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Healthcare's Journey to the Cloud

Unified Communications as a Service

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INTRODUCTION

Healthcare has been slow to adopt cloud computing and XaaS (anything as a service). Yet unified communication as a service (UCaaS) can bring significant benefits that improve patient care, streamline operations, lower total cost of ownership, and support new facilities and types of services such as telemedicine and other digital health initiatives.

As healthcare systems begin to incorporate digital health solutions, such as remote patient monitoring, web conferencing, and telemedicine, the need for reliable, anytime, anywhere communications only grows. Better communications is vital to improved outcomes and increased patient satisfaction. UCaaS managed by CBTS, for example, makes patient test results available in a timelier manner, which minimizes delays in patient care and enhances overall quality of care. The availability of comprehensive communications options among caregivers also enables hospitals and other healthcare facilities to offer new services – such as distance consults, digital medicine solutions, and in-home monitoring – that expand services while simultaneously improving healthcare system efficiency and enhancing patient satisfaction. **The Hospital Consumer Assessment of Healthcare Providers and Systems survey show that patients' ability to access accurate, current information quickly and easily is a key determinant of patient satisfaction.**

INTRODUCTION (CONT.)

WHAT'S UCAAS?

Unified communications (UC) is the integration of multiple enterprise communication methods such as voice (including IP telephony), instant messaging, presence, mobility, web & video conferencing, interactive voice response (IVR), call center, and unified messaging (voicemail, e-mail, and fax) to provide a consistent and device agnostic experience for users. UCaaS is, simply, a cloud-based delivery model for enterprise unified communications. Lifting unified communications to the cloud makes it easy for the care team to share and discuss critical information regardless of location or the type of communications device used. Consequently, clinicians in the field – a patient's home or a nursing facility, for example – have the same access to patient tests, medical records, and consults that they would have in the hospital or physician's office. UCaaS, therefore, provides a single user experience regardless of rapid changes in healthcare acquisitions.

The Joint Commission's 2018 National Patient Safety Goals call for *"getting important test results to the right staff person on time"* as one important way to improve healthcare quality.

CHALLENGES IN HEALTHCARE COMMUNICATION AND COLLABORATION

The healthcare environment is changing dramatically. Provider networks are merging and expanding. In the process, healthcare systems are absorbing and collaborating with multiple clinicians and healthcare facilities. Reimbursement is transitioning from fee-for-service to results-oriented medicine, which changes the incentives and enhances the need for efficiency. All the while, **telemedicine, video conferencing**, and **remote patient monitoring** are growing in popularity, and clinicians are using their own devices to connect with patients, access patient records, and consult with other physicians.
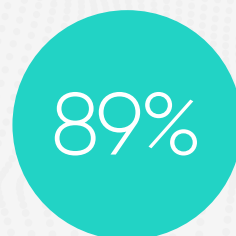
STUDIES SHOW:

96%
of physicians own smart phones.

80%
of physicians use smartphone to access tools or information.

88%
of nurses use smart phones to obtain information.

89%
of healthcare systems have invested in digital patient engagement tools.

The integration of digital health solutions into healthcare facilities workflows leaves healthcare IT administrators scrambling to support a myriad of telecommunications options in a 24/7, 365 environment where there is no room for failure.

Internet of Things (IoT) device usage is proliferating in healthcare, too. Growing from a consumer base of fitness trackers and smart watches, medical-grade IoT devices are being used to monitor patients outside traditional medical settings. Monitoring glucose levels, heart arrhythmias, and blood oxygenation levels remotely brings significant benefits to patients by freeing them from the need for frequent trips to a physician's office.IoT analyst Berg Insights reports that 7.1 million patients used remote monitoring devices in 2016. By 2020, that number is expected to reach 50.2 million. Likewise, Berg predicts shipments of connected, wearable devices will grow from 96.5 million in 2016 to 262.5 million in 2021.

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Many of these challenges are caused by mergers and acquisitions, as the new partners try to integrate sometimes vastly different systems and technologies. UCaaS makes integrating multiple healthcare practices and providers easy, getting everyone on the same unified communications platform quickly. Rather than struggling with long procurement cycles and up-front capital, CBTS – through its **SD-WAN, Network as a Service+UCaaS technologies** – essentially provide UCaaS in a box, enabling cloud network and voice services.

Antiquated equipment also exacerbates communication issues in the wake of merger and acquisitions. Sometimes, the partners underestimate the extent of the challenge. They think, for example, "It's just voice." Because it has worked in the past, they assume it will continue to work without considering the effects of outages on related systems. Something as seemingly unrelated as data storage has triggered failures in the air handling system, which allowed heat to build, which took multiple systems offline, including voice.

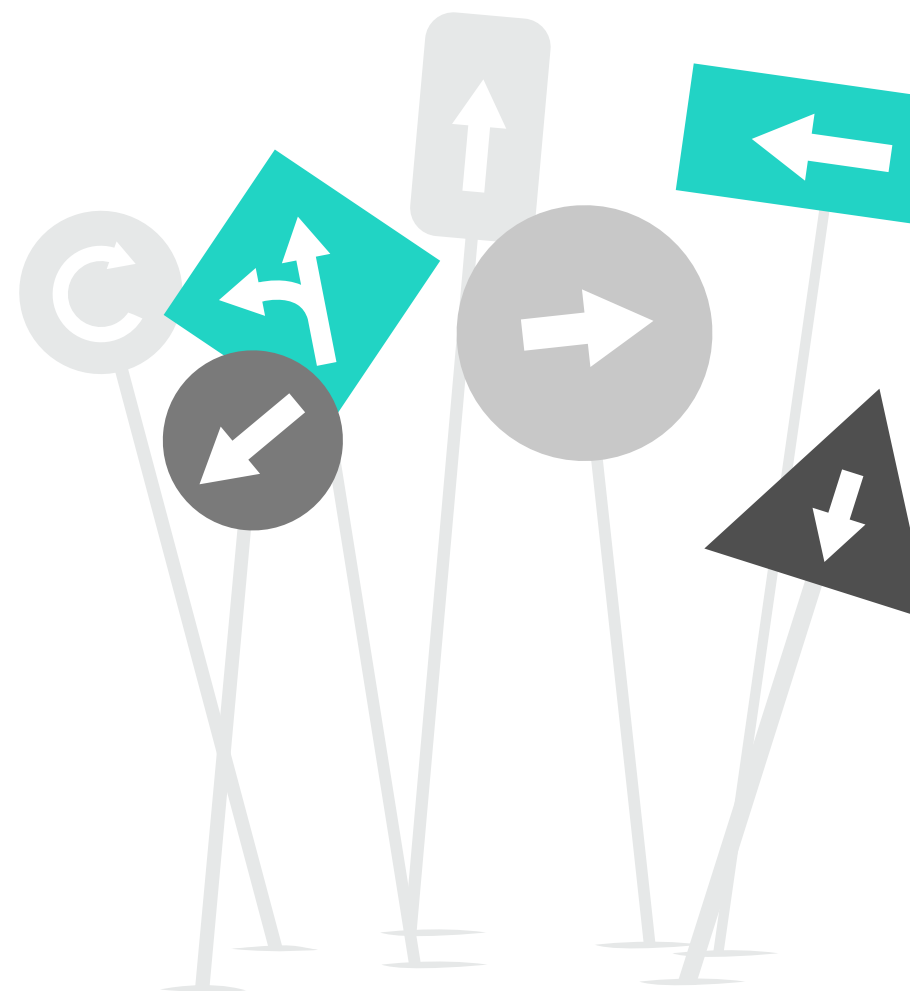**A 2018 STUDY FROM SPYGLASS CONSULTING GROUP SAYS HEALTHCARE PROVIDERS IN THIS NEW ECOSYSTEM ARE STRUGGLING WITH:**

✕	✕	✕
Communications overload from multiple systems and devices	Lack of standardized communications processes and tools	Antiquated communications options (like pagers and proprietary VoIP handsets)

Regardless the challenge, they combine to increase the stress of caregivers who must juggle data among multiple incompatible systems, deal with duplicative data sets on multiple devices, and try to manage modern communications with old-fashioned tools. As a result, clinicians face information overload as they sort through redundant patient data. Information flow is delayed, so tests results are viewed days after they reach the system, and patients are left waiting for results that, sometimes, are never relayed to them. Standard communications systems – a mix of landlines, smart phones, pagers, PCs, and tablets – aren't easing the challenge. Instead, they're making it worse.

Caregivers are suffering from alarm and alert fatigue, too. Many deal with such topics as hospital bed status – a struggle for many healthcare systems – patient diet, and meal planning, in addition to patient status. Usually, it's caused by multiple, often redundant communications alerts. That's one of the many reasons UCaaS is so valuable.

UCaaS has multiple integration points so redundant alerts are all but eliminated. For example, call centers can be integrated through Epic, along with paging systems. Integrating the communications system with nurse call systems like Rauland, GE, WestCall, and Dukane, and middleware that includes Philips IEM, Vocera, Dukane, and others means that caregivers get the alerts they need without being bombarded by the same alert from multiple sources.

Consequently, healthcare systems risk making patients less informed, less engaged, and less satisfied…simply because communications broke down.

Perhaps more importantly, these stressors contribute medical errors, especially during transitions between caregivers (such as during nursing shift changes) or between healthcare systems.

RESEARCH PUBLISHED IN HEALTH AFFAIRS IN 2017 INDICATES THAT PHYSICIANS SPEND SLIGHTLY MORE TIME EACH DAY ON DESKTOP MEDICINE ACTIVITIES LIKE COMMUNICATING WITH PATIENTS AND REVIEWING TEST RESULTS (3.17 HOURS) THAN ON PATIENT OFFICE VISITS (3.08 HOURS).

3.17 hours

3.08 hours

The challenge for healthcare systems isn't simply a matter of stress, and isn't focused soley on caregivers, however. While new and improved technologies have great potential to improve healthcare outcomes and efficiency, healthcare systems find themselves dealing with communications networks cobbled together from many technology providers. As a result, data may be stored in many different databases and may not be ported among them easily. This means medical specialists are spending valuable time resolving issues of interoperability, security, and technical support before turning to IT professionals who face similar challenges. **Consequently, healthcare IT specialists are frequently in crisis mode, reacting to the problems at hand rather than planning proactively to improve their systems and support new services.**

Electronic health records (EHRs) are a good example of one of the issues healthcare systems face. Despite their near-ubiquitos adoption, healthcare information still can't follow patients easily across the healthcare setting. Because many EHRs are propriterary or are based on different standards, unless a physician and hospital use the same EHR system, the data can't always be read. Healthcare systems need a solution.

Ensuring electronic protected health information **(ePHI)** is private, secure, and compliant with the **Health Insurance Portability and Accountability Act of 1996 (HIPAA)** security regulations is another concern. According to the **American Hospital Association,** *cybersecurity poses risks for every healthcare institution, regardless of size or geographic location.* Although hospital IT specialists do what they can, the steps they can take vary widely based on their own expertise and resources.

DIGITAL SOLUTIONS GROW

While healthcare systems are grappling with those issues, they also are trying to implement digital health solutions to better serve patients, improve healthcare outcomes, and relieve stress among their clinicians. CBTS offers a variety of resources to help healthcare providers implement digital solutions through their systems.

Although digital solutions are growing and deployments are becoming more frequent, local healthcare ecosystems rarely have the skillset needed to implement those solutions and integrate them into existing systems. Unless those healthcare providers are located near tech hubs, finding people with the right skills is extremely difficult and can be quite expensive.

WORKING WITH A SPECIALIST LIKE CBTS, THEREFORE, MAKES SENSE ECONOMICALLY AS WELL AS TECHNOLOGICALLY.

✓

Transparencey Market Research predicts the digital medicine market will grow **13.4% annually** from 2017 to 2025.

✓

A 2016 PwC study says **45% of consumers** are interested in telemedicine services if it reduces their costs.

DIGITAL SOLUTIONS GROW (CONT.)

DRIVERS FOR DIGITAL SOLUTIONS INCLUDE:

The implementation of personalized medicine (pharmacogenomics)

High-speed Internet access

Emphasis on value-based, patient-centric care

Maturation of cloud computing

As these factors coalesce, healthcare systems must improve their own communications options and strategies if they are to leverage them to improve care and grow their business. Sneaker power is no longer the optimal way to deliver test results to caregivers, and face-to-face conversations aren't the only – or best – way to instruct patients and their families.

Patient expectations have become more sophisticated in tune with communications technology. Today, patients and family members expect to access hospital YouTube channels for step-by-step videos to help them care for themselves or loved ones after surgery. With wearable monitors, they expect to transmit vital statistics to their care team in real time to enable more comprehensive, real world insights. Care team members expect to collaborate with colleagues and specialists in real time, regardless of their locations. Physicians may even use digital solutions (such as the recently-approved digital pill) to monitor whether patients actually took critical medicines.

DIGITAL SOLUTIONS GROW (CONT.)

Other advances let caregivers conduct some examinations via smart phone, saving valuable time for themselves and patients alike, and unclogging crowded waiting rooms. It can let them share information with a patient's care team with a single call, and establish a patient update hot line for family members. And rather than trying to reach a busy physician by dialing an office landline, smartphone, hospital landline, and pager, **UCaaS makes it possible to reach all of a caregiver's communications devices with one call to a single number.**
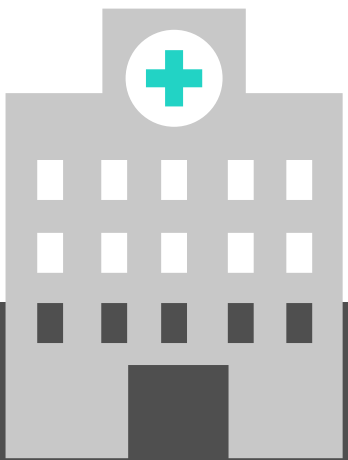
73% of hospitals have, or are developing, comprehensive mobile communications strategies to enhance collaboration across the healthcare ecosystem, according to a 2018 Spyglass Consulting Group study.
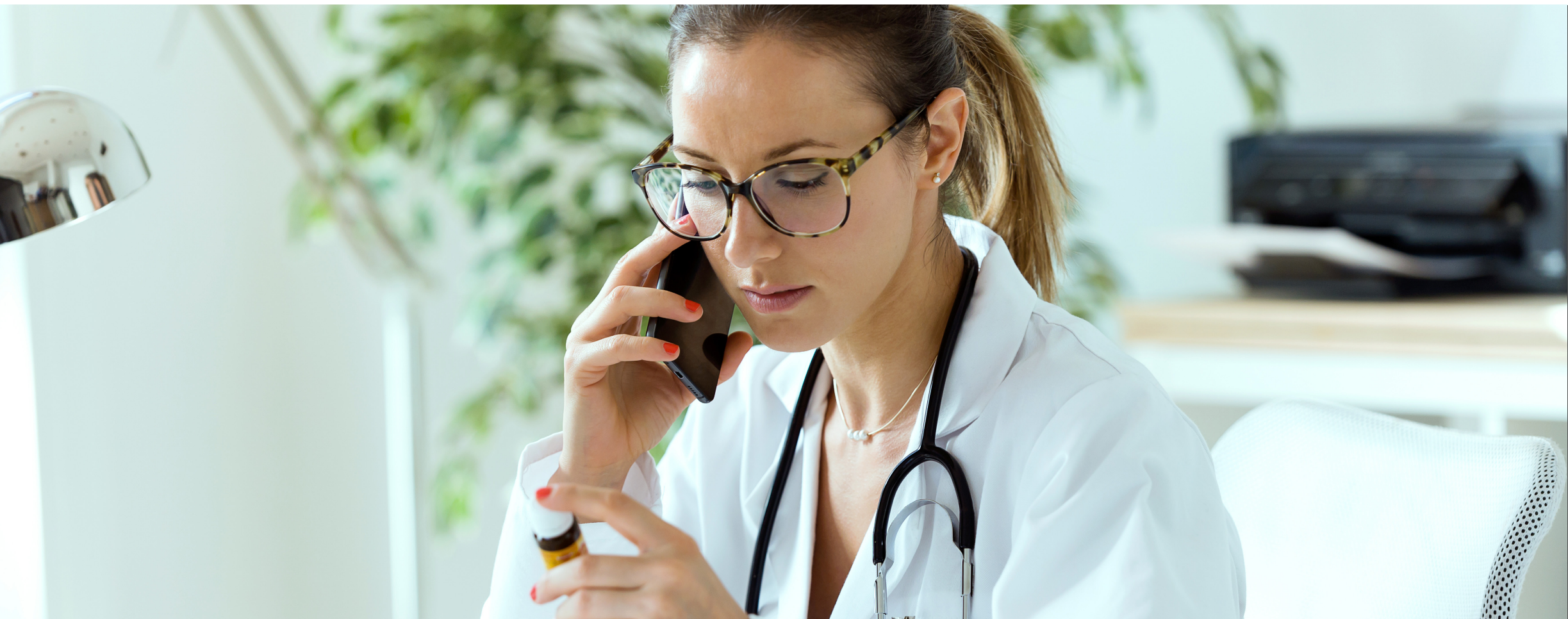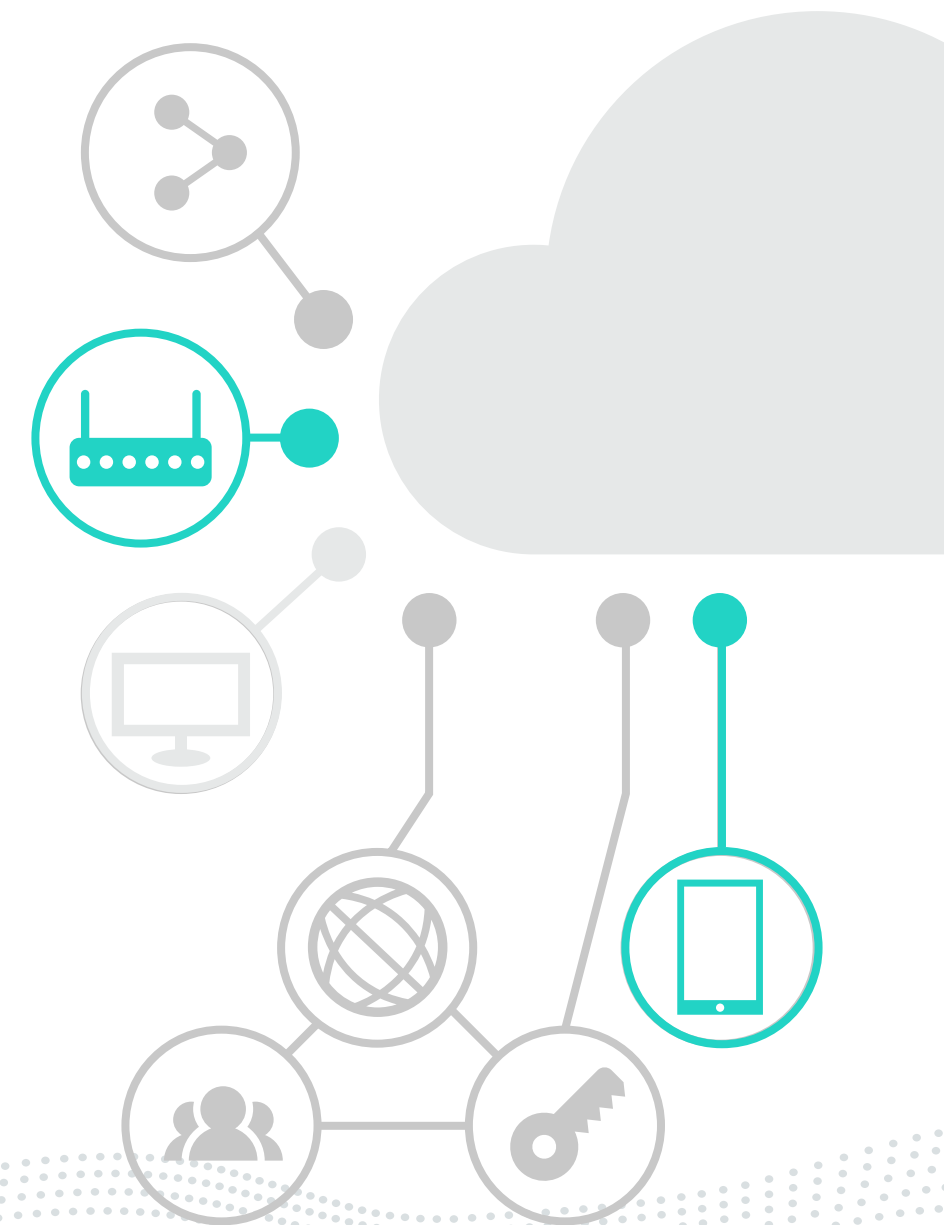
THE UCaaS SOLUTION

Implementing these advanced communications solutions through a traditional, on-site phone system would require significant upgrades to legacy communications infrastructure and would incur additional capital expenses. CBTS offers a more effective solution, in terms of outcomes as well as costs, by moving communications to the cloud. **Selecting the right partner and the right UCaaS solution enables healthcare organizations to focus on their mission – providing quality healthcare – without worrying about communications technologies.**

UCaaS – Unified Communications as a Service – resolves challenges posed by legacy solutions, interoperabilty, limited infrastructure, cybersecurity concerns, and other issues by moving communications from a user's premises to a hosted, cloud environment. By doing so, it frees IT staff. Rather than concentrating on "keeping the lights on," they now have the time to think strategically, providing value-added IT services that not only support the business but can be integral in growing the business.

CBTS enables a cloud Omni-channel contact center experience in which voice, chat, and video are all viable communications options, using only one contact number. **UCaaS users can communicate in the way they prefer** – and the way that makes the most sense for their immediate needs. Rather than being bounced throughout the phone system, **patients can reach the right person through the contact center for quick consults, scheduling, billing, and even triage**. With this approach, patient engagement is high. Clinicians benefit, too. They can access necessary files as needed (including Epic electronic health records), view images, and engage with patients and colleagues virtually, in real time, making them more efficient and productive.

THE UCaaS SOLUTION (CONT.)

Integration with **customer relationship management (CRM) applications** helps administrative and back-end staff, too. Now the support services that help healthcare function have the the tools they need to collaborate effectively, track documents, mine data, and access data remotely, thereby **driving, innovation, lowering total cost of ownership,** and **increasing employee engagement,** which **increases productivity.**

In a cloud solution, the cloud host manages the infrastructure (e.g. data centers, racks, blades) and tools (e.g. provisioning, network management, performance measurement). The host also typically provides the **local telephone services**, **customer support**, **communications project management**, and **related professional services**.

There are two predominant ways to deploy UCaaS in a hosted environment. One, multi-tenant architecture, shares the infrastructure and a single software instance among tenants. These tenants can customize certain aspects of the application, such as the business rules, but cannot modify the underlying code. This approach is used frequently by small and medium-sized enterprises. The other type, multi-instance architecture, provides each client with its own software instance. Both types share infrastructure and tools.

"UCaaS platforms from the major vendors are all multitenant."

– Gartner, 2017

UCaaS BOOSTS IT STAFF EFFICIENY

UCAAS PROVIDES A HOLISTIC COMMUNICATIONS EXPERIENCE THAT ENHANCES EFFICIENCY THROUGHOUT THE ENTERPRISE.

The benefits for IT staff are immediate. Healthcare companies aren't in the technology business, so they often struggle to recruit and maintain the in-house resources necessary to support the large network, storage, and voice systems they need. The ability to rely on a trusted partner like CBTS is one of the reasons XaaS is growing so rapidly.

There's no infrastructure to install and, because UCaaS is managed in a hosted cloud environment, the healthcare system's own IT staff is relieved of mundane maintenance tasks. Instead, they can rely on CBTS's **engineering experts** and **customer service professionals** to manage their UCaaS implementation. This readily available expertise sets CBTS apart from others in this space. As a result, local IT administrators can devote more of their time to **planning and innovating.**

FROM AN IT PERSPECTIVE, UCAAS PROVIDES:

- ✓ Automatic technology upgrades
- ✓ Prompt security patches
- ✓ Disaster recovery capabilities
- ✓ Single-pane management
- ✓ More time to focus on strategic business initiatives

UCaaS BOOSTS IT STAFF EFFICIENY (CONT.)

Local IT manages the customer-facing applications while the IT host manages the infrastructure. Day-to-day tasks like adding or removing users are managed through a Web portal or by your selected vendor, that enables the system to be scaled up or down and services added or removed as needed. Consequently, customers are never constrained by outdated, legacy equiment, put at risk because applications weren't patched, or lose communications during disasters.

> **80%** of U.S. physicians' practices have experienced a cyber attack, according to the American Medical Association.
> *Phishing* is the most common ploy.

Hosted cloud solutions go a long way toward **limiting exposure to hacking, malware, and other cyber threats.** That's because hosts have the knowledge, hands-on expertise, time, and motivation to deploy and maintain up-to-date applications and procedures that go far beyond the basics of passwords and firewalls. Therefore, they can mount robust responses that extend deep into the IT architecture to spot suspicious activity so it can be monitored or stopped. This ability is an integral part of regulatory compliance stardards designed for voice traffic, patient information, and voicemail.

LINE OF BUSINESS BENEFITS

For UCaaS users, navigating a landscape of land lines, cell phones, pagers, and other communications devices is a thing of the past. UCaaS can be configured an an Omni-channel call center, so callers can dial a single number that rings all of a clinician's devices, ensuring the caregiver can be reached regardless of location. One key benefit is that physicians can mask their phone numbers and set-up times when their devices will be availble. This way, they can protect their actually cell phone numbers from broad patient access (and the potential for abuse). Business rules also can be built-in so UCaaS callers can be prioritied by urgency, allowing emergency calls to ring and non-emergency calls to go to voice mail when clinicians are with patients.

FINANCE BENEFITS

- One monthly bill for the entire system
- Predictable costs
- No capital expenses
- Reduction in travel expenses
- Boost in productivity

CLINICIAN BENEFITS

- Improved productivity
- Increased accessibility
- Streggthened patient relationships
- Accelerate patient outcomes

LINE OF BUSINESS BENEFITS (CONT.)

IT administrators using UCaaS have time, now, to think strategically. By no longer having to spend time and effort on basic, day-to-day activities, they have the time and incentive to become valuable advisors to the business, providing insights into new strategies and technologies than can streamline the business, attract new clients, provide better quality service, and help the business grow.

CBTS's cloud-based UCaaS also lets clients consolidate all users and locations into one central, virtual office. This eliminates the need to page physicians on an overhead pager, thereby eliminating a significant degree of noise inside the hospital, according to the JCO and HCAHPS. UCaaS users, can reach anyone in the healthcare system – even in large, dispersed enterprises – by calling one central number. Additional features let video conferences – whether between physicians and patients, or between primary care physicians and specialists – occur naturally, **without requiring IT to install or manage anything.**

> **Even the customer's accounting and budgeting staffs see a benefit. UCaaS, like other XaaS models, is a pay-as-you-go subscription. Consequently, fees are predictable and invariably lower than the cost of purchasing and maintaining on-premises telecommunications systems.**

An Omni-channel, UCaaS, approach to communications also **facilitates collaboration** among departments and, importantly, among multiple sites. Consequently, far-flung satellite facilities, clinics, and providers can **work together as efficiently** as if they were in the same building. This capability not only makes telemedicine practical, it **makes all aspects of healthcare more efficient** because, finally, everyone is working from the same version of documents and can access the same, up-to-date information.

Rather than dealing with multiple bills from different communications services (web conferencing, VoIP, local telephone, long distance telephone, etc.) for each healthcare facility in their system, UCaaS provides one monthly bill that incorporates all services and all facilities.

HEALTHCARE QUALITY IMPROVES WITH GOOD COMMUNICATION

Efficiency boosts engagement for caregivers and patients alike for the simple reason that patients who can reach their care team easily and get needed information quickly feel more connected to the team and, therefore, the healthcare provider. Multiple studies show that more engaged patients tend to have better outcomes and usually lower medical costs. This is based on providing patients with access to their own health information in a way they can understand.

For caregivers, the ability to perform their jobs more efficiently lets them devote more time to patients – the reason they chose their profession.

> *"When physicians perceived themselves as providing high-quality care, they were more satisfied,"* according to a 2013 study by the **American Medical Association and RAND Corporation.**

Telemedicine (which enables remote exams and consultations) is just one example of how UCaaS improves healthcare. Rural hospitals have been the poster child for telemedicine for years, using it to provide specialty consultations and to allow patients to receive big city care while remaining in their own communities. Now, large urban healthcare systems are benefitting, too, as they turn to telemedicine to relieve bottlenecks in the emergency department as well as on the floors.

HOSPITALS OFFERING DIGITAL OPTIONS FIND THEY CAN:

- ✓ Treat more patients in the same amount of time
- ✓ Decrease missed appointments
- ✓ Improve followup
- ✓ Enhance outcomes
- ✓ Generate more revenue
- ✓ Ease the physician shortage

BY USING DIGITAL TOOLS TO COLLABORATE, CAREGIVERS CAN:

- ✓ Consult with colleagues across a wider geographic field
- ✓ Monitor patients remotely
- ✓ Share data seamlessly

A reliable, high definition communications system such as UCaaS thus helps healthcare sytems launch new, remote services that improve quality of care, increase patients served, improve healthcare outcomes, and boost efficiency.

ACCORDING TO A 2017 ACCENTURE STUDY OF HEALTHCARE EXECUTIVES:

90% say it's crucial to adopt a platform-based business model and to engage in ecosystems with digital partners.

81% say it is very important to offer services through centralized platforms or automated messaging bots.

78% say their competitive advantage is determined by the strength of the partners and ecosystems they chose.

66% are preparing to participate in digital ecosystems.

WHAT TO LOOK FOR IN A UCaaS PROVIDER

MANY UCAAS PROVIDERS ARE AVAILABLE, OFFERING A RANGE OF SOLUTIONS, SO HOW CAN YOU CHOOSE THE BEST ONE FOR YOUR SPECIFIC APPLICATION?

Obviously, any UCaaS provider should have a track record of **reliability** and offer a **comprehensive set of tools, integrated services,** and **applications**. The provider also should be attuned to the future and **well-versed in your industry,** as evidenced by its track record of contracts and renewals.

Healthcare is unlike any other industry. The criteria for data privacy and traceability are strictly regulated, and a **UCaaS provider must be able to meet those standards.** In addition, it also must go beyond those regulatory standards to enact robust, effective policies and procedures in an ever-changing IT environment.

Although healthcare is heavily regulated, UCaaS hosts shouldn't be complacent. Instead, hosts must be engaged with the industry, seeking new solutions to emerging challenges so their clients always can be at the forefront of healthcare, delivering the best quality of care within their power.

CBTS has a history of providing services to healthcare organizations. It has the flexibility and expertise to integrate its services into existing systems and to migrate technologies so healthcare providers can focus on what they do best: caring for patients.

CBTS AT A GLANCE

UCAAS PROVIDER CBTS HAD A SOLID TRACK RECORD WITH:

- ✓ 17+ years' experience hosting UCaaS
- ✓ Operations in the U.S., Canada, and the UK
- ✓ Contracts with multiple large healthcare facilities (and some of the Fortune 20)
- ✓ Comprehensive management tools

- ✓ Data centers designed to meet all industry privacy and security standards
- ✓ Robust, wide-ranging features
- ✓ Seamlessly integrated services

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CBTS SERVICES INCLUDE:

- ✓ Local and long distance
- ✓ Redundancy, multiple delivery models, and 99.999% uptime
- ✓ IM&P (instant messaging and presence)
- ✓ Unified messaging

- ✓ Mobility applications
- ✓ Peer-to-peer video
- ✓ Dedicated deployment team
- ✓ Single bill
- ✓ Call detail reporting

- ✓ E911
- ✓ Informacast – Mass notification Cloud Connected
- ✓ Additional offerings – Hosted Enterprise Contact Center, Cisco eams, Cisco Webex Cloud Connected Audio

CONCLUSION

As healthcare transitions from fee-for-service to **outcomes-based**, **patient-centric medicine**, efficency is becoming as crucial as delivering good patient outcomes. Increasingly, patients expect the same type of communications options from their healtahcare providers that they use in their daily lives. This means digital health solutions, in the form of "anywhere, anytime" access to their own health information, patient education, physician consults, and even some examinations. **The demand for these services has only grown as the technology to deliver them has improved.**

Physicians, clinicians, and healthcare systems also are embracing this new paradigm, finding that **unified communications as a service streamlines their integration with many healthcare applications**, such as Vocera and others. As a result, **UCaaS frees up time for clinicians to work with patients and colleagues** in ways that deliver tangible improvements to patient outcomes. UCaaS helps them deliver high quality care.

For IT staff, the "as-a-service" model is already familiar. It is a tried-and-true model that has **delivered efficiencies in multiple IT areas** for more than a decade, letting in-house IT administrators outsource basic functions and **focus their expertise on services that matter most to their institutions.**

UCaaS delivers efficiency – efficiency to patients, to clinicians, to IT staff, and to other departments throughout the system that need more effective ways to collaborate.

To learn how UCaaS can benefit your healthcare organization, contact the experts at

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