

# ORACLE MULTIMEDIA DICOM

## KEY FEATURES AND BENEFITS

DATA MANAGEMENT  
PLATFORM WITH NATIVE  
DICOM SUPPORT FOR  
LARGE, SCALABLE, AND  
OPEN MEDICAL IMAGE  
REPOSITORIES

### FEATURES

- Fast DICOM content search based on DICOM attributes
- Open data model that gives access to standard DICOM and private attributes
- Future proof platform: Keep up with DICOM standard changes and new modalities with no application code change
- Improved application workflow by rejecting or correcting DICOM content that does not conform to the standard and/or to enterprise rules
- Conversion to web-friendly formats like JPEG
- Patient privacy protection while sharing images

### BENEFITS

- Scale to large medical image repositories at low cost
- Integrate images with patient data for image-enabled EMRs
- Secure medical image repositories while sharing among applications
- Simplify application code by automatically synchronizing image updates and patient data updates
- Reduce costs by leveraging powerful database tools for data management
- Build applications on vendor-neutral DICOM storage and a non-proprietary data model for easy sharing of image data

*Oracle Database includes the Oracle Multimedia DICOM (Digital Imaging and Communications in Medicine) feature. With native support for the DICOM format, Oracle Database stores, manages, and manipulates DICOM medical content enabling scalable and open repositories of DICOM content, image-enabled electronic medical records, telehealth, and other applications.*

## Healthcare and Medical Imaging Technology

One element in the drive to reduce healthcare costs is the efficient management of medical images. Systems need to manage the aggregation and use of patient image data across healthcare organizations, RHIOs, and HIEs. They must enable the integration of images with the electronic medical record (EMR) for a complete and non-fragmented view of patient data.

The Oracle Multimedia DICOM feature provides a vendor-neutral, open, high-performance platform for addressing these requirements. A feature of Oracle Database, Oracle Multimedia DICOM reduces cost and improves quality for a range of systems that include medical image repositories and archives, and further enables easy inclusion of images in applications such as EHRs, telehealth, Web-based PACS, and clinical trial processes.

## Deployed Applications on the Oracle Multimedia DICOM Platform

**Enterprise-wide Repositories:** Oracle Multimedia DICOM facilitates sharing of images in a vendor-neutral repository accessible across the enterprise.

**Telehealth Solutions:** Telehealth solution vendors use Oracle Multimedia DICOM for a central database of images that provides secure and cost-effective access at home, while traveling, and on the web, whenever and wherever they are needed.

**Image-enabled Electronic Health Records:** Oracle Multimedia DICOM allows EHR systems to include DICOM content produced by any vendor in the patient record for a 360 degree view of the patient data. Partner solutions give clinicians in the hospital and referring physicians outside the hospital access to any patient image data, lowering costs and improving quality.

**Clinical Trials Image Management:** Commercial applications built using Oracle Multimedia DICOM give clinical trial sponsors direct, immediate access to medical image data greatly reducing costs. Increased audit capabilities and consistent application of data quality standards help with regulatory processes downstream.

## Oracle Multimedia DICOM Performance

Performance benchmarks on Hewlett-Packard computers and storage using Intel

## CUSTOMER QUOTES

"The unique features of Oracle Multimedia in Oracle Database 11g together with the i-engineers 'health engine' application helped us to significantly reduce costs and improve quality and security of our clinical document processing", Peter Gerber, CIO Spital Netz Bern Hospital, Switzerland, user of the i-engineers partner solution for image-enabled EHRs

"Oracle Database 11g gives us the functionality that allows us to preserve patient confidentiality while allowing experts to undertake valuable research that can lead to greater insight into epilepsy and other conditions", Naomi Rafael, Technology and Systems Manager, BioGrid Australia

processors show **storage and retrieval of images at device speed**. The benchmark attained sustained read speeds of over **850 Cardiac CT images/second** (512K each), and sustained write speeds of over **550 Cardiac CT images/second**. 1 TB of images were loaded in 65 minutes. The benchmark data set used a 2 TB database with 2.4 million images and 20,080 studies. The detailed benchmark is available at <http://www.oracle.com/technology/products/multimedia/index.html>

### Oracle Multimedia DICOM Open Platform

The DICOM standard is typically extended by vendors with the addition of private attributes. Oracle Multimedia DICOM APIs can parse and extract attributes from DICOM images from *any* vendor, allowing all information to be shared with any application. The data model used to store the DICOM attributes is open and flexible giving customer applications access to information that is otherwise inaccessible (because of proprietary data models). A centralized repository built on Oracle Multimedia DICOM can understand DICOM content from any vendor, and provide a future proof platform for any application using the data.

### Oracle Multimedia DICOM Technical Features

Oracle Multimedia DICOM provides a comprehensive set of features to store, manage, and manipulate DICOM content. Oracle Multimedia DICOM supports automatic extraction of any or all 2028 standard DICOM metadata attributes as well as any selected private attributes search and business intelligence applications. Built-in functions convert DICOM content to web friendly formats like JPEG, GIF, MPEG, AVI and can generate new DICOM format images from legacy formats. Additional functions mask user-specified attributes to protect patient privacy when images are shared for research, public health, and other non-clinical use. Conformance validation procedures guarantee DICOM content complies to the DICOM standard or to other enterprise rules for consistency in the repository or in application workflows.

### More Information on Oracle Multimedia DICOM

<http://www.oracle.com/technology/products/multimedia/index.html>

### Contact Us

For more information about Oracle Multimedia DICOM, please visit [oracle.com](http://oracle.com) or call +1.800.ORACLE1 to speak to an Oracle representative.



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