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Mitel Special Edition

Cloud Communications

FOR DUMMIES®

A Wiley Brand

Learn to:

- Collaborate more effectively
- Increase business innovation
- Deliver better customer service
- Drive more business revenue

Dave Michels

About Mitel

A global market leader in enterprise and mobile communications, Mitel powers more than 2 billion business connections and 2 billion mobile subscribers every day. Mitel helps businesses and mobile carriers connect, collaborate, and provide innovative services to its customers. Its innovation and communications experts serve more than 60 million business users in more than 100 countries and 130 mobile service providers, including 15 of the top 20 mobile carriers in the world. Mitel is uniquely powering the mobile enterprise by using the real-time cloud.

Mitel offers a broad portfolio designed to meet the customer engagement needs of any-sized business and provide a future-proof solution that seamlessly scales as business requirements evolve. With solutions ranging in sophistication from basic routing and reporting to digital media and workforce management, Mitel is uniquely positioned in the industry as a single vendor offering a full suite of contact center capabilities suitable for deployment on premises, in the cloud or a hybrid of the two.

Complemented by a variety of service options, including managed services, user training, and design and deployment support, Mitel delivers end-to-end support for your superior customer experience.

For more information, visit **www.mitel.com** and follow on **Twitter @Mitel**.

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Introduction

Important business decisions can sometimes feel like strategic chess moves, but they're not always as black and white as that. Instead, you would do well to think of your business as a puzzle, where each decision aligns with the adjacent realities of employees, customers, costs, and competitive advantage. When it comes to communications, however, most businesses find themselves with a puzzling dilemma: how to connect employees, customers, and partners seamlessly without driving up cost and complexity.

Look at most legacy communication systems, and you'll find a forced fit. Maybe it sacrifices flexibility for security. Or it has fewer features than you need but fits your budget. Those gaps could be costing you more than you think in lost productivity, lower customer satisfaction, and inertia in place of innovation.

Enterprises have been buying phone systems for more than 60 years. The technology has evolved slowly — from analog to digital and now IP — but the basic concept of a private branch exchange (PBX) has remained the only viable option for most organizations.

When compared to telephony's 60-year-old heritage, cloud communications is a relatively new innovation that likely wasn't a viable option the last time people in your organization took a look at your business communication needs. With the cloud, you can get the benefit of a better fit for your unique organizational requirements, every time. Cloud communications gives your business the flexibility, agility, and scalability to keep everyone connected and still keep costs down. But that's only one piece of the puzzle. The cloud can also help you collaborate more effectively, increase business innovation, deliver better customer service, and drive more business revenue. Enterprises of all sizes can no longer afford to ignore the strategic and competitive benefits that cloud communications enables for their organizations.

About This Book

Cloud Communications For Dummies, Mitel Special Edition, consists of six short chapters that explore the following:

- The basics of cloud communications, including core features, advanced applications, and different deployment models (Chapter 1)
- The business and technical benefits of cloud communications (Chapter 2)
- Different technologies to connect your enterprise to the cloud (Chapter 3)
- The business case for cloud communications (Chapter 4)
- Emerging cloud communications technologies (Chapter 5)
- Key capabilities to look for in a cloud communications provider (Chapter 6)

Foolish Assumptions

It's been said that most assumptions have outlived their uselessness, but I assume a few things nonetheless!

Mainly, I assume that you're a manager or business owner that is responsible for making technical decisions in a small or medium business. I also assume that you know a little something about IT networking, infrastructure, unified communications, cloud computing, and business applications.

If any of these assumptions describe you, then this book is for you! If none of these assumptions describe you, keep reading anyway. It's a great book, and when you finish reading it, you'll know enough about cloud communications to be dangerous!

Icons Used in This Book

Throughout this book, I occasionally use special icons to call attention to important information. Here's what to expect:

This icon points out information that you should commit to your non-volatile memory, your gray matter, or your noggin' — along with anniversaries and birthdays!

You won't find a map of the human genome here, but if you seek to attain the seventh level of NERD-Vana, perk up! This icon explains the jargon beneath the jargon and is the stuff legends — well, nerds — are made of!

Thank you for reading, hope you enjoy the book, please take care of your writers! Seriously, this icon points out helpful suggestions and useful nuggets of information.

This icon points out the stuff your mother warned you about. Okay, probably not. But you should take heed nonetheless — you might just save yourself some time and frustration!

Beyond the Book

There's only so much I can cover in 48 short pages, so if you find yourself at the end of this book thinking, "Gosh, this was an amazing book; where can I learn more?" just go to `www.mitel.com`.

Where to Go from Here

With my apologies to Lewis Carroll, Alice, and the Cheshire cat:

"Would you tell me, please, which way I ought to go from here?"

"That depends a good deal on where you want to get to," said the Cat — err, the Dummies Man.

"I don't much care where . . . ," said Alice.

"Then it doesn't matter which way you go!"

That's certainly true of *Cloud Communications For Dummies*, Mitel Special Edition, which, like *Alice in Wonderland*, is also destined to become a timeless classic!

If you don't know where you're going, any chapter will get you there — but Chapter 1 might be a good place to start! However, if you see a particular topic that piques your interest, feel free to jump ahead to that chapter. Each chapter is written to stand on its own, so feel free to start reading anywhere and skip around to your heart's content. Read this book in any order that suits you (though I don't recommend upside down or backwards).

I promise you won't get lost falling down the rabbit hole!

Chapter 1

Understanding Cloud Communications Basics

In This Chapter

- Covering the essential capabilities of cloud communications
- Enabling advanced communications applications in the cloud
- Choosing the right deployment model for your business

In this chapter, I describe some of the core features to look for in a cloud communications solution, as well as advanced applications. Finally, you explore the different deployment models for cloud communications.

Looking at the Core Features of Cloud Communications

The way that you communicate says a lot about your business and who you are as an individual. And yet many business communications systems are anything but personal. They're one-size-fits-all solutions that your business probably outgrew more than a decade ago. Moving to the cloud can help your business build your communications around the way you work, and not the other way around.

For example, cloud communications can

- **Deliver the same phone features of a Fortune 500 company:** Mobile-friendly communications, broad selection of endpoints, automated callbacks, announced queue times, and more — at a cost that businesses of all sizes can afford

- **Ensure a better customer experience:** With intelligent call routing that sends customers to the right agent, with the right information, right away
- **Provide deployment flexibility:** Only pay for the features that you need, where they're needed, and custom bundle features as your needs require
- **Enable versatile communications:** Employees access their phones, unified messaging, chats, apps, and more — on any device

The cloud enables real-time communications that make a difference in the way you interact with colleagues and customers every day. Imagine a call center where your employees have more freedom to move around without cubicles, desks, and even phones, and customers who actually enjoy calling your company because they know they'll get good service and a quick answer; or giving your customers the choice of starting a live chat, placing a voice call, or launching a video call right from your website. That's the power of cloud communications.

Integrating Advanced Applications

Have you ever stopped to think that voice is just another application — albeit, an extremely critical application — that runs over a data network just like email? Voice communications can be integrated into multiple aspects of your various business processes. Communications shouldn't just start and stop on your desk phone.

Critical business applications, such as customer relationship management (CRM) solutions, that support key business processes need to be communications enabled so that your mobile workforce can be productive no matter where they are and what device they're using. Examples of communications-enabled business applications and integrated capabilities include the following:

- **Salesforce.com** (for example, click to dial, inbound calls auto pop customer records, find contacts via directory search, capture notes and call details to the record)

- **Microsoft Office 365** (for example, calendar-based presence notifications, click to dial, auto create calendar invitations, voicemail to email integration
- **Google Apps** (for example, click to dial, in-call management options, and inbound call notifications)

Choosing Deployment Models

Until recently, there weren't many options for deploying business communications systems. For most businesses, the traditional deployment model required a substantial investment in on-premises private branch exchange (PBX) systems. This model put all of the risk (discussed in Chapter 2) on the buyer because it was a long-term strategic decision that, among other things, potentially impacted

- Future business growth and scalability
- Expandability to multiple locations
- Agility and ability to support new features and capabilities in communications-enabled business processes (CEBPs)

During the 1990s and early 2000s, many organizations replaced their legacy PBX systems with more flexible on-premises Unified Communications (UC) systems, enabling these organizations to converge their voice and data networks and leverage many standard networking components in their telephony infrastructure, while offering advanced unified communications and collaboration capabilities to their users.

Cloud communications, also known as Unified Communications as a Service (UCaaS) or hosted communications, is the newest option in business communications and is one of the fastest growing market segments in technology — roughly 25 percent year over year.

However, there's more than one path to cloud communications, and different size businesses have different requirements that drive their decisions on which cloud model to adopt (see Figure 1-1):

- **Small business** (1 to 100 employees):
    - Some integration into other key applications like Salesforce.com and basic contact center may be required

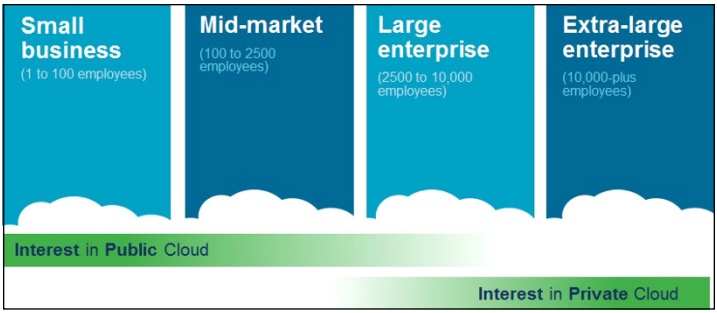

Figure 1-1: There's more than one path to the cloud.

- Ideal consumers of mobile and public cloud solutions displacing small-end customer premise platforms

- **Mid-market** (100 to 2,500 employees):
  - Often have sophisticated business process integrations and contact center requirements
  - Interested in public, private, and hybrid cloud solutions preferring private networking instead of over-the-top (OTT) solutions
- **Large enterprise** (2,500 to 10,000 employees):
  - High interest in private cloud migration and hybrid cloud solutions to leverage existing investment
  - Integration into larger IT framework is a key consideration
- **Extra-large enterprise** (10,000-plus employees):
  - Focused on solutions that can be effectively deployed to a large user community by emphasizing role-based user types and multiple location scalability
  - Security, scalability, and third-party integrations are key considerations
  - High interest in private and hybrid cloud migration strategies

Public cloud

Public cloud is the primary cloud communications deployment model for small and medium businesses (SMBs) and is the most popular option. It can be easily procured on a

per user per month basis and can be combined with private network connections, although it's often used over a basic Internet connection or runs on an "over the top" (OTT) service. I cover cloud connectivity options in Chapter 3. Most public cloud communications services include contact center features and integrate with popular business applications.

Public cloud communications offerings can be delivered with private networking for increased security and reliability.

Private cloud

Private cloud communications deployment models are most popular with large enterprises, key verticals, and government agencies. Private cloud communications take advantage of cloud benefits while achieving maximum levels of security and control for the organization.

Private cloud communications can be managed by a solution provider and often includes recurring cloud revenue components. Some executive decision makers may prefer the CapEx investments and perpetual licensing in private cloud models, instead of the recurring OpEx and licensing fees in public cloud models, for various financial reasons.

Hybrid cloud

The hybrid cloud leverages existing on-premises communications investments, increases resiliency, and enables cloud management benefits and efficiencies of scale.

A hybrid cloud communications strategy is often adopted by organizations as part of a transition strategy, from a traditional on-premises phone system to a more robust cloud-based unified communications solution that provides unlimited scalability and advanced business capabilities.

A hybrid cloud communications strategy can also be adopted as an end strategy, rather than simply a transition strategy, offering organizations the advantages of both public and private clouds. For example, an organization may choose to maintain complete control of certain aspects of its communications infrastructure while leveraging the resiliency, management, and scalability benefits of the cloud. In these cases, primary communications functions may be handled on-premises in

a private cloud deployment, while overflow call volume and business continuity/disaster recovery is handled in the public cloud.

Hybrid cloud communications favor large campus environments with geographically distributed locations. This model is embraced by IT organizations with limited resources and coverage, as it provides unified management tools to manage users across all sites.

The benefits of cloud communications include

- Cost savings from reduced communications complexity and operational expenses and an overall lower cost per user compared to legacy PBX systems
- Improved employee productivity through a rich suite of easy-to-deploy communications capabilities
- A truly mobile workforce connected with communications tools and virtual systems across multiple locations that give employees access to resources from anywhere

Cloud computing and outsourcing aren't the same thing

The old IT outsourcing adage was that outsourcing allowed firms to focus on their core business, rather than on technology. While that seemed like a reasonable proposition at the time, the mistake that many firms made was in giving up the control of their technology and their ability to differentiate themselves in a competitive global market. This is particularly true of firms that went well beyond IT outsourcing to farm out their customer service, sales, design and, in some cases, manufacturing processes.

Cloud computing (more specifically cloud communications) outsources the communications infrastructure, not the business processes. By simplifying network operations — such as managing firewalls, virtual private networks (VPNs), and session initiation protocol (SIP) trunks — and eliminating server administration, moving to a cloud communications provider enables businesses to reallocate IT staff to more value-added projects and business-critical responsibilities that actually do create competitive differentiation.

Chapter 2

Recognizing the Benefits of Cloud Communications

In This Chapter

- Keeping your employees productive on any device
- Extending business communications functionality to remote offices
- Driving down communications costs
- Delivering business innovation
- Taking advantage of the latest communications technology

This chapter covers some of the benefits of cloud communications, including enabling a mobile workforce, supporting remote workers in multiple locations, reducing capital investments and operating expenses, enabling a focus on business — rather than technology, and always staying current with the latest technology, features, and capabilities.

Enabling a Mobile Workforce

We're all busy today. But we're not always productive. For example, we spend several hours every week checking emails, schedules, text messages, and voicemails in multiple applications and on multiple devices just to make sure we're not missing something. But ironically, managing multiple collaboration tools on multiple devices is a sure way to miss something.

Cloud communications opens up and unifies collaboration so businesses begin thinking outside their inboxes. It brings employees, customers, and partners into the conversation from wherever they are, on whatever device they're on. And it lets

them pick up the conversation quickly, by organizing everything into a single cloud-based application where voicemails, videos, chats, and more can be stored and easily accessed whenever they're needed.

The key to better collaboration is through your mobile phone. If you're like most of us, it's the first thing you check in the morning, the last thing you see at night, and it goes wherever you go. That's a far cry from where most legacy phone systems are today, which were designed well before the mobile era and handle mobile communications as an afterthought.

The rise of the mobile workforce has challenged modern perceptions of what a traditional office environment should be. Gone are the large spaces filled with wall-to-wall cubicle farms. Instead, they've been replaced with functional work spaces where people collaborate and are more productive, and mobile working, once seen as a major hassle for organizations, is no longer considered a compromise for businesses trying to accommodate unique work situations such as flexible working schedules and office closings due to severe weather. Today, everything is digital, and remote employees — equipped with the right communications tools — can be as productive outside the office as they are in the office.

Consider the following mobile workforce trends:

- Nearly 70 percent of employees use their personal device for email.
- 26 percent of employees are productive while outside the office or home.
- 36 percent of employees use up to three mobile devices to do their work.

Cloud communications also means no mobile app gets left behind. Your business apps are integrated into the communications fabric so you can share information, ideas, and images from a single screen without constantly opening and closing apps or worrying about interoperability.

Regardless of how your organization compares with other forward-looking mobile organizations, your business is constantly moving. Work is done while eating breakfast at home, riding in a car, walking to lunch, sitting in a hotel

lobby, or waiting in line at the airport. Your employees work remotely — blasting out emails and text messages, and answering calls from customers and clients (or prospective customers and clients) at all hours of the day and night, whenever and wherever they're needed — regardless of whether they're "at work."

Life is mobile, and your communications system should be too. You should be able to be as productive on your mobile phone as you are at your desk.

Supporting Multiple Locations

In addition to supporting mobile workers from any location, modern business communications systems need to support remote workers from multiple locations. Unlike mobile workers, remote workers perform their work from a fixed location — it's just not located at your main campus or headquarters. Perhaps it's a branch office located in another city or country, or a temporary office setup to support a new project, or even a home office for a teleworker.

Regardless of the specific situation, remote workers all have unique communications requirements that are often similar to deskbound workers at your main office location, but without the same resources — equipment, connectivity, and support.

Legacy private branch exchange (PBX) systems are usually cost prohibitive for smaller remote locations consisting of fewer than ten users. For this reason, remote workers at smaller locations are often equipped with centrex phone systems, analog lines, or residential phone services that lack the features and functionality of a business communications system. They may also be required to connect to the main office over a virtual private network (VPN) connection, which can negatively impact voice quality.

Cloud communications effectively creates a virtual communications system across all remote locations for an organization, extending the solutions available for both mobile and remote workers, to include

- Mobile phones
- Desk (hard) phones

- PC (soft) phones
- Contact center agents

Both on-premises and cloud communications systems support mobile and remote workers. However, on-premises systems treat these workers as the exception: Mobile/remote access has to be approved and set up, a VPN or other similar security measures needs to be configured, and additional network bandwidth may need to be provisioned (for remote access). Cloud communications treats office, mobile, and remote workers all the same. It completely eliminates location from the equation and provides users with the same set of features that they have in the office, regardless of their location.

Reducing Costs

Not all dollars cost the same. A dollar invested in a technology project that has a low return on investment (ROI) has opportunity costs that may amount to far more than the initial investment itself. Similarly, many technology projects require ongoing commitments — sunk costs — that further erode profitability for a business: the proverbial "throwing good money after bad."

Large investments involve risk. Not only is there a heavy financial stake, but also the organization is essentially placing a series of bets on the investment:

- Is this the right technology for our business? How will the technology change over the next 3, 5, and 10 years?
- Is this the right vendor to partner with for our business? Will they be around in 3, 5, or 10 years?
- How quickly will our business grow over the next 3, 5, and 10 years? Will this investment scale to support that growth?

Capital budgeting is always a very subjective process. A capital expenditure (CapEx) is usually defined by a minimum investment threshold, for example one thousand dollars, and the investment must have a valuable life of more than one year.

CapEx may, in some cases, include bundled equipment, installation and project management costs, implementation services, freight expenses, and initial training costs, among others. Businesses can depreciate a capital investment, typically over a five- or seven-year period, but they must also pay property taxes and maintain fixed asset records on all capital investments throughout the useful life of the investments. And of course, most technology today is obsolete well before its five- or seven-year depreciation period. It all gets extremely complicated, extremely quick.

For these and many other reasons, most businesses prefer operating expenses (OpEx) instead of CapEx. OpEx costs — such as utilities, rent, perpetual licensing fees, and software maintenance — are typically lower (in the short term) than CapEx costs. This is particularly true in terms of upfront costs required, which frees up cash for other projects that drive revenue and growth for the business.

OpEx costs are typically more stable and predictable than CapEx costs and provide more flexibility for a business should requirements change. For example, a service provider will usually charge a known recurring rate for a given level of usage, a per-user (or per-seat) fee, or a monthly subscriber fee.

The original thought behind premises-based communications systems was to keep costs down by owning the solution. But as those systems have aged, businesses find themselves owning the problem of maintaining, upgrading, and expanding those systems.

The cloud offers a better path for growth. It not only saves you money through economy of scale, but also it scales cost-effectively as you grow. You never have to worry about adding more servers and switches as you add more employees. You simply add another seat in the cloud at a fixed monthly cost and have the assurance that new employees are connected into all of your business communications from day one.

If you're looking to reduce communications costs, the cloud can save you money:

- No costly, upfront investments in servers, switches, and PBXs

- No budget "surprises" with consistent or predictable calling plans
- No costly, across-the-board software upgrades as new features and versions are released — you get the latest versions immediately, automatically
- No wasted money on overprovisioned trunks or under-utilized hardware
- No high energy and cooling costs to run a roomful of equipment, and rent to store it all

TIP

As part of your ROI analysis, you should compare the total cost of ownership (TCO) of cloud-based and premises-based communications solutions. Remember, a cloud-based solution consists almost entirely of OpEx costs, whereas a premises-based solution requires both CapEx and OpEx (in the form of ongoing software assurance and upgrades).

Focusing on Business, Not Infrastructure

Technology has the ability to transform your business and drive innovation. But it can also drive you crazy if all you're doing is putting out fires to maintain the status quo. Think of it this way: Would you rather have your engineers fixing the phones or finding new ways to delight your customers?

Cloud-based communications solutions are exactly that: solutions. Fixing bugs and repairing hardware are the cloud provider's problems, and most of them make sure it never becomes a problem for their customers — even going so far as to guarantee systems uptime and availability in their service level agreements (SLAs). So while you never have to worry about losing dial tone, your IT department can focus on making sure you don't lose your competitive edge in the market.

REMEMBER

Innovation is the key to continued growth in today's business environment. Cloud-based communications ensure your business is on the leading edge and in tune with the millennial workforce that will drive your business into the future.

Staying Current with Evergreen Software

Keeping your communications systems current is important — not only to ensure your business leverages the full functionality and latest capabilities available in your communications system but also to ensure security and stability. However, software and firmware upgrades can be risky and challenging, particularly for an IT team that only occasionally performs system upgrades. They require a lot of planning and coordination. Maintenance windows must be planned around business cycles and downtime is never acceptable — even when it's planned!

Most premises-based communications solutions offer software maintenance for an added cost. But the risk and hassle of actually performing the upgrade belongs to the customer — and there are costs associated with performing those upgrades. The current state of the system must be documented, the upgrade must be downloaded and tested, the maintenance window has to be scheduled and communicated, contingency and back out plans prepared, and extended support provided for "the morning after."

A cloud communications solution also requires regular upgrades, but the risk belongs squarely with the service provider. Of course, if the upgrade goes awry your business may suffer, but your service provider should have the resources in place to minimize the likelihood, as well as service-level agreements (SLAs) to mitigate the impact.

Case Study: Make-A-Wish America

Since 1980, Make-A-Wish America has fulfilled over 270,000 wishes for children with life-threatening illnesses and their families. Communication and collaboration are integral to what the company does because it relies on a vast network of over 27,000 active volunteers and 62 local chapters across the United States to turn children's dreams into realities.

The situation

Behind the magic of making dreams come true is a lot of communication, dedication, and hard work on the part of Make-A-Wish employees, volunteers, donors, and participating families. This requires a communications system that delivers high reliability, availability, and, most of all, reachability. As Make-A-Wish CIO Bill Baumbach sees it, communication is at the core of everything they do: "It's really important for us to communicate with all the people involved in the wish process (including) the wish family, the volunteers, all the people planning and orchestrating the whole process, as well as our generous donor community."

Like many large organizations, Make-A-Wish had shifted over time from fixed communications to a more mobile environment where smartphones had replaced desk phones as the communications tool of choice. Yet its existing communications system still reflected the pre-mobile cloud era, with premises-based equipment and applications from a host of vendors. Make-A-Wish needed a system that combined mobility with simplicity, so employees, volunteers, and families could communicate and collaborate seamlessly from any location on any device.

The solution

Working with Trans-West Network Solutions, Make-A-Wish quickly identified Mitel as the communications provider to deliver everything the organization and its employees needed in a single, low-cost solution.

The rollout of the new communications system started at Make-A-Wish's headquarters in Phoenix, where it has more than 100 employees — approximately one quarter of whom work remotely. Make-A-Wish selected Mitel's MiCloud products as the core components of its new cloud-based communications platform.

The Mitel solution delivered a rich set of mobile-centric features that immediately brought Make-A-Wish's communications capabilities into the 21st century. These features included built-in audio and web conferencing applications,

unified communications, and messaging from a single application and single-number reachability on any device.

The migration to the cloud was simplified by the fact that Make-A-Wish was already using a Mitel private branch exchange (PBX) system as the foundation for its voice communications. One of the key advantages of the Mitel cloud is its seamless interoperability with Mitel's premises-based systems, which allows enterprises to easily shift to a more cost-effective and scalable cloud model while still leveraging its existing legacy system and features.

Rapid, repeatable deployments were an important consideration for selecting the Mitel solution. Together with TransWest, Mitel was able to roll out the new cloud-based solution to everyone in the headquarters office in just a few days. As Jeff Pick, director of technology at Make-A-Wish, explains: "What we've been able to do is onboard locations at our pace . . . deploy the technology solution, train, bring employees onboard, and get those cost savings while keeping our existing investment intact."

For the Make-A-Wish America chapters, migrating to the Mitel Cloud solution has made it easier to communicate and collaborate with the central headquarters.

The results

Suffice it to say that the Mitel solution has been everything Make-A-Wish America wished for . . . and more. Since implementing the solution across the organization, Make-A-Wish America has been able to drive down costs while increasing efficiency and productivity. Today, Make-A-Wish has a simple, powerful communications platform that requires only one administrator to manage the entire system and one interface to access all of its communication and collaboration tools.

Make-A-Wish cites a host of benefits in its cloud-based Mitel solution, including

- Seamless interworking between desk phones and mobile phones that allows them to forward calls between devices and be reachable on any device through a single number

- Robust audio and web conferencing capabilities that simply work and save them money by eliminating the need for third-party applications
- Less time spent tracking down colleagues and managing multiple message platforms such as voicemail, email, and texts
- Faster collaboration and fewer missed calls

For Make-A-Wish America, the cloud has enabled it to communicate more effectively and more efficiently. Instead of a multiplicity of applications and equipment, the organization today enjoys the simplicity and mobility of a single solution that works the same on any device from any location. More importantly, Make-A-Wish now has the power to quickly extend its network of volunteers and national chapters with real-time collaboration and communications tools that can do more good in more places.

Chapter 3

Connecting to the Cloud

In This Chapter

- Going over the top with an OTT provider
- Getting the best quality with an MPLS network
- Cutting the wires with Voice over Wi-Fi

An important decision that significantly impacts quality and user experience in cloud communications is how your business will connect to the cloud. In this chapter, you explore different options for connecting to the cloud, including over-the-top (OTT), multiprotocol label switching (MPLS), and Wi-Fi.

Over the Top (OTT)

Over the Top (OTT) telecommunications providers deliver voice and video services to customers over public Internet connections. OTT can be ideal for smaller organizations or connecting mobile and home-based employees, and almost any organization will have some level of OTT service being used, for example, by a remote user working from home, in a hotel, or at a coffee shop. The majority of small and growing businesses choose this delivery method due to the low cost of leveraging the pre-existing public Internet connection. OTT for a larger site needs to be evaluated to ensure it will deliver the quality expected.

However, OTT has its drawbacks in a sense of delivering a consistent call quality experience as well as establishing a completely secure connection that some companies have accepted and prioritized around. This delivery model of voice and data isn't appealing for larger office locations because

companies lose control over the quality of the connection once it hits the public Internet.

OTT is appropriate for some company's use cases but is best used as a complementary solution to other cloud connectivity options if price isn't an inhibitor.

OTT users need to regularly test their communications equipment to verify that the quality is acceptable for business use.

Multiprotocol Label Switching (MPLS)

Multiprotocol label switching (MPLS) is used in high-speed telecommunications networks to transport packets over virtual links, rather than private circuits. MPLS supports numerous access technologies, such as T1/E1, asynchronous transfer mode (ATM), frame relay, and digital subscriber lines (DSLs).

MPLS offers the best quality among the various options for connecting to the cloud and is generally preferred by most businesses. Connecting multiple locations to an MPLS network can be more expensive than other options; therefore, it's best suited for larger organizations.

Quality of Service (QoS) options on an MPLS network can help businesses ensure that voice and video traffic, for example, is always prioritized above other types of network traffic to ensure good quality and low latency.

MPLS also provides relative ease of management for organizations with regard to billing. Even a small business with only three or four locations and a very small call center can be burdened with reconciling reams of paper-based telecommunications invoices each month from multiple providers.

Some cloud communications providers offer MPLS networking for a fully integrated service. This provides additional benefits for the customer, including QoS monitoring, a single bill, and other "one provider" benefits. However, not all service providers offer networking services — some won't even allow customer owned/managed links into their data centers — so you need to carefully evaluate different service provider options.

Identifying different services and circuits, deciphering different invoice formats (even multiple invoices from the same provider), and spotting billing errors can be a daunting task requiring many hours every month by itself. Recognizing bill cramming or toll fraud adds to the challenge. Sourcing all of your telecommunications needs — both voice and data — from a single provider over an MPLS network can significantly reduce this management burden.

Wi-Fi

Internal Wi-Fi networks, deployed and maintained by an enterprise, should be designed for voice. With the right design and equipment, internal Wi-Fi can provide an optimal VoWiFi solution for enterprises that can be fully controlled.

External Wi-Fi is tricky and is considered to be a "notch" lower than OTT (discussed in a previous section) for voice. Battery consumption and lack of traffic control are the primary issues. Thus, VoWiFi can be very challenging, for example, in airports and coffee shops.

With the ubiquitous deployment of Wi-Fi hotspots worldwide, as well as explosive growth in the number of mobile data and global OTT mobile VoIP subscribers, operators across the globe are reconsidering their Wi-Fi strategies.

Up until now, Wi-Fi networks have been deployed as high-speed convenient access for data hungry mobile phone and tablet users. But, using Wi-Fi as a pure data offload limits the opportunity for telecom operators to offer a seamless mobile broadband experience. Building a voice strategy for Wi-Fi networks is therefore imperative.

Several initiatives — such as the Third Generation Partnership Project's (3GPP) Access Network Discovery and Selection Function (ANDSF) for wireless LAN (WLAN) integration and the Wi-Fi Alliance's Hotspot 2.0 Specification — have further simplified roaming for Wi-Fi and macro networks.

While Wi-Fi services integration is an important step for wireless data offload and efficient spectrum utilization, Voice over Wi-Fi (VoWiFi) will be an important step for Voice over Long Term Evolution (VoLTE) launches in the near future. This

means operators need to take the first step toward VoWiFi before building LTE networks that are voice ready.

VoWiFi has been defined by mobile industry standards organizations (including 3GPP and the GSM Association, or GSMA), is detailed in a set of industry specifications (including GSMA's IR.51 and IR.92 documents), and is increasingly supported as a native feature in a number of mobile phones, including Apple's iPhone and Samsung's Galaxy S6.

VoWiFi, as defined in those specification documents, is a solution that enables mobile service providers to deliver the same set of mobile voice and messaging services they currently offer over their macro cellular network, over any Wi-Fi network, globally. With VoWiFi, mobile operators can enable their subscribers to transparently transition between their cellular network and any home, office, or public Wi-Fi network.

Software-defined networking (SDN) WAN options are emerging as a new option between MPLS and OTT.

The primary reason for businesses to deploy VoWiFi is to address indoor service coverage challenges. Since the dawn of the mobile industry, providing mobile subscribers with reliable, quality coverage for voice services while indoors has been a challenge.

Chapter 4

Making the Business Case for Cloud Communications

In This Chapter

- Calculating ROI versus TCO
- Factoring in costs and assumptions
- Keeping the lights on
- Enabling business agility and avoiding risk

This chapter presents the business case for a cloud communications solution including return on investment (ROI) and total cost of ownership (TCO), supporting business continuity, and determining the value of flexibility for your business.

Comparing ROI and TCO

When trying to determine which communications option — premises- or cloud-based — is right for your business, ROI and TCO comparisons inevitably come into play. Which solution drives better value for your business?

Unfortunately, this can be a difficult question to answer. ROI and TCO models are typically designed to compare like options — for example, a similar premises-based system built by two competing vendors. Premises- and cloud-based communications solutions aren't similar options.

Additionally, there are many costs and assumptions that must be determined when evaluating your options. Ultimately, the answer to the question "Which solution is better for our business?" may depend on more subjective measures, such as the value your organization places on flexibility and risk

avoidance. It's somewhat analogous to purchasing an airline ticket: Which is better? A non-refundable $325 ticket, or a refundable $466 ticket that can be changed for a nominal fee? The answer largely depends on the amount of flexibility your travel plans require and the level of risk you're willing to assume that your travel plans won't change.

Making a large capital investment in technology, such as a premises-based UC solution, requires a commitment to a particular path. But how do you know that the technology or solution you've committed to is the right choice? How will the technology change over the next 18 to 24 months? What new innovations will be introduced to the market during that time that may be of benefit to your organization? The answer to that question is hard enough, but most financial models depreciate capital technology investments over five or seven years, so you'll need to really shine your crystal ball to see five to seven years into the future!

Beyond predicting the future of a particular technology, a premises-based decision also requires you to see the future of your organization. How much growth will occur over the next five to seven years? Incremental growth over the next 12 to 24 months may be relatively easy to forecast, but any projections beyond that time frame become increasingly challenging. If your company experiences rapid growth, the premises-based solution you invest in today may be woefully inadequate, requiring costly upgrades. Or, if your company undergoes a merger or acquisition, how difficult will it be to integrate with the other organizations involved in the deal?

Finally, ask yourself the following questions:

- How do I know that the solution I'm investing in will still be around in five to seven years?

  Although you'll no doubt do your due diligence on the vendor that builds your solution, it's hard enough to predict how your own company will be doing in five to seven years, let alone how a vendor will be doing.
- What is the vendor's product roadmap for the solution I've selected?
- Is the vendor financially soluble? Will it put its source code in escrow for you, and does your company have the resources to maintain the source code if the escrow is released?

- Is the vendor the target of a merger or acquisition? If it is acquired, will the solution you're purchasing be supported for the foreseeable future?
- Will new development on the solution continue? Or will the parent company kill off the solution as a competing product line?

None of this is to say that ROI and TCO models aren't valid. You just need to understand the limitations of these models and how cloud-based technologies change the paradigm.

A cloud-based solution typically doesn't require a large capital investment because it's a subscription-based, "pay-as-you-go" service. The solution can be easily scaled up or down as your business requirements change, and switching to another service provider, whether due to a change in technology (if your cloud communications provider doesn't support the new technology), a change in your business requirements (perhaps due to a merger/acquisition), or a change in your relationship with your cloud communications provider (possibly due to a change in terms or poor customer service, financial insolvency, or a change in strategic direction) — though not necessarily easy — is relatively painless when compared to switching from a premises-based solution that requires significant reinvestment.

Understanding Costs and Assumptions

According to Transparency Market Research, the unified communications (UC) market is expanding at a compound annual growth rate (CAGR) of 16 percent. Revenue is expected to grow to $61.9 billion by 2018. So what's driving UC growth? In a recent *Webtorials State-of-the Market* report, companies cited each of the following benefits as a factor in their ROI calculation:

- Savings on conferencing services (53 percent)
- User productivity gains in the office (50 percent)
- User productivity gains while mobile (46 percent)
- Reduced travel expenses (55 percent)

Tough questions, clear answers

Expect your CFO to push for answers on the following:

Q: What are the CapEx vs. OpEx implications of investing in cloud communications?

A: If we use the cloud in a managed services model, costs will shift squarely to OpEx and can predictably scale up or down based on the needs of the business.

Q: Are there service level agreements (SLAs) that protect core business processes — and revenue?

A: Reputable cloud communications providers use their own third-party data facilities with SLAs covering uptime and availability, business continuity, disaster recovery timetables, support for demand spikes, mean time to resolution (MTTR) of issues, and more.

Q: Will cloud communications be a forklift upgrade that makes key investments in the IT infrastructure over the last three to four years obsolete ahead of depreciation schedules?

A: No. The right cloud communications solutions not only support, but also leverage, currently installed platforms and the latest IT frameworks. They integrate seamlessly with virtualization, cloud computing, customer relationship management (CRM) applications and more.

Addressing Business Continuity

Cloud communications can be an integral part of business continuity and disaster recovery planning. Cloud service providers typically build highly redundant systems in robust, geographically dispersed data centers with multiple points of presence across the Internet. Failover in a cloud environment can be seamless to cloud subscribers, enabling businesses to continue to function normally through various contingencies.

Assigning Value to Flexibility and Risk

The value of flexibility is difficult to quantify and varies widely among different businesses — even among those of comparable size and in the same industry.

A Forrester Total Economic Impact (TEI) study prepared for Mitel defines flexibility as representing "an investment in additional capacity that could be turned into business benefit for some future additional investment." For example, cloud communications might provide an organization with the ability to extend business communications to a mobile workforce, enable remote worker setups for contact center personnel to work from home, or use application programming interfaces (APIs) to integrate or develop third-party mobile apps and plugins.

Technology changes very quickly, often making large multi-year investments obsolete. For this reason, flexibility with regard to a communications investment can be extremely valuable to a business. Additionally, risk avoidance is valuable. In a cloud communications model, the service provider assumes most of the risk, including build out costs, licensing, training, adoption of the technology, and obsolescence.

With cloud communications, you have the flexibility to grow at your own pace. For example

- **Are you a seasonal business?** Cloud communications make it easy to add employees to the conversation and scale back again when the season is over.
- **Is your 9-to-5 customer care center shutting out 30 percent of your sales?** With the cloud, you can easily route calls to mobile devices to extend your hours without extending your office space.

Chapter 5

Looking at Emerging Cloud Communications Technologies

In This Chapter

- Enabling more powerful mobility capabilities
- Improving Internet connectivity
- Driving higher productivity with workstream messaging

Communication is more than just connecting people. The right communications solution helps businesses connect the dots between where they are today and where they want to be tomorrow. In this chapter, you explore the future of emerging cloud communication technologies and how they can help your business today and into the future.

Tighter Mobile Integration

Predicting the need for tighter integration between business communications systems, core business applications, and users' mobile devices doesn't take a crystal ball. The mobile workforce of today and the future expects its mobile phones to work everywhere, so productivity can happen anywhere.

Emerging technologies for tighter mobile integration include the following:

- **Voice over Long Term Evolution (VoLTE):** This is a specification that enables more efficient use of available

bandwidth and tighter integration with apps over an LTE network.

- **All IP-based communications:** Carriers move voice services from 2G/3G circuit-switched (CS) networks to LTE, enabling redeployment and reuse of limited spectrum, and develop apps that are natively voice-enabled. Today, voice and data are separate, and not all voice is IP-based — even on LTE networks. In the near future, all LTE connections, both voice and data, will be IP-based.
- **Convergence of mobile and enterprise communications (no more "apps"):** Today, most unified communications (UC) vendors provide an app for smartphones that enables enterprise communications. Users will soon be able to make and receive corporate calls on their smartphones — not from a separate app, but from a native dialer.
- **Intelligent reachability:** Intelligent reachability allows users to be reached on any of their devices through a single phone number with intelligent call routing capabilities, using location data, Bluetooth, and Wi-Fi, among others, to route the call to the most appropriate device (rather than simply ringing every device).
- **New use cases:** These enable mobile apps to leverage real-time communications. Today, an app can trigger the dialer to make a call, but the call happens outside the app. In the future, mobile apps will be natively communications-enabled via seamless integration to network-based communications capabilities.
- **Enterprise routing capabilities:** These utilize location and contextual awareness through more intelligent and capable cellular networks as UC vendors and cellular carriers develop new technologies together.

Software-Defined Networking over Internet

Today, cloud communications customers generally connect to their service providers over either a multiprotocol label

switching (MPLS) wide-area network or an Over the Top (OTT) Internet connection (MPLS and OTT are discussed in Chapter 3). At least some OTT is typically used in almost all environments. For example, it's common to find MPLS at office locations, while employees use OTT at home or on the road.

MPLS offers the best quality, but it's more expensive than other options. Many service providers often include MPLS services and guarantee the quality of service for their customers. OTT is less expensive, but it's basically just an Internet connection. There's no quality of service guarantee, and voice quality can degrade and even become unacceptable at times. For example, if a neighbor on the same network streams a video during a call, the download could interfere with your call.

A new innovation, known as *software-defined wide area networking* (SD-WAN) is emerging, offering businesses the best of both the MPLS and OTT worlds — better quality at a lower cost. SD-WAN delivers these benefits by using multiple network connections, including a mixture of OTT and/or OTT with MPLS services.

SD-WAN provides enterprise-grade performance, visibility, and control over Internet broadband and private links. WAN traffic is automatically steered across the best links and most-optimal paths. Dynamic multipath packets are steered to the optimal link based on performance metrics, application requirements, business priority of the application, and link cost. This technology can create a virtual, high-bandwidth pipe from multiple, inexpensive broadband links and leased lines, providing businesses with improved WAN economics and quality.

Workstream Messaging

UC solutions generally include instant messaging (IM). However, IM generally only supports internal users and is designed primarily for one-to-one communications. But a new category of communications is emerging: *workstream messaging*. These messaging services are specifically designed for business collaboration.

Workstream messaging provides the same familiar experience of consumer-based messaging applications, but offers enterprise-oriented capabilities, such as

- Persistence
- Directory integration
- Search
- Single sign-on (SSO) support
- Integration with other enterprise applications, such as customer relationship management (CRM)

Workstream messaging solutions started with basic messaging services but have been expanding into real-time communications. A cloud communications provider can offer workstream messaging solutions with extensive real-time capabilities, including support for desk phones and public switched telephone networks (PSTNs). Because workstream messaging also organizes and shares content (such as files and photos), it provides contacts, content, and communications — all in one place. Workstream messaging will combine the benefits of asynchronous communications (such as messages and files) with real-time communications (such as voice and video), and become central to business workflows.

Workstream messaging isn't just another feature of UC — it often becomes the preferred means for real-time communications in an organization. Workstream messaging is self-organizing, which offers many benefits for users compared to an unwieldy "catch-all" email inbox. Also, messages are more collaborative because they tend to drive more frequent, less formal, and concise interactions between communicating parties.

Workstream messaging is also superior to IM because, like actual workgroups and teams, it extends beyond organizational boundaries. In the consumer world, messaging-based apps now dominate communications, but those services do not suitably address enterprise requirements, such as security and integration.

Workstream messaging solutions have the potential to change the nature of communications applications, such as email, in the future. Organizations using workstream messaging solutions today have benefitted from a significant reduction in internal email volume because these solutions offer many advantages over traditional email systems, such as self-organizing message streams. Some might argue that reduced email isn't much of a business benefit because messages are effectively moved from one application to another. However, the storage footprint for workstream messaging is generally smaller than for email, and there are numerous other advantages, including

- **Organization.** Email tends to follow a last-in-first-out model, but organizing content chronologically is not always ideal. Workstream messaging tools organize messages by logically defined containers that group people or topics together. A new message arrives in that space, and the space itself is promoted to the top.
- **Search.** Rather than store conversation history in individual email folders, workstream messaging tools share a single copy of the history among the participants. Everything is in one tool, along with content such as documents or photos.
- **History.** Group history can be easily shared with new members to quickly bring others "up to speed" on a conversation topic.
- **Shared knowledge.** Some workstream messaging tools allow containers to be searched by non-participants. If someone in the company is looking for someone with knowledge of widgets, for example, then conversations about widgets can be identified to reveal potential experts.

Many cloud communications providers are moving to continuous upgrades rather than scheduled upgrade cycles. Thus, another advantage of cloud communications software is that it's not only the most current, but also it's more secure than premises-based solutions, in which continuous upgrades aren't practical.

Chapter 6

Ten Capabilities of a World-Class Cloud Provider

In This Chapter

- Recognizing voice, video, and messaging capabilities
- Integrating communications with business processes and applications
- Enabling contact center functionality
- Ensuring flexible pricing, security and compliance, and reliability
- Keeping management simple with intuitive user and admin portals

It doesn't take much to become a "service provider" providing a sub-par cloud experience. For example, a vendor can pair open source software with commodity off-the-shelf servers and partner with a third-party session initiation protocol (SIP) provider, and voilà! there's a new kid on the block offering cheap voice services "in the cloud."

However, any cloud communications solution is only as good as the ongoing end-to-end services that it provides to its customers. In addition to the foundational software, there are data center operations, staffing, design, scalability, customer service, and much more to evaluate. In this chapter, I describe ten key communications capabilities that you need to consider when evaluating cloud communications providers for your organization.

Voice and Telephony

Voice is, of course, a basic requirement of any cloud communications solution. In addition to providing end-to-end voice

quality, a cloud communications provider should offer a variety of endpoint options, including software and mobile agents, as well as various desk phones.

Functionality should include a personal communications dashboard with advanced UC and voice features, such as

- **Presence:** Know whether people are available, away from their desk, or out of the office and choose the best mode to reach them.
- **Instant messaging:** Look for the answer to a quick question, or, busy on the phone, get what you need with a simple chat to your colleagues.
- **Unified messaging:** Access call recording and send voicemails to your email so you never miss a message. Add fax to email functionality as an optional feature.
- **Soft clients:** Workers enjoy the same intuitive communications management they would experience in the office from a remote PC, laptop, tablet, or smartphone, with an embedded software-based IP phone.
- **Attendant console:** Offer phone status information for multitasking attendants, receptionists, and administrators.
- **Web access:** Get access to key collaboration features from remote locations using any computer with Internet access.
- **Single number reach:** Your personal cell number stays personal. The single number reach allows users to be reached on any devices through a single phone number with intelligent call routing capabilities. Calling the single number rings one, some, or all devices simultaneously depending on user preference and defined rules.

Conferencing

Modern conferencing enables remote workers to be remote, with collaboration capabilities that go well beyond a basic conference call. Sharing screens, seeing other conference participants, working on content together in real-time, and more, are all important capabilities. Conferencing capabilities in a cloud communications solution are a must. These capabilities

should be as easy to use as picking up a phone and should include advanced features that make it simple for users to invite meeting attendees, dial out, join conferences, share workspaces, and record meetings.

Workstream Messaging

Work, and especially team-based activity, is not static, but a continuous process that involves collaborating to solve a problem, measuring results and improving the output, whether it's speed to market, quality of service, or return on investment.

That workflow is a steady stream with faster currents in some portions of the project and slower demands in others. Like a stream, it meanders its way with an inconsistent ebb and flow of people, conversations, collaboration, and content.

Workstream messaging embraces this natural workflow continuity and provides a single, unified experience with rich collaboration and real-time communications to support how real team-work is achieved today:

- Keep pervasive chats, collaboration, and content (such as presentations, pdfs, and more) so that new team members can get caught up in a matter of minutes.
- Keep up with projects, stay connected with colleagues and clients, and eliminate cumbersome emails with powerful layers of embedded collaboration within a single, shared application.
- Consolidate teamwork capabilities into a single window pane, centralizing chats, content sharing, collaborative whiteboard sessions, pictures, videos, presentations, and add rich graphic and vocal annotations.
- Conduct face-to-face meetings with team members even if you aren't in the same room with them using multi-party video integration.
- Expand teams past the physical confines of your own organization to include remote employees, contractors, and even partner or customer contacts, anywhere around the globe and on any device.

Integration

Business application integration is critical to make sure that your systems are talking to one another. Having to switch between screens that require different passwords and transfer data between applications slows business down and destroys productivity.

In addition to basic email integration, your cloud communications solution should natively integrate with communications-enabled business processes (CEBP) and popular applications, such as

- Customer relationship management (CRM) suites, such as Salesforce, Oracle Sales Cloud, Zoho, and SugarCRM
- Microsoft Exchange and Gmail
- Microsoft Office 365
- Google Apps
- Other vertical business applications within healthcare, insurance, retail, or real estate as examples

REMEMBER

Two approaches to extensibility include application programming interfaces (APIs) so customers can create custom integrations and packaged/supported integrations that have already been created (such as Salesforce.com).

Contact Center

Not every business has a formal contact center, but every business can benefit from contact center functionality. Regardless of the terminology (customer specialist, sales agent, or support representative) your business has a need to route incoming calls efficiently, while effectively measuring customer service metrics. Contact center functionality is a key benefit of unified communications. The cloud enables businesses of any size to enjoy the advanced features of a contact center without the upfront costs. The ultimate customer experience starts with key contact center functionality such as

- **Skills-based automated call distribution (ACD):** Skills-based ACD helps your business optimize resources

by enabling you to handle a large number of incoming customer calls with a minimal number of skilled agents, sales primes, or support reps. A skills-based ACD system routes incoming calls to the longest idle agent within a specific agent skills group. If no agents are available, calls are queued and forwarded to an agent when one becomes available.

- **First call resolution:** Create multiple skill groups that prioritize and route calls to the most appropriately skilled agent based on pre-defined skill proficiency levels. This ensures each call gets to the best available resource to meet the customer's needs. Agents appearing in more than one skill group may be assigned a different skill proficiency level for each group.
- **Monitor and manage:** Real-time and historical reporting provides contact center supervisors with the information they need to manage resources efficiently and optimize response times. Identify problem areas, analyze trends in performance, and make informed decisions.
- **Remote agents:** Optimize business processes by providing home-based and remote workers with complete access to ACD voice and data capabilities.

Pricing

Prices tend to be fairly competitive among cloud communications providers and can be difficult to compare due to different bundling options. Focus on the features and functionality that your business needs — and remember that price isn't everything. There's tremendous value in flexibility. A cloud service provider that provides flexible pricing, such as allowing you to purchase individual features and licenses — or bundled features and groups of licenses — and scale up or down as your business needs change, should be preferred.

Security and Compliance

Cloud communications providers must provide advanced security measures, including full encryption, for all of their

subscribers. Compliance with stringent security and privacy standards and requirements is essential, including

- Sarbanes-Oxley (SOX)
- Payment Card Industry Data Security Standard (PCI DSS)
- Health Insurance Portability and Accountability Act (HIPAA)
- Financial Industry Regulatory Authority (FINRA)

Service Level Agreements (SLAs)

Look for a cloud communications provider that hosts their services in multiple, geographically dispersed Tier 4 data centers. This helps to ensure that your communications never go down due to a single network outage, hardware failure, or even a major disaster.

Data center tier levels are as follows:

- **Tier 1:** Single non-redundant distribution path serving IT infrastructure, non-redundant capacity components, basic site infrastructure with expected availability of 99.671 percent (approximately 29 hours of downtime per year)
- **Tier 2:** Meets or exceeds all Tier 1 requirements and redundant site infrastructure capacity components with expected availability of 99.741 percent (approximately 23 hours of downtime per year)
- **Tier 3:** Meets or exceeds all Tier 2 requirements with multiple independent distribution paths serving the IT equipment, all IT equipment is dual-powered and fully compatible, and concurrently maintainable site infrastructure with expected availability of 99.982 percent (approximately 90 minutes of downtime per year)
- **Tier 3+:** Terms for this certification vary by region. Meets or exceeds all Tier 3 requirements with dual-powered cooling equipment (including chillers and heating, ventilation and air conditioning, or HVAC, systems), and fault-tolerant infrastructure with electrical power

> storage and distribution facilities an expected availability of 99.995 percent (approximately 26 minutes of downtime per year).

Service-level agreements (SLAs) should provide easy to understand and useful performance metrics, including uptime and availability, performance, latency, jitter, and loss, as well as clear escalation and remediation procedures. Penalties for non-compliance can never compensate a business for lost revenue opportunities, but should provide compensation beyond one-to-one service credits (one hour of service credit for every hour of downtime) and allow a business to terminate the service if it becomes untenable.

Self-Service Portals

A user portal should be simple and enable your users to access the full functionality of their cloud communications suite, whether they're sitting at a desktop PC, working from a tablet at home, or using a mobile phone.

The administrator portal in a cloud communications solution should be powerful and intuitive, enabling IT administrators to quickly and easily set up new users and change capabilities for existing users, as required.

Role-based access controls help to ensure that geographically dispersed IT staff have the necessary permissions to support the business and their users — but not more. Site and team level access further simplifies administration of the system.

If a cloud communications solution requires extensive training to figure out its admin portal, it's too hard!

Billing and Customer Service

Billing is challenging for many organizations, and cloud communications providers are no exception. Many cloud communications providers simply offer "unlimited" calling, which is great until you need to dig into details. For example, how do you determine peak periods and average call times to plan your call center staffing needs? How do you know where the

majority of your calls are coming from to help identify potential market segmentation opportunities? Look for a cloud communications provider that can provide you with online access to simplified, detailed billing information.

Customer service can be a real differentiator for cloud communications providers. How hard is it to reach a live person when you have a technical or billing question? As with anything, you should expect exceptional customer service from your service provider.

Discover the benefits that cloud communications enables for your organization

With the cloud, you can get the benefit of a better fit for your organizational requirements. Cloud communications gives your business the flexibility, agility, and scalability to keep everyone connected and still keep costs down. In this book, you get the core features to look for in a cloud communications solution, as well as advanced applications. You also explore the different deployment models for cloud communications.

- ***Recognize the benefits of cloud communications* — enable a mobile workforce, support multiple locations, and reduce costs**
- ***Connect to the cloud* — choose among over-the-top (OTT), multiprotocol label switching (MPLS), and WiFi**
- ***Make the business case for cloud communications* — determine the value of flexibility for your business**
- ***Discover emerging cloud communications technologies* — enable mobility capabilities, improve Internet connectivity, drive higher productivity with workstream messaging**

Open the book and find:

- **The basics of cloud communications**
- **The business and technical benefits of cloud communications**
- **Different technologies to connect your enterprise to the cloud**
- **The business case for cloud communications**
- **Emerging cloud communications technologies**
- **Key capabilities to look for in a cloud communications provider**

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