

Cato[®] System Requirements

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1 General Information

This document describes the Hardware- and Software system requirements for the software **cato**[®]. It has been created in accordance with the document **ALG/Masterplan.doc**

The document relates to **cato**[®] Version 2.26.0 and later versions.

2 Software Requirements

2.1 Server

Cato[®] is a Client/Server application. In other words, several computers (clients) may access a central database (server).

2.1.1 Operating System

One of the following Operating Systems should be installed on the server:

- Windows XP – SP 3
- Windows 7
- Windows 2003 Server
- Windows 2008 Server
- Windows 2008 R2 Server

The following Operating Systems are **not** supported:

- Windows 95
- Windows 98
- Windows ME
- Windows NT
- Windows 2000

2.1.2 Database System

As for the server software (database), you may either use an MS-SQL-Server or the "MS-SQL Server 2005/2008 Express". Both differ in aspects of licensing law and in their performance:

2.1.2.1 Regular MS-SQL Server (License required)

When using a regular MS-SQL server (server hardware provided), there are no limitations of performance. You may use an existing MS-SQL-Server for **cato**[®] additionally. The following versions are supported:

- MS-SQL Server 2005 (Service Pack 3 – only in database compatibility mode 90)
- MS-SQL Server 2008 (Service Pack 1 – only in database compatibility mode 90)
- MS-SQL Server 2008 R2 (only in database compatibility mode 90)

MS-SQL-Server is commercial software and must be licensed for the respective number of users.

2.1.2.2 MS-SQL Server 2005 Express (Freeware, no license required)

Supported version:

- MS SQL Server 2005 Express (Service Pack 3 – only in database compatibility mode 90)

The MS SQL Server 2005 Express from Microsoft is freeware provided by Cato Software Solutions on the Cato Installation CD for free, and does not need to be licensed by the end user. In fact there is no limitation to the number of users accessing the MS SQL Server 2005 Express simultaneously, however, performance drops considerably with five or more users. Database size is limited to 4 GiB. Please also keep in mind that automated backups using the MS-SQL-Agent are not possible and only 1 GB RAM is accessible.

2.2 Client

2.2.1 Operating System

Clients should have at least 1GB (3GB recommended) free disk space and one of the following Operating Systems installed:

- Windows XP - SP 3
- Windows Vista - SP 1
- Windows 7
- Citrix enabled Windows server system

Not supported versions are:

- Windows 95
- Windows 98
- Windows ME
- Windows NT
- Windows 2000

NB: **cato**[®] clients can be installed on any number of computers, however, one **cato**[®] license key is restricted to a particular machine. Thus, the number of concurrent **cato**[®] users is limited by the number of license keys.

2.2.2 Microsoft .NET Framework 2.0

Microsoft .NET Framework 2.0 SP 2 has to be installed for Cato to run properly. It is being installed automatically during the updating process if needed. If the Cato packages are distributed automatically and the Cato Update Service is not being used, Microsoft .NET Framework 2.0 has to be installed prior to the Cato Installation.

2.2.3 Microsoft .NET Framework 4.0

Cato requires the Microsoft .NET Framework 4.0 installed on all clients. If CUS is installed and active, CUS will take care of the .NET 4.0 installation. However, if possible, we'd recommend installing .NET Framework 4.0 before instead of installing it with CUS. If you decide to install .NET Framework 4.0 with CUS anyway, please note that the client update process will take up to 15 minutes longer. Windows Vista, Windows 7 and Windows Server 2008 OS require reboots after the installation of .NET Framework 4.0. For Windows XP and Windows Server 2003 OS the reboot is not needed.

2.2.4 Driver for Label Printer

Cato Software Solutions recommend the use of the Avery Dennison AP 4.4 Installation instructions for this printer model are provided by Cato Software Solutions.

For other label printers, please install the current suitable printer driver. For most popular label printers, you can find suitable drivers here:

- http://www.nicelabel.com/downloads/dwld_drivers.php

2.2.5 Other Drivers

2.2.5.1 Driver for USB / Serial Adapter and USB / Parallel Adapter

In case a balance shall be connected, and not directly to a free COM-Port, but via a USB/serial-adapter, it is necessary to install the driver provided with the USB/Serial adapter.

If a label printer with parallel interface shall be connected, and not directly to a free LPT-Port but via a USB/parallel adapter, it is necessary to install the driver provided with the USB/Parallel adapter.

3 Hardware Requirements

3.1 Server

With a standard configuration for up to 5 users a server with a CPU clock frequency of at least 2 GHz and 2 GiB RAM is required. With an increasing number of users, more RAM, a CPU with higher clock frequency, and a multiprocessor server system are recommended.

A data backup device is recommended.

In a “small“ installation (e.g.: two **cato**[®] licenses) it is possible to install both the Client- and the Server software on the same computer. This should have at least 2 or rather 3 GiB) installed and a CPU clock frequency of at least 2 GHz.

3.2 Client

The Client-computer should meet the following minimum hardware requirements:

- 1 GiB RAM
- 1 GHz CPU clock frequency

However, the following requirements are recommended:

- 2 GiB RAM (or higher)
- 2 GHz CPU clock frequency (or higher)

For connecting the balance (for gravimetric preparation) a free COM-Port or a free USB-Port with USB/Serial-adapter is required.

For connecting the Avery Dennison AP 4.4 label printer recommended by Cato Software Solutions a free USB-Port is required.

In case the use of the optional Speech Output is required, a Windows-compatible sound card and speakers must be available.

3.2.1 Client PC in the Clean Room

With gravimetric preparation in **cato**[®] it is necessary to install a computer in the clean room next to the safety cabinet. You can either use a common industrial PC (what some users do),

or a special Clean Room PC. As for the keyboard, a special disinfectable plastic foil keyboard (protection system IP65) should be used (e.g. medical foil keyboard "Tabla 4" – as offered by Cato Software Solutions). :

3.2.2 Client PC outside of the Clean Room (special solution)

As an alternative to the clean room PC, a standard PC can be used, which is placed outside of the clean room. Keyboard, mouse, balance, and printer are connected via KVM Line Extenders to the remote PC, which requires a 1:1 (straight) CAT5 wiring. For the balance and the label printer, special Line Extenders are necessary, with a 4-pin cable and RJ12 plugs.

3.2.3 Flat Screen for Integration in Safety Cabinet

It is desirable to place a flatscreen on the back of the safety cabinet, so that the producer can always see the instructions generated by the program. As a minimum, we recommend a 15" display with a resolution of 1024x768 Pixels. The parallel use with a screen outside the safety cabinet can be accomplished by a "dual head" graphic adaptor, or by using a VGA-splitter. If it is not possible to position the flatscreen *in* the safety cabinet, it can as well be placed *beside* the safety cabinet.

Before mounting a screen in the safety cabinet, contact the safety cabinet's manufacturer or vendor, or a specialist company for safety cabinets. Some manufacturers offer own solutions for screens placed in the safety cabinet.



3.2.4 Label Printer

Any printers using the thermal transfer printing method are suitable. Matrix printers or laser printers are not suitable as label printers. With gravimetric preparation, the label printer is placed outside the safety cabinet in the clean room. With volumetric preparation (without balance), the printer may as well be placed outside the clean room.

3.2.5 Balance

With gravimetric preparation, an electronic balance is placed inside the safety cabinet. Models by Mettler-Toledo, Sartorius, and Kern are supported. It is necessary that the balance have a serial interface, a weighing range of at least 2000g and a sensitivity of 0,01g over the total weighing range (important!). Cato Software Solutions recommends the following models:

- Mettler XS 4002S/M (only with manufacturing date after November 2005)

In the safety cabinet, an outlet must be provided for the balance's serial data cable. For connecting the balance, the PC needs to have a free serial interface. In addition, a free plug must be available in the safety cabinet's working range.

In case no COM-port is available on the Client-computer, and the balance shall be therefore connected via USB-port, an USB/parallel-adapter is required.

3.2.6 Foil Keyboard "FT Cato"

With gravimetric preparation, a small plastic disinfectable foil keyboard, "PC Mini Cato" (protection system IP65) developed especially for the use with **cato**[®], provided by Cato Software Solutions, is placed inside the safety cabinet, which allows for entries during preparation.

This plastic foil keyboard has either a PS/2 or a USB plug and is normally connected in parallel to the "big" keyboard which is placed next to the computer, outside the safety cabine.

3.2.7 Medical Foil Keyboard

In parallel with the above mentioned "small" keyboard "FT Cato", an adequate keyboard must be connected. However, the use of a default office keyboard is not recommended in the cleanroom. Instead, Cato Software Solutions supply the following keyboard:

Medical Keyboard with integrated Touchpad / PS/2-connection, front-side IP5, disinfectable, dimensions: L370 x 180 x H28,0.

3.2.8 Barcode Scanner

A barcode scanner with serial interface may be used optionally. The scanner must be able to read standard codes (Code 39, EAN/JAN, ...) and can be used for easy editing of patient data, strengths of a product, infusion solutions and empty containers. Identification in the safety cabinet from **cato**[®] is possible as well. Please note that with gravimetric preparation, two serial ports must be available for the simultaneous use of balance and scanner (or a USB adapter is required).

A barcode scanner with keyboard connection may be used for data entry; however, it is not suitable for use in the safety cabinet

4 Client-Access via Leased Line or VPN

In distributed environments (e.g. when working with external clients connected), we recommend the connection of clients to the server via leased line or VPN. With leased lines or a VPN-connection, the following criteria should be observed:

- Symmetrical Up/Download (SDSL/VDSL, not ADSL),
- fixed IP addresses,
- Band width of 1 MBit/s or higher