

## Recommendations for Standard ERP server hardware, software and network infrastructure

August 2023

### Cloud Node & MyStandard

Businesses that are looking to cut hardware costs and save time otherwise spent on maintenance and IT are prime beneficiaries of the cloud hosting services offered by HansaWorld. Our server partners include IBM and Amazon, which enable a secure and reliable hosting environment that can be adapted to your specific business needs. Automatic backups can be made regularly and downloaded through MyStandard, a personalized portal for server management.

Hosting through HansaWorld includes a Cloud Node installation, providing complete control over the server hosting your company and allowing for efficient remote hardware management through the MyStandard portal. MyStandard enables you to:

- Start, stop and restart your server on demand, resolve server issues.
- Manage recoveries and routine backups.
- Ensure your system is up-to-date with the latest technology.

Managing your hosted server remotely reduces the cost of ownership significantly and eliminates the need for expensive maintenance specialists.

### Standard ERP Server Hardware

Standard ERP is typically installed as the core ERP system of a business, or as the core ERP system integrated with an online front-end system, making it the most critical piece of software used by our customers. As their businesses mature, and their usage of Standard ERP changes, hardware requirements also change. The potential for failure increases as hardware ages. The costly risks of a slow or unavailable installation therefore need to be avoided. For these reasons, we recommend that customers plan on purchasing a new server every 12 to 18 months. An old server can usually be repurposed for less critical duties outside of the primary ERP system.

**Note:** We require our customers to have reserve machines in place as a contingency in the event of hardware failure.

For hardware recommendations, firstly, we review three factors that determine performance requirements. These factors should be measured at the peak hour of the month or year if the business is highly seasonal:

- Number of simultaneous active users: Calculation required if the system is to be licensed with named users.
- Type of users: CRM, Stock, Invoicing, Bookkeeping, POS, Hotel and so on.
- Type and number of interactive transactions added and changed.

Special considerations may require an increase in the size of the system:

- System availability required outside office hours leads to reduced maintenance windows.
- Large quantities of historical data saved in the system.
- Complex customizations.
- Large or frequent imports of data from other systems.
- Integrated web-server with more than five hundred visitors per day.

If you expect usage to be very heavy or very light, you will need to account for:

- Extra capacity if you run other functions, such as those listed in the previously described special considerations.
- Other software running on the server machine and their respective requirements to operate.

Here, we outline four sample configurations that provide for steady performance with normal usage. Each example refers to normal users on a typical system with Sales, Purchase and Nominal Ledgers, Logistics and CRM. Needs may vary for those on a system with a significantly different usage pattern. A high-volume Point of Sales environment, for example, may require more powerful hardware than the average environment if users create many, extensive invoices that update inventory figures simultaneously.

## Small Server (up to 10 users)

- CPU 3 GHz base frequency, two cores
- RAM 8 GB
- Disk 2 mirrored SSD units
- Network 100 Mb/s

## Medium Server (up to 30 users)

- CPU 3 GHz base frequency, four cores
- RAM 16 GB
- Disk 2 mirrored SSD units
- Network 1 Gb/s (for backups over the network)

## Medium to Large Servers (up to 60 users)

- CPU 3.5 GHz base frequency, eight cores
- RAM 24 GB
- Disk 4 SSD units in RAID configuration
- Disk 4 disks in RAID configuration for OS and backups
- Network 1 Gb/s (for backups over the network)
- Database Accelerator is recommended.

We recommend current generation (2023) ARM CPUs or Intel and AMD x86 CPUs. For IBM POWER based systems, similar GHz numbers apply.

SSD units should be of the eMLC or SLC types as other types are less durable and have shorter lifespans.

For larger setups, please contact your local HansaWorld partner for assistance in configuring the appropriate hardware. A cost-effective alternative to purchasing a new server every 12 to 18 months is to use HansaWorld cloud-hosting services. For a fixed monthly rate, this provides you with access to the best hardware and the latest software, as well as the opportunity to start using the best ERP solution without additional server investments.

## RAM Recommendations

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- 2GB RAM for the operating system.
- 0.5 GB for the base Standard ERP engine.
- 10 - 50% of the database (HDB) size in additional RAM. A system with an 8 GB database, for example, should have 2.3-5.5 GB RAM. The higher percentage applies when the database contains little or no historical data, and the lower percentage when it contains 10 or more years' worth of historical data.

## Standard ERP Server Hardware

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- A 64-bit server with 64-bit operating system using arm or x64 CPU

## Standard ERP Server Software

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- macOS 13 or later
- Windows Server 2022 or later
- RedHat Enterprise Linux 9 or later
- SuSE Enterprise Linux 15 or later
- Ubuntu 22.04.2 LTS or later
- Amazon Linux Latest (currently 2023)

Only use versions of Linux distributions that are officially supported by their developers. Glibc 2.6 is required, and Linux kernel version 3.0 or later should be used.

Consider the following when choosing the software environment in which you will run Standard ERP:

- Do not use Windows desktop versions for the Standard ERP server.
- Use reliable anti-virus software when running on Windows.
- When using Windows dedicate 2GB of RAM to the operating system.
- Secure backup software is strongly recommended for all operating systems.
- When installing within a virtual environment (VMware, Parallels, Xen, etc.), care must be taken to ensure disk-writing consistency. Standard ERP ensures the consistency of its database by forcing data to the physical disk. In some configurations with visualization these features can fail to be enabled. Ensure synchronization is enabled inside the virtual environment.
- Virtualization environments have a small performance impact, especially during database rebuilds. We therefore recommend avoiding virtualization for some larger installations.
- For larger installations we recommend HansaWorld's Database Accelerator which provides a performance improvement.
- Asterisk server used by our Telephony module runs on Linux-based OS only (see supported versions above). If your Standard ERP Server is running on Mac OS or Windows Server, you will need a Linux machine for the Asterisk server in order to use Telephony.

## Business Intelligence

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When using flex.bi, or any other Business Intelligence (BI) software, you may need a separate physical server to run the BI Server application, for performance reasons. Configuration for that server will likely differ from that of the main Standard ERP server. For example, BI tools require more RAM than the Standard ERP Server application.

## Backups and Reliability

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It is crucial for your business that you take proper responsibility and care of the safety, reliability and disaster-recoverability of your installation. A modern company facing a computer disaster, and lacking proper backups, often faces serious consequences that may threaten its survival. You can keep your company secure by taking responsibility for your system and data.

Outlined below are some important recommendations. However, this is not a final checklist of everything required to be safe:

- It is vital that your disks have protection (RAID 1, 5, 1 +0, etc.). Unprotected disks, such as single disks and disks in RAID 0 configuration, put your data at considerable risk.
- Off-site backups are an important part of any backup and recovery strategy. Network transfers of backups or sending physical tapes to a different location regularly can help in this respect.
- Reserve systems and an infrastructure onto which backups can be restored are essential. A full backup and a broken machine still means your business will come to a halt until you have a functioning machine. In such circumstances it may even be necessary to order a new tape drive, which could take time to arrive.
- Test your recovery process. If you have not successfully tested your backup procedure, assume that it does not work.
- If you are running a Windows server, install a reliable anti-virus solution.

## Relational Database Connection

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If you intend to use the Relational Database Shadowing capability built into Standard ERP, you should consider the following:

- You may need a separate physical server for Oracle and Microsoft SQL databases, for performance reasons.
- Running in 'shadowed' mode impacts performance of the Standard ERP server slightly.

## Standard ERP Network Infrastructure

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Standard ERP communicates using TCP/IP networking and has relatively low bandwidth requirements. However, for a positive user experience, we do recommend a low latency.

A network connection of 30 kb/s for the first user, and another 10 kb/s per additional user, typically allows for an acceptable working environment. The recommended bandwidth is 50 kb/s for the first user and another 15 kb/s per additional user. This bandwidth should be dedicated to Standard ERP. These figures should be increased if the network is used for external purposes, such as web browsing. Bandwidth requirements will also increase in the following situations:

- Routinely producing large reports (with many pages of output).
- Attaching pictures to items, especially if you are using the CoverFlow paste special feature on macOS.
- Frequently using the Document Manager feature to attach files to records.
- If users are frequently idle, bandwidth usage decreases.

Network latency should preferably be at or below 0.1 seconds. Latencies up to 0.5 seconds can generally be accommodated, however, user experience will start to suffer at this level or above. As an example, a 128 kb/s line into the server with a 0.1 second latency can be expected to perform well for up to six users, and usable for 10 to 11 users if used exclusively for Standard ERP.

## Standard ERP Clients

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Standard ERP clients run on several platforms. These are the recommended versions:

- macOS 13 or later
- Windows 11 or later (Note: Home and Education editions are not supported)
- Android 13 or later (Note: Avoid using devices older than two years)
- iOS 17 or later

For a normal client, the system specifications required by the operating system are sufficient to run Standard ERP if no other applications are being used simultaneously. If other applications are used at the same time, more CPU and memory may be needed. For a synchronized POS client, 4 GB RAM, a 2 GHz CPU and a 100 Mb/s network are recommended.

## General

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We recommend that all updates for Windows Server and Windows Clients are fully installed at all times.