

Partnerships that build businesses



## SIP, Call Centres and the Intelligent Edge

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**rostrvm** CLIPboard patent Rostrvm Solutions Ltd (registration number 2290193)

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## 1. Introduction

The Call Centre is a critical element in any organisation's communication strategy with its customers and prospects.

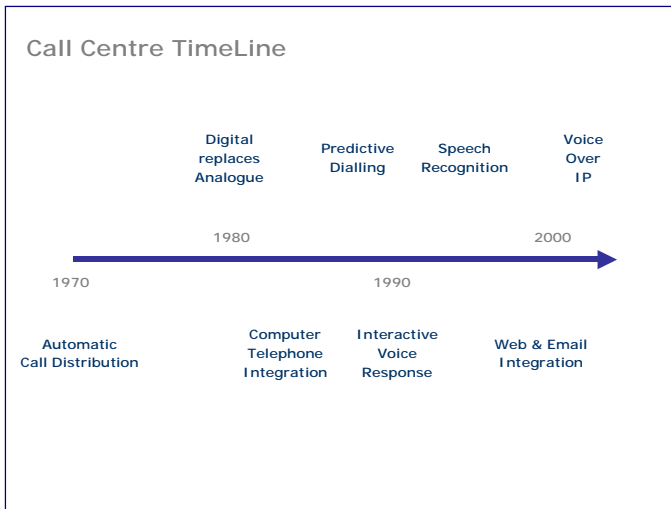
Rostrvm Solutions' Switchless Call Centre architecture is our long term, strategic commitment to Internet Protocols (IP) as the key central driver for substantial change in the technical deployment and operational functionality of the Call Centre.

Rostrvm Solutions has extended its proven **rostrvm** call centre platform to deliver leading-edge call centre facilities via Voice over Internet Protocol (VOIP). More specifically the enhanced **rostrvm** platform exclusively supports the Session Internet Protocol (SIP).

The SIP call centre is a central component in developing and delivering a multiplicity of enhanced and new services to the call centre and the call centre's customers.

This paper anticipates the impact SIP will have on the call centre and the extension of this core platform to new "Intelligent Edge" technology and services.

## 2. Call Centre Development



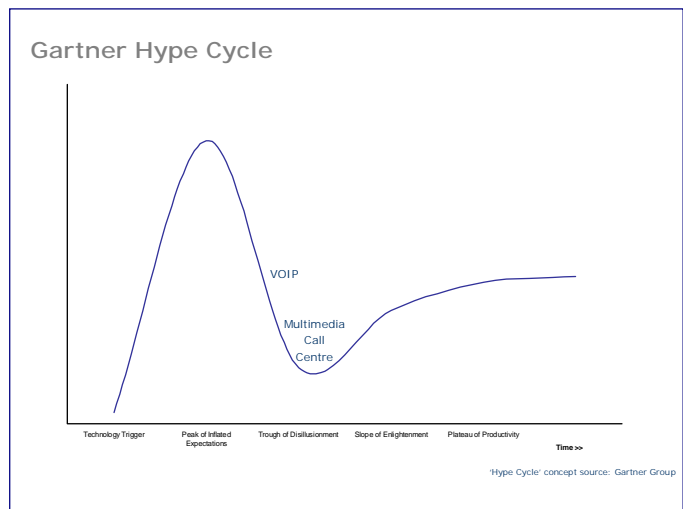
It is usual to visualise call centre development as a sequence of steps delivering a gradual change in functionality; analogue telephony became digital; Computer-Telephony Integration has developed from a method to link telephone switches with computers to a technique for taking full, intelligent control of call routing; Interactive Voice Response has been enhanced to including voice recognition.

Other systems, such as predictive dialling, have transitioned from being specialist tools to becoming widely used solutions.

There are a number of functional and technology contenders expected to drive the future of call centres. For several years the future has been seen as the "contact centre", blending electronic media with telephone calls in the call centre. More recently Voice over IP (VOIP) has been proposed as the 'next-big-thing'. But the reality is that neither of the changes has taken off to the forecast level

The apparent low level of deployment of the Multimedia Call Centre (or Contact Centre) and VOIP may be symptomatic of a phenomenon identified by the Gartner Group – the technology Hype Cycle. The Hype Cycle proposes a model of the market impact of introducing cutting-edge technology.

Multimedia Call Centres and VOIP are heading towards the "Trough of Disillusionment". It is not at all clear that with traditional, linear thinking either technology will escape the trough!



Rostrvm Solutions views the future of call centres differently. Whilst we are sure that VOIP and Multimedia are central to call centre development, current deployments do not take into account significant changes to consumer telephone technology derived from "Intelligent Edge" developments.

### 3. What is the “Intelligent Edge”

The phrase “Intelligent Edge” is used in a number of contexts, but in its generic sense Intelligent Edge is about moving applications from the centre of a communications infrastructure out to the point-of-use, the edge of the network.

In a data network “intelligent edge” technologies transport decisions about allocating bandwidth and prioritising traffic from a central management system to the point of access. For example the ‘intelligent edge’ data network gives priority to time-critical packets; this means that immediate demands like Voice over IP get priority over deferrable demands such as sending an email.

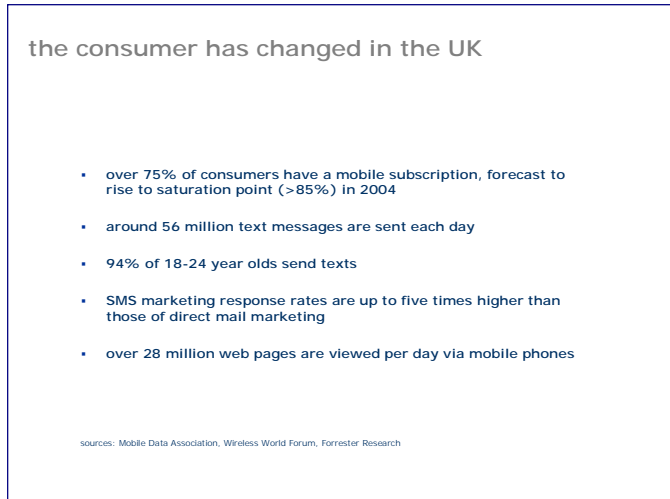
In telephone networks the “intelligent edge” concept describes the ability for mobile phone services to be handled in the telephone with an awareness of the user’s application. Is the phone being used to make a simple telephone call, play games interactively, send and receive video?

The Rostrvm Solutions view of the intelligent edge both combines and extends the data and mobile context and anticipates a further level of intelligence – the Intelligent Edge in the user’s hand, applications in the telephone.

Rostrvm Solutions’ Intelligent Edge applications take advantage of the Session Initiation Protocol (SIP), a signalling protocol used for establishing sessions in an IP network. A session could be a simple two-way telephone call with the call centre supporting existing processes and practices. However it could be a collaborative multi-media conference session. This ability means that new collaborative applications and call centre communications can be built in a convenient way.

### 4. The Intelligent Edge and the New Consumer

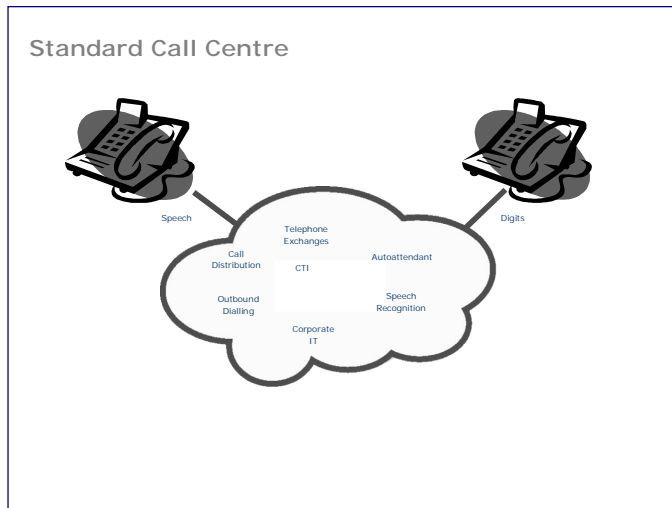
The European consumer is changing. Research figures from the UK (shown to the right) illustrate how mobile technology is being quickly adopted. Most notably the research indicates that new facilities are very strongly adopted by young people – the new consumers vital to the continued success of any business. The statistics from Forrester research give further weight to the importance of the new mobile technologies – response rates to text messages far exceed traditional marketing methods.



Rostrvm Solutions believes that any business, and call centre focussed businesses in particular, must support the new consumer’s adoption of current and Intelligent Edge applications.

## 5. Intelligent Edge and call centre development

Voice over IP as a subset of packet switched data networking is a fundamental technology in the development of new consumer and call centre services. But when we review current usage of Voice over IP in the call centre we don't get very excited! That's because those Voice over IP deployments have simply emulated implementations using traditional telephone systems. The only thing that has changed is the transmission medium. The promised 'new applications' have broadly failed to materialise.



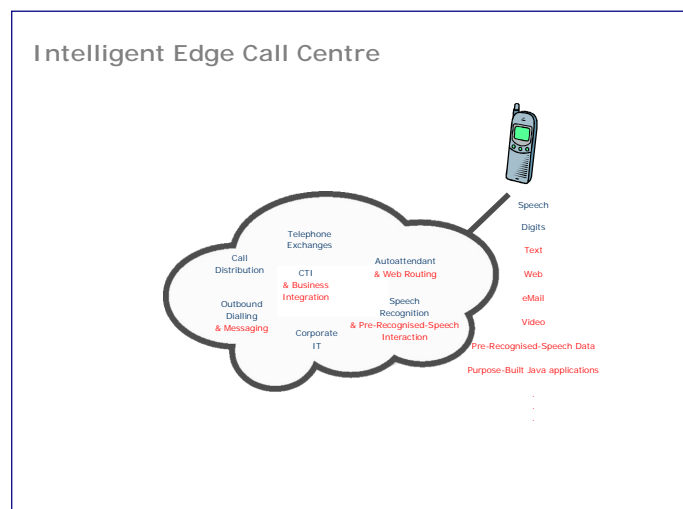
Standard telephone call centres, including those already using VOIP, assume that the caller's telephone is a dumb terminal. Telephone call centres assume that the user's terminal can simply deliver a speech connection and generate sounds that represent numbers. All processing is undertaken centrally at the telephone exchange and supported by technology located in the call centre.

In many ways this arrangement is analogous to the way dumb visual display terminals operated with a mainframe.

Current Multimedia Call Centres are built upon the concept that callers will contact the call centre using an intelligent device, usually a PC. Clearly PCs can support sophisticated contact – web browsing, co-browsing, chat and email – so the theory is fine. But for the vast majority of callers the PC is simply not as convenient as picking up the phone.

The Intelligent Edge brings new telephones that run sophisticated applications and will change the way callers interact with the call centre. The impact will be as significant as the evolution of the PC as an alternative to the dumb computer terminal.

Rostrvm Solutions anticipates a myriad of new call centre applications derived from the Intelligent Edge including extended caller-self-help interaction and extended conversational interaction through data messaging.



With speech recognition built in to the telephone, it will be easier to accurately serve consumers through automated systems.

Always-on broadband capacity to the telephone handset will make video content in a call centre interaction a reality.

In the Intelligent Edge we anticipate consumers browsing the call centre's web site to find the product or service they require. In many circumstances the consumer will find all the information they need without talking to anyone, but when they do want to speak to someone the phone will know exactly where to call. Equally, with the right intelligent infrastructure, the call centre will know what the consumer is seeking.

Rostrvm Solutions' strategy to support the Intelligent Edge call centre is to extend the functionality of the current advanced **rostrvm** product suite with its proven, patented facility for managing combined voice-and-data transactions with the underlying strengths of the SIP protocol in a packet based environment.

## 6. The Intelligent Edge operational impact

The 'traditional' call centre typically conducts specific and relatively simple transactions such as making sales calls, receiving requests for product information, taking orders, check and providing general customer service over the telephone.

There is clear evidence that consumers are ready and willing to use new technology to communicate with businesses, buy products and obtain service over the telephone. The most noteworthy example is the ability to pay for content (ring tones and picture messages) using SMS to place orders and authorise payment. At a simpler level mobile messaging is actively used to interact with and deliver feedback to broadcast media.

Undoubtedly the advent of Intelligent Edge devices and services will allow callers to undertake self-help. Consequently it might be assumed that the person-to-person call centre will reduce in both importance and size. Rostrvm Solutions believes that the inverse is true. Intelligent Edge systems may reduce the number of telephone calls taken by agents, but will change the nature of those calls from routine enquiry processing to handling more complex individual problems.

This means that the call centre will be concerned not only with the context of a transaction – who is the consumer? what are they calling about– but the call centre will need to manage content in an array of formats – spoken, web, email, video....

In tomorrow's multi-media call centre, the staff must be prepared for much longer transactions, and of greater complexity. This is likely to lead to an aggregate increase in call centre workload. Call centre staff will need to give instant access to information held in multiple data sources and format. The technology, skills and personal qualities required will be considerably higher than those operating in the 'traditional' call centre environment.

In parallel, call centre management teams will need more information. In the old call centre model it is easy to measure the point that the call starts. On an inbound call it starts when it reaches the call centre. In the Intelligent Edge the consumer may have spent a considerable time browsing the web site before connecting to the call centre. Where does the call begin?

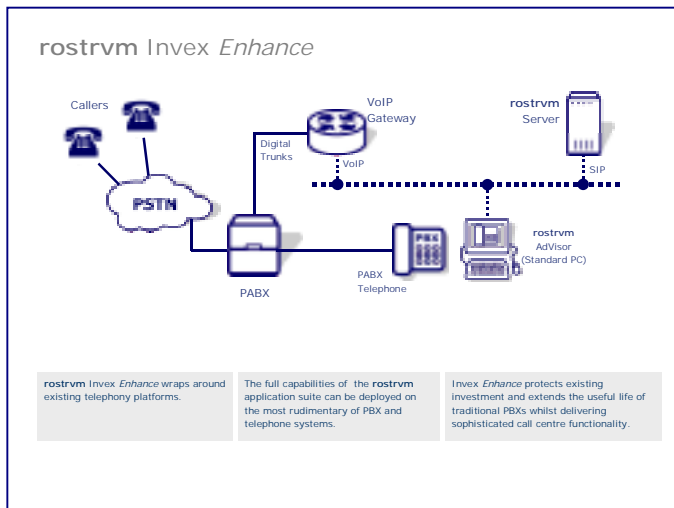
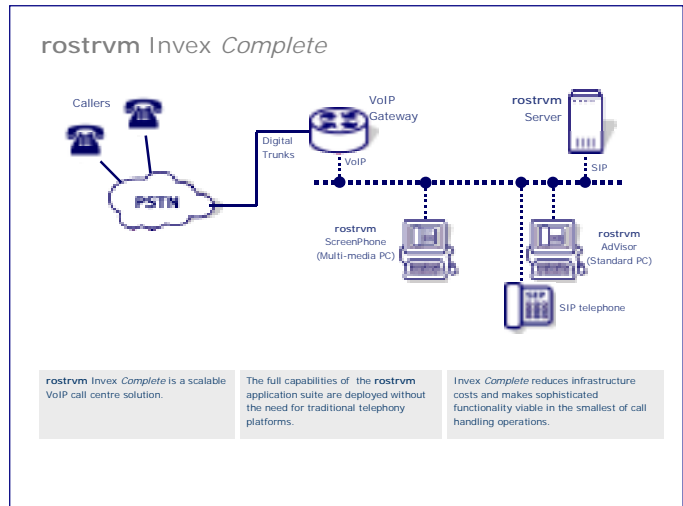
To truly deliver a quality, differentiated service and develop market leadership all call centres must extend to the Intelligent Edge.

## 7. Evolution not Revolution

We are expecting significant change to consumers' communication options with consequent changes in purchasing and service expectations. These changes will not happen overnight and are closely linked to other technological developments such as development of standards for Multimodal interactions.

The **rostrvm** Switchless Call Centre architecture is designed to support the transition from today's TDM telephony architecture to tomorrow's completely-packet-based, Intelligent Edge environment.

For those organisations looking to deploy a new call centre or replace an existing system or Invox Complete provides a total SIP-based call centre environment.



Invox Enhance is designed to support existing call centres and provides a migration path from traditional telephony towards the future, multimodal call centre.

SIP and the Intelligent Edge are leading the way in new methods of customer interaction. To keep up-to-date visit [www.rostrvm.com](http://www.rostrvm.com) regularly.