Aculab - the essence of IVR solutions
Product deployment note

The Aculab solution

The IVR market is everywhere

Without doubt, interactive voice response (IVR) has become the ubiquitous technology in telecommunications applications. IVR solutions that allow a computer to detect DTMF and voice inputs, and respond with pre-recorded or dynamically generated audio to further direct users on how to proceed, now have a myriad of uses that are mostly taken for granted.

The essence of an IVR system is its ability to offer 'self-service' for the user and it is typically used to service high call volumes, thus it can both reduce cost and improve the customer experience. Examples of typical applications where IVR platforms are widely used include: automated attendant; credit card transactions; customer contact services; directory assistance; information services; messaging; mobile prepaid; telephone banking; televoting (mass calling); and voice dialling.

Many large companies use IVR services to extend their business hours of operation and there are many industries and vertical markets, such as healthcare, media, entertainment, travel, and utilities, that rely on IVR-based applications.

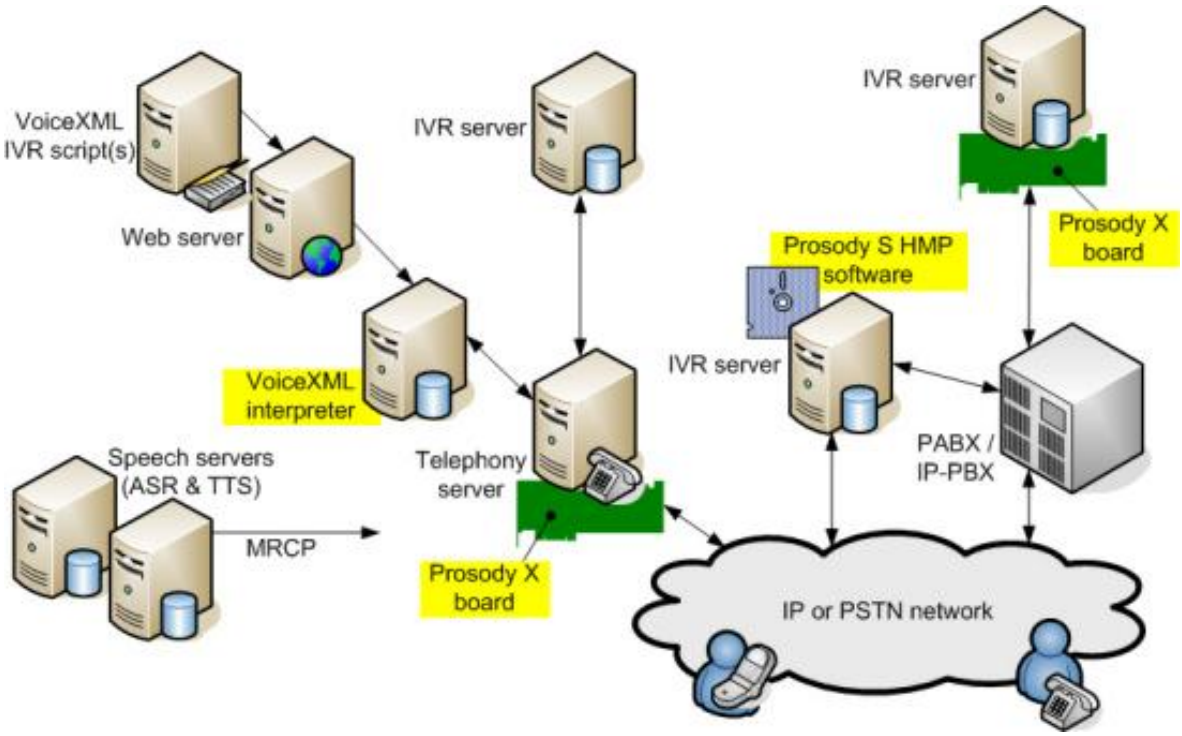
Given the ubiquity of IVR, some might say the market is saturated, however, that is far from certain. The migration to IP-based application platforms and service providers' imperatives for reducing costs is driving IVR consolidation. The opportunity exists to replace carriers' multiple, legacy IVR systems with open, scalable and highly functional products based on IP.

Aculab provides all you need

Since introducing the world's first 'all-in-one' voice board in 1998, Aculab has been setting the standard for IVR. Whatever your need for IVR functionality, Aculab has the media processing technology to drive your success.

Aculab is able to offer a choice; from its range of IP-centric, DSP-based Prosody X boards to its host-based (SoftDSP or HMP) software only option, Prosody S. And you can use Prosody X for converged or mixed IP/TDM environments, where you still need PSTN connectivity.

IVR system features and capacities vary depending on the market segments they target. Small to medium enterprises (SMEs) may look to enhance their IP-PBX with an IVR-based auto-attendant using Prosody S, while larger companies will require a board-based solution for a hybrid contact centre, perhaps also using automatic speech recognition (ASR) and text-to-speech (TTS). Carriers and service providers need IVR to provide a wide range of subscriber messaging and large scale, hosted service offerings. Some design options are illustrated in the image.



More solutions

If you are an enterprise, a carrier or a service provider looking for an IVR or service delivery platform, find out from our showcase section which of our innovative customers are offering IVR solutions.

For vendors looking to build IVR platforms, you can find more product information by visiting the telephony hardware pages.

Visit the Prosody X and Prosody S case studies pages to see how some of our customers have used Aculab products to develop IVR solutions.

Professional services

Aculab's holistic approach to support also embraces consultancy, which is available to help you with your IVR solution development. If you need help getting started with IVR, including information about middleware and bespoke software development options, talk to our professional services team.

Key Features

Aculab's enabling technology, including its Prosody portfolio of media processing boards and HMP software, provides all of the essential functionality you need to build compelling IVR solutions:

IVR requirement	Aculab's IVR functionality
Audio prompt or text-to-speech (TTS) output	Voice and audio or TTS prompt playback with a wide choice of narrow and wideband audio codecs at various sampling rates
Touch-tone or voice driven caller input	DTMF tone detection (and generation) and/or file record or audio streaming to an automatic speech recognition (ASR) server
Voice pre-processing (for ASR)	Configurable and long-tail echo cancellation, plus silence and speech energy (grunt) detection
MRCP protocol support for use with speech servers (for ASR and TTS)	Standards compliant (v1 and v2) MRCP client for integration with 3rd party voice engines; interoperability tested with products from Cepstral, Loquendo, Lumenvox, Neospeech, Nuance, Telisma and Verbio
Complete call recording capabilities	Supports the ability to digitally record calls for third party verification (TPV) of e.g., Federal Trade Commission (FTC) telesales requirements
Conferencing support	Supports an unlimited number of participants per conference, works with multiple endpoints (TDM and IP; fixed and mobile), and provides full control of audio channel routing, mixing and active speaker detection
Intelligent call progress analysis (CPA)	Outstanding CPA performance, including live speaker/answer machine detection
Inbound and outbound call control, including call transfer	Comprehensive, consistently evolving 'C' API with full call transfer capability offers developers an alternative to VoiceXML and CCXML for call control
Integrated IP and PSTN protocol stacks for worldwide enterprise, call centre and service provider interconnection	Industry's most comprehensive portfolio of worldwide, call control signalling protocol support, including: CAS; ISDN; H.323; SIP, and SS7 - for E1, T1 and IP-based networks
Wide choice of platform for DSP board-based solutions	Large number of configuration options in PCIe and PCI form factors for use in Linux, or Windows operating system (OS) environments
Wide choice of platform for HMP software-based solutions	A choice of OS (Linux or Windows), processor (Intel or AMD), and platform or form factor - e.g., AMCs in an ATCA or µTCA chassis; an SBC in a 1U telecoms server; a blade server; a general purpose PC; or laptop
Scalability	Distributed architecture delivers limitless scalability from tens to thousands of channels

IVR requirement	Aculab's IVR functionality
Resilience and redundancy	Both Prosody X and Prosody S benefit from a distributed architecture and remote API, which means that boards can be installed in different chassis for resilience, controlled by local or remote application servers
High density and performance	Offers up to 600 simultaneous, full duplex IVR channels per board (Prosody X PCI/PCIe) and approximately 1000 channels per machine (CPU dependent) with Prosody S HMP
Worldwide deployment	Aculab's IVR functionality has been deployed by over 100 application development and service provider partners across 6 continents
Technical support	Access to a range of Aculab's renowned technical support options