



ERDAS
Image Web Server
Datasheet

ERDAS Image Web Server

Image Serving Protocols

Multi-protocol support

Expose images with different protocols.

ERDAS Compressed Wavelet Protocol (ECWP) image streaming protocol

Client-side decompression of image data, providing:

- Asynchronous panning / zooming of imagery.
- Intelligent client side caching and image decompression.
- Reduced bandwidth requirements
- Optimum user experience
- Serve ECW and JPEG 2000 files via this protocol

OGC™ WMS 1.1.1 / WMS-C

- XML based requests.
- On-the-fly image reprojection.
- Configure multiple-WMS services on the same ERDAS Image Web Server.
- Name and group WMS layers.
- Custom tags for WMS services.
- Complete control over services with per service XML configuration files.
- Combine multiple layer requests for image services in a single request.
- Supports multiple SRS for each layer using reprojection on the fly.
- Supports a default WMS service that is configurable from the management console.
- Fully OGC WMS v 1.1.1 compliant.
- Scale dependent images from WMS services

- ESRI™ ArcXML protocol
- ERDAS Image Web Server can imitate an ArcIMS server - sending / receiving information via the ArcXML protocol.
 - On-the-fly image re-projection.
 - Grouping of layers.

Simple HTTP protocol (ImageX and ImageX-C) A simple HTTP protocol for efficiently generating image thumbnails and image extractions from the image mosaic files.

Web 2.0 / Tile delivery Segments the image view into square JPEG tiles, which are combined in an HTML web viewer.

KML (Google) By using a WMS reflector script, ERDAS Image Web Server image data can be brought in to Google Earth™ viewers.

JPEG 2000 Interactive Protocol (JPIP) ISO Standard Streaming protocol.

File format Support

Premium file formats: These highly efficient file formats are read from disc – no database is involved. This provides a massive performance boost.
 Read and serve ECW and JPEG 2000 wavelet-based compressed data formats.

Write JPEG / PNG (8 and 24bit) / JPEG 2000 (Image Extraction Engine has a greater range of output options) Create small subsets of image mosaics.

OTDF (Optimized Tile Delivery Format) File format for delivery “tiled” views of image data to a web browser.

Standard file formats:
GeoTiff, IMG and MrSID

Additional image formats to enable easy publishing of archive data. For optimal performance, conversion to ECW of JPEG 2000 is recommended.

Datums / projections

EPSG text descriptions

Choose coordinate systems based on common EPSG text descriptions instead of datum/projection pairs.

Comprehensive projection support

- Over 3200 predefined coordinate systems.
- Over 1100 datum shifts.
- 50+ mathematical projections, local and global vertical datums.

On-the-fly re-projection

On-the-fly re-projection available in the server and web clients.

Optimized Tile Delivery (OTD)

Fast delivery of image tiles to browser based applications

Servers can be configured to deliver 4,000 plus image tiles per second.

No need for cache hardware / reduced hardware

ERDAS Image Web Server's OTD features are so fast than it removes the need to setup a complicated caching environment. Total server hardware is greatly reduced. A single ERDAS Image Web Server replaces a server-farm.

Security

SSL communication	Image data is encrypted (encryption strength based on browser capabilities) for protocols (ECWPS / HTTPS).
Basic file security	Images are secured on the server and user / group access is controlled by username / password (built on OS security).
Advanced security	Users and their permissions can be stored in a third party credentials management system that ERDAS Image Web Server can access and authenticate against.
IP address based security	Filter user permissions based on originating IP address.
Image resolution / region security	Limit the resolution an image can be viewed at (ground scale). Deny access to particular regions of an image e.g. security zone.

Performance

Support massive imagery	Deliver terabytes of image data with a single server.
Native 64 bit architecture	True 64 bit support enables more efficient access of memory
Cache	ECWP controls cache data reducing bandwidth requirements and continually. Web browser plug-in permits cache persistence over multiple browser visits.
Low memory usage	Efficient use of server resources due to intelligent design
High-performance	Scale effectively to handle hundreds of users simultaneously accessing multiple image files in multiple protocols.

ECWP Streaming protocol:

ERDAS Image Web Server should scale efficiently in the streaming protocol to support up to 100 concurrent images per second on a modern dual processor system operating under Windows 2003 Server.

WMS / ArcXML / ImageX (sub-setting) protocols:

ERDAS Image Server should support up to 10 concurrent JPEG image requests per second on a modern dual processor system operating under Windows 2003 Server. The server should be capable of generating a JPEG image in under one second from receipt of order.

Load balancing	ERDAS Image Web Server works with Microsoft Network Load Balancing efficiently.
Support for “Web Gardens” under IIS 6.0	Enable multiple worker processes when using sub-setting processes extensively.
Narrow to broad band availability	Capable of serving images on slower lines including dial-up and DSL types of connections as well as high speed Intranet and Internet connections.

GIS integration

Desktop applications	High degree of compatibility with geospatial workstations such as ArcGIS™, ArcView™, MapInfo™, AutoCAD™, PCI™, ERDAS ER Mapper, MS Office™, Small World™, MicroStation™, etc.
High performance image streaming for major GIS workstations	<p>Plug-ins are available for the following industry workstations to enable efficient streaming image access with client-side caching:</p> <ul style="list-style-type: none"> ▪ ESRI™ – ArcGIS 8x and 9x ▪ ESRI™ - ArcView ▪ MapInfo™ Pro ▪ AutoCad™

ArcIMS compatibility	Integrate massive imagery datasets into your ArcIMS web map applications.
GIS server integration	The client component is compatible with industry GIS servers to display multiple vector maps over raster imagery.
Multiple GIS servers in the same web application	The Web Client software can simultaneously integrate the data from different GIS servers like MapExtreme™, ArcIMS™, ArcServer™, Map Guide™, and OGC™ WMS. Integration is asynchronous (data integrated and displayed as received by viewer).
Google Earth™	Serve into Google Earth via WMS or KML (using a WMS reflector)
ArcGIS Server 9.3 ECW Connector	Installing ERDAS Image Web Server on the same physical machine as an ArcGIS Server permits the ArcGIS Server to access ECW files.

Data loading

Fast and efficient data loading	The administrator only needs to copy an image file into a designated folder on the ERDAS Image Web Server disk, network drive or SAN.
No database required	Does not require database loading and subsequent pyramids be built in an RDBMS.
OTDF builder	A simple application is included to allow the creation of Optimized Tile Deliver Format images.

Virtual Images

Algorithm support	ERDAS Image Web Server can publish algorithms created in ERDAS ER Mapper as “virtual images”. You can have different versions of the same image without having to duplicate the image data.
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Image viewing

Dynamic roam and zoom	Fast and interactive experience for the user.
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Native streaming support in many applications	Many GIS / CAD applications offer ECWP readability natively.
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Free browser plug-ins	ActiveX or Java plug-in for ECWP protocol.
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Free application plug-ins	Plug-ins for common applications so users can take advantage of ECWP streaming
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Multi-layer image / GIS viewing	<p>The client component (ActiveX / Java) supports a layered view display with an asynchronous independent update of each image layer. The viewing control is fully scriptable from JavaScript providing functions to:</p> <ul style="list-style-type: none"> ▪ Set transparency on any image layer using a transparency slider. ▪ Set visibility on any layer. ▪ Set clipping on image layers to restrict an image view to a defined area. ▪ Promote/demote the image order in the viewing “stack.” ▪ Select bands from multi-band imagery. ▪ Provide a means of measuring progressive image loading progress. ▪ Display imagery from industry standard projections with
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ability to derive geodetic coordinates from a point.

- Overlay the raster images with maps from GIS servers in a separate image plane.
- Set transparency on any color in an image plane.
- Support standard image pan, zoom and zoom box tools.
- Support basic red lining capabilities for circle, rectangle and irregular polygons.
- Support printing of a blended view from the viewing component.
- Support viewing of images side by side (i.e. geolinked) with automatic extents tracking between each view.

Web 2.0 control requires the use of server-side component to make GIS requests / knock-out colors on returned image for transparency.

NULL cell handling for JPEG 2000 images in all Protocols

Exact delineation between null areas and images (no artifacts on the edges).

Image meta-data

The ActiveX control can extract the following information from the image mosaic header:

- Image filename
- Cell size X
- Cell size Y
- Cell units
- Datum
- Projection
- Image size X
- Image size Y
- Number of bands
- Top left X
- Top left Y
- Bottom right X
- Bottom right Y

Administration

Powerful, flexible and straightforward administration console

Add imagery datasets, define protocols / access levels, etc.

Remote administration

Administer the server from anywhere in the world.

View images within administration / console

View images within the console to verify user experience.

Online image processing support

Web based client side image processing

Contrast and brightness control. It has the capability to generate histograms of the image and modify the image based on Look Up Tables (LUT).

Desktop clients image processing

ERDAS ER Mapper and other applications can be used to access “online images.”

Server-side Reprojection on the fly

Request images in any projection / datum for OGC WMS, HTTP, and ESRI ArcXML protocols.

Client-side re-projection

Web clients can request image in multiple projections

Licensing

Floating and node-lock licensing

Ultimate flexibility in choosing the licensing mechanism suite to your organization. Per-CPU core licensing is used.