

Title:	Voice Over IP - A new technology creating challenges and opportunities
Brief Description:	VoIP presents a viable and attractive alternative to traditional PSTN-based voice services with both commercial and technical benefits. This article explores the benefits of this new form of telephony as well as the legal and regulatory challenges for both suppliers and customers.
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For many years voice telephony has relied on the public switched telephone network (or PSTN) which works through the creation of a continuously open pathway over a system of interconnected circuits throughout the call duration (this is known as circuit switching). There is an alternative to circuit switching - packet switching - which has historically been used for data transmission since it involves the splitting of data into packets which are sent to their destination by a variety of routes. Packet switching has only recently been used for the transmission of voice due to call quality problems, but these problems have largely been solved and this, combined with the lower cost of this form of transmission, has meant that voice over IP (or VoIP) is becoming increasingly used. VoIP now presents a viable and attractive alternative to traditional PSTN-based voice services but the development of this new form of telephony presents, along with commercial and technical benefits, interesting legal and regulatory challenges for both suppliers and customers.

Benefits for businesses

Businesses can generate large cost savings by implementing a VoIP solution. These mainly come from the use of one infrastructure to carry both data and voice, the ability to deal with only one supplier and more efficient running and maintenance of the network. VoIP allows businesses greater functionality. For example, businesses can streamline their working environment by being able to link computer applications and communications technologies - this could lead to unified messaging through the integration of telephone, fax, email and other applications. In addition, VoIP enables enhanced facilities such as video conferencing. Probably the most significant commercial issue for a business looking to implement a VoIP solution is the potential cost of transferring to a VoIP system, given the already significant sunk cost of existing separate IT and telecoms systems. There will also be migration issues associated with moving to a VoIP system. Businesses will have to consider whether all existing services will migrate without problematic disruption, what timescale will be required in order for that migration to happen and whether existing suppliers will assist in that migration process.

However, there are legal issues that businesses will have to consider in contemplating a switch to a VoIP solution:-

- If a switch to VoIP services involves a migration to a new supplier, is the existing contract capable of being terminated and does it require the existing provider to provide assistance in connection with the migration?
- VoIP services are an emerging technology and therefore the contract with the provider will have to deal with the technology refresh and the fast pace of technological change.
- Service quality and service levels will be key - although the quality and reliability of VoIP services is fast improving, service quality may be an issue.
- The regulation of VoIP services is in its infancy (**see below**) and so the customer should make sure that the provider takes the risk (and cost) of compliance with law and also regulatory change.
- If switching to VoIP enables the switch to the use of one supplier and one infrastructure the need for having redundancy built into the services and disaster recovery plans become even more important.

Are VoIP services regulated?

VoIP services are covered by the EU regulatory framework for the regulation of electronic communications. The regulatory regime deals with the regulation of “Electronic Communications Networks” (or ECNs) and “Electronic Communications Services” (or ECSs) in a technology neutral manner. Provision of a VoIP service is likely to constitute the supply of an ECS and the supplier may also be regulated in connection with any operation of an ECN.

No licence is needed to provide VoIP services or, indeed, any sort of ECS or ECN (although some EU countries may require a notification to the national regulatory authority) but those providing VoIP services will have to comply with the “general authorisation” applicable to those providing ECNs or ECSs. Failure to comply with these obligations may lead to penalties and even suspension or withdrawal of the authorisation to provide an ECN or ECS.

The regulatory conditions applicable to VoIP providers depend on the type of service being provided and into which of the following categories the VoIP service falls:

- private ECS;
- public ECS;
- publicly available telephony system (or PATS).

Private ECS providers are subject only to a limited number of conditions. Those providing a public ECS are subject to more conditions (most being concerned with consumer protection) as are, to a greater degree, providers of PATS.

VoIP services - PATS or not?

The core elements of a PATS are:

- it must be a service available to the public;
- for originating and receiving national and international phone calls;
- that gives access to emergency services; and
- through a number or numbers in a national or international telephone numbering plan.

the interpretation of this definition (and therefore whether VoIP providers fall within it) varies throughout the EU Member States and consequently VoIP providers offering a pan-European service may be subject to differing levels of regulation throughout Europe.

Ofcom's view

Ofcom (the UK regulator) currently adopts a narrow interpretation of the definition of PATS since it regards only those VoIP providers that provide access to emergency services as providing a PATS service. This contrasts with the approach taken in some other EU Member States that take the view that any VoIP provider that provides a service in direct competition with (and as a substitute for) the PSTN is a PATS provider.

The consequence of Ofcom's approach is that VoIP providers may be discouraged from offering access to emergency services but Ofcom's wish is that VoIP providers would want to provide access to emergency services. However, Ofcom acknowledges that the definition of PATS is such that if VoIP providers were to fulfil the criteria (including by offering access to emergency services) then they would be subject to the full scope of regulatory conditions applicable to PATS providers. Ofcom is seeking clarification from the EU Commission as to whether providers of new voice services should be subject to all the PATS regulation even if the PATS definition is fulfilled. In the meantime Ofcom will forebear from enforcing all elements of PATS regulation against VoIP providers that fall within the PATS definition on the proviso that such providers give end users adequate information on the service limitations applicable to their service.

Numbering

Another important issue connected with VoIP is numbering. In the UK Ofcom has issued a statement on the numbering arrangements applicable to VoIP and, in particular, this statement addressed the issue of whether a

specific number range should be applied to VoIP services or whether ordinary geographic numbers may be used for VoIP services.

The numbering issue is important because VoIP providers are likely to feel that an inability to use “normal” telephone numbers for telephony services that, they hope, will compete with PSTN services would operate as a barrier to entry, preventing them from competing on an equal footing. On the other hand it is arguable that the growth of VoIP services will inevitably lead consumers to become familiar with a dedicated non-geographic number range in the same way that consumers are now familiar with the 07 mobile numbers ranges.

In any event, Ofcom has concluded that VoIP providers may use either the non-geographic “056” number range or the geographic number ranges. The 056 non-geographic number range may be used by providers of “Location Independent Electronic Communications Services”, which are defined as being services where:

- the numbering plan adopted by the service provider has no geographic significance;
- the location of the customer’s apparatus identified by a given telephone number at the time of use is not necessarily permanently associated with a particular network termination point;
- number translation to a geographic number is not involved; and
- the service is not a mobile service.

Geographic numbers will be made available to new voice service providers (which would include VoIP providers), but only those providing a publicly available voice service.

Whether you are a business looking for the cost savings and greater functionality that VoIP can bring or a service provider looking to exploit an exciting technology that could challenge the dominant positions held by some PSTN providers you will face challenging and new legal issues.

 For further information please contact **Tom Wheadon** or your usual contact at **Simmons & Simmons**.

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