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## ***Invasive Cardiology Security Website***

### ***Interventional - Invasive Cardiology***

<b>Product Group:</b>	Interventional Invasive Products
<b>Products:</b>	Mac-Lab, CardioLab and ComboLab Recording Systems, Centricity Cardiology Data Management Systems
<b>Version:</b>	AltiX BT21 (v7.1)
<b>Subject:</b>	Security Information
<b>Date:</b>	19 November 2020

#### **Summary**

The following information is provided to GE Healthcare Technologies customers in regards to known technical security vulnerabilities associated with Mac-Lab® Hemodynamic, CardioLab® Electrophysiology, SpecialsLab and ComboLab IT Recording Systems for Cath Lab, EP Lab and other interventional labs as well as the Centricity® Cardiology Data Management Systems.

#### **Security Patch Base Configuration**

The security patch base configuration of the Mac-Lab and CardioLab product at release is listed within the MLCL Base Configuration under the Hemodynamic, Electrophysiology and Cardiovascular Information Technologies section of the [http://www3.gehealthcare.com/en/Support/Invasive\\_Cardiology\\_Product\\_Security](http://www3.gehealthcare.com/en/Support/Invasive_Cardiology_Product_Security) website.

#### **Process**

The following actions are taken whenever Microsoft/OEMs releases new security patches:

- The Invasive Cardiology Engineering Team performs a security analysis process for supported Mac-Lab, CardioLab, GE Acquisition/Client Review and INW Server hardware/software.
- If a vulnerability meets Mac-Lab and CardioLab validation criteria, the vulnerability is communicated through the GEHC Product Security Database and Invasive Cardiology Security Website within three weeks of the patch release.
- Upon validation of the Mac-Lab and CardioLab vulnerability, the GEHC Product Security Database and Invasive Cardiology Security Website and affected Mac-Lab and CardioLab Security Patch Installation Instructions are updated.



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The Mac-Lab and CardioLab vulnerability validation criteria are as follows: Any vulnerability that allows malware to alter or deny Mac-Lab and CardioLab functionality and/or infect and propagate through normal system use.

Customers are responsible to stay informed with Microsoft vulnerability notifications and to visit the Invasive Cardiology websites to understand the Mac-Lab and CardioLab impact. Once a security patch is validated, customers are responsible for the installation of security patches. All Mac-Lab and CardioLab Security Patch Installation Instructions are available on the Invasive Cardiology Security Website.

Vulnerabilities exposed after the Mac-Lab and CardioLab product release which do not meet the criteria to be validated are not listed within the GEHC Product Security Database and Invasive Cardiology Security Website. These vulnerabilities are deemed to be non-critical and/or outside normal clinical workflow of the Mac-Lab , CardioLab and Centricity INW systems and will not be validated.



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## Revision History

Revision	Date	Comments
1.0	18 August 2020	<ul style="list-style-type: none"><li>Initial Release</li></ul>
2.0	19 November 2020	<ul style="list-style-type: none"><li>Listed September 2020 SSU</li><li>Listed Qualified November 2020 Patches</li><li>Moved existing content to MLCL v7.1 Qualified Patch List section</li></ul>

## Document layout

The document is structured to show

- Requirements for installation of patches



- How to confirm the version of Altix BT21 application.
- How to logon to the system
- Subsections that are referenced from patch update sections
- Unqualified patches
- Patch update sections

## Installation of the Security Patches on MLCL systems

### Requirements:

- Updates may be applied at any time other than while the Mac-Lab or CardioLab application is open.
- Updates must be re-applied if the system is re-imaged.
- Updates apply to both networked and standalone systems.
- Best practice is to update all applicable MLCL systems at the site. This document provides list of qualified patches for INW Server (Windows Server 2016), Acquisition (Windows 10) and Review (Windows 10) systems.

**This document applies to Altix BT21 only. Please verify that you are running Altix BT21 using the following procedure before proceeding:**

1. Launch the Mac-Lab CardioLab application from the acquisition or review system.
2. Select **Help > About Mac-Lab** (or **CardioLab**, as applicable).
3. Verify the version number is **7.1.0**
4. Click **Close**.
5. Close the application.

**Recommendation: Use Internet Explorer (IE) for Catalog download.** If you are using the cart feature to download patches, to see the cart it requires opening another tab or new window for <http://catalog.update.microsoft.com>

## How to Log On to Acquisition/Review/INW Server Systems

Login as user who has administrative privilege to deploy the security patches.



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**NOTE: For initial install MLCLTechUser account can be used and for follow up account contact the site for appropriate account information.**



## Patch Links

The patches displayed below are qualified on an independent basis and can be installed on a one-by-one basis, although it is recommended that all qualified patches are installed. There are dependencies within the qualified patch list. In the table below, it is recommended the patches are installed in order from top to bottom to ensure all pre-requisites are met for all patches. On occasion the patch dependencies require system reboots which are identified in the table below.

**NOTE:** Due to site configurations, system patch set, qualified patches which have been installed previously or patch dependencies, some patches could fail to install due to the functionality is already installed. The Microsoft patch installer will alert you to this issue. If this occurs, please continue with the next patch installation.

It is the responsibility of the Hospital to assure all the qualified patches have been installed on the systems.

### Unqualified Patches MLCL v7.1

	INW Server	Acquisition	GE Client Review Workstation
Operating System Platform	Windows Server 2016	Windows 10	Windows 10
Current Unqualified Vulnerability	None	DSA-2019-072	None



## MLCL v7.1 Patches

**Note:** During installation of patches, if message box appears requesting system restart. Kindly restart the system.

Windows 10 LTSC 1607 x64 (Acquisition & GE Review)		
KB	Link	Notes (Applicable Patches. Patches to be applied in the order listed.)
KB4576750 September 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4576750">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4576750</a>	Install "2020-09 Servicing Stack Update for Windows 10 Version 1607 for x64-based Systems (KB4576750)"
KB4586830 November 2020 Cumulative Security Update	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4586830">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4586830</a>	Install "2020-11 Cumulative Update for Windows 10 Version 1607 for x64-based Systems (KB4586830)"
KB4537759	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537759">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537759</a>	Install "2020-02 Security Update for Adobe Flash Player for Windows 10 Version 1607 for x64-based Systems (KB4537759)"
KB4461539	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=58469">https://www.microsoft.com/en-us/download/details.aspx?id=58469</a>	Security Update for Microsoft Office 2016 (KB4461539) 64-Bit Edition
KB4464534	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=58451">https://www.microsoft.com/en-us/download/details.aspx?id=58451</a>	Security Update for Microsoft Office 2016 (KB4464534) 64-Bit Edition



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KB4475514	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=58453">https://www.microsoft.com/en-us/download/details.aspx?id=58453</a>	Security Update for Microsoft Office 2016 (KB4475514) 64-Bit Edition
KB4484166	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=100756">https://www.microsoft.com/en-us/download/details.aspx?id=100756</a>	Security Update for Microsoft PowerPoint 2016 (KB4484166) 64-Bit Edition
KB4484221	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=100826">https://www.microsoft.com/en-us/download/details.aspx?id=100826</a>	Security Update for Microsoft Office 2016 (KB4484221) 64-Bit Edition
KB4484256	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=100888">https://www.microsoft.com/en-us/download/details.aspx?id=100888</a>	Security Update for Microsoft Excel 2016 (KB4484256) 64-Bit Edition
KB4484268	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=101009">https://www.microsoft.com/en-us/download/details.aspx?id=101009</a>	Security Update for Microsoft Word 2016 (KB4484268) 64-Bit Edition
KB4484273	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=101122">https://www.microsoft.com/en-us/download/details.aspx?id=101122</a>	Security Update for Microsoft Excel 2016 (KB4484273) 64-Bit Edition
KB4484214	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=101125">https://www.microsoft.com/en-us/download/details.aspx?id=101125</a>	Security Update for Microsoft Office 2016 (KB4484214) 64-Bit Edition
KB4484258	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=101186">https://www.microsoft.com/en-us/download/details.aspx?id=101186</a>	Security Update for Microsoft Office 2016 (KB4484258) 64-Bit Edition
KB4484300	<a href="https://www.microsoft.com/en-us/download/details.aspx?id=101166">https://www.microsoft.com/en-us/download/details.aspx?id=101166</a>	Security Update for Microsoft Word 2016 (KB4484300) 64-Bit Edition
KB4505225	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4505225">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4505225</a>	Install "Security Update for SQL Server 2017 RTM CU (KB4505225)"
KB4532933	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4532933">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4532933</a>	Note: This needs to be installed post Altix BT21



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		upgrade. Install “2020-01 Cumulative Update for .NET Framework 4.8 for Windows 10 Version 1607 for x64 (KB4532933)”
<b>Windows Server 2016 (INW)</b> <b>Note:</b> Customer can install applicable Microsoft SQL Server 2017 and Operating System security patches released prior to July 2019.		
KB	Link	Notes (Applicable Patches. Patches to be applied in the order listed.)
KB4576750 September 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4576750">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4576750</a>	Install “2020-09 Servicing Stack Update for Windows Server 2016 for x64-based Systems (KB4576750)”
KB4586830 November 2020 Cumulative Security Update	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4586830">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4586830</a>	Install “2020-11 Cumulative Update for Windows Server 2016 for x64-based Systems (KB4586830)”
KB4505225	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4505225">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4505225</a>	Install “Security Update for SQL Server 2017 RTM CU (KB4505225)”
KB4532933	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4532933">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4532933</a>	Note: This needs to be installed post Altix BT21 upgrade. Install “2020-01 Cumulative Update for .NET Framework 4.8 for Windows Server 2016 for x64 (KB4532933)”
<b>Software Only Review (Windows 10 Pro, Windows 10 Enterprise)</b>		



Note: All applicable released patches are qualified, and it is the responsibility of hospital to keep them up to date.

## MLCL v7.1 Qualified Patch List

**Note:** Below is the list of previously qualified patches for reference only.

Windows 10 LTSC 1607 x64 (Acquisition & GE Review)		
KB	Link	Notes (Applicable Patches. Patches to be applied in the order listed.)
KB4512517	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4512517">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4512517</a>	Windows 10 LTSC version 1607 x64 Cumulative Security Update 08-2019
KB4516044	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4516044">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4516044</a>	Windows 10 LTSC version 1607 x64 Cumulative Security Update 09-2019
KB4524152	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4524152">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4524152</a>	Windows 10 LTSC version 1607 x64 Cumulative Security Update for IE
KB4519998	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4519998">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4519998</a>	Windows 10 LTSC version 1607 x64 Cumulative Security Update 10-2019
KB4525236	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4525236">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4525236</a>	Windows 10 LTSC version 1607 x64 Cumulative Security Update 11-2019



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KB4520724	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4520724">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4520724</a>	Windows 10 LTSPB version 1607 x64 Service Stack Update 11-2019
KB4530689	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4530689">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4530689</a>	Windows 10 LTSPB version 1607 x64 Cumulative Security Update 12-2019
KB4534271	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4534271">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4534271</a>	Windows 10 LTSPB version 1607 x64 Cumulative Security Update 01-2020
KB4537764	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537764">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537764</a>	Windows 10 LTSPB version 1607 x64 Cumulative Security Update 02-2020
KB4540670	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4540670">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4540670</a>	Windows 10 LTSPB version 1607 x64 Cumulative Security Update 03-2020
KB4550929	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550929">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550929</a>	Windows 10 LTSPB version 1607 x64 Cumulative Security Update 04-2020
KB4550994 April 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550994">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550994</a>	Install "2020-04 Servicing Stack Update for Windows 10 Version 1607 for x64-based Systems (KB4550994)"
KB4565912 July 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565912">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565912</a>	Install "2020-07 Servicing Stack Update for Windows 10 Version 1607 for x64-based Systems (KB4565912)"
KB4565511 July 2020 Cumulative Security Update	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565511">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565511</a>	Install "2020-07 Cumulative Update for Windows 10 Version 1607 for x64-based Systems (KB4565511)"



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### Windows Server 2016 (INW)

**Note:** Customer can install applicable Microsoft SQL Server 2017 and Operating System security patches released prior to July 2019.

KB	Link	Notes (Applicable Patches. Patches to be applied in the order listed.)
KB4509091	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4509091">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4509091</a>	Service Stack Update 07-2019 for Windows Server 2016 x64-based Systems
KB4512517	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4512517">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4512517</a>	Cumulative Security Update 08-2019 for Windows Server 2016 x64-based Systems
KB4516044	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4516044">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4516044</a>	Cumulative Security Update 09-2019 for Windows Server 2016 x64-based Systems
KB4524152	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4524152">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4524152</a>	Cumulative Security Update for IE for Windows Server 2016 x64-based Systems
KB4519998	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4519998">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4519998</a>	Cumulative Security Update 10-2019 for Windows Server 2016 x64-based Systems
KB4525236	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4525236">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4525236</a>	Cumulative Security Update 11-2019 for Windows Server 2016 x64-based Systems
KB4520724	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4520724">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4520724</a>	Service Stack Update 11-2019 for Windows Server 2016 x64-based Systems
KB4530689	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4530689">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4530689</a>	Cumulative Security Update 12-2019 for Windows Server 2016 x64-based Systems



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KB4534271	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4534271">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4534271</a>	Cumulative Security Update 01-2020 for Windows Server 2016 x64-based Systems
KB4537764	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537764">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4537764</a>	Cumulative Security Update 02-2020 for Windows Server 2016 x64-based Systems
KB4540670	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4540670">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4540670</a>	Cumulative Security Update 03-2020 for Windows Server 2016 x64-based Systems
KB4550929	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550929">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550929</a>	Cumulative Security Update 04-2020 for Windows Server 2016 x64-based Systems
KB4550994 April 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550994">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4550994</a>	Install "2020-04 Servicing Stack Update for Windows Server 2016 for x64-based Systems (KB4550994)"
KB4565912 July 2020 SSU	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565912">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565912</a>	Install "2020-07 Servicing Stack Update for Windows Server 2016 for x64-based Systems (KB4565912)"
KB4565511 July 2020 Cumulative Security Update	<a href="https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565511">https://www.catalog.update.microsoft.com/Search.aspx?q=KB4565511</a>	Install "2020-07 Cumulative Update for Windows Server 2016 for x64-based Systems (KB4565511)"



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## Contact Information

If you have any additional questions, please contact our Technical Support Department.