

# Excalibur Image DataBlade Module

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The Excalibur Image DataBlade Module provides image retrieval and feature management for digital images. It allows you to :

- Read and write images
- Execute format conversion of images
- Perform rudimentary searches of images by basic color, shape, and texture qualities.

## Features & Benefits:

- Multiple image file formats are supported to address needs of specific industries.
- Excalibur's Adaptive Pattern Recognition Processing (APRP) enables image-based searching of visual data by color, shape or texture
- Utilizes the indexing capabilities Excalibur's Visual Retrieval Ware with the Informix Dynamic Server with Universal Data to provide optimal query performance

This DataBlade is based on technology from Excalibur Technologies Corporation, and is co-developed and co-supported by Informix and Excalibur. The core of the DataBlade is the Excalibur Visual RetrievalWare SDK. The Visual RetrievalWare SDK can be used to build programs to store, retrieve and quickly search massive amounts of image data, but it does not perform semantic searches (for example, "find all images that have butterflies in them") on that data. The functions provided by the toolkit do not understand the concepts of an image the way a human being does -- there are no built-in functions that would provide semantic searches.

## Detailed Product Description

### Features and Functionality

With the Excalibur Image DataBlade module, you can:

- store and retrieve images in the database.  
When an image is stored in an indexed table, a feature extractor function records the characteristics of the image in an array of bits called a feature vector. The feature vector (instead of the image) is indexed, providing limited, content-based access to the images in the database table.
- search for matching and similar images in the database.  
When images are retrieved, a feature extractor creates a feature vector for a target search image. The index of the database table is searched for similar vectors, the image associated with each similar vector is retrieved, and a ranked list of matching images is returned

The Excalibur Image DataBlade module combines Excalibur image technology with the Informix Dynamic Server with Universal Data to store, retrieve, and search images in a database. The image technology contained in the Excalibur Image DataBlade module is based on neural network search techniques. The Excalibur Image DataBlade module allows you to perform content-based searches of groups of images by indexing the binary patterns in digital information. With the Excalibur Image DataBlade module and Informix Dynamic Server with Universal Data, you can use SQL statements to store a group of images in a database and retrieve them with a content-based search by color, shape, and

texture. Images are indexed by content attributes in the database, allowing you to select an image and search the index to locate similar images.