Enterprise
by HansaWorld

Recommendations for HansaWorld Server hardware, software and network infrastructure

Enterprise by HansaWorld Server Hardware

Enterprise by HansaWorld is usually installed as the core ERP system or the core ERP system with integrated on-line front-ends. This makes it the most critical piece of software most of our customers are running and the cost of a slow or unavailable installation is usually very high. As hardware gets older the risk of failure increases. As the business grows and the usage of Enterprise changes and is expanded the needs from the hardware also changes. For these reasons we recommend that customers plan for buying a new server every 12 to 18 months. The old server can usually be used for less critical duties than running the primary ERP system.

We require that our larger customers have reserve machines in place in case of hardware failure of the primary system.

When recommending the hardware we first look at three factors that determine the performance requirements. This is done for the peak hour of the month, or year if the business is highly seasonal.

- Number of concurrent users. If the system is licensed with named users this needs to be estimated

- Type of users: CRM, Stock, Invoicing, Bookkeeping, POS, Hotel etc.

- Number and type of interactive transactions added and changed

There are also some special considerations that can cause the required size of the system to grow

- Required availability outsize of office hours leads to shorter maintenance windows

- Large amounts 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

We describe three sample configurations. These types of systems have been shown to give acceptable performance for normal usage of Enterprise by HansaWorld. If your usage is expected to be very heavy or very light you may need to make adjustments.

- If you have other functions running, such as anything from the special consideration's list, extra capacity must be calculated for this.

- If you have other software running on the machine, that softwares requirements must also be taken into account.

The users calculated are average users in a company running the full core of HansaWorld software, with Sales, Purchase, Logistics, Accounting and CRM. If you are deploying a system with significantly different usage pattern, your needs could be larger or smaller. For example, Standard Communicator users are lighter users than normal, while a POS environment (high volume) creating stock-updating invoices (there are also non stock-updating POS invoices) which are "heavy", would need more hardware than normal user.

Very Small Server - suitable for 1 - 5 users
- CPU 1.8GHz, two cores
- RAM 2GB
- Disk 2x7200 RPM mirrored disks
- Network 100Mb/s

Small Server - suitable for 3 - 20 users
- CPU 2.0 GHz, two cores
- RAM 4GB
- Disk 2x128GB mirrored SSD units
- Network 100Mb/s

Medium Server - suitable for 15 - 40 users
- CPU 2.5GHz, four cores
- RAM 6GB
- Disk 2x256GB mirrored SSD units
- Network 1Gb/s (for backups over the network)

Medium Large Server - suitable for 30 - 80 users
- CPU 3GHz, eight cores
- RAM 10GB
- Disk 2x512GB mirrored SSD units for database
- Disk 4x15k RPM RAID 5 disks for OS and backups
- Network 1Gb/s (for backups over the network)

The CPUs recommended are current generation (2011) Intel and AMD x86 CPUs. Old Intel Pentium4 (NetBurst based) need higher GHz rating. For IBM POWER5 and later based systems, similar GHz numbers apply.

For larger configurations please contact your HansaWorld office for help with configuring the appropriate hardware for your situation.

RAM

We recommend that the server has 1GB ram for the operating system, 0.5GB for the base Enterprise engine, and 10-50% of the database (HDB) size in extra ram on top of that. For example a system with an 8GB database should have 2.3 - 5.5GB RAM.

The higher percentage applies when less historical data is present, and the lower percentage when more than 10 years of historical data is saved in the database.

Enterprise by HansaWorld Server Software
The HansaWorld server runs on the following operating systems:
- Mac OS X and Mac OS X Server 10.6 and later (Intel 32 and 64bit)
- Windows Server 2003 and later (x86 and x64)

- RedHat Enterprise Linux version 3 and later (x86, x86-64, ppc and ppc64)
- SuSE Enterprise (x86, x86-64, ppc and ppc64)
- IBM AIX
- IBM i5/OS (in PASE mode)

You should consider the following when choosing the software environment in which you will run Enterprise.

- If using Windows Vista, additional memory must be calculated.
- When running on Microsoft Windows, antivirus software is strongly recommended.
- On all platforms, backup software is strongly recommended.
- When installing in a virtual environment (VMware, Xen etc.) special care must be taken to ensure disk writing consistency. Enterprise normally ensures the consistency of its database by forcing data to the physical disk device, or battery backed cache if available. In some configurations with virtualization software these safety features can fail to be enabled. Care must be taken that this disk synchronisation is enabled inside the virtual environment.
- Virtualization environments have a small performance impact and we recommend that larger installations avoid virtualised installations
- In large installations we recommend the purchase of HansaWorld Database Accelerator. This will give a performance improvement when Enterprise writes to the database, particularly if the server does not have SSD units.

Business Intelligence

If you plan to use HansaWorld SmartView or any other BI package, you should consider the following

- You may need a separate physical server for the BI Server for performance reasons. This server should be designed to different specifications than the main Enterprise server for optimal performance. BI tools need more RAM than the Enterprise by HansaWorld Server.

Relational Database Connection

If you plan to use Enterprise by HansaWorld Relational Database Shadowing capability you should consider the following:

- You may need a separate physical server for the Oracle or Microsoft SQL database for performance reasons.
- Shadowed mode will have a small performance impact on the Enterprise database.

Backups and Reliability

It is vital for your business survival that you take proper responsibility for the safety, reliability and disaster-recoverability of your installation. A modern company that faces a computer disaster without proper backups will often face serious difficulties to even survive. You need to take your responsibility for your own system, its data, and your company's profitability and survival.

These are some minimum recommendations, you must not use this as a final checklist of all you need to do to be "safe".

- It's vital that your disks have protection (RAID 1, 5, 1+0 etc.) Unprotected disks, such as single disks and disks in RAID 0 configuration, will put your vital data at considerable risk.
- Off-site backups is an important part of any backup and recovery strategy, this can be solved with network transfers of the backups or regularly sending physical tapes to a different location.
- Reserve systems and infrastructure onto which the backups can be restored in case of a disaster is a must. A full backup and a broken machine still means your business will be stopped until you can find a machine. And then you need to order the tape-drive that might have a weeks delivery time.
- You must test your recovery process. If you have not successfully tested your backup procedure you should assume that it does not work.
- If you are running a Windows server, you must of course install an appropriate anti-virus solution.

Enterprise by HansaWorld Network Infrastructure

Enterprise by HansaWorld communicates using TCP/IP networking, and has relatively low bandwidth requirements. However, for a good user experience we do recommend a low latency.

A network connection of 30 kb/s for the first user, and an additional 10 kb/s per user tends to give an acceptable working environment. The recommended bandwidth is 50 kb/s for the first user and an additional 15 kb/s per user. This is the necessary bandwidth dedicated to Enterprise by HansaWorld. If the users are also running other network traffic, such as web-browsing, this must be taken into account.

If users are routinely taking large reports (many pages of output, not heavy to calculate) the bandwidth usage increases. If the users are idle, the bandwidth usage decreases.

If you are using pictures on items and especially if you are using the CoverFlow paste special on Mac OS X the network requirements increase significantly.

Network latency should preferably be at or below 0.1 seconds. Latencies up to 0.5 seconds can generally be worked with; however, the user experience will start to suffer at this level or above.

As an example, a 128 kb/s line with a 0.1s latency can be expected to be useable for 10 – 11 users, and gives good performance for about 6 users.

For internal use HansaWorld routinely tests a GPRS connection (0.5s latency, 20 – 50 kb/s bandwidth) for 2 - 4 people using the CRM and e-mail functionality, and while this "feels a bit sluggish" it is a fully workable system.

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