



# LifeSys™ RIS PACS

## System Requirements: Hardware and Software

Version 10.0317  
March 17, 2020<sup>1</sup>

---

<sup>1</sup> The information contained in this document is accurate as of the date of publication. It may however become outdated quickly, because it deals with technical specifications and similar matters. For the latest information and version of Lifetrack's Platform Requirements, please visit <https://lifetrackmed.com/en/platform-requirements/>.



## Table of Contents

1.	General System Requirements	3
2.	Server Hardware and Software Requirements	3
2.1.	On-Site Server - Standard Rack Unit	3
2.2.	On-Site Server - Standard Tower Unit	4
2.3.	On-Site Server - NUC server	5
3.	Workstation Hardware and Software Requirements	6
3.1.	Software Requirement	6
3.2.	Radiology Reading Station – Standard	7
3.3.	Radiology Reading Station – NUC	8
3.4.	Clinical and Radiographer Workstation	9



## 1. General System Requirements

This document outlined the minimum and recommended hardware, software and network requirements for LifeSys RIS PACS. Possible bottlenecks are: lack of RAM, CPU speed and disk transfer rates.

Hardware must meet the minimum specifications or better. Lifetrack's warranty, service and support provisions are void when minimum specifications are not met. We strongly recommend to meet or exceed the recommended specifications in order to use LifeSys RIS PACS at the highest performance.

## 2. Server Hardware and Software Requirements

Considerations in choosing the type of server to install:

- Number of concurrent users
- Volume of cases
- Required level of redundancy

### 2.1. On-Site Server - Standard Rack Unit

*Recommended for most tertiary-level hospitals*

CPU	Minimum	Recommended
Form Factor	Rack Unit Standard 2U Form Factor Server Case	Rack Unit Standard 2U Form Factor Server Case
Processor	Intel Skylake Quad Core I7	Intel 4Core Xeon at least 3.2Ghz
Memory	16 GB RAM	32 GB RAM
UPS	Redundant 500W 2U power supply Hot swappable power supply Smart UPS	Redundant 500W 2U power supply Separate Smart UPS 2000W Hot swappable power supply
Graphics	On-board graphics card	On-board graphics card



Hard Drive	Motherboard with RAID controller supporting RAID 1 / 5 / 6 / 10 2 identical HDDs of at least 1TB for RAID 1 archive (4 drives for RAID 6 strongly recommended)* <i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long studies need to be stored</i>	Motherboard with RAID controller supporting RAID 1 / 5 / 6 / 10 2 identical HDDs of at least 1TB for RAID 1 archive (4 (or more) drives for RAID 6 strongly recommended)* <i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long studies need to be stored</i>
Network Controller	Gigabit Ethernet LAN - 2 ports	Gigabit Ethernet LAN - 2 ports
Operating System	Ubuntu Server (latest stable version) 128GB SSD for OS	Ubuntu Server (latest stable version) 2 pcs 128GB SSD for OS (mirrored)

## 2.2. On-Site Server - Standard Tower Unit

*Recommended for most primary to secondary-level hospitals and selected diagnostic imaging facilities*

CPU	Minimum	Recommended
Form Factor	Tower Unit	Tower Unit
Processor	Intel Skylake Quad Core I7	Intel Skylake Quad Core I7 or better
Memory	16 GB RAM	32 GB RAM
UPS	500 W Redundant power supply Hot swappable power supply (if possible) Smart UPS	500 W Redundant power supply Hot swappable power supply (if possible) Separate Smart UPS 2000W



Graphics	On-board graphics card	On-board graphics card
Hard Drive	<p>Motherboard with RAID controller supporting RAID 1 / 5 / 6 / 10</p> <p>2 identical HDDs of at least 1TB for RAID 1 archive (4 drives for RAID 6 strongly recommended)*</p> <p><i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long studies need to be stored</i></p>	<p>Motherboard with RAID controller supporting RAID 1 / 5 / 6 / 10</p> <p>2 identical HDDs of at least 1TB for RAID 1 archive (4 drives for RAID 6 strongly recommended)*</p> <p><i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long studies need to be stored</i></p>
Network Controller	Gigabit Ethernet LAN - 2 ports	Gigabit Ethernet LAN - 2 ports
Operating System	<p>Ubuntu Server (latest stable version)</p> <p>128GB SSD for OS</p>	<p>Ubuntu Server (latest stable version)</p> <p>2 pcs 128GB SSD for OS (mirrored)</p>

### 2.3. On-Site Server - NUC server

*Recommended for most diagnostic imaging facilities*

CPU	Minimum	Recommended
Form Factor	NUC platform	NUC platform
Processor	<p>Intel 8th generation NUC (ex. NUC8i3BEH)</p> <p>Intel i3-8109U processor</p> <p>Intel HD 520/SODIMM DDR4/MSATA SSD/2.5" HDD</p>	<p>Intel 8th generation NUC (ex. NUC8i3BEH)</p> <p>Intel i3-8109U processor</p> <p>Intel HD 520/SODIMM DDR4/MSATA SSD/2.5" HDD</p>



	HDMI/Mini-DisplayPort, USB3.0 WiFi, GLAN, Power Adapter	HDMI/Mini-DisplayPort, USB3.0 WiFi, GLAN, Power Adapter
Memory	16 GB RAM	32 GB RAM
Graphics	On-board graphics card	On-board graphics card
Hard Drive	RAID 6 (NAS) – Storage* <i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long you want to store the studies</i>	RAID 6 (NAS) – Storage* <i>*Size of the drive may vary depending on the number of modalities, volume of studies stored and how long you want to store the studies</i>
Operating System	Ubuntu Server (latest stable version) 128 GB SSD for the OS	Ubuntu Server (latest stable version) 128 GB SSD for the OS
UPS	500 W Redundant power supply Smart UPS	500 W Redundant power supply Smart UPS

### 3. Workstation Hardware and Software Requirements

#### 3.1. Software Requirement

Operating System	LifeSys is operating system agnostic and works with any operating system that can run a chromium-based browser. For optimum performance, Lifetrack recommends to use the latest version.
Browser	Chromium-based browser <ul style="list-style-type: none"> <li>● Google Chrome</li> <li>● Brave</li> <li>● Chrome-based Microsoft Edge</li> <li>● Chromium</li> </ul>



### 3.2. Radiology Reading Station – Standard

CPU	Minimum	Recommended
Processor	Intel i7- 8th generation or above	Intel i7- 8th generation or above
Memory	8 GB RAM	16 GB or higher
Graphics	1GB Video RAM, DirectX 10 compatible discrete graphics card with capability to support at least 2 monitors simultaneously	NVidia GT970 graphics card (or equivalent) or higher 1GB Video RAM, DirectX 10 compatible discrete graphics card with capability to support at least 2 monitors simultaneously
Hard Drive	512 GB SSD (with at least 125 GB free and usable space)	1TB SSD or higher (with at least 500 GB free and usable space)
Dual Monitor Options	Dual QHD monitors (2560 x 1440) 1 QHD monitor and 1 4k (UHD) monitor  American College of Radiology (ACR) Spec Requirement: <ul style="list-style-type: none"> <li>● Graphic bit depth - at least 8bit</li> <li>● Brightness - at least 350 cd/m2</li> <li>● Pixel pitch - about 0.200 mm to 0.210mm</li> <li>● Aspect ratio - 3:4 or 4:5</li> </ul>	Dual QHD monitors (2560 x 1440) 1 QHD monitor and 1 4k (UHD) monitor  American College of Radiology (ACR) Spec Requirement: <ul style="list-style-type: none"> <li>● Graphic bit depth - at least 8bit</li> <li>● Brightness - at least 350 cd/m2</li> <li>● Pixel pitch - about 0.200 mm to 0.210mm</li> <li>● Aspect ratio - 3:4 or 4:5</li> </ul>



### 3.3 Radiology Reading Station – NUC

CPU	Minimum	Recommended
Processor	Intel i7 - 8th generation NUC (ex. NUC8i7BEH)  Intel i7-8559U processor  Intel Iris Plus 655/SODIMM DDR4/MSATA SSD/2.5" HDD  HDMI/Mini-DisplayPort, USB3.0  WiFi, GLAN, Power Adapter	Intel i7 - 8th generation NUC (ex. NUC8i7HVK Hades Canyon)  Intel Core i7-8809G  Radeon™ RX Vega M GL Graphics, 4GB HBM2, DDR4, 2x M.2
Memory	8 GB RAM	16 GB or higher
Hard Drive	512 GB SSD  (with at least 125 GB free and usable space)	1TB SSD or higher  (with at least 500 GB free and usable space)
Dual Monitor Options	Dual QHD monitors (2560 x 1440)  1 QHD monitor and 1 4k (UHD) monitor   American College of Radiology (ACR) Spec Requirement: <ul style="list-style-type: none"> <li>● Graphic bit depth - at least 8bit</li> <li>● Brightness - at least 350 cd/m2</li> <li>● Pixel pitch - about 0.200 mm to 0.210mm</li> <li>● Aspect ratio - 3:4 or 4:5</li> </ul>	Dual QHD monitors (2560 x 1440)  1 QHD monitor and 1 4k (UHD) monitor   American College of Radiology (ACR) Spec Requirement: <ul style="list-style-type: none"> <li>● Graphic bit depth - at least 8bit</li> <li>● Brightness - at least 350 cd/m2</li> <li>● Pixel pitch - about 0.200 mm to 0.210mm</li> <li>● Aspect ratio - 3:4 or 4:5</li> </ul>





### 3.4 Clinical and Radiographer Workstation

CPU	Minimum
Processor	Intel i5 at least 8th generation
Memory	8 GB RAM
Hard Drive	500 GB SSD (with at least 250 GB free and usable space)
Accessories	CD writer Printer



## LifeSys™ RIS PACS Hardware Specifications

Lifetrack Medical Systems Private Ltd  
1B Trengganu Street  
Singapore 058455  
www.lifetrackmed.com

### Revision Table

Rev	Date	By	Notes
6.1212	2016-12-12	CG	Initial document generation for software version 2
6.1222	2016-12-22	CG	Added specification for Mammogram workstation
7.0103	2017-01-03	CG	Added specification for NUC server and NUC workstation
7.0309	2017-03-09	CG	Updated hard drive requirement for RAID 6
7.0525	2017-05-25	CG	Updated NUC server specs
7.0530	2017-05-30	CG	Minor revisions
7.0901	2017-09-01	CN	Updated minimum specs for Onsite Servers
7.0904	2017-09-04	CN	Minor revisions and formatting change
8.0126	2018-01-26	CG	Updated specs
8.0712	2018-07-12	CF	Updated RAID specifications
9.0405	2019-04-05	CG	Updated recommended NUC workstation
10.0122	2020-01-22	CG	Updated recommended workstation specs



10.0317	2020-03-17	LG	Updated recommended NUC processors
10.0.331	2020-03-31	LG	Updated RAID, Clinical workstation, and Monitor specs,