

GRID SERVICE HANDLE RESOLUTION CONCEPTS

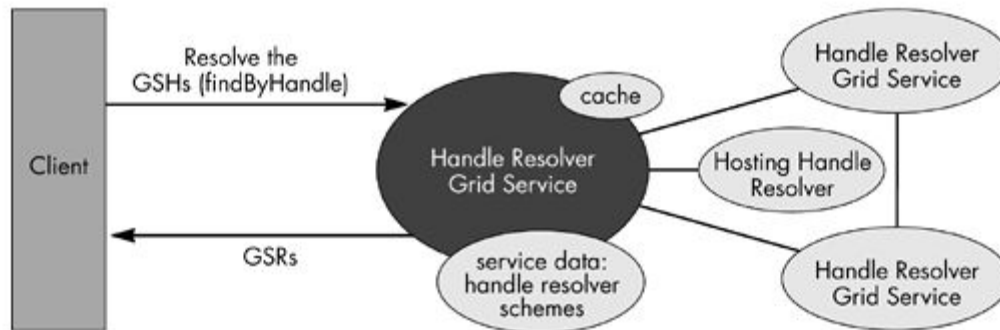
Grid Service Handle Resolution Concepts

Handle resolving is a standard mechanism to resolve a GSH into a GSR. This is an optional feature based on the HandleResolver portType. A grid service instance that implements the HandleResolver portType is called a "handle resolver."

This handle resolution process is implementation dependent and may be tied to the hosting environment. For example, in a J2EE environment, this handle resolution can be tied to the J2EE JNDI lookup, and hence, a JNDI server can be a HandleResolver service. Another example may be a global handle resolution service provider that can resolve the handle to any services registered with it. In some cases, a client can perform the resolution of service instance handle to a service reference.

Figure 6.3 shows a simple handle resolution process. These resolving services may contain a cache of handles and GSRs and are capable of collaborating with other "resolvers" in order to resolve the handle. Once the handle is resolved, it returns a GSR for the service instance.

Figure 6.3. A simple handle resolution process.



OGSI-Defined Grid Service Notification Framework

Let us now explore some of the asynchronous messaging capabilities provided by the grid services. Notification is required in the process of sending asynchronous one-way messages from a service to the interested client. The OGSI defined a set of standard mechanisms for sending notification messages. This specification defines a rich set of concepts.

OGSI Message Notification Concepts Are Robust

A notification source is a grid service instance that implements the NotificationSource portType and is the source of the notification.

A notification sink is a grid service instance that receives the notification messages from any number of sources. A sink must implement the Notification sink portType.

A notification message is an XML element sent from the source to sink and the type of this element is based on the subscription expression.

A subscription expression is an XML element that describes what messages should be sent from the notification source to the sink and when the message was sent.

A subscription grid service is created on a subscription request and helps the clients manage the lifetime of the subscription. These subscription services are created on subscription and these services should implement NotificationSubscription portType.

Membership Rules for a Service Group

Deriving a service from the ServiceGroup portType, and utilizing the "MembershipContentRule" service data for the classification mechanisms can create a grouping concept similar to a registry. This "rule" (MembershipContentRule) service data is used to restrict the membership of a grid service in the group.

This rule specifies the following:

- A list of interfaces that the member grid services must implement.
- Zero or more contents, identifiable through QName, that are needed to become a part of this group. The contents of QName are listed with the ServiceGroupEntry utilizing the "content" service data element.
- This service data has a mutability value of "constant," and hence these rules are created by the runtime on ServiceGroup service startup (i.e., in most of the cases).

Source : <http://elearningatria.files.wordpress.com/2013/10/ise-viii-grid-computing-06is845-notes.pdf>