



Enhanced Self-Service (ESS) Automated Interactive Messaging Services (AIMS) Overview

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Revision History

Revision	Date	Description
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1. Introduction

This document is intended to give an overview of a complete AIMS installation. It is intended for anyone who requires an architectural and functional overview of the components that comprise a complete AIMS installation

2. Terminology

Throughout this document, the following terms will be used:

Term	Description	Synonyms
Notification Event	A single set of individual notifications sent to individual recipients. This set includes time and date information, a particular message and a list of recipients.	Batch, Master
Notification Delivery	A single notification within a notification event. The message in the notification event is delivered to an individual recipient.	Header, notification
Notification Recipient	An individual person to which the message of a notification event is to be delivered.	Contact
Event Notification Message	The information that will be delivered to each notification recipient.	Template

3. Components

A complete AIMS installation consists of the following components:

No.	Component	Description
1.	Notification Application	A web application that consists of deposit and delivery applications. The deposit application is responsible for creating notification events and depositing them in the ENS engine. The delivery application is responsible for constructing the email and/or VoiceXML content used in the notification deliveries.
2.	ENS Engine	A web application and database used for storing the notification event, and dispatching notification deliveries based on time, date and priority.
3.	ENS Client	A process that resides on the IVR that is responsible for triggering notification deliveries.
4.	IVR	The telephony platform responsible for making outbound calls and executing the VoiceXML used in the notification deliveries.
5.	ARC Reports	A web application and database that provides a common interface for applications to deposit report events and generate reports based on those events.

4. Architecture

The following figure shows an overview of the AIMS architecture.

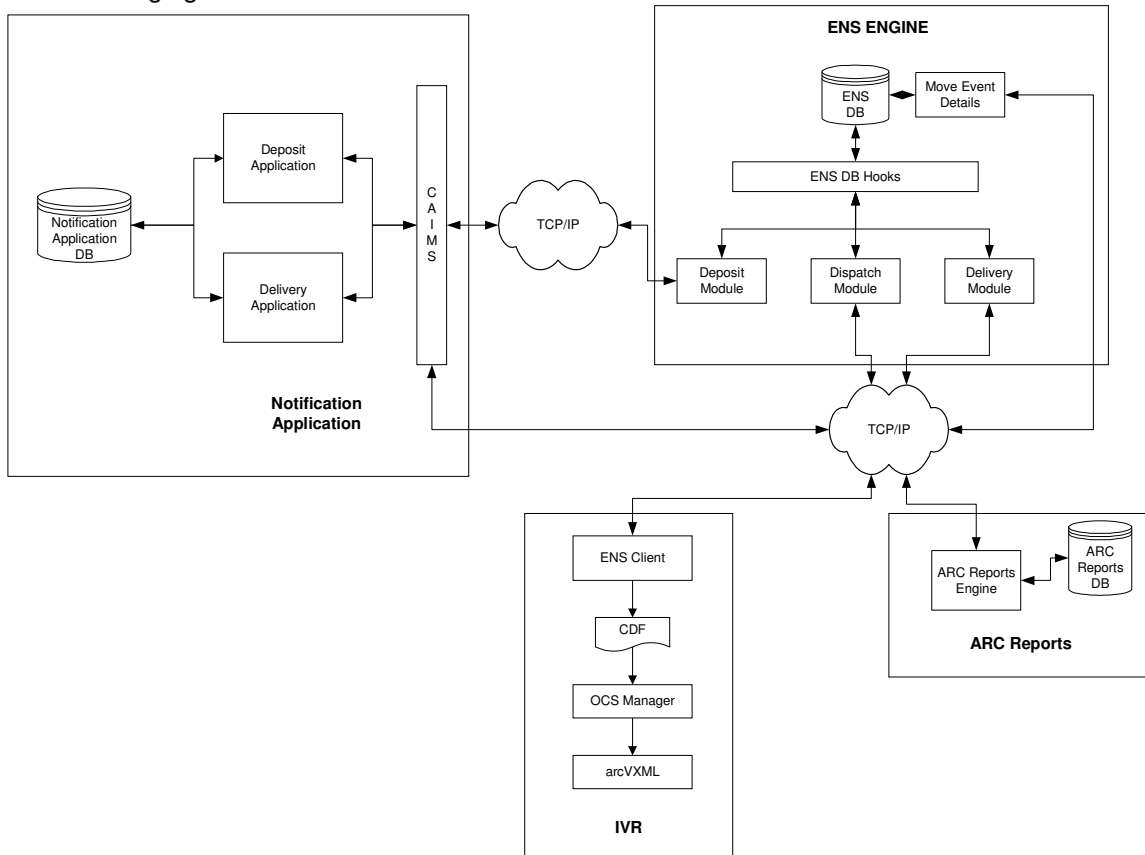


Figure 1: AIMS Overview

4.1. ENS Engine

The ENS engine provides the following functions:

- Accepts notification messages from a Notification application and creates database records for notifications.
- Monitors the ENS database for notifications that are ready for delivery and schedules them for delivery by a Notification application.

4.2. Aumtech Telecom Services (IVR)

Aumtech Telecom Services provide interface to the telephony network and call scheduling functions.

4.3. Notification Applications

Notification application functions are divided into the following functions: Deposit, Delivery, and Reports.

4.3.1 Notification Deposit Application

This application provides a Web interface to create and modify Notification Events. These events are deposited in the ENS database by the Deposit application using the CAIMS interface.

4.3.2 Notification Delivery Application

This application delivers notifications to the intended recipients in the native format of the destination device (e.g., telephone call, fax, e-mail, pager, etc.). The application also updates the delivery status of notifications (e.g., successful or failed).

4.3.3 Reporting Function

This is not a separate application program but a function within Deposit and Delivery applications that collects data for management reports. This data is managed by the ARC Reports subsystem, which is an independent Aumtech service.

4.3.4 Application and ENS Databases

From an application's perspective, there are two types of databases in an AIMS environment.

1. Application Databases: These databases are defined and manipulated directly by the Deposit and Delivery applications and not accessed by the ENS engine. The information maintained in the application databases includes:
 - a. Contact (recipient) data: Contact names, contact types (phone, e-mail, pager, etc.), contact type details, and contact type priority, etc.
 - b. Message data: Messages are predefined messages for Notification Events and a unique event code identifies each event. The information maintained in the message database includes: author, start and end period for the event, event code, event details, etc.
2. ENS Engine Database: Applications access this database indirectly using the CAIMS interface and do not require any knowledge of the internal structure of this database. The information maintained in this database includes, among others, Notification Events created by the Deposit application and the event status as updated by the Delivery application

4.4. ARC Reports

This component is not a part of AIMS. It is an independent Aumtech system, which is used by AIMS for collecting and reporting data for management reports

Reports produced by the ARC Reports can be viewed and printed from a Web browser.

5. Notification Applications Overview

Figure 2 shows an overview of Notification applications and their relationship to various other components and functions constituting a total AIMS solution.

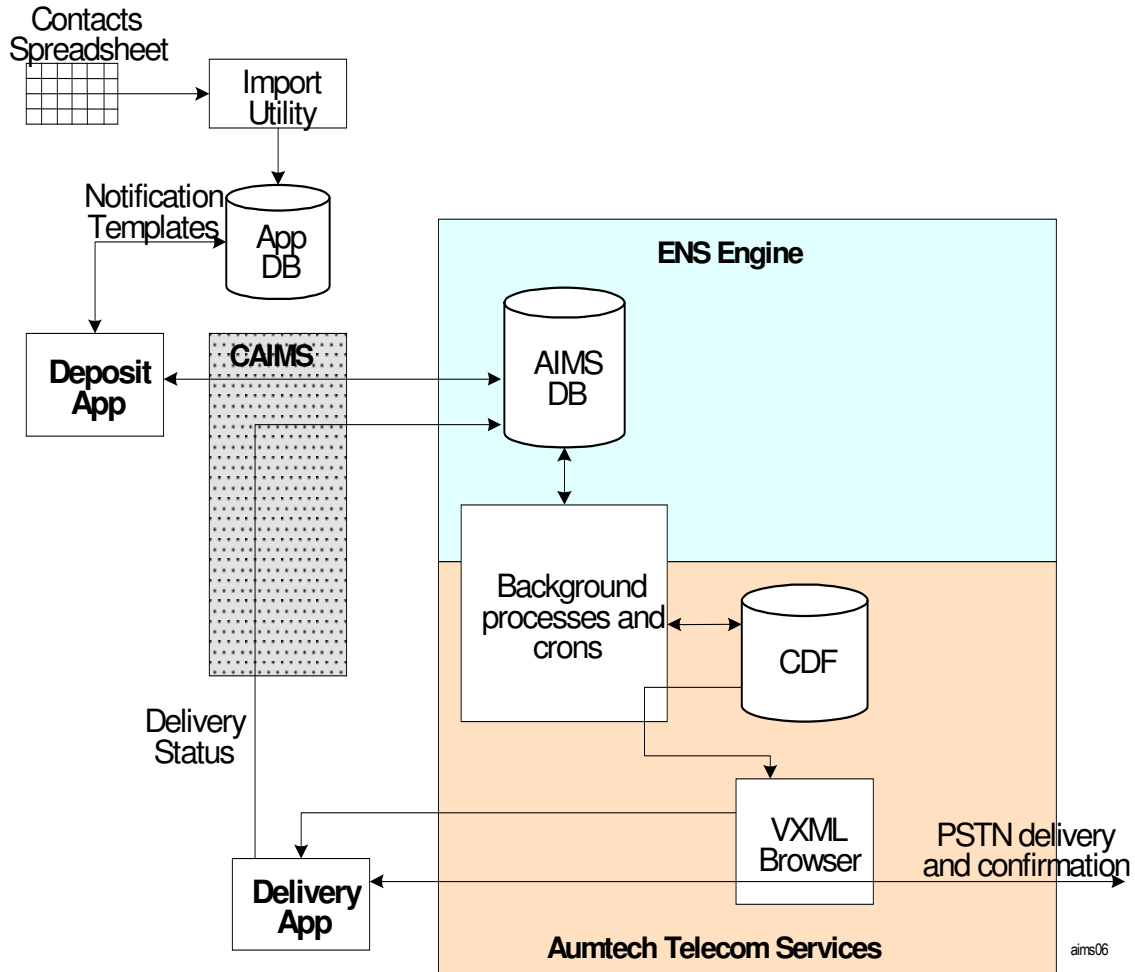


Figure 2: AIMS Applications and their relationship to other components

6. Deposit Application Overview

The Deposit application provides a Web-based interface for creation and maintenance of notifications and recipient profiles.

The following figure shows home page for the Deposit application administrative interface. The Notification administrators and not the recipients use this interface.

Figure 3: Deposit Application Administrative Home Page

Functions administered using the Web interface include:

1. Creation and modification of notification events and depositing them in the ENS database
2. Creation, modification, and configuration of notification messages and storing them in the application database
3. Generating various levels of Notification delivery reports over a given period of time.

7. Delivery Application Overview

The Delivery application is responsible for delivering notification events to the intended recipients. The complete system flow from deposit to delivery also involves services from the Aumtech Telecom Services. These services are provided in the background and Notification applications do not interact with them directly and nor are they aware of them. To illustrate all the functions and services involved in the delivery function, this section provides a high level flow of through the complete system, including background functions.

1. Deposit app creates notifications in the ENS database
 - a. Provides recipient names (headers) and contact data (phone, fax numbers etc.)
 - b. Name of the application to be launched (Delivery app) for delivering notifications (<http://server:8080/.../ISP/delivery.jsp/...>)
2. ENS Client (part of the ENS engine), which is a cron process, fetches notifications ready for delivery and creates CDF records based on the information created by the Deposit applicaiton in the ENS database.
3. CDF record contains information such as:
 - i. Recipient name
 - ii. Phone #
 - iii. # of rings
 - iv. **App name = arcVXML2**
 - v. App-to-app information
 - vi. Name of the URI to be launched

- **(<http://server:8080/.../ISP/delivery.jsp/batchID>)**

Two fields are of particular interest in the CDF so far as understanding of the Delivery application is concerned:

1. App name: The parameter `cdv_newApp=arcVXML2` identifies to the Telecomm Services (to the Dynamic Manager, specifically) `arcVXML2` as the application to make the outgoing call associated with this CDF record
 2. Name of the URI: The parameter `cdv_initialScript=http://jaina:8080/ENS_Default_Template/jsp/MessageEntry` identifies the Delivery application to `arcVXML` as the application entry to be used for this notification and `arcVXML` runs this script.
4. Delivery application receives one recipient (header) at a time from the CDF
- a. Retrieves overlapping contact points
 - b. Writes VXML for delivery over the telephony network based on the contact point priorities
 - c. Reschedule delivery if none of the contact points could be reached, if delivery does not succeed after a maximum of 3 tries, the notification status is marked as failed.