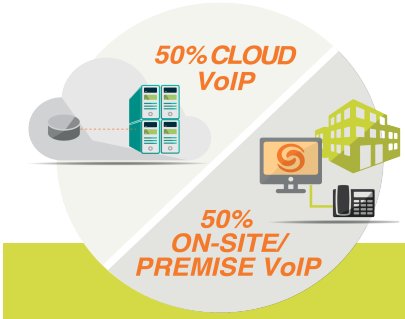
# Hybrid Unified Communications

*The Alternative to Cloud VoIP and On Site / On Premises VoIP*

*By Travis Dillard*




Unified Communications as a Service (UCaaS) will represent about 50% of the Global VoIP market in five years. What direction should you go? Analysts predict that the future global IP telephony market will be a 50/50 split between organizations using cloud VoIP or On Site/ On Premises VoIP. Enter the wonderful concept of “Hybrid Unified Communications” and get the best of both worlds.

## Introduction

Cloud VoIP or On-site / Premises VoIP - which direction should you go in? Why choose just one when you could have the best of both worlds?

In our previous white paper [Cloud vs. On Site/Premises Link to previous Landing page], we discussed the various benefits of each VoIP model and which one would be the best fit for your business based on specific organizational attributes.

Now that you know how to effectively account for the benefits that each model brings to your company, you can add them all up, decide which one is best, and forgo the advantages of the model you chose not to pursue. Because compromises are part of life, right? Maybe, but maybe not!

What if you didn’t have to select one model or the other?

What if you could pick specific benefits from both models and design the perfect VoIP business communication solution for your unique needs?

This White Paper will introduce you to the wonderful concept of “Hybrid VoIP.” We will describe in detail the successful architecture behind different models and how you can apply those concepts to your organization.

## The Hybrid Unified Communications Concept

Hybrid Unified Communications is here to stay. However, like everything in this industry, you can’t package this term up in a nice, tidy little definition. It can mean many things. Its definition changes for every circumstance and unique set of business needs.

Before taking a deep dive into the architecture of a successful Hybrid Unified Communications model, let us briefly review the definitions of “Cloud VoIP” and “On-site / On Premises VoIP”

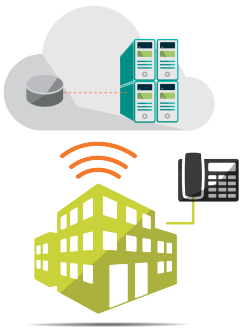
### Cloud Unified Communications

This model of Unified Communications comes in many forms and is called by many names. Some people call it Hosted VoIP, others call it Unified Communications as a Service (UCaaS), and others call it simply “The Cloud”. Some experts argue that these are all the same, while others claim that each model is different.

For the purposes of this document, we’re referring to providers that build the “brains” of the cloud service in a series of data centers. This includes call processing, call / contact centers, Unified Communications applications, PSTN (dial tone) connectivity, network connectivity, voicemail, auto attendants, Interactive Voice Response (IVR), SIP registration, configuration and management portals, and more.

### On Site / On Premises Unified Communications

This model of unified communications includes on-site hardware and software that provides the Unified Communications tools your organization needs. These resources include call/contact centers, PBX, video, instant messaging, desktop sharing, collaboration solutions, PSTN termination, Unified Messaging, IVR, etc.



I have been in the communications integration industry for many years now and I must say this is a very exciting time. Not only are business communication features and capabilities improving, but also the architects behind these systems are innovating every day, and the methods in which they are delivered and consumed are evolving radically.

In the next session, I will share details about the architecture of successful forms of Hybrid Unified Communications. We'll also take a deeper dive into Unified Communications as a Service (UCaaS), which in the context of this document is truly the king of Hybrid Unified Communications.

## *The Architecture Behind the Most Successful Hybrid Unified Communications Models*

Our company, Inflow Communications, has been intimately involved in the design, deployment, and support of a highly diverse customer base and communication system needs.

Let's take a look at some common examples of Hybrid Unified Communications models that have been successful for many of our clients. We will describe the models in detail but will keep the names of our clients undisclosed in order to maintain their privacy.

## *Cloud-Based VoIP with Locally Survivable Gateways*

This model is extremely popular among many of our Inflow customers.

In a pure Cloud VoIP installation, all dial tone, call processing, and Unified Communications applications reside in the cloud. Offices connect to the cloud provider via the Internet or (preferably) leased network connections like fiber, Ethernet over Copper, or MPLS. IP phones are connected to the local network(s).

The most distinct element of this model is that it adds VoIP gateways to the customer's local network. These VoIP gateways connect to local dial tone resources (PRI, analog POTS, or SIP trunks).

If the connection to the cloud provider becomes unavailable, the IP phones register this with the VoIP gateway and calls are routed out of the local dial tone trunks. Inbound calls are forwarded from the cloud provider to the local dial tone trunks until connectivity is restored. In this scenario, the gateway is generally purchased or rented from the cloud provider.

## *On-Site VoIP System with Unified Communications Applications in the Cloud*

This is a great example of ways you can benefit from both models at once.

Eighty percent of this installation is similar to a traditional On-site / On Premises VoIP. Call processing, core Unified Communication applications, and dial tone access reside on the local network(s) of the organization's offices.

The most unique aspect of this model is that it allows you to consume various cloud-based Unified Communication applications on an "as needed" basis.

Examples of these applications include advanced mobility for smart phones, soft phones, contact center, fax server and application integration with CRM, and help desk systems. These features are turned on or off by administrators. As an organization, you are only billed when the system is in use.

The architecture required to accomplish this model varies. For example, the On-site Unified Communication application server(s) would connect securely to the Cloud VoIP provider via the Internet and serve the applications and bill accordingly.

In this model, you can configure the features and usage settings from the administration portal. There is no manual intervention by the cloud provider.

Indeed, the cloud provider and on-site VoIP manufacture would be one and the same.

## *On-Site Unified Communications at the Core and Cloud VoIP at the Remote Offices*

In this model, you can leverage your investment in IT staff, leased data centers, network infrastructure, and on-site applications by installing On-site VoIP equipment that includes call processing, PSTN (carrier) access, and Unified Communications servers at your headquarters or at larger regional offices.

Now, let's think more specifically about the potential needs of organizations in general:

1. What if your company is adding remote offices faster than they can keep them up?

2. What if these remote offices have no IT expertise?

3. What if these offices are distributed across the country and have limited computing resources, network storage, server rooms, etc.?

A perfect example of this very scenario is one of Inflow's fastest-growing customers in the mortgage and finance industry, who will remain undisclosed. Let's take a case study approach to evaluate this interesting scenario.

### *The Problem*

This customer in question has mission-critical communications needs, such as contact centers, infrastructure, and IT staff only at the core offices. They then spin up remote retail and sales offices to the tune of 1 to 5 per month.

In addition to that, this customer values the benefits of an on-site system at their core offices (contact center, application integration, security, redundancy, etc.) but they do not have the time or resources to expand the premise system out to the remote offices at the desired rate.

What if these remote offices are seasonal in nature?

In general, customers like this tend to select more traditional on-site systems for their core offices and then subscribe to a separate cloud VoIP service(s) for their remote offices.  This meets the unique needs of each business unit.

However, it also leaves an immense communication gap between the two sides of the business.

Since the remote offices were on their own system with their own dialing plan, Unified Communications presence and messaging, they were essentially on their own communication island.

Firstly, they lost all of the collaboration benefits of a holistic, company-wide Unified Communications system presence: click-to-dial, desktop sharing, single directory, hot desk, and 4-digit dialing.

Secondly, users that traveled between the various branches would have to learn to use a different set of communication tools at each office.

Finally, supporting the various systems became a nightmare. The IT staff had to manage multiple vendors and cloud VoIP providers. All the benefits of offloading the remote offices' voice systems were lost to a mess of systems and providers. Adding to the problem was the organization's specific need to spin up new remote offices every week. What resulted was an extremely overwhelmed IT staff.

### *The Hybrid Solution*

With a Hybrid VoIP system, all of these needs can be easily mitigated.

For instance, a company could deploy on-site call processing and Unified Communications application servers at their main office(s). The company could then "connect" that system to a cloud provider with the same manufacture as the on-site equipment. This connection allows for four-digit dialing between users at the core offices using the on-site phone system and remote users using the cloud VoIP system.

This Inflow customer is now able to leverage inter-office call routing between the cloud and premise users. For example, if inbound calls are not answered at the remote retail stores (where staff might be thin), calls can be automatically routed to the Customer Service Call Center at the corporate office on the main on-site VoIP system. Corporate phone directories are shared across all users, regardless of their location.

Finally, everyone can use a common set of communications tools across the board. Users don't have to relearn desktop Unified Communications applications or handsets as they travel between different offices. The on-site system connects to the outside world via PSTN access (analog lines or PRI) or SIP trunks, while the remote cloud offices port their numbers to the cloud provider.

If you think a little further, there are a few more important questions to answer in this particular scenario:

### *Who is going to support the different systems?*

This varies by manufacture or carrier. In the case of Inflow Communications, we are an integrator of ShoreTel Unified Communications products. Our target customers are generally large organizations with multiple offices, so this model is potentially very attractive. ShoreTel will soon be rolling out their "Connect" Model, which is a premise system connected to ShoreTel's cloud VoIP system called "Sky".

Under the first iteration, ShoreTel would support the cloud / Sky users. Inflow would be the integrator, supporting the premise users.

*Note: If you partner with a solid Unified Communication integrator that could essentially "own" the entire relationship and escalate with the cloud provider when needed, this might be a moot point. ShoreTel plans to extend support of the cloud users to the integrator in the future.*

Now, another possibility involves the larger manufacture or carrier providing and supporting both premises and cloud users. In this case, you will have to determine if the support organization can meet or exceed your support requirements. If you find a phone carrier that provides great ongoing support, please let me know immediately. I have yet to find this in my 20+ years as a VoIP integrator.

### *Does each system require a separate administration portal?*

How well are the Unified Communications features distributed across both systems?

You can easily route calls and four-digit dial between systems, but can you see presence across the connection?

Can you route calls intelligently across systems and maintain call center (ACD) calls' priority or place in queue?

Can ACD calls maintain any data they picked up via a database dip and maintain the designated skill?

How easily can you roll out advanced applications like mobility, speech-to-text, and call recording across systems? Is "single system pane of glass" reporting available across both systems?

Those questions are specific to each organization's needs and will be answered by the provider you choose as your partner. The provider is going to be the main player in making sure that your system supports your 360-degree needs.

## *Disparate On-site VoIP System(s) with a Cloud Contact Center Overlay*

A good example of this model is if your company has disparate phone and ACD systems at each branch. This might be due to acquisition or a lack of standardization in the branch office procurement policies.
Instead of ripping and replacing all premise phone systems, you could "layer" a cloud contact center across all sites that delivers inter-branch call routing, presence, and a common set of Unified Communications tools for the agents on their desktops.
The cloud contact center provider would require the ability to reach each agent via a ten-digit phone number. This could be the user's Direct Inward Dial (DID) number on their legacy phone system, a cell phone, or even a home land line. The contact center's primary numbers would be ported to the cloud contact center provider. The provider would in turn handle all call queuing, messaging, intelligent call routing (based on skill, caller ID, priority, etc.), and eventual delivery to the agents.

In this model, the agents and supervisors get all of the real time and historical reporting commonly required in this environment. Most cloud contact center providers give users a common web or desktop-based application that provides them contact center statistics like agent availability, calls in queue, and hold times. It also allows users to log into and out of queues, assign their contact center profile to various devices, and perform other common contact center activities.

Many of these cloud providers also allow a much tighter integration to the onsite phone systems.

In contact centers with a large number of agents and call volume, the company may want to connect their on-site phone system to the cloud contact center provider's infrastructure via a dedicated network connection. Over this connection, the on-site phone system and cloud contact center can be connected via a standards-based protocol like QSIG PRI or SIP. This allows the cloud provider to deliver calls to agents' four-digit phone system extension.

## *Integrator-Provided Unified Communications as a Service (UCaaS)*

In my experience, this model offers the most customization and flexibility for organizations.

In this model, a true "cloud" solution is not necessary. This model is often recommended if your communication needs are highly complex, with demand features and attributes from both cloud and on-site / on premises models that won't compromise one another.

In this case, your provider may integrate their suite of Unified Communications as Service (UCaaS) products, which in the case of Inflow, generally takes the following forms:

***1. Onsite and Rented:*** VoIP hardware and software is installed at the customer's locations but the integrator maintains 100 percent ownership and control.

In essence, the integrator "rents" the software and hardware to you on a monthly basis while providing a fully managed support plan. The system is connected to third-party carriers for Public Switched Telephone Network (PSTN) and network access. Either you or your integrator can manage the carrier relationship.

***2. Data Center and Rented:*** VoIP hardware and software resides in the integrator's data center(s). The integrator maintains 100 percent ownership; they control and rent the hardware and software to you on a monthly basis.

The system is connected to third party PSTN and network carriers. The carrier contracts are between the integrator and the carrier or between you and the carrier. Once again, either you or your integrator can manage the carrier relationship.

***3. Hybrid, On Site and in a Data Center and Rented:*** The VoIP hardware and software resides both in the integrator's data center(s) and on your network and leased data centers.

For example, this might include installing all of the call processing, PSTN access, and Unified Communications servers in the integrator's data centers, while placing survivable VoIP gateways and connecting them to local analog lines at your location.

Conversely, it might involve installing the Unified Communications servers on your network while providing redundant servers, call processing, and backup dial tone access in the integrator's data center.

Another example is when the VoIP hardware/software and contact center servers reside at the customer's location and network, while the smaller remote offices are serviced by VoIP hardware and software located in the integrator's data centers. The two are tied together by a dedicated network connection. Either way, all hardware and software is fully owned and managed by the provider. Just like in the previous two models, you would rent the system and services on a monthly basis.

This is advantageous if any of the following conditions apply to you:

- If you prefer completely outsourcing the support of your communications system but still enjoy the flexibility and access to administrate the system as you desire. Additionally, you appreciate having the tools and visibility to troubleshoot complex problems, such as network issues and call quality, if you so choose.

- Your company is expanding geographically and opening remote offices. You therefore need to outsource installation, training, and project management services to an experienced integrator that you trust.

- You have an existing carrier relationship that you want to maintain or have longer contractual obligations to fulfill with your carrier.

- You prefer the partnership of your communications vendor versus losing control to a large cloud provider that doesn't understand your business needs and/or whose customer support is not trusted.

- Your company requires many of the benefits and controls of an on-site system, but you prefer an Operating Expense (OPEX) procurement models with monthly payments instead of a large capital outlay.

- Your company has both small branch offices with distributed users and large core offices with centralized staff.

- You have complex and mission critical communication needs, like contact centers at your core offices with IT personnel and expertise, and are also experiencing rapid growth in remote offices with simple communication needs and no IT expertise.

- You have invested significantly in company-owned or leased data centers and network infrastructure, with plenty of computing and network capacity, but prefer to outsource all communications under a service model.

- You enjoy the benefits of procuring VoIP as an "outsourced" service but have complex needs like onsite databases and applications that need to be integrated. Furthermore, you may have security and regulatory compliance concerns like PCI.

## Conclusion

Advances in the telephony industry with a pinch of creativity have given customers the freedom to design and consume Unified Communications technologies on their own terms. IT decision-makers no longer have to pigeonhole their organizations into one VoIP model or the other.

Hybrid Unified Communications is a good fit for organizations of any size with any specific set of communication needs. The most important objective for IT decision-makers is to find a reliable technology services provider and integrator that will help them not only think through each of these specific needs, but also help them deploy and support these communication models.

Each step is very important to achieving a successful hybrid model: design, deploy and support. Your technology service provider and integrator will play an important role in this game. They are your most valuable partners in the journey toward achieving a successful and functional hybrid model that best fits your organization's specific needs.

## Next Up: The Number One Mistake Companies Make when Evaluating a Unified Communications Solution

A common mistake that many IT professionals make when evaluating Unified Communications is placing far too much focus on the technology itself while paying very little attention to the integrator. We've seen substandard technology deployed with amazing success. We've seen "best of breed" technology fall flat on its face. The true "X Factor" of successful Unified Communications is the integration and support vendor. In our next white paper, we'll discuss the major pitfalls and best strategies for selecting a good integrator to place your unique Unified Communications project in a position for success.

## About the Author

Travis Dillard is the President of Inflow Communications, Inc. He joined Inflow in 2006 and began shaping Inflow into what it is today: a firm that strives to be the most focused and competent Unified Communications provider in the nation.

Travis has been in the technical communications field for over 20 years. His career started in the United States Air Force, traveling the world as a Combat Communications Technician focusing on tactical voice, Satellite Communications, and global Wide Area Networks.

Upon leaving the military, he founded Packet Network Architects (PNA), a Northwest Wide Area Network (WAN) integrator that specialized in Voice over IP and Frame Relay technologies. He sold PNA in 2001 and filled the Director of Sales and Marketing role for Accolade Technologies, a Northwest Integrator of voice, video, and data that specializes in Avaya communications systems.

In 2009, Travis became President and owner of Inflow and hasn't looked back.

## About Inflow Communications

Inflow Communications is a national leader in ShoreTel Unified Communications and Contact Centers. They currently support over 60,000 endpoints across the globe and have offices on the West and East Coasts.

The company was founded in 1997 as a small, regional IT support organization in Portland, Oregon and has become one of the nation's top Unified Communications providers in today's market. Inflow's tireless dedication to knowledge and innovation, coupled with their unrivaled customer service, has landed them in ShoreTel's top 2% in global customer satisfaction and as ShoreTel's fastest growing partner in the world.