

Making the most of your SOA Suite

Using UMS to notify your users

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Introduction

Oracle SOA Suite offers out of the box functionality that is very useful when building modern applications. One of the components is the User Messaging Service (UMS). In this paper I show you how a customer used the built in functionality of UMS to notify stakeholders of relevant events according to their preferences. Three different use cases are discussed: 1) using UMS to notify users that a task was assigned 2) building your own custom messaging channel for UMS and 3) a potential use case to use the task list as channel for UMS.

User Messaging System

Oracle User Messaging Service or UMS enables two-way communication between applications and users. There is support for a variety of messaging channels like email, IM, SMS and voice. Another option is to deliver messages to a user's work list.

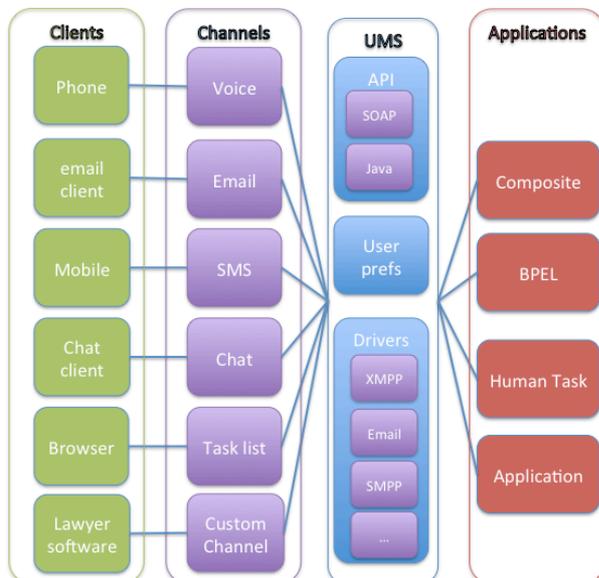


Illustration 1. Overview of UMS

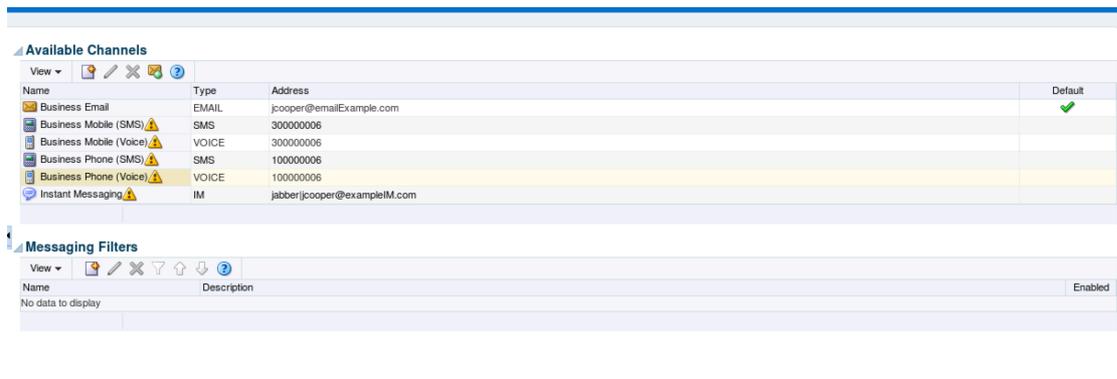
With UMS messaging preferences users can define how and when they want to receive message notifications. They can define filter criteria to only receive messages they are interested in.

Applications can send messages to a user respecting their preferences or send messages over a specific channel.

Channel: a combination of delivery type and address.

For instance: you can have two channels, **SMS:650333444** and **VOICE:650333444**, where **SMS** and **VOICE** are delivery types and **650333444** is the delivery address.

Certain channels are based on information retrieved from your user profile in the identity store. These are called IDM channels. Users are not allowed to modify or delete such channels through this interface. The only operation that can be performed on such a channel is to make it the default channel. IDM channel addresses are managed through Identity Management System. These channels are the channels that are used by both the Human Task Service and BPEL/BPMN.



Case description: Dutch court systems

In a project that aims to digitize court procedures, parties can access the state of the case online or use their own software to connect to the services. When something happens in the case, the parties want to be notified.

UMS use case I: notify users a task was assigned to them

One example is the notification that a task is assigned to a person. When a new task is assigned to a person, this is visible in the task list of the user. However, users are not always online or might not be looking at their task list. There is built-in support in the Human Task Service of the Oracle SOA Suite to enable notifications to users. The human task engine uses the IDM channel to notify users. This means that information is used that is stored in the identity management system. The user cannot change these settings using the preferences tab.

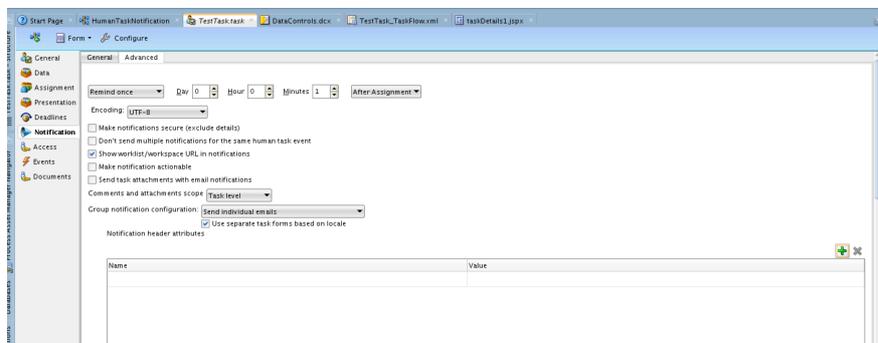


Illustration 2. Human Task Screen to set notifications

Example: Building a custom channel for UMS

In addition to the default channel types organizations can define custom channel types using the Messaging Extension Driver. Messages for these channels are delivered to a web service listener endpoint. This web service implements the actual delivery of the notification for that specific channel.

In the case of the court systems, some parties don't want to use the browser to interact about the court case. They prefer using their own system. This meant that we want to create a custom channel for the notifications, so they are not delivered to the default or built-in channels but to the system.

You need to take the following steps to accomplish this:

1. Implement the Message Notify Service Interface
2. Configure the message extension driver
3. Add the channel to the user's message channel

1. Implement the Message Notify Service Interface

Custom channels need to implement the MessageNotifyService WSDL. This WSDL is described here: http://docs.oracle.com/middleware/1212/ums/UMSAG/ns_config.htm#CEGFFIHA
You can implement this using Java, a SOA composite, or your own language of choice (.NET etc.).

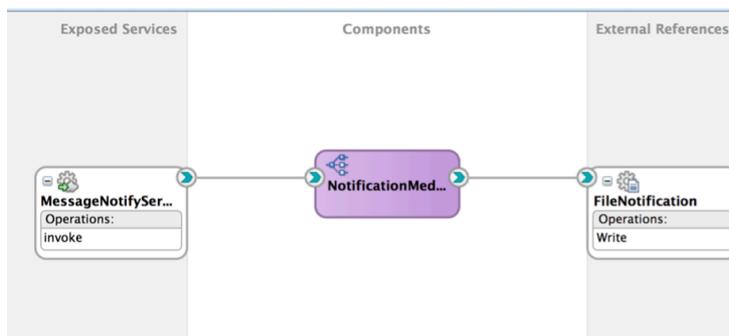


Illustration 3. Example of an implementation of the MessageNotifyService

2. Configure the Message Extension Driver

To configure the driver navigate to the User Messaging Server home page in the Enterprise Manager. You have to add a new extension endpoint configuration group and specify the correct properties:

- Group: CUSTOM
- Endpoint URL: [the url for your implementation of the MessageNotifyService]
- Protocol: CUSTOM

3. Adding the channel to your user's message channels

To be able to receive messages over the custom channel, it must be added to your user's messaging channels using the UMS preferences UI:

- Login at <http://localhost:8001/sdpmessaging/userprefs-ui> with your user credentials
- create a new messaging channel with the following properties:
 - Name: My custom channel
 - Type: CUSTOM

- Address: [myAddress]. This is the unique user address for the custom channel, just like the email address is the unique user address for the email channel and the phone number is the unique user address for the SMS channel.
- Set a default channel: true. By setting the default property to true for this channel it will be used to deliver message that were sent without a specific channel, using the user preferences.

Case: Using the Task List as output channel for UMS

If you want a comprehensive view of all tasks and notifications, you can also send a notification to the task list. The Worklist driver enables notifications from all sources to be sent to users in the form of Worklist tasks for integration into the users' WebCenter Portal Unified Worklist. Note that this is one-way communication only.

The Worklist driver must be deployed to a SOA Server to make use of the UMS integration with Worklist. Because this integration involves multiple JEE applications and a SOA composite, there is a special extension template you must use to enable this feature in one step.

1. Install the Worklist driver on the WebLogic server platform
2. Fill in the properties for the Worklist driver.
 - a. Capability: SEND
 - b. SupportedDeliveryTypes: WORKLIST
 - c. SupportedContentTypes: text/plain, text/html
3. Add the channel to the users preferences

If a message that complies with the filter conditions is sent using UMS, it will appear in the Worklist as a task.

Conclusion

UMS is a useful feature of the Oracle SOA Suite that can be used to meet requirements of users without having to build it yourself. It is important to know how to use what feature and what the limitations of the various options are.

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