

# ERDAS Image Manager

## Security Services

ERDAS Image Manager Server provides a comprehensive and robust security service based on Java EE standards and best practices. The ERDAS Image Manager Security Service is built on top of the Java Authentication and Authorization Service (JAAS) providing support for a wide range of authentication models. Most of these authentication models either are provided by third parties, or are developed by relevant standards bodies such as the Internet Engineering Task Force. The ERDAS Image Manager Security Services Security currently supports authentication with all of these technologies:

- HTTP BASIC authentication headers (an IETF RFC-based standard)
- HTTP Digest authentication headers (an IETF RFC-based standard)
- HTTP X.509 client certificate exchange (an IETF RFC-based standard)
- LDAP (a very common approach to cross-platform authentication needs, especially in large environments)
- Form-based authentication (for simple user interface needs)
- JA-SIG Central Authentication Service (otherwise known as CAS, which is a popular open source single sign on system)
- Transparent authentication context propagation for Remote Method Invocation (RMI)
- Java Authentication and Authorization Service (JAAS)
- Container integration with JBoss, Jetty, Resin and Tomcat (so you can still use Container Manager Authentication if desired)

While we draw on the Java EE Servlet Specification and EJB Specification for the security services provided, it is a fairly coarse-grained security model. Using our own security services built on top of the Java EE specification, we are able to overcome the limitations, and also bring you fine grained security the GIS world requires along with dozens of other useful, entirely customizable security features such as:

	Description	Role	User
Service Access	Limit who can request a given service through RMI, CSW, WCS and WMS	✓	✓
Scale Range	Data will be accessible only between those scale bounds, through CSW, WCS, WMS	✓	✓
Spatial Area	Data will be accessible only between that bounding box, through CSW, WCS, WMS	✓	✓
CRUD	Configure read/update/delete/mange rights on objects. Only read permission is necessary to allow the data access through CSW, WCS and WMS interfaces.	✓	✓

Every effort has been made to enable the ERDAS Image Manager Security Service to provide fairly robust fined grained security implementation, but we realize that greater control is required under certain circumstances. To achieve the finest grained security possible, we provide support for using Oracle Label Based security (OLS) by providing an extensible resolver that populates the Subject with its credentials prior to making a request. This information is then used, via an Oracle Proxy Session, mapping the authenticated user with an Oracle user, used to establish the connection. From that point on, the OLS is applied by Oracle taking advantage of the Label, Component and Group based security features provide by OLS.

**Warning:** Due to limitations to older versions of Oracle database, an Oracle 10g Release 2 is the minimum needed for the proxy session use case to run. With older versions, the proxy user will not be authorized to connect to the database.

Since the ERDAS Image Manager Security Service is based on Java EE standards and best practices, its security implementation can interface with / support all major Java EE Application Services, Oracle Application Server (OAS), and BEA WebLogic.

As you may be aware, security is comprised of two major operations: authentication and authorization.

### **Authentication**

Authentication refers to the process of establishing a principal is who they claim to be. A “principal” normally refers to a user, device or some other system that can perform an action in our application.

### **Authorization**

Authorization, the other major operation, refers to the process of deciding whether a principal is allowed to perform the action requested or to apply an action to specific object(s). To arrive at the point where an authorization decision is needed, the identity of the principal has already been established by the authentication process. These concepts are common, and not at all specific to ERDAS Image Manager Security Service.

## **About ERDAS**

ERDAS – The Earth to Business Company – helps organizations harness the information of the changing earth for greater advantage.

ERDAS creates geospatial business systems that transform our earth’s data into business information, enabling individuals, businesses and public agencies to quickly access, manage, process and share that information from anywhere.

Using secure geospatial information, ERDAS solutions improve employee, customer and partner visibility to information, enabling them to respond faster and collaborate better. It also means better decision-making, increased productivity and new revenue streams.

ERDAS is a part of the Hexagon Group, Sweden. For more information about ERDAS or its products and services, please call +1 770 776 3400, toll free +1 866 534 2286, or visit [www.erdas.com](http://www.erdas.com).