# Hardware Specifications for Opal-RAD only - Opal database 2.4+

**ENSURE you send below IT Personnel requirements to avoid delays during setup**

The minimum hardware specifications required for all dealer and customer supplied equipment as follows:

| Viewing Workstation | | Minimum | Recommended |
|---|---|---|---|
| | CPU | 8th Gen Intel® Core® i3  or better | 12th Gen Intel® Core® i3  or better |
| | RAM | 8 GB | 16 GB or greater |
| | NIC | Single 100MB/s | Single 1000MB/s |
| | Data Drive | Any | SATA SSD or PCIe NVMe |
| | Operating System | Windows 10 64 Bit** | Windows 10 or Windows 11 Bit** |
| | Monitor | 19 Inch 1440x900 or greater | 1920X1080 or greater, 95PPI or better |

| Mini-PACS Server replacement* | | Minimum | Recommended |
|---|---|---|---|
| | CPU | 8th Gen Intel® Core® i5  or better | 12th Gen Intel® Core® i5 or better |
| | RAM | 8 GB DDR4 Single-Channel | 16 GB DDR5 Dual-Channel |
| | NIC | Single 100MB/s | Single 1000MB/s |
| | UPS | Single 425VA | Single 425VA or greater |
| | OS/Data Drive | 500GB HDD SATA | 1TB NVMe SSD or 1 TB HDD RAID 1 |
| | Operating System | Windows 10 Pro 64 Bit** | Windows 10 Enterprise 64 Bit** |

| Server-Class PACS Server replacement* | | Up to 100 Users | Unlimited Users |
|---|---|---|---|
| | CPU | Intel® Xeon® E-2224 | Intel® Xeon® E-2236 or better |
| | RAM | 16 GB | 32 GB or greater |
| | NIC | Single 1000MB/s | Dual 1000MB/s |
| | UPS | Server spec compatible | Server spec compatible |
| | OS/Data Drive | 500GB SATA RAID 1 or greater | 1TB SAS RAID 1 or greater |
| | Operating System | Windows Server 2019 64 Bit[†] | Windows Server 2019 64 Bit[†] |

| Acquire replacement | |
|---|---|
| | **NOT AUTHORIZED**<br>Acquisition PC equipment must be supplied from Konica Minolta. All suppliers including Konica Minolta provided PCs go through a strict approval and auditing process. Selection of suppliers is part of the development process as defined in the Design and Development Procedure. We provide the Supplier with specific Specs based on the Software Dev requirements.  As a medical device company, KMHA is required by regulations and standards to evaluate, monitor, and approve suppliers (ref. ISO 13485:2016, § 7.4). See https://www.iso.org/obp/ui/#iso:std:iso:14971:ed-2:v2:en for more information |

**IMPORTANT:** IT Personnel Requirements (forward to IT Personnel)

**During Windows Installation:**
- PC Names - Win10/11 Server: OPAL_QC | WinSrv16/19/22 Server: OPAL_SRV
- 2020 technicians will need Windows user/pass for any new computers being set up (local account)
- It is also required any new computer be on a WORKSTATION, not DOMAIN, with full Admin rights
- Windows Operating System must be genuine & activated

**Post Windows Installation:**
- Change Windows Power Plan to 'High Performance'
- All Windows updates need to be performed and up-to-date / current [IMPORTANT!]*
- Microsoft Security Essentials / Windows Defender required for anti-virus. Other Anti-virus software may interfere with Opal (see 2020imaging.net/security for exclusions)
- A Static IP Address is highly recommended to be set up on the Server
- Install Teamviewer 14 Host, record 9-digit ID and password for 20/20 Imaging team
- No other 3rd party software should be installed. A Clean install of Windows only is required.

**Post Opal Software Installation Notes:**
- You can change to a DOMAIN after 2020 has fully configured both computers.
- Refer to security guide for port and directory exclusions if a DOMAIN is used (after setup)

**Additional Requirements & Notes**

*Server may be ran in a virtual environment if specifications are met
**Windows 10s (Basic/Core) NOT SUPPORTED
**Windows 7/8 Ultimate/Enterprise or Windows 10 Pro/Enterprise required for Encryption; Windows Bit-locker compatible only - full drive encryption

- All customer supplied hardware should be installed prior to the implementation by 20/20
- For customer supplied Server Equipment: There will be an additional install installation charge, and may be an hourly expense for time spent resolving compatibility issues beyond the scope of a normal installation.
- While it is 20/20's goal to provide software for existing computers, we cannot accept responsibility for third party software conflicts.
- Compatible Workstation browser: Current versions of Microsoft Edge