

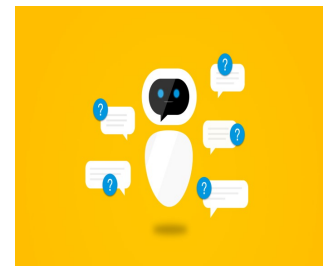
# TMC'S ADVISOR

Covering IT and Telecom from a Canadian Viewpoint

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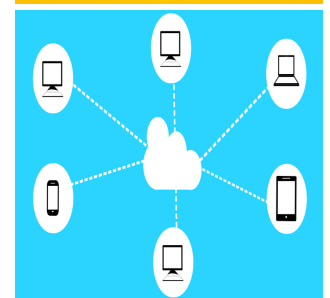
## Chatbots Now By Ellen Koskinen-Dodgson

Chatbots are now mainstream, and for very good reasons. They can improve customer service levels dramatically while simultaneously reducing operating costs. Done well, no one will detect that they're dealing with a chatbot instead of a real person when interacting through text messaging, social media posts, standard website chat sessions, or even on the phone. Of course, it's easy to get it wrong.



## Doing More with Hybrid Cloud By Peter Aggus

In 2013, over half of all businesses were using Cloud services to some degree. By 2017 that figure had risen to almost 80% - a great success, on the surface, but the depth of commitment paints a different picture. While Cloud can bring a variety of benefits, many businesses are unwilling to invest in a wholesale change-out, and may not have considered a strategic partial implementation. Here we review the value of different approaches to cloud implementations.

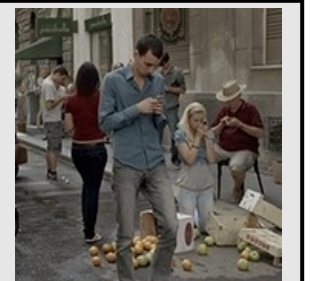


## Contact Centre Assessment

If you focus on making callers feel valued, you spend time to select your system and plan the configuration very carefully. You also improve your policies and procedures. Does your customer service reality match your expectation? TMC can benchmark you against:

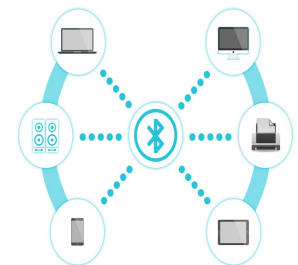
- Customer expectations
- Your peers
- Best practices

For a complimentary 15 minute discovery call, contact Ellen at [ellen@tmcconsulting.ca](mailto:ellen@tmcconsulting.ca).



## Bluetooth 5 at Last By Bill Tracey

When we think of radio communications, we think of WiFi most often. For Internet of Things, ZigBee and similar systems do a good job. However neither addresses the growing market for advertising and location assistance beacons and other new self-contained devices where extended range, greater battery life and longer broadcast messages are key requirements. The newly released Bluetooth 5 spec solves a variety of these problems.



## UC Lagging By Lee-Ann Dittrich

There are a wide range of services that fall under the umbrella of Unified Communications, but many organizations take advantage of only a small subset. West, the large US telco, has published a UC study that identified that only 50% of respondents have access to voicemail through their email, 67% identify that they forward their desk phones to their cell phones rather than using a unified system. Here's what they're missing by delaying UC adoption.



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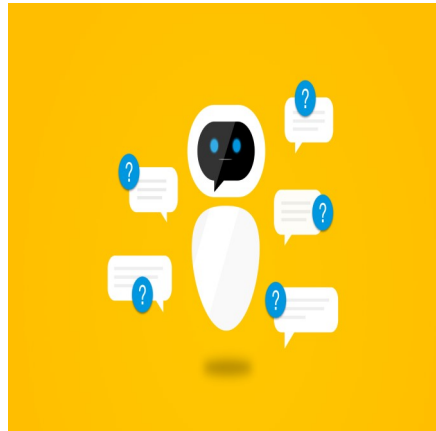
### Who Uses Them?

A huge range of organizations use chatbots. Cost conscious users include IKEA, McDonalds and other fast food chains. Airlines include Virgin Atlantic, KLM and Singapore Airlines. Financial users include PayPal and ING. Tech companies include Microsoft, Intuit and Orange. Even luxury market companies like Tesla, Mercedes Benz and Giorgio Armani use chatbots.

### What For?

Chatbots, usually with a text interface, though sometimes with a voice interface, are used to improve customer service or reduce costs in many areas such as:

- Financial: provide a balance, pay a bill, explain recent charges, buy a product
- Manage online shopping: provide order status, cancel an order, process a return
- Mobility: provide info on plans and pricing, upgrade a service, add or remove features
- Account admin: update billing address, reset password, update phone number
- Contact center: Provide help on how to use self-service, intelligently



route a caller to the agent best suited to help

### Be Careful

Careful planning and design is required to ensure a successful result. The first step is to ensure a fast and smooth transition from the chatbot to a human chat operator for when the chatbot doesn't know the answer. This will happen often during the early days of operation as a good chatbot project plan must include an ongoing loop of monitor, intervene, and improve.

### The Players

The major players include:

- LIVEPERSON

- LiveChat
- Amazon Lex
- Dialogflow
- IBM Watson
- bold360

### Costs

Some products, like LivePerson and bold360, want to connect with you to provide a quote. LiveChat offers a 30 day free trial. Dialogflow offer a free version for experimentation and for small businesses. Amazon Lex offers a free year with up to 10,000 text requests and 5000 voice requests every month. Overages are charged at \$0.004 per voice request and \$0.00075 per text request. IBM Watson offers the first 10,000 API calls per month free with overages charged at \$0.0025 each.

### Next Steps

It's time to get educated, likely through experimentation with one of the free offerings. Then you need to decide how to incorporate chatbots into your IT strategy.

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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.*

## Doing More with Hybrid Cloud *By Peter Aggus*



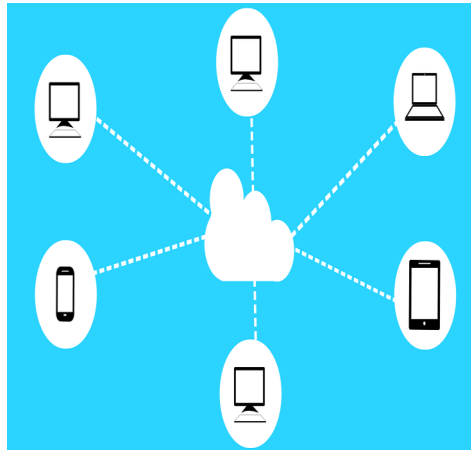
In 2013, over half of all businesses were using Cloud services to some degree. By 2017 that figure had risen to almost 80% - a great success, on the surface, but the depth of commitment paints a different picture. While Cloud can bring a variety of benefits, many businesses are unwilling to invest in a wholesale change-out, and may not have considered a strategic partial implementation. Here we review the value of different approaches to cloud implementations.

### Variations

End users interface with terminals that connect to programs that manage data. This has been unchanged since computers were first developed.

What has changed is the implementation and location of those components. In the beginning there were terminals directly connected to a mainframe. Then we moved to PCs network-connected to data centers. With the evolution of high speed Internet connectivity, the Cloud was able to offer its many variations.

- **Cloud storage** such as Microsoft Onedrive, Apple iCloud, Sync
- **Cloud Appliances** like servers, firewalls, etc. in the cloud (Infrastructure-as-a-Service) as extensions of an organization's IT network such as Amazon EC2 (part of AWS), Windows Azure
- **Platform-as-a-Service** provides a computing platform (operating system, programming language execution environment, web server, database, etc.) for developers to create and host applications. Providers include Windows Azure, AWS, Heroku



- **Software-as-a-Service** (with associated cloud storage) such as Salesforce.com, Office 365, Gmail

### Business Drivers

Two key drivers that make cloud an attractive option—reduced cost and increased security.

Cloud storage is a simple way of significantly improving data security without affecting end user perception—very attractive to get good buy-in.

Cloud appliances are an attractive way of offloading tasks from the corporate datacentre. Denial of Service attacks can be much better deflected in the cloud than after they have blocked internet service.

Platform and Software services are often more efficient and less demanding on internal resources.

### A Strategic Approach

A strategic Cloud approach needs to comply with your IT Strategy. Your primary driver may be security, cost savings, reliability or better support for DevOps. It may well be some combination.

Focus on where you get best benefits, which might be as simple as letting users keep their beloved personal data drives but protecting them by mirroring them into the cloud with a background service.

Part of your project plan for implementing your Cloud strategy must include a careful risk assessment. For example, adding Cloud data storage requires a good understanding of how that data is protected and where it is stored. For an example of very serious problems, in situations where no risks were anticipated, see [Trusted Partners expose Data](#).

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

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### Battery Power

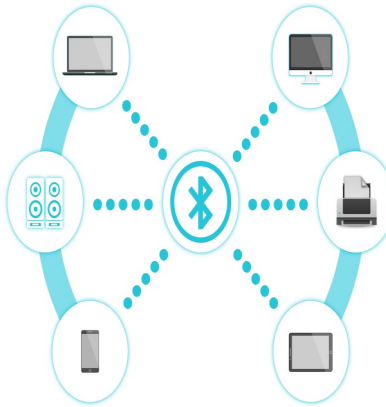
The first big challenge was reducing the demand on battery power to support long life on self-contained devices like Beacons. This is achieved by reducing the rate at which data is transmitted and including complex error correction to allow good performance with weak signals at long range.

### Data Rate vs. Distance

Bluetooth 4 had a data rate of 1 Mbps. Version 5 offers data rates of 125 kbps, 500 kbps, 1Mbps and 2Mbps. The lower 3 rates are designed for long range use and the 2Mbps rate is intended for more local use to upload software updates. All rates have signal bandwidth that fits within the 2MHz Bluetooth LE channel spacing.

In most applications, the lowest data rate will be used to capture users at greater range, with the ability to increase speed as the user gets closer. For beacon application this is the normal use, with advertising broadcasts being low data capacity and more detailed messages reserved for nearby users.

The low bit rate short messages also help with location services by adding



more node locations into a WiFi network. The WiFi APs can have built-in Bluetooth 5 nodes and portable devices can have an 'app' that triangulates signals from multiple beacons to locate its position within the served 3-dimensional volume.

### Longer Messages

Bluetooth allows for unlimited message length between devices that are 'paired' but restricts the length of 'broadcast' messages.

Bluetooth LE beacons use 'Advertising Packets' to transmit short bursts of data at consistent intervals. Bluetooth 4 has three channels dedicated to this mode, each able to transmit a maximum of 31 bytes of data in a packet.

Advertising beacon devices will become more commonplace and Bluetooth 5 has been designed with this in mind. Not only will beacons have longer range, but they can also now transmit significantly larger amounts of data.

The devices will still use the three dedicated advertising channels, but each of these short messages is used as a pointer to other data channels that contain significantly more data. without the complexity of pairing the two devices and establishing a full connection.

### The Future

Horses for courses. WiFi will continue to evolve and dominate the high bandwidth, medium distance market. Protocols like ZigBee will form the backbone of IoT.

The biggest change will be the emergence of many more mid range Bluetooth 5 devices. Expect to see a growing use of location-focussed advertising with map-based navigation using the new beacons.

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*Bill Tracey is a radio systems Design Engineer and consultant with over 25 years of experience with all types of radio systems. He is a trusted advisor to post-secondary, municipal, emergency services clients.*

## UC Lagging *By Lee-Ann Dittrich*

There are a wide range of services that fall under the umbrella of Unified Communications, but many organizations take advantage of only a small subset. West, the large US telco, has published a UC study that identified that only 50% of respondents have access to voicemail through their email, 67% identify that they forward their desk phones to their cell phones rather than using a unified system. Here's what they're missing by delaying UC adoption.



### UC Is...?

Unified Communications can mean many things, depending on who you ask, but most will agree that includes:

- Basic voice calling
- Call control such as forwarding a caller to a custom voice message based on caller ID
- Voice mail integrated with email
- 'Soft phone' desktop apps
- Integration of desk phones with cell phones (simultaneous ring, etc.)
- Personal fax (not much demand any longer)
- Speech recognition
- Presence (to know when team members are available)
- Instant messaging
- Audio conferencing
- Video conferencing
- Web conferencing
- Integration with MS Office
- Team discussion applications

### Adoption by Size

Small organizations are naturally the slowest to adopt productivity tools with just over 50% providing solutions beyond email and voice.



The surprise is that large organizations (IT budgets above \$5 Million) are only at the 89% level.

### Top Services

Respondents identified the most important UC services as:

1. Audio conferencing - 79%
2. Web conferencing - 76%
3. IM / presence - 73%
4. Video conferencing - 68%
5. Screen sharing - 67%
6. 43% chose social collaboration as one of the most important UC services but implementation rates don't reflect that. The report identified rates as 'spotty'

### Why They Buy

The top reasons for buying improved

UC systems are:

1. 53% want to improve productivity
2. 11% need to upgrade current tools to improve maintainability
3. 10% are directed by senior management
4. 9% want to reduce travel costs
5. 9% identify customer or vendor demand
6. 8% are fulfilling employee requests

### Why They Don't Buy

A little over half say that they're not investing in improved UC as it's not a high enough priority while 23% cite cost.

### Our Comments

This study suggests that improved UC is considered to be more important than actual installation rates support. We take that to mean that UC may not be 'sold' as well as it needs to be in the IT Strategic Plan.

To request our free whitepaper - *Improving Buy-In for your IT Strategic Plan*, email [ellen@tmccconsulting.ca](mailto:ellen@tmccconsulting.ca).

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*Lee-Ann is a researcher and business analyst that oversees benchmarking studies.*