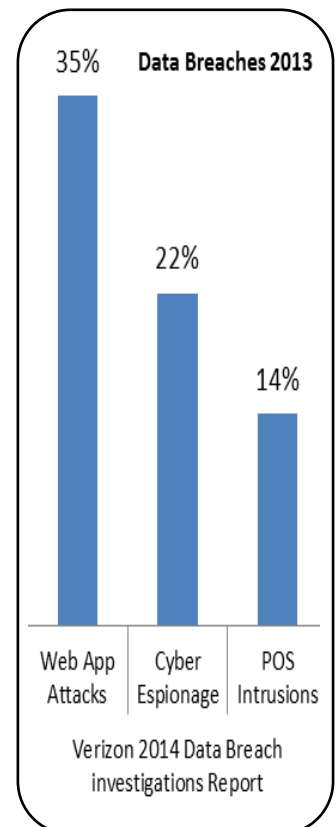
Penetration Testing

Attacks are everywhere and attacker sophistication is constantly increasing. Verizon’s survey reported 63,000 security incidents and 1400 data breaches in 50 global companies.

The top three most common data breach techniques are:

- Web app attacks
- Cyber espionage
- POS Intrusions

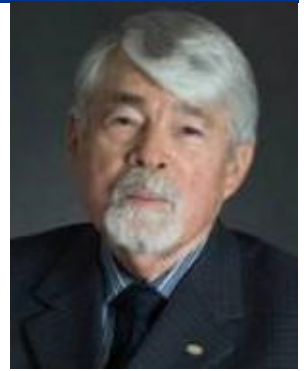
TMC can perform an **external penetration test** of your network as well as a scan of your customer-facing web applications using a specialized security assessment application.



Just When You Thought You Were Safe — The Perils of Google

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"To Google" has become a verb in common use and Google.com has all but become the default search engine when any of us wish to tap into the information wealth of the Internet. Have you considered what happens to your intellectual property (IP) or other information that you hand over to Google once we establish a search relationship with them? It's probably worse than you think.



The Dark Side

In 2004 **Scott Granneman** wrote a well documented article about using the Google search engine. I present some highlights from his article and have added a layman's guide to safe use of this very powerful tool that, unfortunately, has a dark side.

Who Owns My Information?

Well, the short answer is that both you and Google own it now. We first need to understand that Google is in the business of capturing everything that anybody willingly places on the Internet where Google can get at it. Once that happens, we have accidentally, or with full knowledge, given that information to Google to use as they wish. It's spelled out in their terms and conditions of use. "...When you upload, submit, store, send or receive content to or through our Services, you give Google (and those we work with) a worldwide license to use, host, store, reproduce, modify, create derivative works, communicate, publish, publicly perform, publicly display and distribute such content. The rights you grant in this license are

for the limited purpose of operating, promoting, and improving our Services, and to develop new ones. This license continues even if you stop using our Services..."

Create derivative works? Publicly perform? License continues (forever)? These are amazingly strong words. Google also collects a variety of your personal information such as your actual location, your telephone log, your



hardware model, unique device identifier (see this Advisor article) and so on. They make no secret of it.

Where's My Information?

Google built the GOOGLEPLEX supercomputer site to help them store everything forever (as have others like Microsoft and Yahoo). The data centre is outside of a small town 90 miles east of

Portland, Oregon and the location is hard to find as they've blocked it from being found by Google Maps. Of course, they have other data centres that likely have backups of your information and they don't publicize all of those, either.

Business Risk

It's important to seriously consider the implications of using any of the Google and associated applications for business purposes. Google's terms of use may well violate privacy and proprietary standards required by your business or your regulator. It may even be considered to be a crime related to confidentiality and protection of privileged information. Further, globally distributed data centres are subject to local laws and government access regulations – and we don't know where our information is located. There is much more to be said about our commitment to the use of this technology. Tune into the next chapter for explicit details or give us a call.

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John Glover assists national and international clients with governance, IT systems compliance auditing, IT risk assessment, information policy formulation and PCI data security.

Wearable Technologies

By Ellen Koskinen-Dodgson

Head to Toe Wearables: Google Glass is the most well-known of the wearable technologies. Apple and an army of others are pushing smart watches. You can find smart shoes, camera ties, keyboard pants and even an electroluminescent dress that lights up with an incoming call. The opportunities are staggering and a little frightening.

What They Do

Google Glass can be incorporated into your eyeglasses or worn as a visor to provide Android smartphone capabilities with a heads up display with voice or touchpad interface. To access voice commands, you need to angle your head 30 degrees.

Smart watches such as Sony and Apple WATCH generally interface to a smart phone, look like a watch (mostly) but provide a discrete



display of emails, appointments and other apps.

Armbands such as the *Myo* seem to be the most business focussed devices so far. They contain the same motion sensors as smartphones so they know how the device is moving but they go a step further and include sensors to measure the electrical signals from your forearm in order to know if you're making a fist, pointing or giving a thumbs up. This allows a no-touch way to control a PowerPoint deck, dim the lights or for a doctor to annotate a digital MRI.

Smart shoes such as Lechal can measure your exercise progress or, in navigation mode, vibrate when you need to turn.

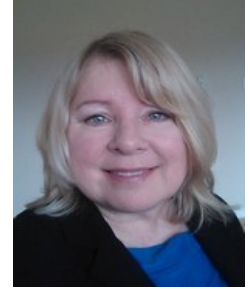
Wearable technology can support many apps including email, telephone functions, navigation, video and still photography, video and music players, health and fitness apps, electronic payment,



translation, news, weather...the list seems almost endless.

What They Will Do

Applications increase daily and this is where wearable tech can become a game changer. Wearable tech and associated sensors will be able to recognize faces and voices, notice when you're being looked at (security), sense your mood and modify it,



eliminate passwords through biosensor ID, automatically coach you if you're stressed or making mistakes...

Is It for Business?

It all seems gimmicky until you look into the possible applications and realize that 71% of 16 – 24 year olds want it (Forbes). It's going to happen and you better work on an adoption plan as part of your IT Strategy.

Automation World quotes General



Mills' Technical Director of Control and Information Systems Jim Wetzel, "Technology alone doesn't break down silos. The alignment of purposes across the silos breaks them down." It's clear that a big-picture approach is the only way to effectively improve information flow across silos and that this needs to be scheduled into business planning processes on a regular basis.

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Voice over LTE (aka VoLTE)

By Peter Aggus

Voice over LTE (VoLTE) is the mobile equivalent of landline VoIP. It's the carrier's answer to handling voice calls more efficiently over the mobile data networks and will transform the industry.



What is VoLTE?

It is an IP voice standard for the 4G LTE (Long-Term Evolution) mobile data network. Functionally it is very similar to its landline cousin. It is an open standard for handling voice calls over the mobile data network—part of a fully featured mobile multi-media solution that will likely evolve to include messaging and video.

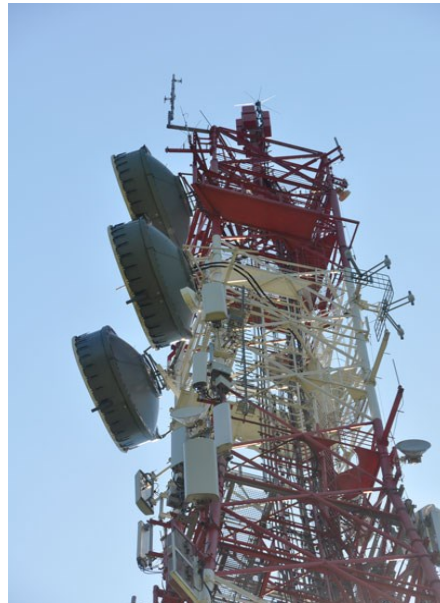
Why Should I Care?

Most users will want to know:

- Is it cheaper?
- Is it better?
- Does it do something new for me?

The answer to most of these questions is "yes". The only caveat being that its cost, at least in Canada, is not yet defined. Canadian users are accustomed to voice plans with lots of free minutes—and many carriers offer such services. However data in Canada is heavily metered and nobody gets unlimited free data.

Expect that to change in the future because bandwidth is limited and the carriers will ultimately have to favour more bandwidth-efficient solutions. Here VoLTE wins hands down. Its network efficiency is up to six times better than GSM voice. It is reasonable to expect



that the carriers might share those savings.

Using the data network has the further benefit of allowing handoff to WiFi, either on public networks or at home or work. VoLTE services will simply need an IP backhaul network.

Convergence

The key to the 'problem' for VoLTE to solve goes back to the desire to have a single network to handle voice, data, video, messaging, etc.—a true 'multi-media' communications solution. The landline world now uses IP as the preferred network topology and interfaces like SIP trunking to connect to customer phone

switches.

We looked at SIP offerings being introduced around the time of the 2010 Winter Olympics. It is now virtually the standard for all new work. VoLTE follows this lead.

Better Than Skype

There are currently VoIP apps for services like Skype. These work to an extent but all have problems. VoLTE is designed to solve many of the issues suffered in a mobile world. Ultimately this will become a set of services that will make the existing circuit-switched voice network a thing of the past.

When Can I Have it?

The Far East market has had access to VoLTE services since early this year. South of the border there are now 4 carriers with active VoLTE services (Verizon launched in September).

However Canada is still at the planning stage. Telus have engaged Ericsson to deploy the technology but no formal commitment to a service launch has been seen so far from any Canadian carrier.

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

The Unnecessary Disaster (Part 3) - Doing It Right

By Len Garis, Peter Aggus and Ellen Koskinen-Dodgson

Although an emergency plan can fall apart when a real emergency happens, there are ways to have a 'successful failure'. Here's a classic example of doing it right.

The Plan B

A critical part of any successful disaster planning process is to have a 'Plan B'. Plan B is an answer to the question: "what will we do if our assumptions are seriously wrong and something unexpected happens?" It's also worth taking the next step and having a 'Team B' for when Plan B isn't enough.

Apollo 13

When the oxygen tank exploded in the Service Module of the Apollo 13 spacecraft on April 13, 1970, NASA responded to the famous understated crisis call "Houston – we have a problem" in quite a different way than is the norm. Their emergency plan did not include one crisis team as is typical; rather, they had two complete teams.

The first team was the normal 'first response' team that managed the 'now issues', following the emergency plan as written, picking up the pieces and dealing with the immediate problems. The second team had a 'big picture' mandate and was assigned the job of 'planning the future' and working out 'what if'



consequences and options – free from the worry of the immediate crisis issues.

They took a systems approach to problem solving and operated in parallel to the first response team, receiving input from the first team but providing no direction back unless conditions changed enough to require deviation from the emergency plan. This is a powerful approach as it avoids the main failure point of emergency response teams where the team is so focused on doing a good job with the 'now' issues, that the 'what's coming next' issues are ignored until it's too late, thereby compounding the effect of the disaster.

The NASA rescue plan included using the Lunar Module's resources as a lifeboat during the return trip to Earth to conserve batteries and the oxygen needed for the last hours of flight. The crew jury-rigged the carbon dioxide removal system and suffered great hardship caused by limited power, loss of cabin heat and shortage of potable water, but they returned safely to Earth on April 17. NASA called the mission a "successful failure."

Target Failure

If you think through the assumptions in your emergency plan, identify and investigate every potential failure mode, and develop a Plan B to address each failure mode possibility, you've raised your odds of success many-fold. When you add a 'big picture' team of planners to look into the future, forecasting and anticipating problems and developing solutions before the problems occur, you have a best practice emergency response team.

Successful

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