Introduction

This document references well-respected industry reports to provide a current overview of the UK and international marketplace for IVR and associated services, such as biometric speaker verification.

The Datamonitor report on the changing role of IVR in evolving infrastructures [1] has a strong focus on increasing customer service and service delivery effectiveness through IVR. It provides an overview of the drivers and trends across the global IVR market, considering how vendors can best profit from adopting particular strategies in the changing infrastructure environment.

The UK Contact Centre Operational Review [2] is a study of the performance, operations, technology and HR aspects of 211 UK contact centre operations. Taking a random sample of the industry through a detailed and structured questionnaire, the review is the largest and most comprehensive study of all aspects of the UK contact centre industry.

In particular, this document focuses on the developing market place for hosted service providers.

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Catalyst

The constraints of legacy IVR systems cannot meet the growing needs of businesses in an increasingly competitive market where improved customer satisfaction and resource management are vital to success.

As a result, the open standard-based approach in IVR technology is proliferating at a rapid rate in the market as businesses demand greater flexibility, agility, affordability, scalability and innovation in IVR solutions.

The combination of Voice-XML and IP is making IVR a strategic tool for the entire enterprise and service providers, allowing businesses to utilize the benefits of standardization and herald in new channels of revenue generation and improve call-completion rates.

Key Market Drivers for IVR Investment

Investment in interactive voice response (IVR) licenses is set to increase to $845 million by 2012 from $475 million in 2006, as the investment climate warms-up for Voice-XML platforms. The following represent the key factors that are driving IVR investment in today's market and underpinning the growth for Voice-XML platforms:

- Increasing number of customer interactions and self-service transactions;
- Greater focus on customer service differentiation;
- Massive exodus of existing traditional IVR systems as lifecycles come to an end;
- Growing adoption of IP in the enterprise and the service provider markets;
- New opportunities in rapidly emerging markets.

During the past five years, investment in IVR has grown considerably across verticals and in different geographies, proving its acceptability by businesses in successfully reducing cost and improving quality in customer service, and increasing efficiency of the agent workforce.

In addition, contact centre infrastructure is adapting itself along the lines of enterprise IT technology in moving towards a more open-standards based infrastructure, enabling it to leverage the benefits of IP. By 2009, 66.6% of IVR shipments will be Voice-XML-based platforms.

As we roll out the tape over the next several years, IP will become the fundamental commonality where enterprise and service provider applications and back-end systems must work fluidly to leverage the benefits of a converged network.

Increasing number of self-service transactions

Numerous surveys confirm that call volume has dramatically increased, even in the last two years with the increased adoption of web self-service. Call volume is rising both for those customers who reach for the phone as a first point of contact, and those customers who use the phone as a supplement when web self-service has failed them. This creates a set of pre-existing conditions in which IVR solutions can thrive.

Phone still represents the bulk of all customer interactions at nearly 80% of traffic into the contact centre, and as a result proves to be the most expensive but also the most personalized channel of communication.

On an average, the cost per interaction by phone is found to be in the range of $5.00 to $7.00, whereas the cost per interaction for web based interactions, chat and email is less than that at 30% to 50% of the cost for a phone-based transaction. IVR self-service cost per transaction is the lowest, costing on an average $.50 per transaction. Thus, a higher number of calls handled by IVR can significantly reduce the cost per transaction.

Greater focus on customer service differentiation

In today's economy, businesses are competing with product and service offerings from all over the world. The fiercely competitive environment requires a greater effort towards customer retention in order for businesses to sustain revenue and profit growth. According to the Harvard Business Review, 'companies can increase profits by almost 100 percent by retaining just 5 percent more of their customers.'

Customer service has become a key differentiator among those companies that experience high volumes of regular customer interactions, such as those in financial services, communications, utilities and travel & tourism. Consistent delivery of excellent customer service is necessary in order to promote retention and up-sell and cross-sell opportunities.

Therefore, IVR has been a central point of discussion for many enterprises and service providers. From a technology standpoint, it is vital that businesses choose a newer open-standard IVR capability in order to leverage the IVR strategically, as demands in the phone channel become increasingly more complex.

Growing adoption of IP in the enterprise

The traditional contact centre architecture of ACD, PBX, IVR, CTI server and custom agent terminal is being replaced by an IP-based architecture. IT infrastructures are being redesigned using service-oriented architecture (SOA) and web services are finding their way into contact centres, as enterprises today want all their systems to be fully integrated so that application from one system can integrate to every other system.

Globally, more and more contact centres are using or plan to use network-based contact centre technologies. This network based all-IP approach allows the service provider to offer multiple customers leading-edge contact centre technology on a single shared resource hosted by the service provider.

Proprietary computer telephony integration (CTI) solutions will slowly give way to Session Initiation Protocol (SIP) solutions, which enable businesses to integrate future applications, such as presence and video, for use in virtualized operations.

The number of TDM IVR ports shipped is currently higher than the IP-based IVR ports, but IP IVR is growing at a higher rate than TDM and by 2009 the IP ports should take over TDM as more and more enterprises move their IT functions on an IP infrastructure.

Unified communications

Organizations look to unify communications, enhancing their employees' and stakeholders' ability to communicate more efficiently. With an increase in communication channels between the enterprise and its customers, enterprises are feeling the need for a multimodal solution – with systems being able to support not only voice but SMS, email, fax and video – all on a common backbone. They also need a single management interface for all the piece-parts of their customer interactions infrastructure.

Vendors should look to sell the IVR functionality to the entire enterprise business, and help them to utilize its features to reduce costs and gain efficiencies by automating routine communications between the enterprise and its employees and customers, such as simple surveys, warehouse reporting and inventory, booking or changing appointments and more. More importantly it will give the management a unified platform and allow unified reporting and ease of analysis.

Multi-tenancy for carriers and service providers

Many carriers and service providers recognize that in order to survive they must transform their businesses from providing commodity transport services to providing more sophisticated telecom services that offer more value and create more differentiation. As on-demand delivery of software-based solutions (SaaS, or Software as a Service) gains favour, it makes sense for network carriers and service providers to offer their contact centre customers on-demand (network based) solutions.

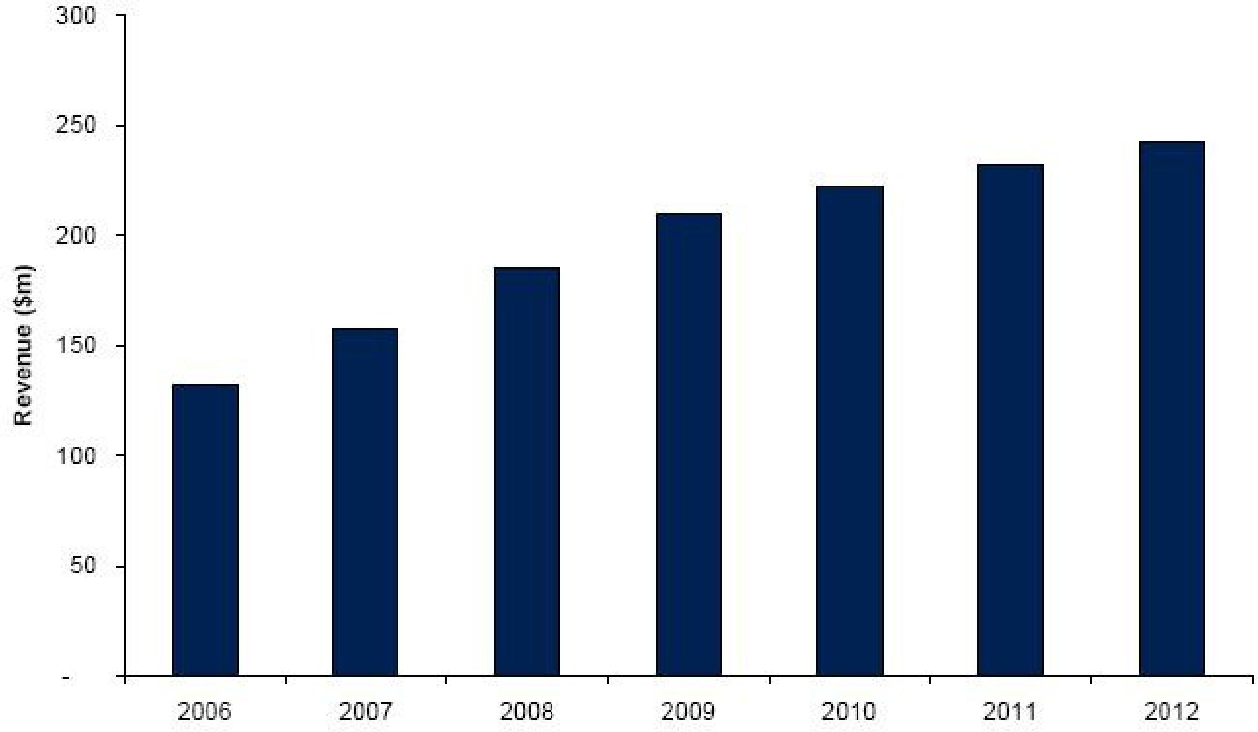
Carriers and service providers already generate a major component of their revenue from contact centres, but for the most part are only providing relatively basic transport services to deliver calls to and from these centres. But with hosted multi-tenanted contact centres they have the chance to attract profitable new streams of revenue with a host of value-added services to their customers.

One of the keys to hosted multi-tenancy for service providers is that they can invoke economies of scale for a win-win result; the service provider gains a new line of business, while the enterprise subscribes to a very cost effective service.

Tables (EMEA, 2006 - 2012)

IVR ports shipment revenue

Figure 18: IVR port shipment revenue EMEA, 2006 - 2012



Source: Datamonitor — DATAMONITOR

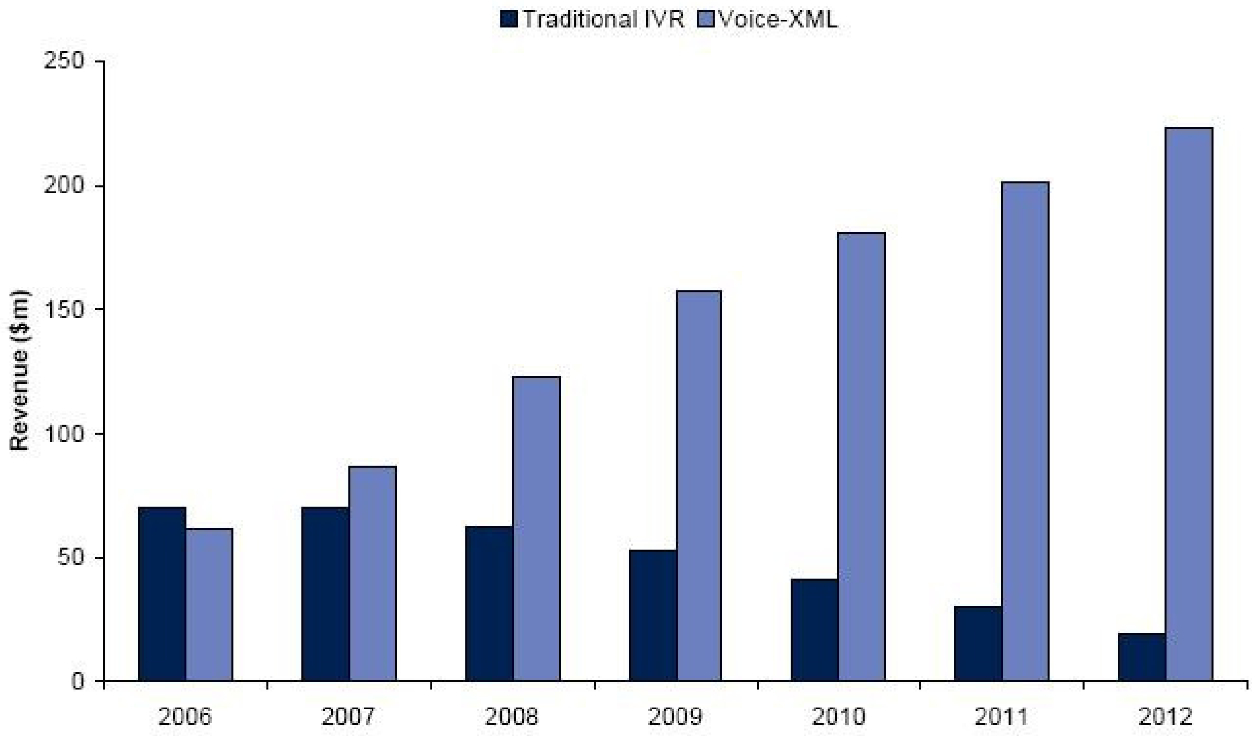
Table 27: IVR port shipment revenue EMEA, 2006 - 2012

Revenue ($m)	2006	2007	2008	2009	2010	2011	2012	CAGR 2007-2012
Total	132	157	185	210	222	232	242	9.0%

Source: Datamonitor — DATAMONITOR

VoiceXML vs traditional IVR revenue

Figure 19: Voice-XML vs. Traditional IVR revenue EMEA, 2006 – 2012



Source: Datamonitor DATAMONITOR

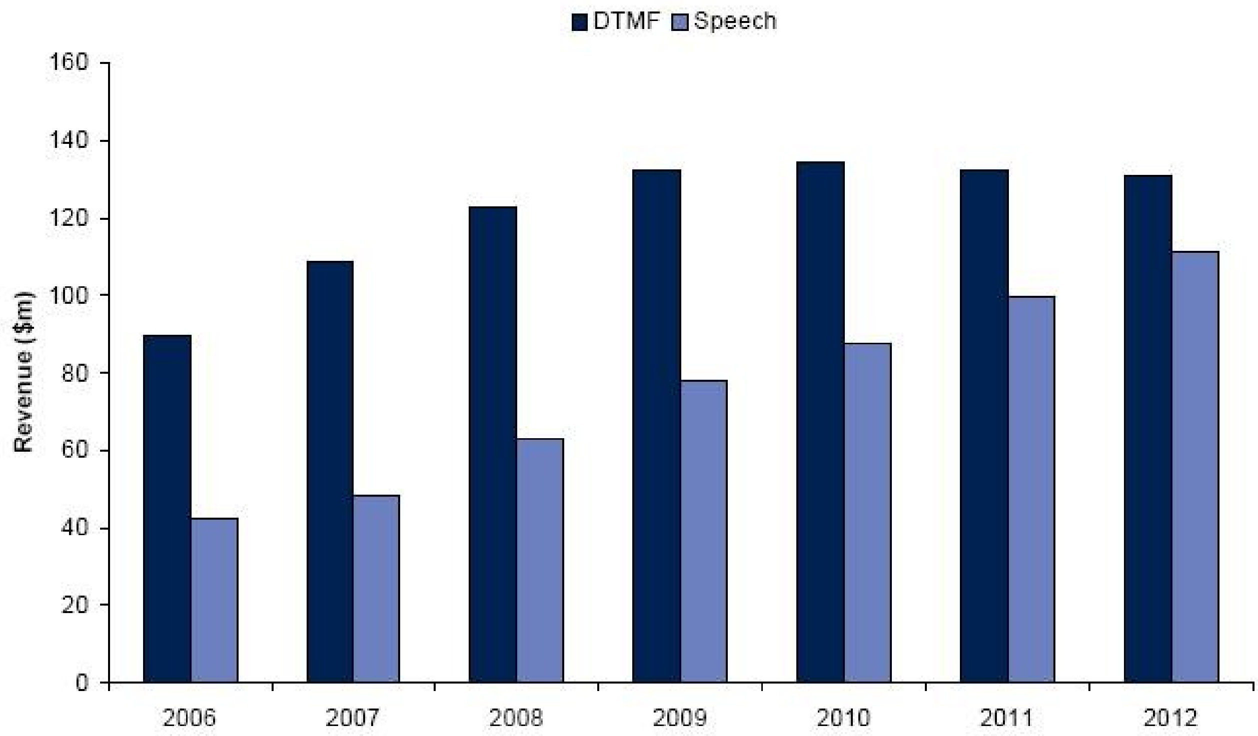
Table 28: Voice-XML vs. Traditional IVR revenue EMEA, 2006 - 2012

Revenue ($m)	2006	2007	2008	2009	2010	2011	2012	CAGR 2007-2012
Traditional	70	70	63	53	41	31	19	-23.0%
Voice-XML	62	87	123	157	181	201	223	20.8%
Total	**132**	**157**	**185**	**210**	**222**	**232**	**242**	**9.0%**

Source: Datamonitor DATAMONITOR

DTMF vs speech IVR revenue

Figure 20: DTMF vs. Speech IVR revenue EMEA, 2006 – 2012



Source: Datamonitor DATAMONITOR

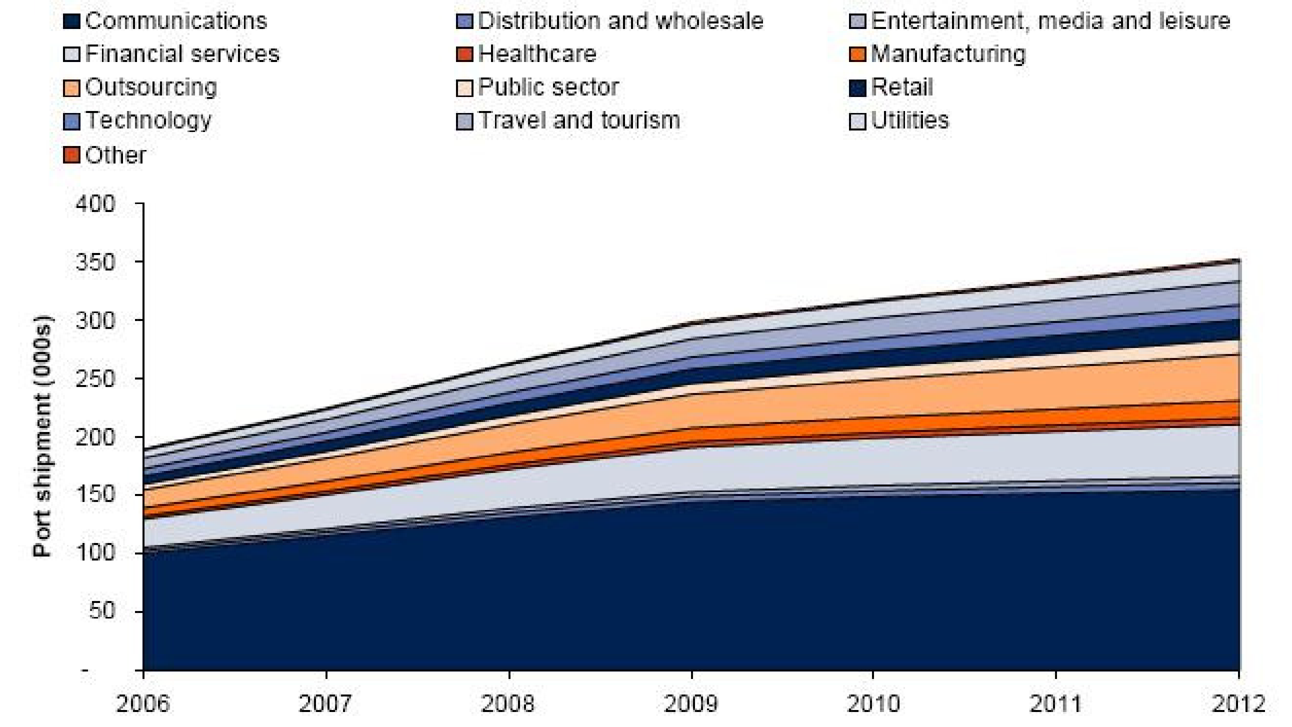
Table 30: DTMF vs. Speech IVR revenue EMEA, 2006 - 2012

Revenue ($m)	2006	2007	2008	2009	2010	2011	2012	CAGR 2007-2012
DTMF	90	109	123	132	134	132	131	3.7%
Speech	42	48	63	78	88	100	111	18.2%
Total	**132**	**157**	**185**	**210**	**222**	**232**	**242**	**9.0%**

Source: Datamonitor DATAMONITOR

IVR ports by vertical market

Figure 24: IVR ports by verticals EMEA, 2006 – 2012



Source: Datamonitor DATAMONITOR

Contact Centre Review

Key Market Drivers for Network Solutions

Network solutions offer businesses the opportunity to deal with operating costs rather than capital expenditure, which is particularly attractive to small and medium-sized enterprises, but network solutions can also provide benefits not achievable with customer premises equipment.

There is a growing recognition within the contact centre industry that customer-premises and network capabilities can be blended in a "hybrid" model, enabling businesses to benefit from the functionality and financial advantages of a network solution without compromising existing investment.

There remains a high concentration of traditional IVR systems that were deployed in the late 1990s. Many of these IVR systems are rapidly approaching the end of their product lifecycle, which is typically six to seven years. As more businesses see customer service as a key differentiator and the need to improve it and create new channels of revenue, they will see the business justifications for moving to open-standards to reduce cost-per-touch, promote application portability and protect their investments.

Larger contract centre operations are more likely to consider the reduction in operating costs that hosted solutions can provide to be worthwhile altering the structure of their contact centre. In particular, the advantages of being able to route calls across to specific agent groups is seen as very important. Larger contact centres are also very positive about the use of hosted IVR solutions. Smaller operations are keener on hosted *outbound* solutions, meaning they do not have to pay for the equipment when they are not using it.

Application	Using today or very likely to use hosted solutions	Considering using hosted solutions	Do not use or unlikely to use hosted solutions
IVR	44%	13%	44%
Routing	35%	8%	56%
E-commerce	35%	11%	54%
Outbound	24%	21%	55%
ACD / PBX	20%	18%	62%
Call-back	16%	27%	56%

Advantages of a hosted solution	Average score from 10 (10 is "very important")	% of contact centres rating as 8, 9 or 10
Reduced ongoing cost	6.1	36%
Lower capital expenditure	5.9	48%
Increased functionality	5.5	30%
Manage call fluctuations	5.5	38%
Savings on technical support costs	5.2	20%

Contact centre size	Small (10-50 seats)	Medium (51 – 250)	Large (over 250)	Average
Reduced ongoing cost	5.1	5.8	7.4	6.1
Lower capital expenditure	5.1	5.5	7.0	5.9
Increased functionality	4.9	6.4	4.9	5.5
Manage call fluctuations	5.7	5.6	5.2	5.5
Savings on technical support costs	4/3	5.1	6.1	5.2

Call spikes and high call-abandonment rates are seen as a major problem for 14% of contact centres, with a further 53% admitting that these peaks do sometimes cause problems. This was especially the case with the finance and retail sectors, where very high levels of calls are often received at certain times.

88% of contact centres have problems with call spikes at some point, and as most of these have multiple contact centres it suggests that an element of Virtual Contact Centre (VCC) functionality should be considered to alleviate the issue.

The biggest negative issue around hosted solutions is the feeling of losing control, and the perceived inability to alter or fix issues as quickly as necessary. While this has been a problem in the past, new hosted solutions allow the enterprise to control network applications themselves and receive real-time management information.

Perceived problem with hosted solution	Average score from 10 (10 is "very important")	% of contact centres rating as 8, 9 or 10
Loss of control	7.9	68%
Can't alter or fix things quickly enough	7.3	61%
Cannot justify replacing existing equipment	7.0	55%
Advantages don't outweigh upheaval	5.9	36%
Unused to or unaware of hosted solutions	2.9	6%

Using a hosted network service provider is rightly seen as offering contact centres the opportunity to add new functionality quickly and easily. Within the next 12 months, contact centres see IVR, CRM and multimedia as the technologies most likely to get investment as network capabilities.

Technology	Top contact centre priority
Self-service	16%
IVR	11%
CRM	10%
Multimedia	10%
VoIP	9%
Workforce management	8%
Speech technologies	8%
Outbound	5%
CTI	5%
ACD / PBX	4%
Recording and monitoring	4%
Business intelligence	4%
Home working	2%
Virtual contact centre	2%
Other	2%

Key Market Drivers for IVR and Voice Self-Service

The contact centres which use TouchTone IVR or speech recognition considerably more than average are found in the finance and outsourcing sectors; often high-volume environments where a few seconds shaved off a call or a reduction in call misrouting can save considerable amounts of money.

Most financial services companies have many products which require specific skills and product knowledge. As such, routing based on selection criteria such as account number or specific product choice can take place, supported by an IVR front-end. Simple transactions such as balance enquiries can be entirely automated.

Vertical market	**Proportion of incoming calls met with IVR or speech recognition**
Outsourcing	90%
Finance	85%
Services	78%
Transport and travel	75%
IT	57%
Telecoms	50%
Retail and distribution	33%
Public sector	22%
Average	**67%**

Contact centre size	**Proportion of incoming calls met with IVR or speech recognition**
Small (10 – 50 seats)	59%
Medium (51 – 250 seats)	65%
Large (above 250 seats)	80%
Average	**67%**

Vertical market	Proportion of calls dealt with entirely by IVR or speech self-service
Services	28%
Transport and travel	26%
Outsourcing	23%
Retail and distribution	15%
Telecoms	10%
Finance	10%
IT	10%
Public sector	7%
Average	**17%**

Contact centre size	Proportion of calls dealt with entirely by IVR or speech self-service
Small (10 – 50 seats)	13%
Medium (51 – 250 seats)	15%
Large (above 250 seats)	20%
Average	**17%**

Key Market Drivers for Caller Authentication

Today, strong identity verification processes are seen by virtually all businesses as being critically important, and most make some attempt to identify a caller's claimed identity by asking for additional information that only the real caller should know.

Identity theft is a high-profile issue, and as such businesses have had to tighten security and, importantly, to be seen to be doing so by their customers. However, identity verification processes have now become intrusive and inconvenient for the customer, who is expected to remember an increasing array or passwords and PINs.

Identity verification procedures also cost businesses time and money. Although it only takes an average of 20 seconds to verify a customer's identity, this mounts up considerably. The UK contact centre industry spends over £900m each year just to verify the caller is who they claim to be.

Identity verification processes are typically based on one or more *authentication factors*;

- Something you ***know***, e.g. a password
- Something you ***have***, e.g. a credit card or key-fob
- Something you ***are***, e.g. a biometric such as voice-print.

Increasingly, regulations are requiring two-factor authentication processes. For example in the US, FFIEC guidance published in 2006 indicates that financial institutions should implement strong authentication processes into their contact centres and IVR systems.

As expected, the finance and telecom sectors are amongst those most often authenticating callers' identity.

Vertical market	**Proportion of contact centres authenticating caller ID**
Telecoms	83%
Finance	69%
Outsourcing	60%
Services	44%
Public Sector	33%
IT	29%
Transport and travel	25%
Retail and distribution	22%
Average	**47%**

49% of contact centres who authenticate caller identity do so through purely human means, taking an average of 20 seconds to do so. Only 9% use IVR or speech recognition to identify the caller (which takes around the same length of time) and 42% adopt a "belt and braces" approach of combining IVR and human verification.

References

[1] DATAMONITOR: "*Understanding the Changing Role of IVR in Evolving Infrastructures*".
Reference: DMTC2166
Publication date: December 2007

[2] CONTACTBABEL: "The UK Contact Centre Operational Review".
Reference:
Publication date: October 2007