TeleDynamic COMMUNICATIONS | we get it

Resilient Voice Architecture™

for Hosted Business Voice

digium
The Asterisk Company

Contents

What is Hosted Business Voice Communications?

Hosted Business Voice Communications is your phone system in the cloud.

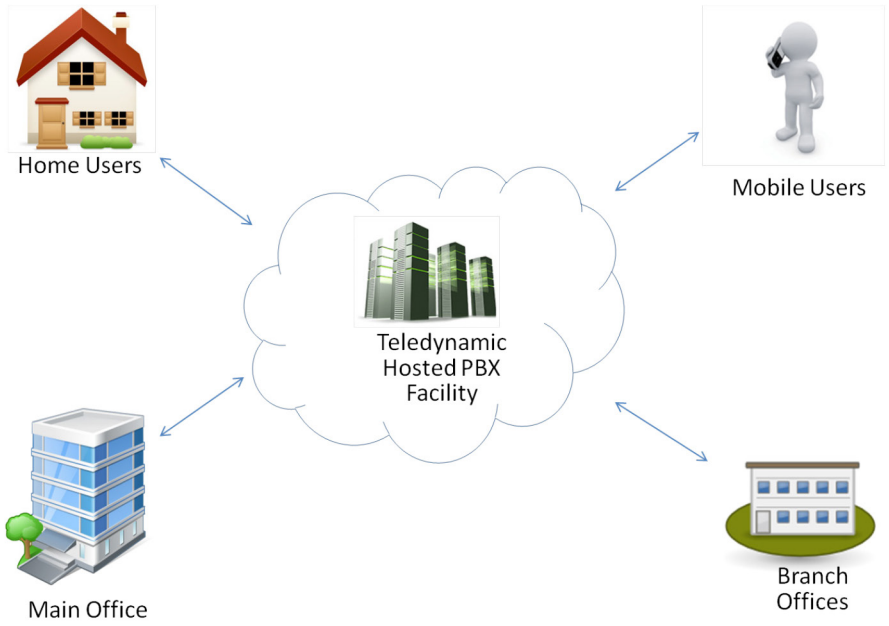
Just like other data services that are moving to the cloud, Hosted Business Voice Communications is transforming the way businesses think of their phone system.

Hosted Business Voice Communications is your phone system in the cloud.

"Back in the old days" you had to purchase your own PBX server. You had to host it, configure it and maintain it yourself.

And it was expensive. A typical small business IP PBX would cost over $10,000 just to get up an running.

Hosted PBX has changed all of that.



Voice Is Data / Data Is Voice

VoIP is a proven technology that delivers greater efficiency, lower costs and features that traditional voice systems can't match because it delivers voice as data packets, not through traditional voice circuits.

Voice over Internet Protocol (VoIP) has been around for over a decade now.

However, the convergence of voice onto your data networks can be problematic.

Your employees like to talk on the phone (no surprise there, right?). All this talking consumes bandwidth - around 80 Kbps per call.

When you have 10 simultaneous phone calls, that's 800 Kbps of bandwidth being consumed.

If you're like many companies, you may have an old-style T-1 data circuit powering your data network. T-1 lines are typically only 1.5 Mbps. So adding voice to your data network can consume more than half of your bandwidth with just ten people making calls!

Key Takeway
If your network isn't optimized for VoIP, you can run into serious problems that can negate all the benefits of hosted VoIP technology. Read on to discover what some of those problems could be...

Voice Over Data Problem #1: Unacceptable Latency

For email or internet traffic, latency is tolerated. It doesn't really matter if your email arrives a quarter second later or a website takes a moment longer to load.

But with voice, it does matter. A lot.

When you speak on the phone, you expect to be heard immediately. A delay of as little as two-tenths of a second makes a voice conversation impossible.

Fast Facts. The VoIP industry standard for acceptable latency is only 120 milliseconds. The blink of the eye takes longer at 150 milliseconds!

Latency is the delay between the time a data signal is sent and when it's received by the distant party.

Key Takeway
With voice, speed is everything; Insist on the minimum industry standard or better!

Voice Over Data Problem #2: Packet Loss

When data packets get lost, they have to be re-sent. With email or Internet, it's not a big issue because the TCP/IP protocols are built to re-send packets automatically when some get lost. You don't even notice.

Alas, voice is not that forgiving.

When your data network drops voice packets, you can tell immediately. You start getting choppy voice conversations with dropped syllables and words. Unacceptable.

Here's a little secret for you...data packets over the Internet get lost all the time.

Key Takeway
Data packets will get lost but you can minimize it by having enough bandwidth.

Fast Facts. Industry standard for a "voice quality' circuit is less than 1% packet loss.

Voice Over Data Problem #3: Jitter

All of the data that goes from point A to point B does not take the same path. This means that data arriving at point B needs to be re-assembled and re-ordered.

Jitter is the measure of just how much the data packets are out of order and the delay that causes.

Again, with your email or web pages, jitter doesn't matter much but with voice... yep you guessed it.

Fast Facts. The VoIP industry ceiling for jitter is a mere 40 milliseconds. Multiple lightning strikes are usually more than 50 milliseconds apart!

Data gets transmitted over the internet through a web of circuits and routers.

Key Takeway
Jitter is becoming less of an issue as networks improve but you should insist on minimum jitter for your Business VoIP system.

Voice Over Data Problem #4: No Quality of Service Set-Up

QoS is basically a set of rules that prioritizes specific types of traffic. A wide variety of simple or complex rules can be configured to give priority to any number of applications - including voice.

When set up properly, QoS for VoIP can dramatically improve your call quality.

Proper Quality of Service (QoS) configuration is an absolutely critical component of any proper business VoIP network.

Key Takeway
Make sure an expert VoIP network engineer configures your QoS.

Voice Over Data Problem #5: No Service Level Agreement

Most SLA's address outages, bandwidth guarantees, latency, packet loss, jitter and time-to-repair.

If your company relies on a regular cable or DSL line for your internet needs, you probably don't have an SLA in place. This means that the carrier is only providing "best efforts" performance.

While having a circuit with an SLA does not inherently prevent issues, when carriers are contractually obligated to meet their SLA's, somehow performance seems to improve. Imagine that!

A Service Level Agreement (SLA) is a contractual commitment made by a data provider to deliver their service offering by meeting specific parameters.

Key Takeway
Insist upon a data circuit with an SLA from your carrier.

Voice Over Data Problem #6: National Hosted PBX Providers

This is known in the industry as the "ship and pray" method. They're betting that your network is in good enough shape to handle the extra demands of voice.

But this isn't the case for every company's network. Many data networks are riddled with older switches, firewalls and routers that can barely handle today's data requirements - let alone the demands of voice communications.

National providers deliver a Hosted PBX solution having no idea about the state of your network.

Key Takeway
Have your network checked and upgraded by a local Hosted PBX provider in your area.

Resilient Voice Architecture™ for Hosted Business Voice Communications

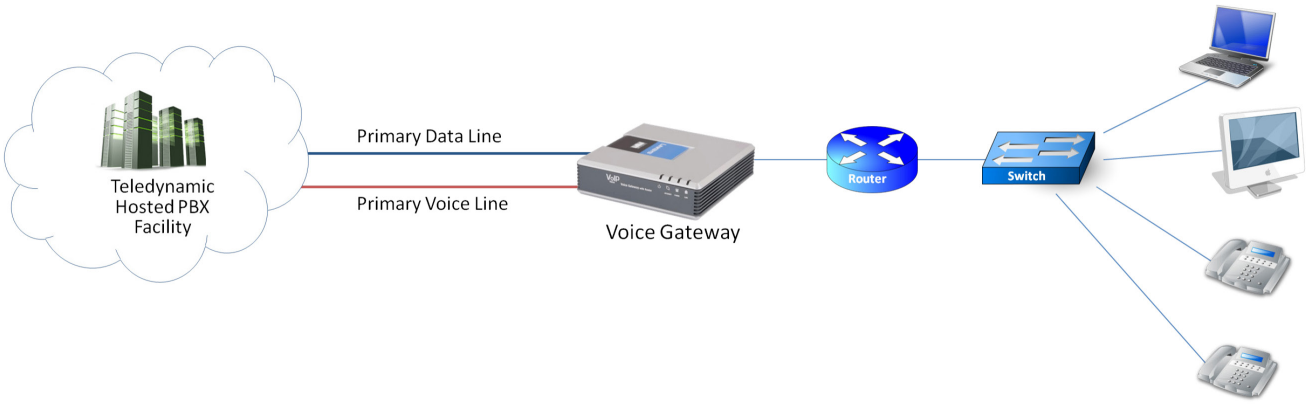
The problems described in this eBook can be avoided with a properly configured network built of for voice AND data.

That's why we developed our Resilient Voice Architecture™ (RVA) for Hosted PBX.

Key Takeway
Read on to see how these components work together...

The RVA has three key components:

- Teledynamic Hosted PBX Service
- Dual Voice & Data Circuits
- Voice Gateway



RVA Component #1: A Turnkey Hosted PBX Service

Teledynamic's Hosted PBX Service does not disappoint here:

- State of the art facility with security, back-up and redundancy
- Digium Switchvox PBX software-based system
- Web-based PBX Set Up & Administration
- Web-based User Management (voice mail, call handling, call logs etc.)
- Phone number portability. No need to change phone numbers
- Unlimited calling for local and domestic long distance
- Simple, no-surprises billing

Any Hosted PBX Service should give you everything that you ever expected from your old on-premise PBX solution... just in the cloud.

Key Takeway
Your hosted voice service needs to start with first-rate facilities and turnkey solution, but Teledynamic doesn't stop there...

RVA Component #2: Dual Voice & Data Circuits

Teledynamic's RVA utilizes two types of circuits concurrently to provide optimal performance of voice and data.

Key Takeway
With dual voice & data circuits you truly get the best of both worlds.

Primary Data Circuit

The Primary Data Circuit's job is to provide fast transport for your email, file transfers and Internet data. It's a "best efforts" based internet connection and can also be used as a backup to your voice circuit.

Primary Voice Circuit

The Primary Voice Circuit is a different animal. It's typically a slower connection but it has special properties that make it ideal for transporting voice such as QoS and a robust SLA agreement with the carrier that guarantees performance and uptime.

RVA Component #3: Intelligent Voice Gateway

Teledynamic's Voice Gateway is specifically designed to optimize voice traffic and provide voice and data resiliency. If one circuit fails, the Voice Gateway senses it and immediately routes traffic to the other circuit. Once service is restored, traffic is routed back to the original pattern.

Key Takeway
Teledynamic's Voice Gateway is the real brains behind the operation!

The Voice Gateway is also set up with Quality of Service (QoS) rules to ensure voice traffic gets the bandwidth and priority it needs.

Be a Hero. Get Teledynamic's RVA™ for Hosted Business Voice

With Teledynamic's RVA™ for Hosted Business Voice solution you get:

- Resilient Voice Architecture™ to ensure the robust transport of your voice AND data traffic
- Turnkey Hosted PBX service
- A local professional network installation
- Increased bandwidth for your data applictions
- Support engineers that actually come to your office
- After-hours emergency support
- Lower monthly costs than you're probably paying now

Key Takeway
If you're considering moving your phone system to the cloud and you're in the San Francisco Bay Area, consider Teledyamic's Resilient Voice Architecture™ for Hosted Business Voice. It's Hosted PBX Done Right.

TeleDynamic COMMUNICATIONS | we get it

SAY HELLO!

Providing PBX, virtual VoIP and SIP Trunking Solutions to businesses in California since 1979.

Areas we serve include: San Francisco, Oakland, San Jose, Hayward, Santa Clara, San Mateo, Fremont, Pleasanton, Sunnyvale, Berkeley, Walnut Creek, Concord, Livermore, Santa Rosa & Napa.

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