LOGIS Production Planner

v2024.12.a, Standard Edition

Supported Platforms

LOGIS
PLANNING FOR EFFICIENCY

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1. Supported Platforms

In the case of LPP, the Platform is the Operating System and Database System in the environment of which the server part of the application can be operated.

1.1. Operating System

The server application is supported on Microsoft Windows Server and on Red Hat Enterprise Linux.

The supported versions of Microsoft Windows Server are:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- Microsoft Windows Server 2022

The supported versions of Red Hat Enterprise Linux are:

- Red Hat Enterprise Linux 7.2
- Red Hat Enterprise Linux 7.7
- Red Hat Enterprise Linux 7.8
- Red Hat Enterprise Linux 8.3

Note that the compatibility list is, to an extent, restricted by the requirements of the included HASP driver software manufactured by Thales, Inc.

The software may run on additional platforms similar to the above, including the client versions of Microsoft Windows, and other Linux distributions (e.g. CentOS).

Note that typically the license terms of LOGIS Production Planner include the intended platform (Windows or Linux), so you may only run the software on the platform indicated by your licensing agreement.

1.2. Database

The supported database servers for hosting the LADB (LOGIS Application Database), a part of LOGIS Production Planner, are the following.

Microsoft SQL Server:

- Microsoft SQL Server 2016
- Microsoft SQL Server 2017
- Microsoft SQL Server 2019

Oracle Database:

- Oracle Database 18c
- Oracle Database 19c

IBM Db2:

- IBM Db2 v11.1

PostgreSQL:

- PostgreSQL 14.2

Other than for Oracle Database, the corresponding 64-bit ODBC driver must be available on the application server.

2. Operating environment – requirements and recommendations

This chapter provides basic information regarding the expected demands on the operating environment of LPP. Also please refer to "Operating environment – requirements and recommendations" on page 6.

2.1. Server

2.1.1. CPU and RAM

There is no strict minimal requirement regarding the CPU performance. The CPU performance only affects the processing speed of the planning model. The resulting planning system performance is also dependent on the planning model size and complexity, the performed planning actions and their computational complexity.

The generally recommended minimum is meeting or exceeding the equivalent of the processing power of the following CPU models:

- Intel XEON E-2288G (3.7GHz, 12 cores, 16MB L3 cache)
- Intel XEON W-1290P (3.7GHz, 10 cores, 20 MB L3 cache)

The LOGIS Production Planner only accesses the data in the database during batch load or batch save. Any computations are performed on data in RAM. As a consequence, the performance of the planning model is only dependent on the combination of the CPU and the speed of RAM.

Regarding CPU performance, note that both total multi-threaded and single thread performance are important. The planning model is designed to make use of multiple CPU cores for specific tasks, but some tasks cannot be parallelized and are restricted to a single thread of execution. The size of the L3 cache may be very important to the overall performance.

The minimum recommendable amount of RAM is 1 GB RAM per server application instance.

It is crucial for the performance that the planning model entirely fits in RAM so that paging (swapping) is not necessary. A typical large planning model may need around 16 GB RAM; very large models may need up to 64 GB RAM. Note that some models memory consumption may increase during the day by around 30% (e.g. to keep planning history data).

2.1.2. Disk space

Since LOGIS Production Planner uses the database as the source of the planning model data and for persistent storage and interfacing purposes, the disk space requirements on the application server are not high. The minimum is 1 GB of free disk space, but keeping at least 10 GB free is strongly recommended. The free disk space may be needed temporarily during maintenance or upgrades.

It is recommended to check the server free disk space regularly.

2.1.3. Virtualized Application Servers

It is possible to run LOGIS Production Planner on a virtualized system.

Note that the performance overhead associated with virtualization needs to be taken into account. At the same time, virtualized systems may compete for resources and may be hard to properly configure such that they continuously provide the required performance. For that reason, any performance issues of the planning system are best diagnosed on physical hardware (which rules out any potential virtualization misconfiguration or overload issues).

2.2. Network

The minimum recommended network bandwidth is 1Gbps.

The network bandwidth between the application server and the database server directly affects the speed of the planning model startup and the time it takes to save the planning results.

Regarding the link between the application server and the end-user workstations, there are two factors: the latency ("ping time") and the bandwidth. The recommended response time is around 1-2ms, and the recommended bandwidth is 1Gbps.

2.3. End-user Workstations

2.3.1. Operating System

The supported end-user workstation (PC) operating systems include:

- Microsoft Windows 7 SP1
- Microsoft Windows 8.1
- Microsoft Windows 10
- Microsoft Windows 11

> *Note:* As an unsupported platform, it has been previously successfully tried to run the client application on Linux under WINE. Please contact LOGIS for assistance if you need help with setting up WINE for this use (in short, you need 32-bit WINE, install fonts such as *MS Arial Unicode*, and install `winetricks fontsmooth-rgb`).

2.3.2. Hardware

The workstations are required to have at least Full HD (1920x1080) resolution; 2 monitors may be beneficial for some user scenarios. A mouse or a similar pointing device is required. A network connection to the application server is required (the client application only works when connected to the server application).

2.4. Interoperability Notes

Running third party software and using specific application or system configuration on the application server and/or on the end-user workstations may in general cause interoperability issues; LOGIS bears no responsibility in this regard. LOGIS offers the following best practices for your consideration.

There are known cases of security (anti-virus) software causing issues, especially heuristic driven rules quarantining LOGIS applications' executable files. If possible, use exclusions to ensure that the availability of LOGIS applications is not affected by the security software.

An important aspect of ensuring high availability of applications is a controlled deployment of system and other application updates to the production environment. This includes operating system updates (patches, service packs, etc.) and security software updates, including rules and virus database updates. You are strongly advised to not install such updates to production environment automatically. The best practice is to run a separate test environment, install any such updates there first, and only after verifying the impact of the updates it is possible to proceed and deploy the changes to the production environment. Similar rules apply to the deployment of changes to end-user workstations.

2.5. Reservation to Requirements and Recommendations

The resulting performance of the planning system depends, among other things, on the size and complexity of the planning model, the planning actions performed and their computational complexity, and possibly on other influences (for example, the extent and complexity of customizations). However, at the time of commencing Implementation, the resulting size and complexity of the planning model can only be estimated at a rough level, as the details of the solution will only emerge during Implementation. It is also common during Implementations that requirements must be included in the solution that were not known at the beginning of the Implementation and that may have a significant impact on server configuration requirements. Although adherence to the above recommendations usually results in a sufficiently configured operational environment, for the reasons stated above, it cannot be guaranteed that the server configuration will always be suitable for the routine operation of the resulting planning system when the Requirements and Recommendations are followed.

Insufficient server configuration for routine operation of the scheduling system can be avoided by the following:

- Using a temporary server for implementation purposes.

  During the implementation, the system is not under heavy load, so a less powerful server can be used temporarily (in fact, we know from experience that companies can find a server for such purposes without having to buy a new computer).

- In the final stage of the implementation, when the planning model is ready and the data is available in full, rent a cloud-based server of with configuration of your choice for a short period of time and verify the suitability of the configuration with a test run. The operational server(s) can then be procured knowing what performance can be expected. Thus, the price and performance of the servers can be determined in this way.