

Top 3 Trends

# Transforming Business Communications

Working to Redefine Your Business

Technology | Partnership | Choice



# Shift in Communications

Businesses of all sizes are using numerous communications vehicles to stay in touch with their customers, suppliers and employees. Whether phone via a land line or cell service, or data through the Internet, Local Area Network (LAN) or Wide Area Network (WAN), communications are constantly evolving to help drive productivity. Technology advances have made communications features not just more robust, but also more cost effective, for companies regardless of their size. Below are three trends shaping business communications today and a discussion of how these trends will affect the way a business will make current and future decisions.

# TOP 3 TRENDS

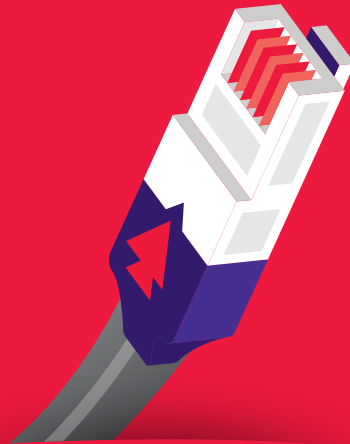
## Transforming Business Communications

1



Shifting of telephony services to the IP standard

2



Ethernet usage is on the rise

3



Business is migrating to the cloud





trend

1

Shifting to IP Telephony

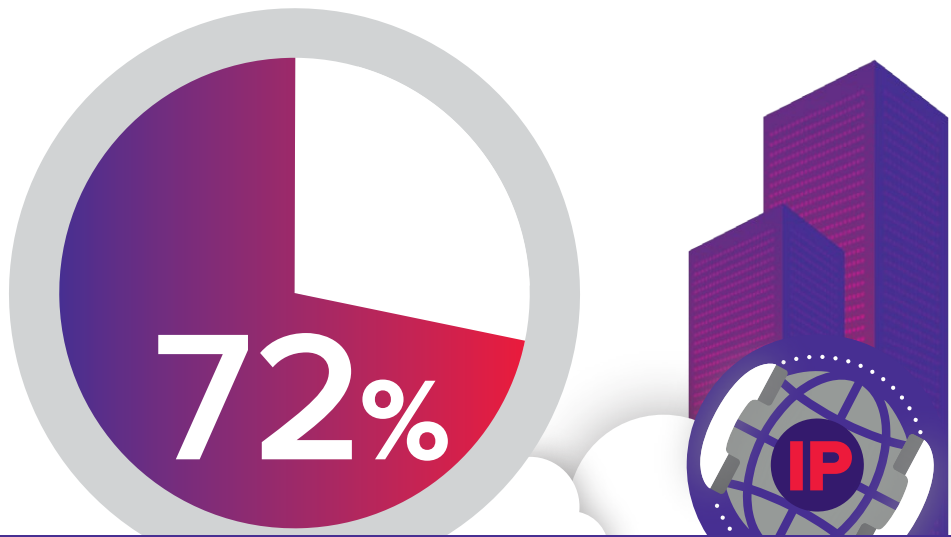


4X

**INCREASE IN  
IP VOICE  
USERS**

**PROJECTED FROM 2013 TO 2019**

Source: Metaswitch SMB End User and Competitive Research – May, 2013



OF COMPANIES WITH >50 EMPLOYEES  
ARE CONSIDERING **SWITCHING TO**  
**IP COMMUNICATIONS** IN THE NEXT 2 YEARS.

Source: Metaswitch SMB End User and Competitive Research – May, 2013

# VoIP

Voice over Internet Protocol

Voice over Internet Protocol (VoIP) is the technology used to make phone calls over the Internet. Also known as an Internet Telephone, the use of this communications method has become quite popular with businesses.

# VoIP

Voice over Internet Protocol

An attractive feature of VoIP is its cost-saving potential. When moved away from public switched telephone networks, long-distance phone calls become inexpensive. Rather than being processed across conventional commercial telecommunications line configurations, voice traffic travels on the Internet or over private data network lines. For the enterprise, VoIP reduces equipment, lines, manpower, and maintenance costs. All of an organization's voice and data traffic is integrated into one physical network, bypassing the need for separate lines.

In addition, VoIP protocols run on the application layer with the ability to integrate or collaborate with other applications such as email, Web browsers, instant messenger, etc. This integration and collaboration create synergy and provide valuable services to the users. Examples include, voicemail delivery via email, click-to-call service on a website, and a voice call button on an email.

For smaller businesses, VoIP consists of a basic phone line, whether delivered as one or multiple lines within a business. However, for larger or more complex businesses, an option may include either an on-premise IP PBX (also referred to as a VoIP PBX) or a hosted PBX solution.

## Ease of Implementation & Administration

A key decision then becomes which is the right PBX system based on the needs of a business? An on-premise IP PBX system physically resides in the organization's location and under its control, whereas a hosted PBX solution resides in the cloud and is managed externally by a service provider.

One of many administration benefits of a hosted PBX solution is the ability to easily add or delete users when needed. With maintenance and

# VoIP

Voice over Internet Protocol

software upgrades included with the service, the administrator is no longer required to stay apprised of, or push software upgrades, or new features when needed. Another advantage is that employees connected to a hosted PBX system can work at home, or while travelling, and still use the same telephone system used at the office.

## Flexibility in Management

With a hosted PBX solution, a business can select from a variety of configurations to best fit its needs. Additionally, a business is liberated from dealing with the management of its phone system. A monthly fee is required, but virtually all management responsibilities are eliminated.

Although expansion and reconfiguration of an on-premise IP PBX phone system will cost more than a hosted PBX solution, one advantage is that a business can make changes as often as required. It also gives the business the ability to make changes

based on specific needs. However, the phone manager/administrator bears the responsibility of managing the equipment, updates and upgrades associated with expansion and growth.

## Comparing Costs

A hosted PBX solution provides a business with the advantage of lower startup costs than an on-premise IP PBX system. While a business will pay ongoing service provider fees, there is no need to purchase or maintain the communications equipment with a hosted solution.

With an on-premise IP PBX system, a business is required to purchase phone equipment, so startup costs are higher than with a hosted PBX solution. However, the business will not incur a monthly service fee. It is important to note that the business is completely responsible for this IP PBX system, including equipment updates, maintenance and troubleshooting. Adding phone system management is also required to maintain the on-premise solution.

# Hosted PBX versus IP-PBX comparison

| ATTRIBUTE                             | HOSTED PBX  | IP PBX  |
|---------------------------------------|---|---|
| Scalability                           | <ul style="list-style-type: none"> <li>Essentially unlimited</li> </ul>   | <ul style="list-style-type: none"> <li>Typically, 1-10K users</li> <li>Limited numbers of IP phones</li> </ul>  |
| Multisite networking                  | <ul style="list-style-type: none"> <li>Uniform dialing plans</li> <li>Full feature set</li> <li>Centralized management</li> </ul>   | <ul style="list-style-type: none"> <li>Hard-to-manage dial plans</li> <li>Limited network features</li> <li>Service islands</li> </ul>  |
| Total cost of ownership               | <ul style="list-style-type: none"> <li>Lower cost with outsourcing</li> </ul>   | <ul style="list-style-type: none"> <li>Higher costs overall: Key +:<br/>Staff and support<br/>Access (PRI vs. T1)<br/>Limited CPE choices</li> </ul>  |
| Open and standards                    | <ul style="list-style-type: none"> <li>Open and third-party CPE</li> <li>SIP-based</li> </ul>   | <ul style="list-style-type: none"> <li>Limited, closed CPE</li> <li>Major proprietary content</li> </ul>  |
| Reliability, resiliency, and survival | <ul style="list-style-type: none"> <li>Carrier-grade Platforms</li> <li>Cost borne by service provider</li> <li>Sun Solaris and other mission-critical elements</li> <li>Robust IP networking, including geographic redundancy</li> </ul> | <ul style="list-style-type: none"> <li>Cost borne by enterprise</li> <li>Use of Windows and other less-hardened elements; Unix/Linux use growing</li> <li>Software reliability and churn remain an issue</li> </ul> |
| Technology risk                       | <ul style="list-style-type: none"> <li>Borne by service provider</li> </ul>   | <ul style="list-style-type: none"> <li>Borne by enterprise</li> </ul>   |
| Operations and management             | <ul style="list-style-type: none"> <li>Centralized system management</li> <li>Located at CO and/or data center</li> <li>Supports multi-location and multi-tenant usage</li> </ul>   | <ul style="list-style-type: none"> <li>Separate management systems</li> <li>Located at customer site</li> <li>Typically supports single site, non-networked</li> </ul>  |

Source: Delphi, Inc. / ACUTA Journal - [www.acuta.org](http://www.acuta.org)







trend

2

The Explosion of Ethernet



3X

**INCREASE IN  
BUSINESS  
IP TRAFFIC  
BETWEEN 2012 & 2017**

Source: Cisco Visual Networking Index: Forecast and Methodology, 2012–2017, May 29, 2013

Ethernet services are enabling mid-sized businesses, with two or more locations, to create local area networks (LANs) or wide area networks (WANs). Considering Ethernet is mostly offered over a dedicated fiber connection, data can be transmitted more quickly.

## Big Bandwidth, Now Within Anyone's Reach

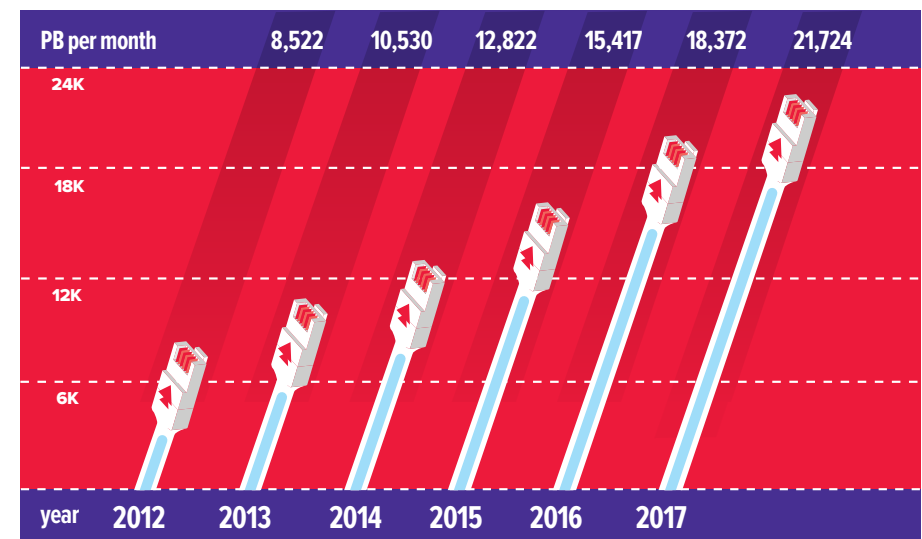
Once the domain of big business, Ethernet connectivity is now an affordable option for smaller, mid-sized businesses. Monthly data charges have become more in line with smaller budgets and, one-time start-up hardware costs are much lower than those of companies choosing TDM/Frame Relay and T-1s as their network solutions. Ethernet does not require expensive or specialized hardware such as the converters needed to connect T-1 lines to internal Ethernet networks. Ethernet connectivity requires only a switch or router that has standard Ethernet ports.

Information and data-driven businesses with multiple locations such as medical, law, architectural and advertising offices are early adopters of Ethernet network solutions.

A recent Cisco Strategic Marketing Organization research study surveyed 903 U.S. technology decision-makers and found that two-thirds of companies had already adopted their own private networks across the following industries:

- Business Services/Consulting
- Biotech/Medical Devices/Pharmaceutical
- Hospitals/Healthcare
- Retail
- Telecommunications

### BUSINESS IP TRAFFIC GROWTH 2012-2017



Source: Cisco VNI, 2013



“  
Ethernet has  
evolved from just a LAN  
technology to a scalable,  
cost-effective and  
manageable WAN solution  
for businesses of all sizes.  
”

Source: Cisco Ethernet Wide Area Networking,  
Routers or Switches and Making the Right Choice  
White\_paper\_c11-564978.pdf

## Accelerated Location Connectivity

Ethernet has long been the standard for connecting a Local Area Network (LAN). Now, it is possible to connect other locations via a point-to-point, secure Ethernet connection. Ethernet can be used to connect hundreds of sites with a low-latency, high-bandwidth connection. Since most LANs use Ethernet, expanding it to include a Wide Area Network can simplify network management as existing IT resources will be familiar with Ethernet infrastructure.

## Leaps in Ethernet Speed

Bandwidth usage by small and medium-sized businesses is expected to continue growing rapidly. Which applications use the most bandwidth? According to InformationWeek, the top offender is video, including videoconferencing, a vital tool for business. Other high-bandwidth business applications include CRM and large file transfers.

## Ethernet Aids Rapid Growth

In the past, the only solution for growing bandwidth was to add additional T-1s to the network. This required additional service calls, extra equipment and added installation costs. Ethernet connectivity has made it much easier to grow bandwidth as business needs grow. In most cases, bandwidth can be increased by making a simple provisioning change using existing equipment.





trend  
**3**

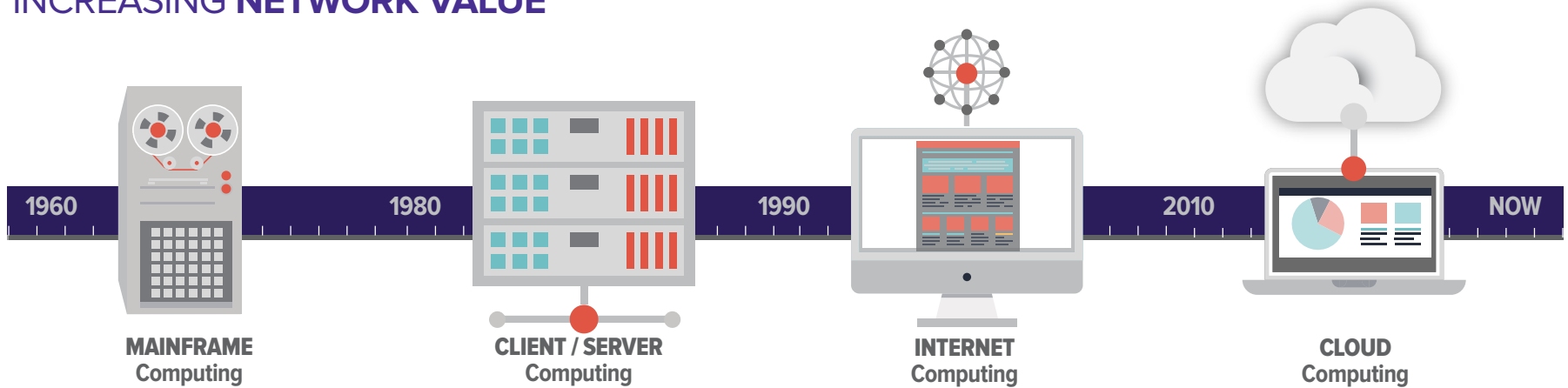
Business is migrating  
to the Cloud



PRIVATE CLOUD CAN ENABLE  
**TOTAL COST of  
OWNERSHIP  
REDUCTIONS UP TO 54%**

Source: Cisco Visual Networking Index: Forecast and Methodology, 2012–2017, May 29, 2013

Read any IT article and you will come across the term “Cloud Computing”. What does it really mean? The definition can be as narrow as “virtual servers available over the Internet”, or as broad as “anything you can consume beyond the firewall”. No matter how you define it, cloud computing is here to stay and growing at five times the rate of other IT growth.



Source: ZK Research, 2012



Why are businesses migrating to the cloud rather than investing in their own on-premise infrastructure? Here are some of the main benefits of moving to the Cloud:

## Lower costs

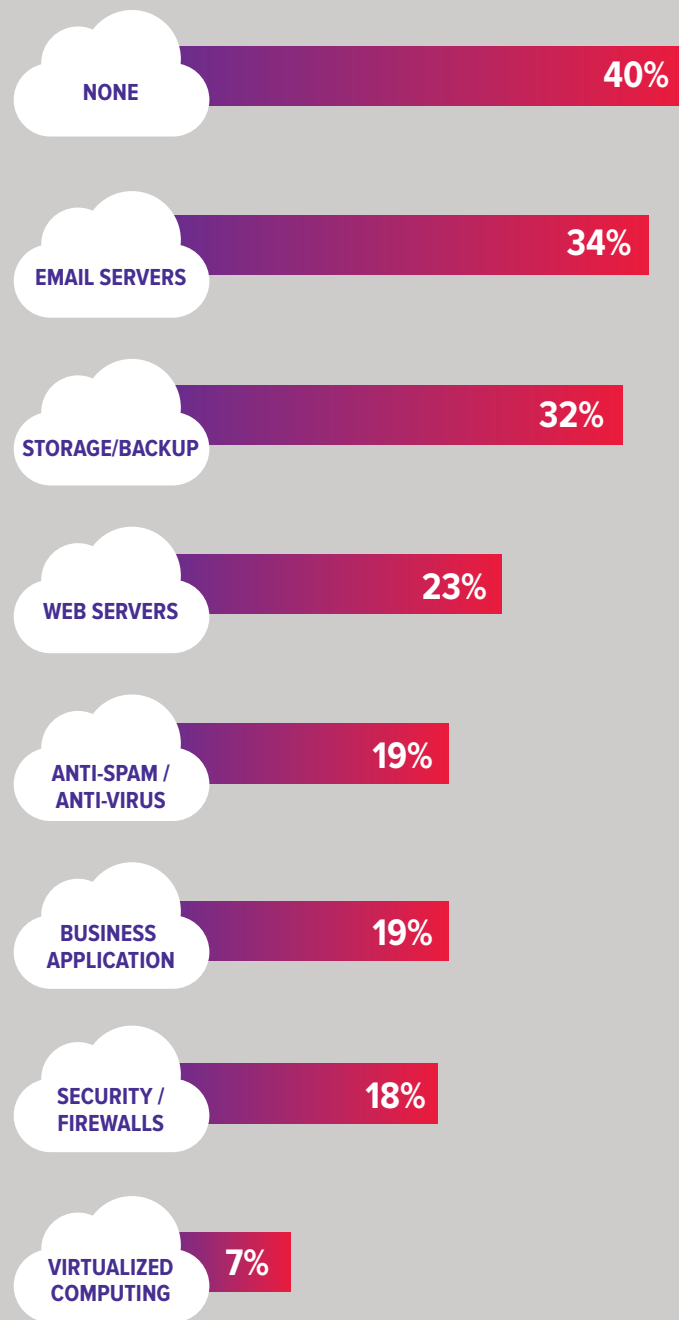
Considering the information is stored in the Cloud, no server or software is needed, thereby eliminating the impact on capital expenditure. In addition, the demand for IT resources diminishes due to the lack of hardware and software upgrades. A business is only required to use their Internet connection to access data and services located in the Cloud. Increased business bandwidth ensures that the data and services in the Cloud may be quickly accessed.

## Flexibility/scalability

Cloud subscribers can vary their use of cloud services according to need and budget. Businesses subscribe only to the tools they require. If needs change over time, businesses can adjust by dynamically adding new services or purchasing additional storage space.

## CLOUD SERVICE USAGE

FOR COMPANIES <50 EMPLOYEES



## Mobility/agility

Cloud computing allows employees to work from a variety of locations and myriad of devices. They can sign in to their cloud account from a laptop, smartphone or other mobile device, and resume where they left off previously while on a different platform. This is possible because files, documents and software are available online, with no physical ties to the system being used. They are technology-agnostic, meaning that employees can work from virtually anywhere.

## Simpler upgrades

Cloud vendors are responsible for upgrading their solutions, relieving businesses from the task of keeping systems up-to-date. As updates become available, cloud computing providers make them available to subscribers.

## Business continuity

With cloud services enabling employees to work remotely, on-premise IT disasters will have less severe implications. Employees continue working from another location, with only a connection to the

Internet, from any device. Therefore, if an issue arises, a dependency on a specific location is alleviated and business productivity is maintained.

## Security

Cloud computing providers make significant investments to secure their servers and data centers to protect unauthorized access to user data, along with the applications where this information resides.

## Connecting to the Cloud

Whether accessing data or applications in the Cloud, and through any IP-enabled device, a business must have a reliable Internet service provider (ISP). Businesses must also ensure that their ISP owns and maintains its network to ensure network reliability and security necessary to retrieve data or connect to applications maintained in the Cloud. Finally, it is critical that the business has the right upload and download speeds necessary to effectively transmit critical data.





RCN Business offers a full suite of communications technology solutions, including high-speed Internet, voice, video and network solutions.

For more information, visit [rcn.com/business](http://rcn.com/business) or call **1-877-726-7000**.

