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# Using the Cloud to Attract, Engage & Retain Your Customers From 'Communications Platform as a Service' to Digital Engagement

A Wainhouse Research eBook



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# Competing in a Sharing Economy

The "Sharing Economy" is defined by a peer-to-peer business model for providing goods or services, sourced and supported by an online community. This new model has had a massive impact on customer expectations, service delivery models, support processes, and more. Consider Uber's impact on the transportation industry, and Airbnb's disruption of the hospitality market. These impacts ripple across every facet of industry, pushing traditional businesses to expand, enhance, and improve how they engage their customers.





# Competing in a Sharing Economy

It doesn't matter if your business sells online advertising, automobiles, or toothpaste – each enterprise has the same foundational needs:

- Customers – These are important. You need to find them, attract them, engage them, and retain them.
- Cost management – Whether in the private sector, public sector, for-profit, or non-profit, you need enough free cashflow to support your business.

Simple, right? Of course, there are a few details! Attracting customers and containing costs requires each enterprise to:

- Differentiate their service and customer experience to give those customers a reason to choose your product or service!
- Find a compelling and easy way to engage each and every customer. Ease-of-use is a central tenant in today's Sharing Economy – no one wants to engage with a company that's difficult or confusing to do business with.
- Do it securely, protecting your customer's private and confidential data without adding overwhelming cost to the product, while maintaining a simple and intuitive customer experience.

**Bottom Line:** you need to make it easy for your customers and prospects to engage with you, and you with them. To achieve this, many enterprises are exploring **digital engagement** – the use of new communications tools, platforms, and services that are aligned with today's digital-savvy customer. Of course, digital engagement starts at knowing your customer...

# Today's Customer



Today's customer is evolving quickly – buying new products and services, in new ways, and with new preferences. For example, today's customer:

- Expects the **best service** at the **lowest cost**
- Expects a **safe & secure environment** to engage with your product or service
- Expects **two-way communication** anytime, anywhere, via anything (increasingly & **preferably mobile**)
- Is very **well informed** and often **impatient** – social media and targeted advertising creates high expectations of immediate service
- Expects you to **know them**, and deliver more **personal, efficient**, and often **automated services**
- Is known by **different names**, depending on your business – you may call them your **Patient**, your **Passenger**, your **Student**, your **Citizen** – but they are all still your Customer

This evolving customer continues to challenge most enterprises, pushing many to reevaluate their existing tools and processes. Overall, meeting the new customer's needs:

- Requires a new way of thinking
- Requires new tools and services
- Requires new infrastructure, training, and sometimes personnel
- Requires new budget
- Requires trial and refinement – most enterprises have different needs and customers, so tools & services need to be fine-tuned to each unique environment



**Bottom Line:** today's customer is varied in age, technical aptitude, location, and personal preference. But they all have big and growing expectations of how you engage them.

# From CPaaS to Digital Engagement

If you're wondering what a CPaaS is, you're not alone. CPaaS stands for Communications Platform as a Service. Technically, it is a set of cloud-based communications services provided through APIs, enabling developers to integrate these services into websites, mobile applications, and other solutions like business process applications. A service provider manages the platform, keeping it up to date and secure.

Digital Engagement, by comparison, is pretty simple – it's about finding, keeping, and delighting your customers with new digital tools and apps. Of course, the 'what' is the easy part – it's the 'how' that needs some thought...



# From CPaaS to Digital Engagement

Cloud platforms are evolving as rapidly as your customers. Think of the new cloud less as a static 'platform in the sky', and more as a wave to ride – always moving, always growing. Traditionally voice-centric cloud platforms are evolving to deliver an enhanced set of services, all key to a successful digital engagement:

- **Digital communications:** cloud-based audio, video, messaging, and collaboration (all now table stakes – expect them)
- **Integration:** APIs allowing you to embed more features and functionality into your unique experience
- **Artificial Intelligence (AI):** AI allows the machine to make sense of the growing universe of data, from your own proprietary sources to the Internet of Things (IoT). AI is becoming more adept at finding patterns and taking action.
- **Bots:** these smart programs are able to automate an expanding range of tasks, from operations management to customer engagement
- **Analytics:** data for humans, adding richness to decisions and each interaction, across each stage of engagement:
  - *Before* – anticipate and engage in proactive communication
  - *During* – context adds richness and personal experience to each interaction
  - *After* – keep track of your customer experience, and your success

# Digital Engagement

## As Found in Four Key Verticals

The new cloud offers a compelling mix of *speed* and *flexibility* – allowing you to move specific services to the cloud, at a pace that matches your needs, and at a cost that matches your budget. Once there, you can trust an expert whose only focus is advanced digital engagement – and break through barriers of complex infrastructure, limited resources, and capital budgets.

Of course, it's easy for an analyst firm to promote the art of the possible. The real questions should be “how real is today’s cloud?”, and “is anyone actually doing this?” So, we picked 4 key verticals to dig into real-world use-cases, highlighting ways the new digital cloud is delivering the goods today – not in 5, 10, or 15 years.

In the next section, we’ll dig into new ways Government, Education, Healthcare, and Transportation verticals have developed, or are beginning to develop new customer engagement services based on the new cloud. These verticals have a range of unique challenges, including diverse user communities, budgets, and legacy infrastructure to contend with – but they also have proven very adaptable when it comes to using the cloud to create new experience to more richly engage their customers and constituents.






# Government

The word 'Government' often conjures a common image for most readers – you might picture a dusty, slow moving machine, with outdated equipment and reams of paper-based communications.

So, you may be surprised to learn that most governments have been undergoing very determined and systematic digital transformation efforts over the last decade – many specifically working to update the way they interact with their citizens in a more meaningful way. Their major initiatives typically include:

- **eGovernment:** leveraging technology to get closer to citizens – the foundation of Digital Engagement
- **Public safety:** improving disaster awareness through flexible and targeted communications
- **Smart cities:** expanding services while operating infrastructure with conservation and efficiency



# \$33.6k

the average spend by  
the US federal government  
on IT. *Per employee.\**



# Government Use Cases

While meaningful progress has been made, there is gap between intent and execution. Simply put, most governments have not put the right tools in the citizens hands to enable two-way engagement on services and safety. Communications and network infrastructure is often aging and in need of investment.

However, new, compelling use cases are emerging. This is where the new cloud can serve as a link between cities and citizens.

Consider the following:

- **Location-based Services:** a citizen witnesses a flood, takes a picture, sends it to government agency, government warns local citizens via text message based on their home address and current location, and provides a proportionate response with emergency resources. Automated location-based services are key to the fastest disaster response timeframes.
- **Remote Licensing & Certification:** everyone gets tired waiting in line to renew their vehicle license. Consider an online service that supports the renewal process for both private and commercial vehicles, complete with all of the in-person services – using a combination of video conferencing, application sharing, bots, and human support to facilitate renewals, re-certification tests, and even eye exams!

# Government Use Cases

- **Citizen Engagement:** bring government closer to the people it serves. Due to work, distance, and schedules, elected officials may not connect with their citizens on critical issues. Applying enterprise-class and large-scale online conferencing tools can bridge the gap – using voice and video calls, either one-on-one or in a large town-hall setting. With more citizens engaged, real issues can be discussed, and the voice-of-the-citizen can be heard.
- **Crowd Sourcing:** gain rapid access to a larger community. A child goes missing. The government issues an alert to all mobile phones in the geographic location with critical details on hair color, size, clothing, etc. – using a mix of text, images, even video. Within minutes, people report on the child's location, emergency services respond, and parents and child are reunited.

Because most governments are far along in their development and deployment of digital transformation, it's likely that existing apps and websites would benefit from real-time communications elements. The key is aligning existing initiatives with these newly available communications services.



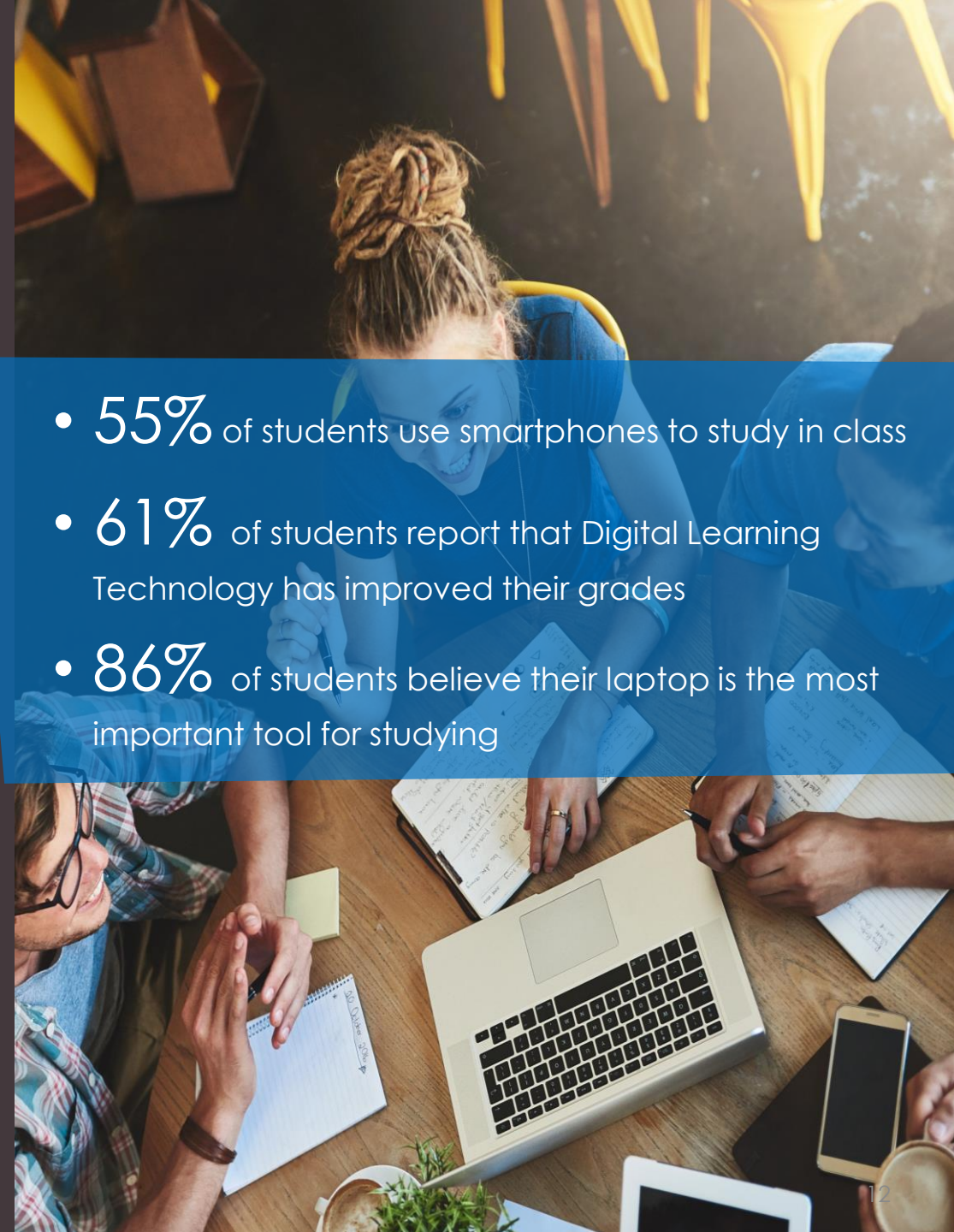
# Higher Education

Today's lesson in Higher Education is Digital Learning – and today's student thrives in a learning environment that blends face-to-face teaching and online instruction. Mobility is driving many budgets – engaging students at the tablet, smartphone, and laptop. And don't forget security – top of mind is both physical and digital security, ensuring students and their information stays safe.

To meet these emerging needs, many institutions are leveraging an increasing amount of technology, using text, video, and mobile services to reach each student in their native habitat – in or out of the classroom.

However, delivering next-gen communications in a Higher Ed environment is no simple task. Network infrastructure is often a weak link, and must be upgraded to support many digital initiatives. Core communication services, end-user devices, servers, data centers, and IT teams are often stretched to their limits. Here, the theme of Digital Learning often runs up against reality: Do More With Less!

- **55%** of students use smartphones to study in class
- **61%** of students report that Digital Learning Technology has improved their grades
- **86%** of students believe their laptop is the most important tool for studying



# Higher Education Use Cases

Enter Cloud Communications as a next-gen enabler. By connecting the Internet of Things, communications, new services, and existing services, Higher Ed institutions are able to move forward quickly in new and interesting ways:

- **Keeping Parents "In the Know"**: universities all have established websites with a wealth of information – class schedules, events, and updates are plentiful. The cloud can add a layer of integrated communications, connecting parents, students and faculty within a familiar and information-rich environment.
- **New Student Services**: being the new kid on campus can be more than hard – it can be scary! The cloud provides a fast-path to mobile text, audio, and video communications – and adds location-based services to help a student navigate a new campus, or call for help if they are in trouble.



# Higher Education Use Cases



- **Enhanced Campus Security:** blending data from traditional sources and IoT sensors, the cloud delivers a new, critical layer to campus security. Picture a student pushing an emergency button on a campus “hot-phone”. An array of sensors detects a spike in humidity due to a water leak, or a video surveillance camera flags an intrusion – the right teams are notified via different devices and media, who join a video triage call for quicker resolution, while staff, teachers, and students are notified and directed to a safer location.
- **Student-led Innovation Labs:** creative students need advanced communications! Along with these use-cases, the cloud provides a perfect opportunity for student development teams and classes to hone their coding (and hacking) skills – it’s an ideal sandbox, complete with APIs and new services ready to be integrated into the next app project. As students create new and creative communications solutions, the university, student body, and faculty benefit!

# Transportation

Transportation services may win the prize for “most diverse user community”. Customers come from all age groups, backgrounds, and technical preferences. Providers must cater to expert travelers and novices alike – each who require a very different support system. And talk about multi-lingual – you won’t find a more diverse user community!

Transportation infrastructure is unique as well – networks and infrastructure cover many miles, sometimes both horizontally and vertically. Line of business applications are often highly specialized – think reservation systems, cockpit communications, etc. – but still benefit from integration with communication services. Highly distributed and over-taxed WiFi systems are common in ports and terminals. And, scale is constantly pressed as more people need to move from A to B and beyond.



# Transportation

Add increasing demands of security – both physical and digital – and even simple communication projects quickly become overly complicated and equally expensive. Here's how the cloud is helping Transportation companies stretch into the future:

- **Reservations:** making a simple reservation for work or personal travel has quickly moved from the phone to the browser. There's a lot that goes on with an average reservation – systems need to check inventory, provide pricing, reserve seats, and ideally grab a reservations agent in real time – via text, voice, or even video!
- **Plane Coordination:** it takes more than a village to keep things moving as planes come and go. The cloud connects IoT and location-based services, coordinates everyone who needs to move when the plane is landing – food team, cleaning crew, passenger management, new crew, and gate crew move in perfect harmony.
- **Emergency Notification:** when bad things happen, the cloud connects emergency systems, location services, and text, audio, and video messaging systems to customers across displays and devices – while alerting and coordinating security teams in concert.

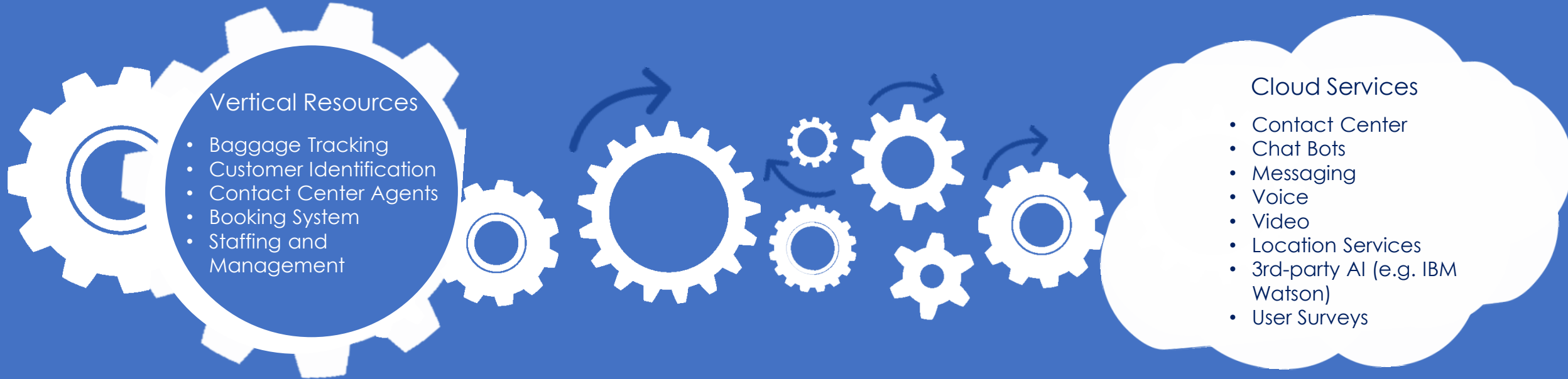
## Benefits of the Cloud in Transportation:

- **Flexibility:** passengers are such a diverse bunch that digital communications need to support text, audio, and video across devices
- **Reuse-ability:** legacy infrastructure is common – the cloud provides new user experience without need to upgrade core telecoms infrastructure
- **Security:** increased communication and IoT device monitoring improves physical security



# Transportation Use Cases

When applied properly, the new communications cloud ties a complex set of services together, mixing real-time-communications with vertical applications, and ultimately creating a new user experience. From support for disabled passengers to baggage tracking to agent escalation and beyond, the new cloud is integral to an improved digital engagement:



## Use Case: Special Services

1. Disabled passenger books travel via cloud-enabled mobile app
2. Passenger is qualified, staff is notified
3. Chatbot provides passenger with automated directions
4. One-click escalation to Airport Assistance by chat, phone
5. Staff is notified and engaged when passenger arrives

## Use Case: Lost Baggage

1. Passenger can't find baggage carousel – sends message “Where are my bags?” via mobile app
2. Bot verified user via mobile boarding pass, sends user to the right location
3. Bot gathers additional travel details, and engages available agent
4. Agent joins chat via video, locates bags
5. Result: passenger is delighted!

# Healthcare

Healthcare “customers” are also a diverse bunch, ranging in age from infants to the elderly. However, the Healthcare customer base is aging rapidly – with the number of elderly patients expected to triple in the near-term. Don’t think this aging population is less tech-savvy than their younger counterparts though – the demand for mobile and distributed communications is growing faster than ever across all demographics. The ability to reach an aging population, often in their homes, is of growing interest to many healthcare providers – fueling demand for more advanced and distributed communications.

An aging demographic is only part of the complex Healthcare communications environment. In addition, Healthcare communications need to account for:

- **High Security:** customer data is not only highly confidential, it is generally highly regulated – IT teams need to ensure their solutions are compliant with a range of privacy and security regulations.
- **Broad Geographies:** as care moves further from the hospital and into the home, communications need to be highly mobile, yet resilient – not every patient has access to high speed networks.



# Healthcare



- **IoT Explosion:** by the end of 2017, there were 7.1 million home health monitoring devices with integrated connectivity. Add this on top of new wearables, fitness trackers, and personal smart devices, and you have an expanding universe of personal health data that can add material value to an individual's healthcare experience.
- **Market Forces:** competition between providers is on the rise. Patients have access to more information, are increasingly Healthcare-savvy, and highly mobile. We're seeing a related rise in Medical Tourism as educated patients seek out high quality and cost-effective treatment across geographies.
- **Cost Containment:** the healthcare industry is on pace to increase its annual spend by over 6% over the next 6 years – but controlling costs remains a primary objective. That increase in spend will be spread across many layers of the complex environment, so finding cost effective ways to engage and support patients is of paramount importance.

# Healthcare Use Cases

Healthcare providers are quickly digitizing every aspect of their business – from patient records to in-hospital services to doctor visits and more. Here are a few examples of how the cloud is supporting the healthcare industry on its digital journey:

- **Engaging From Appointment to Admission:** sitting in the waiting room is never fun. The cloud connects patients, their schedule, notifications, patient data, and hospital staff – reminding patients, reducing no-shows and wait times.
- **Distributed Team Care:** many hospital visits would be shortened, reduced, and sometimes eliminated with proper in-home care. The cloud connects patients, their data, and their doctor in real-time.
- **In-Hospital Care:** nurses are the life-blood of any hospital – the faster they can access their patients, patient data, and patient schedules, the more effective they are. The cloud provides the linkage, connecting patients, data, nurses, and schedules – improving the level of care and reducing costs.
- **Making Out-Of-Hospital Care a Reality:** limited capacity and unpredictable spikes in traffic have driven an increase in pre- and post-procedural patient care – leaning heavily on the communications-enabled cloud. These digital solutions connect the patient to the hospital, enabling improved preparation and follow-up. The cloud adds a rich layer of real-time interaction, augmenting simple messaging with voice and video for improved patient-doctor interactions.



# Healthcare Use Cases



## Real-World Proof of Concept

The team at ALE, sponsor of this eBook, conducted a Hacking Health Camp in 2017. Using their Rainbow™ digital cloud service, a team created an internal social network for healthcare providers. The proof-of-concept was built with “Privacy by Design”, ensuring no private data was leaked, enabling clinical hospital staff to enhance their internal collaboration. The solution kept patient information secure, while enabling the staff to share:

- **News:** by integrating with external, 3<sup>rd</sup> party sources
- **Staff Profile and Presence:** integrating with internal directories and Rainbow’s presence engine, showing which experts were “on the clock”
- **Scientific Document Sharing:** allowing staff to ‘store and forward’ educational material, from the cloud to the device
- **Agenda Visibility:** integrating with hospital scheduling systems, enabling the team to plan trainings and coordinate meetings
- **Instant Messaging and Notification:** leveraging Rainbow’s messaging system to enable quick text-based communications

The team’s stated goal: enable improved organization, team spirit, enhanced scientific performance, and overall – more time for patient interaction. And, of course, this new experience was created over the course of days – not weeks, months, or years!

# Topic Summary

Every market is undergoing some form of digital transformation. As each market transforms, so does the customer – along with their preferences and expectations. Keeping up with your customer's updated expectations can be a daunting task for any business.

Many enterprises are looking to cloud-based services in order to expand and enhance their customer engagement model. Just as the customer is evolving, so too is the cloud. Today's enhanced cloud has created new opportunities and potential benefits for the enterprise looking to refresh their digital engagement strategy:

- Look for ways to integrate the cloud with existing and trusted infrastructure to create a next-gen digital experience – creating a reliable but updated experience, with speed and at scale
- This integration reduces the need for new infrastructure investment and support personnel – with the benefit of cloud-based “pay-per-use” or subscription models
- The new cloud is continually improving – because services are built with the latest modular technology, and not just “hosted” services, improvements and new features are safely added with little-to-no disruption in service
- The new cloud is secure – built to create an intimate environment that engages customers safely, keeping private data private and personal data hidden
- The new cloud is flexible – affording easy customization based on unique needs of your enterprise and your customers

So, for the enterprise considering a new digital engagement model, it is wise to evaluate today's cloud-based platforms – you may be surprised at the opportunity to enhance, rather than replace, your customer's experience!



## About the Authors



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## About Wainhouse Research

Wainhouse Research, [www.wainhouse.com](http://www.wainhouse.com), is an independent analyst firm that focuses on critical issues in Unified Communications and Collaboration (UC&C). The company conducts multi-client and custom research studies, consults with end users on key implementation issues, publishes white papers and market statistics, and delivers public and private seminars as well as speaker presentations at industry group meetings.

## About ALE

We are Alcatel-Lucent Enterprise. We make everything connect by creating the customized technology experiences customers need. From your office, the cloud or in combination, we deliver networking and communications that work for people, processes and customers. We achieve this through digital transformation tailored to your organization. We integrate systems, deploy analytics, and leverage mobility and the Internet of Things through innovative new business models to lay the foundation for all future innovations. A heritage of innovation and dedication to customer success has made Alcatel-Lucent Enterprise an essential provider of enterprise networking, communications and services to over 830,000 customers worldwide. We have a global reach and local focus, our 2200+ employees and 2900+ partners serve across more than 50 countries. [www.al-enterprise.com/](http://www.al-enterprise.com/)