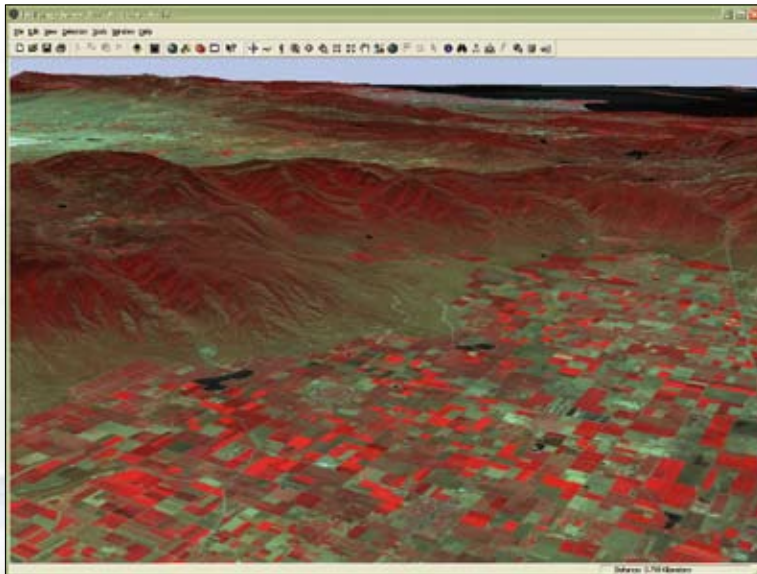


# ArcGIS® Image Server

Fast, Dynamic Image Distribution and Processing



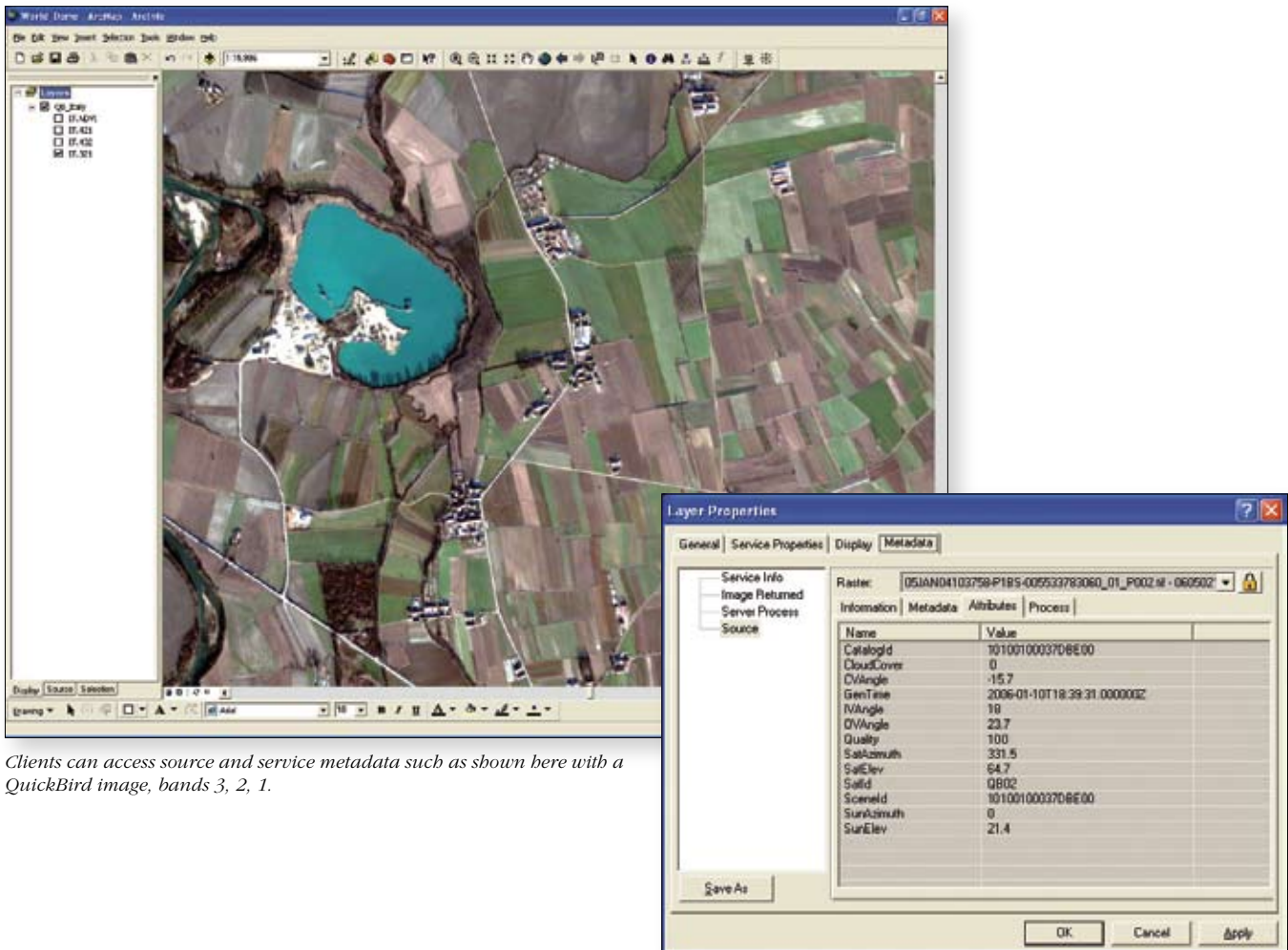
Arc  
ESRI GIS™



# Easily Author, Publish, and Use Imagery

ArcGIS Image Server authoring tools allow you to easily define image services without having to reformat or load the raster data. These authoring tools are available through ArcGIS Desktop as well as through an application programming interface (API).

ArcGIS Image Server loads the raster properties, including orientation, projection, and metadata, contained in the imagery while leaving the pixel data in its native form. This allows the server to optimize the image service for quality and performance without altering the source data. At the same time, metadata is provided for the service and for the individual images with important information such as acquisition date and sensor attributes.



*Clients can access source and service metadata such as shown here with a QuickBird image, bands 3, 2, 1.*

## ArcGIS Image Server can accept imagery or rasters in various formats with associated georeferencing and metadata including

- TIFF
- NITF
- BIL
- IMG
- JPEG
- JPEG 2000
- ArcSDE®
- MrSID®
- CADRG
- CIB
- Digest
- GeoTIFF
- QuickBird Standard, Basic
- IKONOS® Geo Ortho Kit
- Landsat Level 1G
- DTED, SRTM
- Match-AT, ISAT
- Applanix DSS

To learn more about  
ArcGIS Image Server, visit  
[www.esri.com/imageserver](http://www.esri.com/imageserver).

# ArcGIS® Image Server

*Fast, Dynamic Image Distribution and Processing*

*ArcGIS® Image Server allows users to quickly and seamlessly process and serve large volumes of geospatial imagery. Maximize the value of your imagery by making it accessible and usable as soon as possible, enterprise-wide.*

## Who uses ArcGIS Image Server?

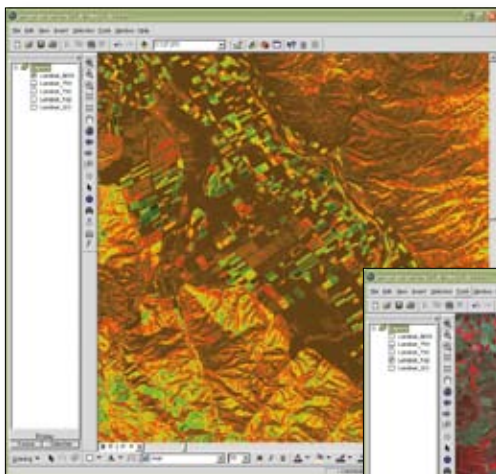
ArcGIS Image Server is particularly useful to users who

- Need to deploy imagery enterprise-wide to a variety of clients.
- Perform dynamic imagery processing for better image visualization.

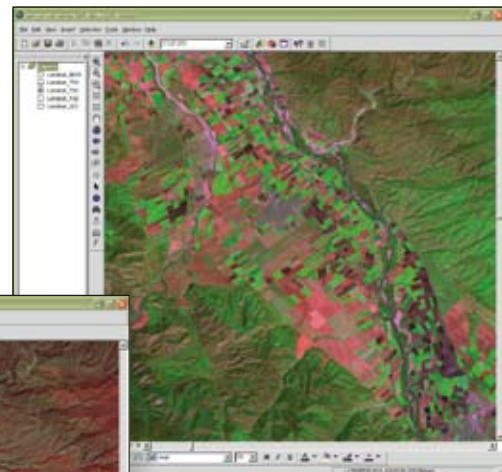
## Why use ArcGIS Image Server?

- Massive amounts of imagery can be quickly accessed by a large number of users.
- Data in its native format is mosaicked on the fly.
- Dynamic on-the-fly processing allows multiple representations of imagery products to be served from native data sources, eliminating data redundancy and extra storage requirements.
- Source data can be file based or reside in a database management system (DBMS).
- Metadata is easily accessible for the service and for the individual images.
- Integration with ArcGIS Server allows the data to be distributed to Web-based, mobile, and Open Geospatial Consortium, Inc.® (OGC®)-compliant clients.

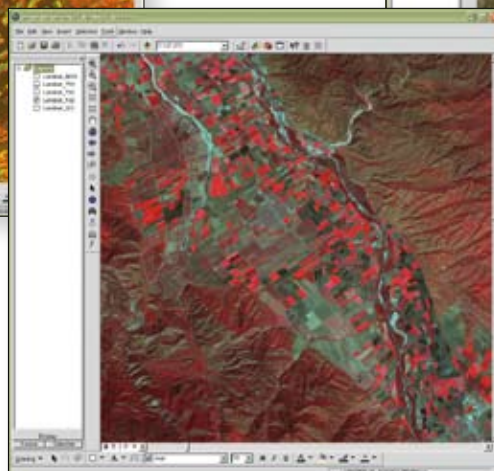
Serve multiple representations of imagery using on-the-fly processing operations such as applying an algorithm to produce a Normalized Difference Vegetation Index (NDVI) or stacking bands to highlight various ground features.



*A Landsat® NDVI image is used to show relative biomass.*



*A Landsat image combining bands 7, 4, 2 gives a natural appearance—vegetation is displayed in green shades—while providing alternative shades, such as pink, to distinguish soil characteristics.*



*A Landsat image combining bands 4, 3, 2 closely resembles traditional color infrared aerial imagery, which is most useful in studying vegetation.*

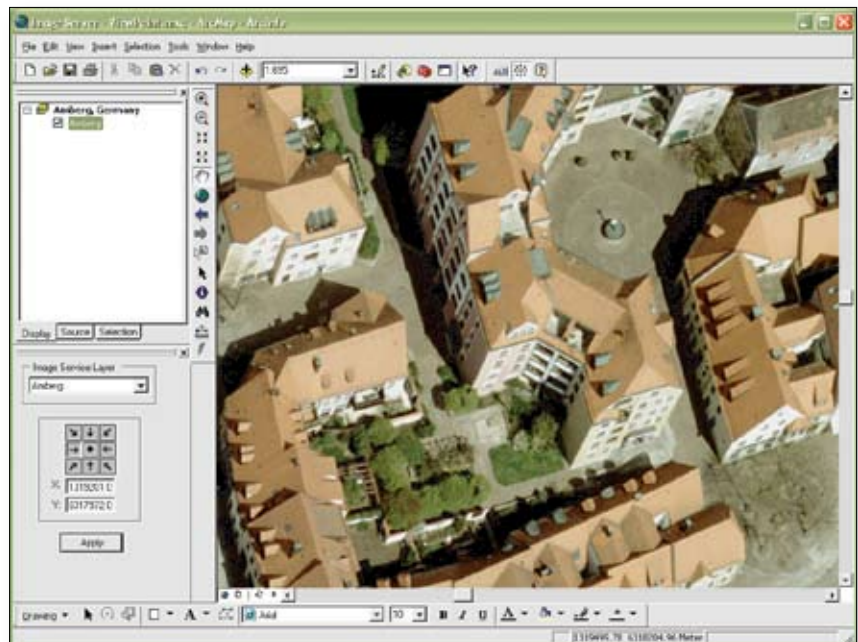
# Process Images on the Fly

Many processing operations including georeferencing, enhancement, and mosaicking can be performed on the fly using ArcGIS Image Server. They can be chained together and applied to individual rasters or the complete service to define multiple image products.

These processes can be applied to the same sets of imagery, enabling different information content to be visualized without expensive preprocessing. The dynamic server-based processing minimizes image resampling and provides high-quality imagery and improved image interpretation.

## Processes Grouped by Functionality

<b>Enhancing imagery appearance</b>
Stretching
Pan sharpen
Convolution filter
Trend
<b>Band organization</b>
Extract bands
Stack bands
<b>Applying algebra to pixels and bands</b>
Classify pixel
Image algebra
NDVI
Convert pixel type
<b>Changing output color</b>
Color map
Gray scale
Special matrix
Trend
<b>Working with elevation</b>
Visualize elevation
<b>Geometric processing</b>
Ground to image transforms
• Affine, projective, warp grid
• Orthorectification (optional extension)
<b>Mosaicking methods</b>
By attribute (e.g., date or quality)
Closest to nadir (i.e., most top down)
By viewpoint (e.g., from south or west)
Lock raster (e.g., to a specified scene)
Seamline (optional extension)



*Amberg, Germany—Viewpoint functionality, looking from the west*

## Handling overlapping imagery

Using ArcGIS Image Server, you can effectively manage overlapping imagery by defining different mosaicking methods. The imagery can be ordered based on an attribute such as date, quality, or even viewpoint location, which enables the sides of buildings or an occluded feature to be visible.

## Extensions

Users can add capabilities to ArcGIS Image Server using these optional extensions:

- **Orthorectification extension**—Dynamically orthorectify raw imagery using image properties and an elevation surface. The parameters of this orthorectification can be updated as photogrammetrists supply updated image parameters. This allows organizations to quickly publish imagery when speed and accessibility are critical as well as refine the accuracy over time.
- **Seamline extension**—Generate and edit seamlines for overlapping image mosaics. The user can specify a feathering method that will be used to blend along the mosaic seamlines.

# Effortless Distribution to Multiple Clients

ArcGIS Image Server makes it easy to deploy image services to a number of different GIS, CAD, imaging, and Web applications. Different types of clients connect to ArcGIS Image Server.

**Desktop clients** use a direct connection to ArcGIS Image Server to provide the richest user experience.

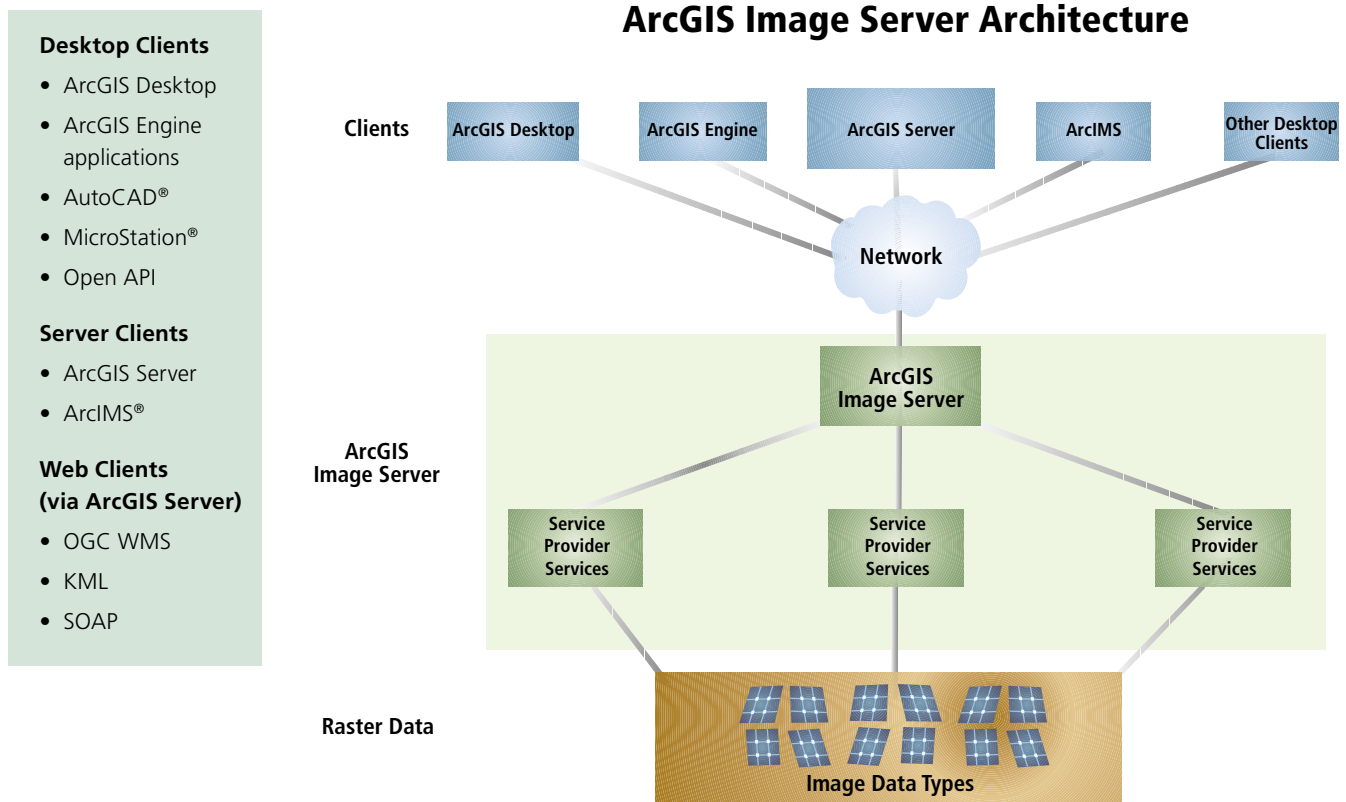
**Server clients** use a direct connection to ArcGIS Image Server for fast access and an advanced level of functionality.

**Web clients** use standard Web protocols to communicate with ArcGIS Server and ArcGIS Image Server.

These clients have the power to request optimized imagery from the server customized to their requirements. Clients can request the imagery

- In different projections
- Compressed for transmission (enables users to navigate using compressed imagery and change to high-quality imagery for analysis)
- With different mosaic methods to exploit overlapping imagery

Clients also have full access to the source and service metadata, allowing users to view the metadata of a particular area and review details such as the acquisition date.



## Development License

A development license of ArcGIS Image Server is included with a subscription to the ESRI® Developer Network (EDN™). EDN is an annual subscription-based program that provides software developers with the resources needed to build a wide range of custom GIS solutions. An annual EDN subscription provides a library of software for developing and testing applications that include ArcGIS Image Server as well as ArcGIS Server, ArcIMS, ArcWeb™ Services, and ArcGIS Engine. EDN cannot be used to deploy applications. For more information, visit [www.esri.com/edn](http://www.esri.com/edn).

To learn more about  
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## For More Information

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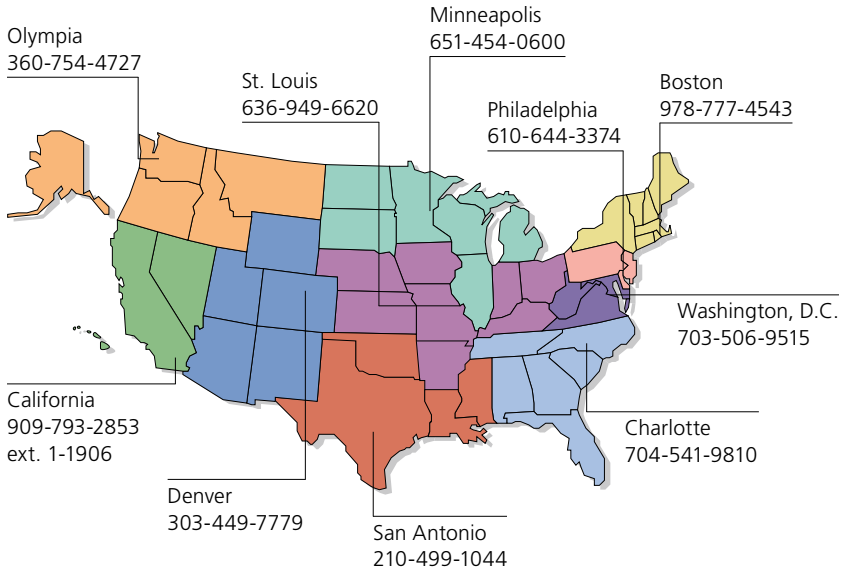
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