

Leverage industry standards to build market-leading healthcare applications

Merge DICOM Toolkit for Microsoft .NET Core and .NET 5

As a vendor or supplier of imaging equipment, peripheral equipment, or software, you want to build and implement with the most current DICOM standards. Doing so can ensure interoperability with clinical workflows, EHR systems and imaging modalities, and help minimize integration efforts, so that every medical imaging facility can be your customer.

Now, IBM offers the Merge DICOM Toolkit compatible with Microsoft .NET Core and .NET 5 frameworks.

Enable and enhance your products with the latest imaging standards

IBM Watson Health is your partner to help address the challenges of focusing on the immediate needs of your users while ensuring a competitive advantage for your product. The Merge DICOM Toolkit provides a powerful and yet simple interface to interact with critical DICOM information.

Today, it's common to have applications that run across devices: a back-end on the web server, an administrator front-end on the Windows desktop, and web-enabled and mobile apps for consumers. This creates the need for a single application development framework that works everywhere, to which Microsoft responded with the .NET Framework.

.NET Core and .NET 5 were introduced with newer versions of the framework to further support developers' needs. It provides free, open-source access to the .NET Framework for cross-platform compatibility (Windows and Linux operating systems) and for a wide variety of contexts, from the data center to touch-based devices:

- Mobile
- Desktop
- Web
- Cloud
- Internet of Things (IoT)
- Machine learning
- Microservices
- Gaming
- (and more...)

The .NET Core approach helps address some limitations with the .NET Framework. For one, .NET Framework only runs on the Windows platform. Also, you need to use different .NET APIs for different Windows devices such as Windows Desktop, Windows Store, Windows Phone, and Web applications. In addition, the .NET Framework is a machine-wide framework, so any changes made to it affect all applications having a dependency on it.

Why Merge DICOM .NET Core Toolkit?

It allows you to build powerful and simplified DICOM interfaces for medical applications and services with a commercial-grade DICOM Toolkit in .NET Core Framework that can run on cross-platforms. Commercial grade means: providing bugfixes, performance and security updates, and keeping the toolkits in sync with the latest DICOM supplements and change proposals. Also, it includes ongoing adaptation to support new development platforms as they come along. With a simple switch to the Merge DICOM .NET Core Toolkit, any existing Windows .NET/C# based DICOM applications — with Merge DICOM .NET/C# Toolkit integrated—can easily be transformed and migrated into .NET Core platforms that run with cross-OS platform capability.

Why .NET 5?

IBM has always supported .NET Core, but with the newer .NET 5 there is added support with the benefit of allowing the cross-platform framework to work with Windows and Linux. This helps many of our clients and developers who are moving towards cloud-based deployments. The new 5.13 version of IBM Merge DICOM Toolkit allows open library support for Linux deployments as well, to enhance the deployment of those cloud-native applications. This recent upgrade is to build the infrastructure and support for .NET 5 and to align with Microsoft's roadmap.

Summary: Build and maintain DICOM interfaces for market-leading healthcare applications

The IBM Merge DICOM Toolkit .NET 5 and .NET Core/C# - 64bit

- Supported Framework: .NET 5 and .NET Core 3.1
- Supported Program Language: C#
- Currently Supported OS: Windows, Linux
- Support for cloud-native with .NET 5.
- Cross-platform framework to run deployments across
- Support Linux deployments
- Added support for AI structured reports that can be done through DICOM

Merge DICOM Toolkit Release History at a Glance

Following table summarizes DICOM Toolkit releases starting with version 5.0. The cumulated release information of these and all prior releases can be found in the ReadMe file located in the release package under document folder. Also refer to toolkit [resources](#).

| Version | Release Time | Enhancements | New Offerings |
|----------|--------------|---|--|
| Ver 5.13 | Aug 2021 | <ul style="list-style-type: none"> – DICOM Standard Update (3 Supplements, 55 Change Proposals) – Support for .NET 5.0 platform | Merge DICOM Toolkit - .NET 5/C# Toolkit |
| Ver 5.12 | Dec 2020 | <ul style="list-style-type: none"> – DICOM Standard Update (2 Supplements, 41 Change Proposals) – Support for .NET Core 3.1 platform | Merge DICOM Toolkit - .NET Core/C# Toolkit |
| Ver 5.11 | Apr 2020 | <ul style="list-style-type: none"> – DICOM Standard Update (2 Supplements, 72 Change Proposals) – Support for multi-threaded operation of Pegasus compression/decompression library – Introduced Python edition of toolkit | Merge DICOM Toolkit - Python Toolkit |
| Ver 5.10 | Nov 2019 | <ul style="list-style-type: none"> – DICOM Standard Update (2 Supplements, 37 Change Proposals) – Support for Unicode paths for toolkit configuration files | |
| Ver 5.9 | Apr 2019 | <ul style="list-style-type: none"> – DICOM Standard Update (6 Supplements, 54 Change Proposals) – Support for compression/decompression of images with photometric interpretations of YBR_FULL and PALETTE COLOR. | |
| Ver 5.8 | Dec 2018 | <ul style="list-style-type: none"> – DICOM Standard Update (1 Supplement, 33 Change Proposals) – Support for extended character set encoding/decoding using ICU4C to iOS platform – Support for DICOM Native XML conversion API added to the Android on ARMv7/ARMv8 platforms. – Support for Digital Signature capabilities | |
| Ver 5.7 | Jul 2018 | <ul style="list-style-type: none"> – DICOM Standard Update (2 Supplements, 35 Change Proposals) – Support for extended character set encoding/decoding using ICU4C added to Android platform | |
| Ver 5.6 | Jan 2018 | <ul style="list-style-type: none"> – DICOM Standard Update (7 Supplements, 63 Change Proposals) – WADO support of multipart STOW-RS requests with metadata and bulk data | |
| Ver 5.5 | Jun 2017 | <ul style="list-style-type: none"> – DICOM Standard Update (3 Supplements, 28 Change Proposals) – Support for RESTful Services Capabilities Service – Support for RESTful Non-Patient Instance Storage | |
| Ver 5.4 | Jan 2017 | <ul style="list-style-type: none"> – DICOM Standard Update (1 Supplement, 37 Change Proposals) – Java toolkit ported to Linux on ARMv7 and ARMv8 | |

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|----------------|-----------------|--|---|
| Ver 5.3 | Jul 2016 | <ul style="list-style-type: none"> - DICOM Standard Update (4 Supplements, 70 Change Proposals) - Added DICOM Native XML conversion API - Added DICOM to JSON and JSON to DICOM conversion API - Support for simplified Chinese character sets - Support for RESTful Rendering - Java toolkit ported to Mac OS X | |
| Ver 5.2 | Dec 2015 | <ul style="list-style-type: none"> - DICOM Standard Update (4 Supplements, 30 Change Proposals) - C/C++ toolkit ported to 64-bit Android, iOS and Linux on ARM platforms | <ul style="list-style-type: none"> Merge DICOM C/C++ Toolkit for 64-bit Android Merge DICOM C/C++ Toolkit for 64-bit iOS Merge DICOM C/C++ Toolkit for 64-bit Linux on ARMv8 |
| Ver 5.1 | Jun 2015 | <ul style="list-style-type: none"> - DICOM Standard Update - Support for WADO-RS, WADO-URI, QIDO-RS, STOW-RS Web Services (Java Toolkit) - C/C++ toolkit ported to 32-bit Linux on ARM platform | <ul style="list-style-type: none"> Merge DICOM C/C++ Toolkit for 32-bit Linux on ARMv7 |
| Ver 5.0 | Dec 2014 | <ul style="list-style-type: none"> - DICOM Standard Update - Support for WADO-RS, WADO-URI, QIDO-RS, STOW-RS Web Services (.NET Toolkit) | |

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