

## Oracle Corporation Wireless & Voice Partner Reference



### **Holly Australia Pty Ltd**

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#### **Holly Company Overview**

Holly specialises in the design and development of a carrier-grade VoiceXML Gateway and management components, offering hierarchical OA&M capabilities. The Holly Voice Gateway is multi-tenanted, featuring a license manager for optimised resource pool provisioning.

Holly's solution provides a resilient, replacement IVR system easily integrated into legacy systems. Using industry standard components means that existing hardware and infrastructure can be leveraged, creating a 'blank sheet' upon which corporates and reseller service providers may 'draw' their own Speech Solution, with a high degree of inherent contestability, flexibility and manageability.

By opting for a multi-tenanted inheritance model, Holly ensures that corporate data and applications may be re used in parallel with Web and call centre customer service channels. Integration of OracleAS and use of Oracle DBMS within the Holly Voice Gateway represents the conscious decision only to utilise carrier grade, standard operating environment components.

For more information, visit [www.holly.com.au](http://www.holly.com.au)

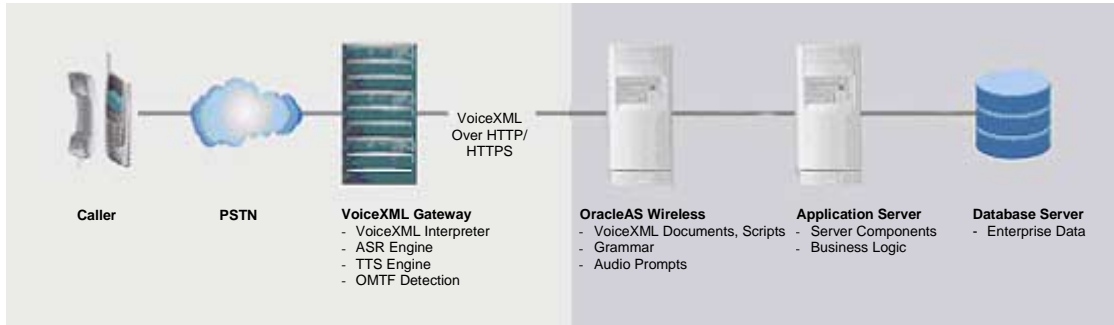
#### **OracleAS Wireless Overview – Voice**

The development of better and more cost effective speech recognition is spurring the growth of new technologies that allow users to interact with applications using their voices. With voice as a channel, suddenly every telephone in the world has the ability to access applications. OracleAS Wireless provides both the software infrastructure to develop applications that can take advantage of voice, as well as, pre-built voice applications. Oracle's voice-enabled mobile services include a set of productivity tools that give mobile workers ubiquitous access to personal, corporate, and general information.

The key enabling technology that makes this voice channel possible is a voice gateway. As Figure 1 shows, the voice gateway must act as the bridge between the caller, placing a call into the public switched telephone network (PSTN), and the Internet, using OracleAS Wireless as the mid-tier application server. The interface for delivering this content to end-users is the VoiceXML markup language. Voice gateways typically integrate components such as automatic speech recognition (ASR), text-to-speech (TTS), dual tone multi frequency (DTMF), and audio play and

record engines to facilitate the rendering of the VoiceXML page to users. This rendering takes place in a component known as the voice browser. Also called VoiceXML interpreters, voice browsers are the analogue of a web browser for HTML pages. The OracleAS Wireless platform supports industry Standard VoiceXML 1.0 and 2.0 standards.

OracleAS Wireless supports both inbound and outbound capabilities. The inbound capability is the traditional listener-based application server model, in which a user initiates a call to the voice gateway over a PSTN, which then transmits the request to OracleAS Wireless and subsequently renders the generated VoiceXML back to the user.



**Figure 1: Voice Gateway integration with OracleAS Wireless**

The outbound capability also sometimes referred to as “call push” enables an application deployed through OracleAS Wireless to play an active role in pushing data through the voice gateway to end users by initiating an outbound call.

Oracle enables access to a comprehensive set of voice gateways that have been compatibility tested to the OracleAS Wireless platform.

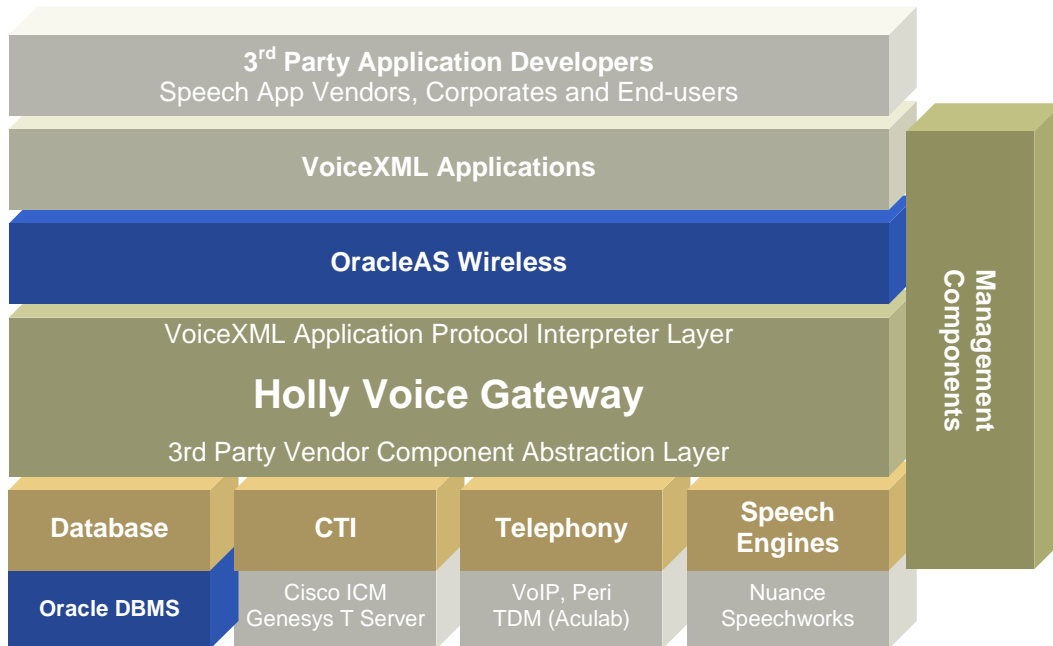
**Oracle – Holly Technical Alliance**

“Holly’s integration with OracleAS continues a long relationship with Oracle and compliments Holly’s choice of Oracle’s DBMS product as the database foundation for the Holly Voice Gateway”, says Lance Berks, Director Business Development at Holly. “Holly recognises that Carriers and corporates the world over have significant Oracle investments and that continuity and conforming to standard operating environments is of significant benefit to decision makers and operational support managers”.

Holly’s Voice Gateway has been Voice XML 2.0 compatibility tested with OracleAS Wireless. This integration supports inbound calling and may be used to deploy sophisticated VoiceXML applications, augmented by a range of feature-rich Holly utilities and numerous management value-add components.

The further integration of Oracle’s AS platform, alongside the Oracle DBMS suite, ensures that carriers and corporates alike can benefit from continuity with industry standard Oracle components fully supported by the Holly Voice Gateway.

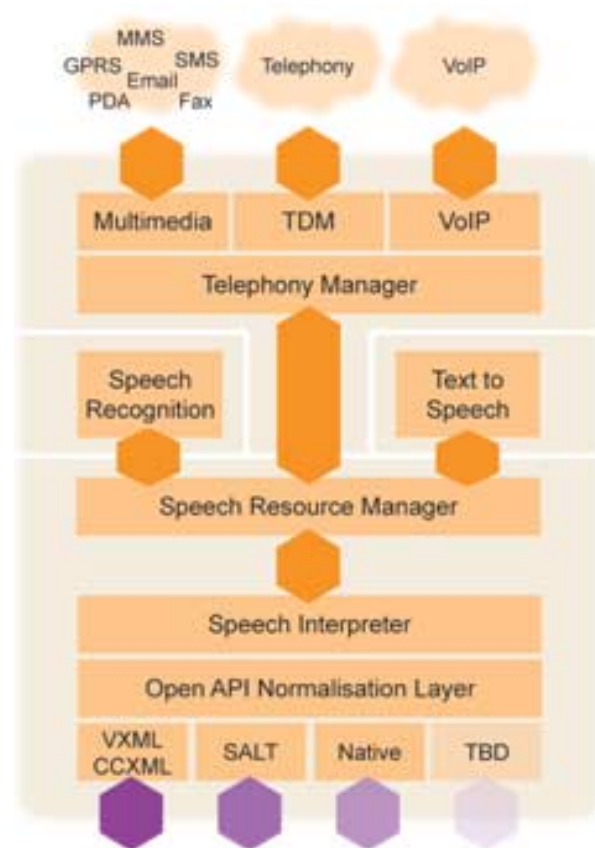
The following diagram depicts Holly’s Convergent Voice Services Architecture, showing both Oracle AS and Oracle DBMS components.



## Overview of the Holly Voice Gateway

The Holly Voice Platform is a suite of feature-rich software components and associated tools for the deployment of sophisticated, carrier grade, Speech Recognition systems. It includes:

- An **Abstraction Layer** for integration of industry standard components for telephony, speech recognition and text to speech engines.
- A **Holly Speech Interpreter** which is fully VoiceXML compliant and designed to provide support for other emerging protocol standards such as SALT.
- **Session Holding Protocols** such that the Voice Gateway may be network deployed, and to manage fail-over events, which suit a wide range of network topologies.
- **Vendor Independence**, supporting options from major suppliers of Speech Recognition, Telephony and Text-to-Speech technologies and may be deployed on off-the-shelf hardware from many vendors.



The **Holly Voice Management Utilities** which comprise independent servers, utilities and tools for use by Applications and Voice Gateways for system administration, management and monitoring functions such as:

- **Holly Log Manager** provides centralised or distributed call detail and call event logging facilities, ensuring highly granular call reporting and analysis can be achieved.
- **Holly Configuration Manager** facilitates the administration of large, highly distributed Holly Voice Gateway deployments.
- **Holly License Manager** provides advanced license control, including elastic 'burst' models.
- **Holly Foreman** ensures high availability, resiliency and provides SNMP support for Gateway monitoring and administration.
- **Holly CTI Manager** provides integration to leading CTI products to support telephony control functions such as take-back and transfer. (Cisco ICM, SGS, Genesys).

### **Opens Systems Network Based Architecture**

The components are engineered to be deployed in an Open Systems network based architecture, which provides a highly distributed, reliable and scaleable deployment environment. Each component encapsulates key functionality and segregates this functionality from other components in the system.

### **Open IP Based Protocols**

The components are accessed by other parts of the system using IP based, open protocols and APIs which are based on standard or broadly supported definitions.

### **Flexible Component Deployment**

The components may be deployed together as a complete Speech Recognition architecture or separately deployed for use by independent application developers, third-party applications and third-party software components as required.

### **Industry Standard Technologies**

The components use best of breed technology from leading vendors:

- Servers from Sun Microsystems (Sparc and X86).
- Cisco VoIP Telephony Network Infrastructure (SIP, H323, Cisco ICM)
- TDM Integration (Nortel Periphonics, Intel Dialogic, Aculab)
- Speech Recognition and Text to Speech from Nuance, Speechworks, Rhetorical and other leading vendors.
- Database technology from Oracle.

<b>Holly Voice Gateway Specification (in brief)</b>	
O/S	Sun Solaris 9 & X.86
Database	Oracle 8i / Oracle 9i
VoiceXML	Version 1.0 & 2.0 (Feb 2003)
Scalability	100,000+ ports Network & Geographic deployed
Speech Engines	SpeechWorks (latest) Nuance (latest)
Text-to-Speech	SpeechWorks Speechify Nuance Vocaliser Rhetorical rVoice
Telephony	Cisco VoIP, Cisco ICM Nortel Periphonics, Intel Dialogic, Aculab and others on request.
CTI Support	Cisco ICM, Genesys T-Server
Data Loaders	CSV, LDAP, XML, Vcard
Multi Media	SMS, Email, MMS
SNMP Support	Full MIB with auto recovery
Multi Tenant Support	3 levels 'Network Owner' 'Service Provider' and 'Affiliate' (tenant)
Management & Reporting	Broad range of web based reports for management and monitoring tools
Call Data Records	Call Detail Records, Call Event Records, Voice Recognition Events