CLIENT PC/SERVER RECOMMENDATIONS

IMAGIC IMS V26 WITH NETWORK SOLUTION

Purpose of document

Our experience has proven that an early involvement of the IT department in the purchasing process of an Imagic Image Management System (“IMS”) is highly beneficiary for an efficient implementation process. The aim of this document is to give the IT department a first overview of the IT infrastructure required for smooth functioning of IMS.

After an order has been placed, a support engineer from Imagic will contact the customer's IT department to jointly define the detailed installation procedure.

Recommended configuration for Image Acquisition Client PC

Processor:	12 cores at 4.5 GHz (e.g. AMD Ryzen 9 7900 / Intel Core i7-14700)
Main Memory:	≥ 32 GB RAM
Graphics Adapter:	OpenGL-capable graphics card with up-to-date drivers
Monitor:	Resolution 1920x1080 pixels (Full HD) or higher

Please note: *For large X-Y scanning and stitching functions, image analysis, large reports or other complex operations we recommend ≥ 64 GB main memory (RAM), and a processor with 16 cores at 5 GHz (e.g. AMD Ryzen 9 9950X / Intel Core i9-14900).*

Recommended configuration for Office Client PC

Processor:	8 cores, 3.5 GHz (z.B. AMD Ryzen 7 7735U / Intel Core Ultra 7 265U)
Main Memory:	≥ 16 GB RAM
Graphics Adapter:	OpenGL-capable graphics card with up-to-date drivers
Monitor:	Resolution 1920x1080 pixels (Full HD) or higher

Please note: *For image analysis, large reports or other complex operations we recommend ≥ 32 GB main memory (RAM) and a processor with 12 cores at 4.5 GHz (e.g. AMD Ryzen 9 7900 / Intel Core i7-14700).*

Other recommendations for an Image Acquisition- or Office Client PC

Operating System:	Windows 11 Business / Enterprise / Pro (64-Bit)
Microsoft Office:	Microsoft Office 365 desktop versions (64-Bit or 32-Bit, recommended 64-Bit) Microsoft Office 2024 (64-Bit or 32-Bit, recommended 64-Bit) Microsoft Office 2021 (64-Bit or 32-Bit, recommended 64-Bit)

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Recommended minimal configuration for IMS Application Server

Prozessor: x64 with 4 cores and 2.5 GHz (e.g. Intel Xeon / AMD EPYC)

Main Memory: ≥ 16 GB RAM

Software: Windows Server 2022 (64-Bit) or Windows Server 2025 (64-Bit)

Please note: *Depending on database size and the numbers of concurrent client sessions as well as additional server modules in use we recommend a higher configuration (for specific details please contact your sales/support engineer). If Microsoft SQL Server is run on the application server we recommend at least 24 GB of RAM and a processor with 6 cores.*

Recommended configuration for Database Server

Hardware: Follow vendor recommendations for the Microsoft SQL Server / Oracle Server Version in use and scale as required

Software: Windows Server 2022 (64-Bit) or Windows Server 2025 (64-Bit)
Microsoft SQL Server 2019 / 2022 / 2025 Standard Edition
(*The free Microsoft SQL Server Express Edition can also be used for smaller network solutions and database sizes up to approx. 70'000 records)
(**Oracle 19c, 21c, 23c or 23ai are also supported for larger network solutions and unlimited database sizes)

Recommended configuration for File Server

As file server we recommend a physical server or a NAS (Network Attached Storage System) with the highest possible network speed (ideally Gigabit-Ethernet), as well as with the best possible single disk performance.

IMS Client/Server Concept

We recommend a LAN with ≥ 1 Gbit/s and latencies ≤ 50 ms

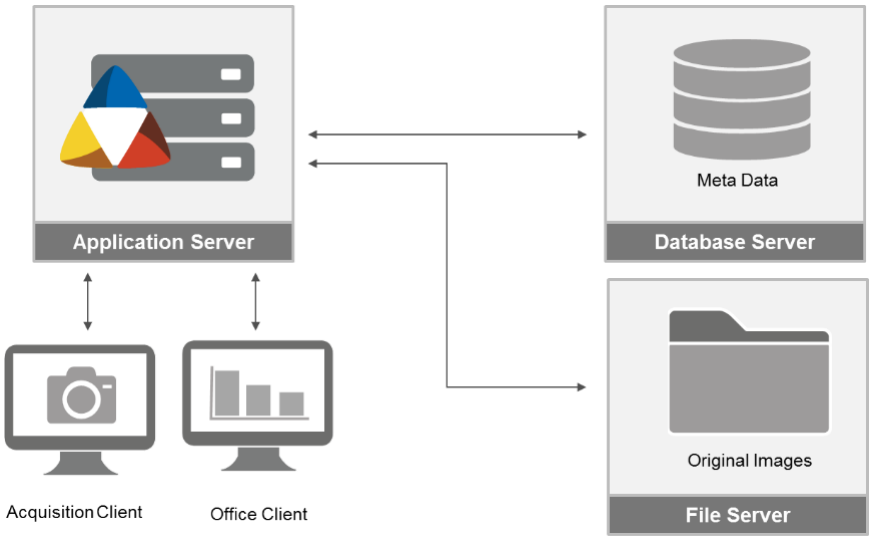

Illustration: Simplified architecture of IMS Client/Server concept

Recommended configuration for AI-Server (JAIPE 11)

To use the AI functions in Imagic IMS, the Imagic AI microservice JAIPE 11 is run on a Linux server. The required resources depend on the models used and the maximum number of concurrent AI users.

Operating system and container operation

Recommended operating system: Debian 12 or a later Debian version is recommended. Debian 13 and Ubuntu 22.04 LTS have been tested.

Red Hat Linux Enterprise (RHEL) and other Linux distributions only after consultation with support.

Docker: Docker Engine must be installed. Administrative access (root) is required for installation and maintenance. Installation with Podman is only permitted after consultation with support.

Security: SELinux is possible – Shared Memory and Semaphores must be enabled. Kernels with W^X hardening (e.g. PAX or ExecShield) are not supported.

Storage: Sufficient local storage space must be available for Docker images, AI model files (.dat), configurations and logs. Default data path: /opt/imagic; the specific requirement depend on the models.

CPU and main memory (RAM) guidelines

AI models without MECS:

Concurrent AI user	CPU cores	RAM (1 model)	RAM per additional model
Up to 5	4	4,5 GB	+ 0,5 GB
Up to 10	8	8 GB	+ 0,5 GB
Up to 20	8	16 GB	+ 0,5 GB

MECS models are used for microstructure analysis, such as grain size analysis. They are computationally intensive; GPU acceleration should be considered for more than three concurrent users.

Concurrent AI user	CPU cores	RAM (1 model)	RAM per additional model
1	6	64 GB	+ 0,5 GB
2	8	96 GB	+ 0,5 GB
3	12	128 GB	+ 0,5 GB

Network connections

Connection	Protocol / Standard port
IMS Server to JAIPE-Server	HTTPS, TCP 18086
JAIPE-Server to Config-Server	HTTPS, standard TCP 443; DNS resolution and a matching certificate hostname are required
JAIPE-Server to Imagic Registry	HTTPS, TCP 443 (alternatively, offline provision of the container images)
Between microservices	HTTPS; multiple ports according to installation

Ports may vary and must be opened in the firewall according to the installation. Load balancers, non-transparent proxies and SSL-Offloading are not supported.

Optional GPU acceleration

GPU acceleration is available only for selected JAIPE 11 models (among others single/dual-phase grain size, dual-phase phase component and image similarity search). A compatible NVIDIA GPU with at least 16 GB of VRAM per model, NVIDIA Open Kernel driver version 610 or later and NVIDIA Container Toolkit (tested with version 1.19.1-1) are required. Debian 12 or later has been tested. AMD GPUs are not supported. Each model uses one GPU.

Glattbrugg, October 2026