colt

The right communication for your business

An interactive buyer's guide with 8 questions you should ask yourself or your provider

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What's in this eBook ?

This book contains eight sections to help you pick the right communication services for your business, both from the IT Manager and the user perspective. It also outlines some of the key challenges in the adoption of these new services.

How to use the eBook ?

This eBook is interactive with options for you to access additional examples and information. You can always go back to the questions page or directly to the glossary if some words need clarification. Finally, you can also print the eBook.

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Introduction

Voice services can no longer be considered a commodity.
Your business relies on voice communications to reach customers; to work with suppliers; to collaborate with partners.

You have to be sure that your voice service supports and underpins the business as we go all go through the massive changes the digital economy will bring.

So we've put together the most important factors to consider when approaching this new era in communication services.

Click on the questions below to go deeper into a topic

How important is it to evolve to Voice over IP ?

Sooner or later VoIP will be the only available technology.

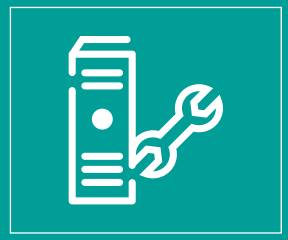
VoIP eases the deployment of a centralised IPPBX for multiple sites, enabling home working and offering affordable resilient mirroring architectures. It will also cope with more standard network connections (IP or Ethernet) avoiding expensive synchronous TDM transport solutions.

Two key areas where a VoIP network gives significant advantages are capacity management and redundancy. This may require some network engineering and migration management and definitely a strong ability to monitor the quality of the network – with the benefits far outweighing any migration work.

Number of sites & countries

Mobile working

Integration with apps



Optimised maintenance

SIP implementation

SIP safety

How important is it to evolve to Voice over IP ?

Take into consideration the number of sites & countries

Voice over IP readily allows you to cover multiple sites and many countries with a single IP PBX, and facilitates the rapid deployment of services in multiple locations.

With such a centralised architecture, it is vital to have a SIP trunking service which can deliver local DDIs and features for all sites to the single PBX. Of course, this requirement applies for both multi-country and national deployments. Such centralisation delivers a strong business case through reduced equipment, simpler administration and simpler supplier management. Crucially this improves flexibility to cater for changes in demand anywhere in your organisation.

How important is it to evolve to Voice over IP ?

Facilitate remote & distant working

In addition to an IPBX being able to cover multiple locations, it can also reach out to wherever it is needed - through a SIP client - whether at home; at a hotel or conference; or at a customer location.

- Incoming and outgoing calls can be made through a single soft device
- Your people can be reached, whatever their location, from a single number
- Low quality and expensive usage of mobile devices are mitigated.

Voice over IP can provide wide-reaching service, high quality, flexibility as well as potential savings.

How important is it to evolve to Voice over IP ?

Integration with Apps

VoIP (SIP trunking) supports transport of all media types which makes it ideal to implement UC solutions.

As a consequence, IPPBX is becoming more and more integrated with more applications : XMPP servers, for Instant Messaging or Collaboration; Active Directory for access and control of contacts; ERP (Enterprise Resource Planning); CRM (Customer Relationship Management) and Conferencing solutions.

So, an IPPBX can be easier to deploy and faster to integrate, with newer versions supporting an API which provide more open connections facilitating future integration.

This is all about future proofing, ease of implementation and user productivity.

How important is it to evolve to Voice over IP ?

Optimise your costs

With Voice over IP, the number of IPPBXs you need will be reduced, potentially down to one or two.
This means a single software version to maintain, with one list of functionalities and compatible devices available across sites.
Centralised SIP trunking reduces costs through obviating the need for local voice connections and benefitting from volume discounts from consolidating all the call traffic for all the offices.

Since Voice services use the IP network this also gives convergence benefits: single network for voice and data, and less cabling to manage; with a single resiliency strategy.

Last but not least: consolidation of equipment and suppliers reduces the operational expenditure for administration of voice systems and supplier management.

How important is it to evolve to Voice over IP ?

SIP Implementation

VoIP (SIP trunking) deployment affects both voice and data network architectures.

Migrating your TDM connection from your existing PBX to a SIP-based deployment needs careful planning, capacity preparation, network design definition, proof-of-concept testing and final deployment avoiding interruption of service.

To ensure a smooth transition to VoIP, you need professional support with proven migration methods, in-house engineering support and experienced service management.

How important is it to evolve to Voice over IP ?

As safe as SIP

VoIP delivered over a QoS technology such as MPLS is as secure as TDM voice. But increasingly, as the internet grows and it is used more and more for VoIP, other forms of security such as encryption have to be implemented. Encryption encodes all aspects of a VoIP call in a similar way to a web browser does for sensitive information like credit card transactions.

VoIP benefits also go beyond link security. Compared to TDM, VoIP has a better ability to keep telephone systems operating in the event of a service impairment or a catastrophic event. Conditions such as power failures, access facility failures, network failures and devastating weather patterns can be survived with the extensive set of Disaster Recovery, redundancy and resiliency options available on VoIP.

What are the right collaboration services?

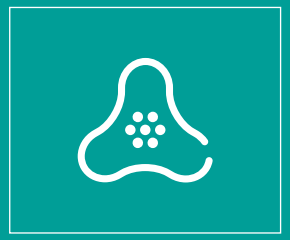
From 3-way voice conferencing to borderless multimedia collaboration, what do you really need?

Due to economic and competitive pressures, businesses are becoming increasingly flexible, often working in dispersed locations: seeking cost effective suppliers and new customers and markets – usually beyond their borders. They have to foster internal and external collaboration and co-operation over large distances and different timezones:

- To encourage a sense of being part of a larger organisation
- To share and exchange information in, across and outside of their departments
- To build and maintain closer relationships with customers or suppliers, whenever they are.

Broadcast the word of the board

Enhanced virtual meeting



A service as simple as a call

Join meeting from anywhere

What are the right collaboration services?

Spreading the word in the organisation

Driven by the need to be “agile”, businesses must share information, vision and strategy at an increased pace.

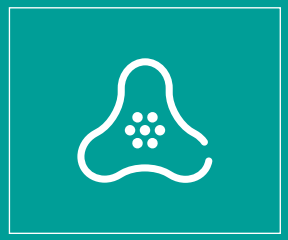
Hence, a key requirement is for collaboration systems to facilitate internal communications – providing audio (or video) broadcast throughout the entire company. Interactive features enable participants to react, comment or raise questions – which also encourages a sense of ownership and belonging within the organization.

What are the right collaboration services?

Offer enhanced virtual meeting

Working as a team is not just a question of meeting with each other every other month.
You want to exchange news and views on latest team achievements.
You want to share workloads, reduce stress, and increase enthusiasm and passion. Communication is sometimes more that information passing.
Communication works on multiple levels. At its best, people see each other, share reactions, hear each other well, and even more ....

What are the right collaboration services?



A service as simple as a call

Picking up a phone is easy. Almost natural. Collaboration shouldn't be any different or it will fail to involve everyone.

Now if simplicity is not easy, it at least can be measured: bridge numbers easy to remember, virtual meetings integrated in calendar, clientless solution, 3 clicks and 10 seconds to access a meeting... sounds promising....

What are the right collaboration services?

Join meeting from anywhere

Because your customers and suppliers can be anywhere, they need to be able to join meetings from wherever they are.
Access to conference bridges, should be made at conditions that are acceptable and affordable to your customers. Providing global access to a local – and eventually toll free – number may be a prerequisite.

With regards to your own internal users, you still need extended solutions that guarantee minimal cost for access, irrespective of location, and ways to avoid charging calls to employees when joining meetings from home or elsewhere.

Should I outsource my telephony assets?

To focus on my business decisions I should let others manage my communications infrastructure, provided that...

To deliver the expected quality, cloud-based telephony services need to be offered in conjunction with network services. Although they offer a wider variety of collaborative services, not all shared platforms have enough customisation capabilities to address specific business needs, and dedicated platforms are not necessarily affordable for small and medium enterprises.

Outsourced solution should provide an improved customer experience in terms of flexibility, functionality and self-management capability, while still preserving, or enhancing, security.

IT or Self Management

Up or down sizing agility

Ease of use & reachability

End to end quality management

Underlying Connectivity

Cloud but regulated service

Cloud but secure

Should I outsource my telephony assets?

IT or Self Management

Setting up a Unified Communication platform is not a one off activity. It must be updated daily to cope with new functional requirements and new comers or leavers.

Phone usage is highly personal, so it will enable every user to configure to their requirements : Inhibiting video, allowing or not redirection of calls to one or multiple devices, sharing presence, status or even a photo, etc....

For ease of working and better management, self admin rights have to be granted or restricted according to each company's own policy – not that of the service provider.

Should I outsource my telephony assets?

Up or down sizing capability for increased agility

The days of the "job for life" are over. Everyone has to cope with a changing environment and businesses need to demonstrate a strong ability to react and adapt.

Deploying a new site, adding users to an existing one, or freeing resource due to changes in the organisation are becoming day-to-day activities

Communication systems must also be agile themselves – allowing instant updates for enhanced functionality to whichever users need them. Features such as presence and collaboration or contact centre functionality need to be delivered quickly and to wherever people are located, including the home office.

Should I outsource my telephony assets?

Ease of use and reachability

Deploying a raft of new communication offerings is pretty useless unless people benefit from them, use them, gain expertise and increase overall productivity.

With a multiplicity of applications at their disposal, each one must be fully integrated into their desktop environment, their personal directory, calendar and email application.

Consider: what will be the implications of more than

- two clicks of mouse for a phone call, an IM or the redirection of your calls to your mobile,
- three clicks to bring a destination list into a web conference session

Should I outsource my telephony assets?

End to end quality management

Voice over IP systems make use of shared IP trunk resources, and make demands on bandwidth, as the (dynamic) codecs they use can change from one call to another. Their needs are therefore highly difficult to forecast and address.

In addition to standard IP networking management tools, there is a need to monitor bandwidth, latency or jitter - often only accessible by a “network expert”. Unified Communications platform should therefore have specific monitoring tools to provide views on MoS (Mean Opinion Score) and provide the ability to troubleshoot the root cause of any issue from the end user device up to the carrier switch.

Should I outsource my telephony assets?

Underlying Connectivity

Cloud telephony solutions should not be constrained to the dedicated infrastructures that links the company's sites together. In fact, Cloud telephony becomes more compelling when connections can be made available from any location, e.g. from home, from a hotel or on the move. It should also be accessible from devices that host specific thick clients – integrated in desktop environment – as well as from clientless devices, through simple browsers.

In all these cases, voice calls benefit from high priority to maintain the quality that is expected from professional communications and require a service that has the ability to monitor and maintain this quality.

Should I outsource my telephony assets?

Cloud but Regulated Service

Telephony is still the main medium to get help and call the police, fire service or ambulance. Generally speaking, whether it is cloud based or not, telephony solutions need to comply to local regulation that enforces minimum functionality.

In other words: Cloud telephony must maintain the localisation of the callers, in each country where it is deployed, according to local rules, but it should cope with on-the-move users that are away from their natural location, in or outside of the country and address emergency calls in the optimal way.

Should I outsource my telephony assets?

Cloud but Secure

Security concerns have sometimes been raised about Voice over IP. Could it be used as a potential back door for hackers to break into companies PBXs and make fraudulent calls to rather expensive destinations? Could hackers gain access to private information – user directory, lists of incoming or outgoing calls, stored voice messages or Instant messages?

In fact, Cloud telephony shouldn't mean lack of security and this is certainly where the service provider can demonstrate a high level of segregation of the various companies' infrastructure and strong level of protection to access any of the companies assets.

Does the network matter?

Are international voice networks by nature more complex than others?

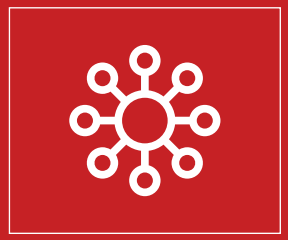
It looks sometimes odd that larger single country voice networks, linking more than 10 sites, are easier to construct than a simple two site network across a border. Usually this is due to the difficulty of coping with multiple underlying infrastructures and processes that only partially interoperate.

Seamless underlying infrastructure

Congestion management

Fraud resolution

Does the network matter?



Seamless Underlying Infrastructure

The one issue an enterprise may be facing when linking sites from various countries, is relying on multiple networks – predominantly IP – that do interoperate... but only up to a certain degree.

The lack of interoperability may cause some unforeseen issues

- when determining priorities, they are not interpreted the same way
- when a failure on one side remains invisible on the other, preventing re-routing mechanism to operate efficiently
- peering points generating congestion, latency or jitter

Or, of course, when local processes are not adapted to deal with multi-country service

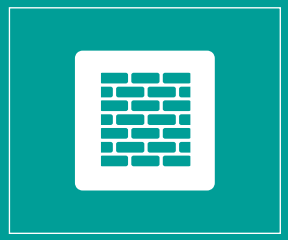
Does the network matter?

Congestion Management

Beside technical issues, your network may suffer from other concerns. It may be difficult to dimension when combining the effects of well-monitored out-going calls with fluctuating incoming ones.

Complexity increases when incoming calls are rerouted according to specific rules tailored to your business activity.
Delegating the monitoring of your entire – incoming & outgoing – traffic to someone who effectively handles it , to maximise availability will usually prove a very profitable decision, especially when incoming calls are a source of revenue.

Does the network matter?



Fraud resolution

Voice over IP usually means using a server to handle your calls. It raises concerns about open back doors, allowing hackers to generate highly expensive traffic over night or during week-ends.

Network providers and IP Telephony suppliers are both key actors in this game who know how to prevent inappropriate access to the service.

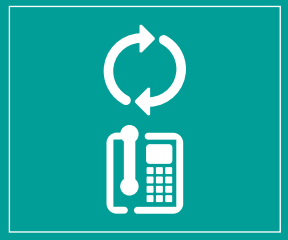
Leveraging a Service Provider that owns the network enables deep analytics to be brought to bear for any unexpected traffic pattern and provides the ability to react in real time.

Is unlimited calling just a pipe dream?

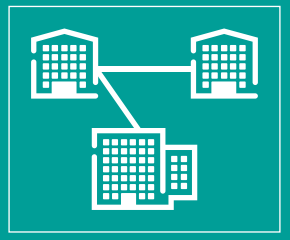
Have you benefitted from a flat fee or 'unlimited' tariff for your personal phone? Is it time to consider a similar pricing structure for your business?

Of course, companies have different call usage profiles, and finding a suitable tariff can be challenging. Commitment to a minimum spend, could give access to better tariffs. Companies who opt for a hosted telephony solution could benefit from a "per seat" price structure with a bundled minutes or unlimited offer included, providing increased billing predictability.

Depending on their voice solution, businesses may be able to eliminate the cost of inter-sites calls, including calls to their own company mobiles



Call cyclicality



Internal vs external calls

Where am I calling to?

Is unlimited calling just a pipe dream?

Handle call cyclicality

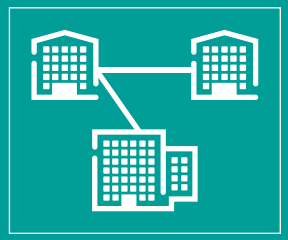
Why would you pay for bundled minutes or unlimited minutes if you are not fully benefiting from them during the holiday season when call usage is low?

Some offers take this concern into account:

- Pre-pay bundle offers may be based on your lowest usage period
- Unlimited offers may be based on the average usage for the year
- A minimum spend offer can result in lower or zero rental charges for your voice channels, and/or a reduced price per minute

... All of these offers are credible and commercially attractive, the question must always be which is best for your business?

Is unlimited calling just a pipe dream?



Should there be a price difference between your internal and external calls?

Apparently a call is a call, whether it is made to a customer or to one of your own buildings, the charges are the same.

Some providers terminate local and national intra-company calls on their own network, and can therefore pass on lower costs to their customers.

For international intra-company calls, depending on the coverage of your Service Provider lower costs could also apply.
Last but not least: using a multi-site, multi-country Voice over IP solution, you can eliminate all your internal call costs.

So truly, internal & external calls are different. Expect different treatment for each.

Is unlimited calling just a pipe dream?

Where am I calling to?

Even though you may be offered ‘unlimited’ minutes, you are likely to have a Fair Use policy that restricts how many calls you can actually make for ‘free’. There will also be destinations that will not be included in the Unlimited offer, and will be charged on a per minute basis. It’s worth checking how competitive the price to these destinations are, particularly if you make regular calls to them.

If you have a fairly international or mobile call profile. these minutes may represent the majority of your bill.

In these cases, a deep dive into the details of your bill is recommended. Your service provider may have tools or services to help analyze your spend and calls, and compare them across different price plans. This will help you decide which price structure is best for your business. The comparison reports will also provide you with a reference point to ensure the price plan you are offered delivers the savings you had originally expected.

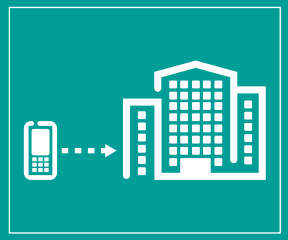
How best can I managed my incoming calls?

If first impressions count, how do you treat new callers to your business?

A phone number is a Showcase through which customers experience your enthusiasm, respect and professionalism...

In the virtual world of Telecommunications, this Showcase should adapt to its audience.

This is not about demonstrating capability but delivering for each visitor just the features that they are expecting.



Monitor incoming calls

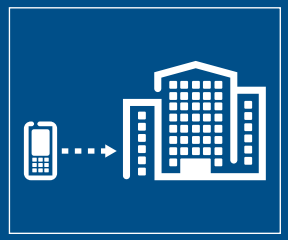
Be flexible with agents

Leverage expertise

Integrate with Apps & Web

Invest as much as you succeed

How best can I managed my incoming calls?



Monitor incoming calls

The Showcase should definitely not look “in construction” or unavailable. In other words users should find someone to speak to... and the business must track the number of lost calls to immediately identify remedy actions.

Further to that, it could then adapt its organization to the number of visitors and tailor its internal resources to the need of the market. Simply and accurately by time of the day, origin of the calls, or category of callers – known versus unknown for example.

And there is always the need to measure and evaluate call numbers, duration and frequency to improve efficiency of agent pools.

How best can I managed my incoming calls?

Be flexible with agents

Being efficient doesn't mean being at the office. Not even in any office. In today's environment, working from home becomes a very viable option.

On a larger scale, working with partners deployed around the world to offer a "follow the sun" approach that optimizes responsiveness to customers and cost may be a key differentiator to satisfy valuable and hard to reach customers.

How best can I managed my incoming calls?

Leverage expertise

Being professional, is about providing the right expertise at the right time to the right person.

This means the ability to identify each caller, understand their importance, their situation, their need, … , and consequently the best person to support them.

It may also mean deploying tailored approach to best satisfy golden customers and manage “the less important calls” to the best effort queue to provide standardised support.

How best can I managed my incoming calls?

Integrate with Apps & Web

Incoming queries no longer come only from the phones, .., but from the web, social media, apps or emails. And one person may use several communications media.

Providing the best service most efficiently requires

- the ability to handle many and varying channels
- the ability to treat individuals according to their status - not their media
- and to present to each agent the full status of the individual

Managing such queries is also about integrating in-house applications, storing critical customer information in the right way in the right place, and supporting rich communication involving both voice and digital channels.

How best can I managed my incoming calls?

Invest as you succeed

The difficult aspect of managing incoming calls is that you can't anticipate their volume and you certainly don't want to build infrastructure to manage call volumes you aren't going to receive. This of course applies to any incoming calls, but far more for those which are managed by Contact Centre agents. Simply because the upfront investments that are needed to handle those specific calls can climb rather quickly.

In other words, moving out from company based solution to outsourced solution should bring technical flexibility, but also a fully "success based" financial solution.

Is Quality only in the sound?

It can take years to build a reputation and a few moments to lose it

Assurance always come with a cost: unless it proves to be needed, it is hard to justify.

Similarly, reliable engineering of network solutions often looks like a cost with no proven return on investment, until users or customers have a bad experience....and your reputation is on the line.

Regulatory concerns

The sound of your voice

The price of unavailability

Is Quality only in the sound?

Regulatory concerns

Telephony is a regulated market and must comply with regulatory rules:

- To protect customers from high operational risks, through the implementation of emergency call management
- To protect customers from unexpected expenses linked to specific phone calls charges
- To protect customers from illegal engagement that would tie them to useless and expensive service
- Or simply to help share their phone number and be visible in the market

Regulation is not a nuisance, but a service for end customers. Unregulated communications are not always in the customers' long term interests.

Is Quality only in the sound?

The sound of your voice

Voice Calls are not just a mean to express ideas and share information.

They are a way to communicate satisfaction, impatience or anxiety. They can be used to covey authority or show dedication. Moreover, the quality of the line may reflect the importance with which you regard employees and customers. It reflects the company.

The sound of your words is sometimes as important as the words themselves.

Is Quality only in the sound?

The price of unavailability

99.99% of availability means 52 minutes of service interruption per year. But minutes are not equal over the year and there are some that you cannot afford to lose:

- those of an important meeting,
- those at which a prospect is calling you,
- those that will put the doubt into minds and generate discomfort and mistrust

The price of unavailability can't be charged over a single year because its effect may last much longer.

Is a Single Provider in Europe a reality?

Having a problem is a nuisance. Ignoring where it really comes from is a concern.

Building an end to end Unified Communication solution does not usually involve a single entity and requires the cooperation of multiple providers combining their effort to deliver end to end expertise.

Finding the right solution means leveraging everyone's expertise, but keeping a close eye on the end-to-end outcome that they are working toward achieving.

End to end quality

Regulatory complexities

Language & local specificities

Pricing

Is a Single Provider in Europe a reality?

End to end quality

Unified Communication is all about combining application servers and IP networking to deliver real time services that are able to minimise jitter and latency.

The increased complexity of integrated solutions makes them difficult to troubleshoot when errors occur.

As a specialist, you may be happy to analyse and identify the root cause of your problem. As a standard user, you may preferably rely on a service provider to perform the check and solve the problem according to a given SLA.

Is a Single Provider in Europe a reality?

Regulatory Complexities

Regulatory rules are somewhat different from one country to another. Hence it is probably wrong to say that knowing about one country will give you the ability to cope with other countries. Here specialists are welcome

Now, as a business, this could and should still remain transparent to you. Don't assume just because your service provider is carrying a license, they have the obligation to meet all requirements.

Is a Single Provider in Europe a reality?

Language and local knowledge

Network technology –WDM, SDH, Ethernet, MPLS, IP – has been standardised across the world and is the common "language" spoken by routing devices.

In contrast, Voice services often require to be localised:

- Numbering structure is highly different from one country to another
- Special numbers follow different rules and can hardly be used across the borders
- Many of the voice protocols are also subject to local interpretation and interoperation with local PBXs may need customisation

Those are just some of the things to bear in mind when constructing an international voice network

Is a Single Provider in Europe a reality?

Pricing

A century of telephony has produced in every country legally binding pricing propositions that distinguish peak from off-peak calls; local from regional or national calls: even though, many of these prices are now the same.

Evaluating a European pricing proposition can therefore be a nightmare, unless you demand a simplified structure from your provider. This should simply differentiate fixed from mobile, national from international and maintain the country flavour for special number according to local rules.

... Probably a good approach to consider

Terms, Reference & Solution

Customers & References

More Case Studies

More about Colt Voice Solutions

Voice Services

SIP Trunking

ISDN & Voice Services

IN VAS & Contact Centre

Cloud UC

Conferencing & Webex

Glossary of terms

- **API**
- CRM
- ERP
- Jitter
- Latency
- MoS
- SIP
- SLA
- VoIP

(Web) API

In computer programming, an application programming interface (API) is a set of routines, protocols, and tools for building software applications

Web APIs are the defined interfaces through which interactions happen between an enterprise and applications that use its assets.

Glossary of terms

API

CRM

ERP

Jitter

Latency

MoS

SIP

SLA

VoIP

CRM

This stands for Customer Relationship Management

It covers the various tools and applications that are used to build interactions between a company and its customers. A CRM can be used for multiple purposes, including: reaching new customers and prospects, maintaining intimacy with existing ones, managing contracts and services.

Glossary of terms

API
CRM
ERP
Jitter
Latency
MoS
SIP
SLA
VoIP

ERP

This stands for Enterprise Resource Planning

It covers the software and applications that allow an organisation to move smoothly, according to their software-defined process. ERP systems can be applied to various departments of a company including development, inventory, operations, finance or human resources.

Glossary of terms

Jitter

This is the variation of the latency.

When a signal (such as an audio or video) goes from point A to point B, it may travel at varying speeds. One impact is that 2 sequential signals can potentially reach their destination at the same time creating congestion or requirement for buffering, that may degrade the service.

Glossary of terms

Latency

This is the time that a signal takes to go from its emission point to reception point

Even though, electronic signals travel at speed light in optic fibre, there are slowed down at a number of routing and switching point, where they are temporarily buffered. This reduced an average time to travel is what we call latency.

Glossary of terms

MoS

This stands for Mean Opinion Score

It is somewhat easy to monitor binary signal and evaluate the proportion of 0 and 1 that have been properly transmitted. It is more complex to evaluate the resulting perception when this signal is an audio one. The MoS is a proxy of the quality of the sound, as perceived by a human, which rates call quality between 1 and 5.

Glossary of terms

SIP

This stands for Session Initiation Protocol

This is simply the name of the most common used signalling protocol for transmitting voice over IP today. This is a versatile text based protocol (similar to html) that can handle multiple media including Instant Messaging or video calls. It employs various other protocols to transport the information (such as RTP or SRTP).

Glossary of terms

API
CRM
ERP
Jitter
Latency
MoS
SIP
SLA
VoIP

SLA

This stands for Service Level Agreement

The agreement between 2 parties, a service provider and its customer. In the telecommunication area at least, SLAs often include guarantees of availability, mean time to respond, mean time to repair, quality of service.

Glossary of terms

API
CRM
ERP
Jitter
Latency
MoS
SIP
SLA
VoIP

VoIP

This stands for Voice over IP

This often refers to the way voice signals are transported from customer PBX to Service Provider Public Switch.

VoIP is a Digitalised voice signal, transported over an IP network. This IP network can be public or private, and dedicated to voice or shared with other data services.

Thank You

Let’s talk

colt