

Installation Manual

TruTops products Part 1: System requirements

Version 1.10

Installation manual

TruTops products

Part 1: System requirements

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C332en

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1. General requirements

Versions The system prerequisites described in this document apply to the following TruTops products and versions:

| TruTops product | From Version | Minimum version required for update |
|--|--------------|--|
| TruTops (CAD, Nest, Laser, Punch, Tube, Bend) | 3.0.0 | TruTops 1.0.0 TruTops Tube 5.0 TruTops Bend .4.0 |
| TruTops Fab | 6.0.0 | 1.0 |
| TruTops Monitor | 6.0 | 1.0 |
| TruTops Cell | 5.0 | All versions |
| TruTops Unfold | 2.0 | All versions |
| TruTops Calculate | 6.0.0 | All versions |
| 3D tube construction¹ | 2.0.0 | All versions |
| Enhanced shop floor programming | 2.0.2 | 2.0.1 |

Valid versions

Table1

Knowledge The installation of a TruTops product requires basic knowledge of the operating system and the network structure used.

User rights Local administrator rights are required for installation.

Restart It may be necessary to restart the computer during installation. Make sure that after restart the same user is logged in as when installation started.

The following components can make a restart necessary:

| Components | Version | Restart |
|-----------------------------|--------------------------------------|------------------|
| Windows Installer | 4.5 | if not available |
| .NET Framework | 4.0 | if not available |
| Microsoft SQL Server | Microsoft SQL Server 2008 R2 Express | always |

¹ Can only be used together with a full version of TruTops.



Installation medium TruTops products are supplied on a DVD-ROM as standard and can be installed directly from this.

Optionally, the DVD content can be copied to a local drive or network drive and installed from there.

In the case of a network installation, the following points must be observed:

- The data copied from the DVD must be accessed via a connected network drive (not via a UNC path).
- If a new network drive is connected to for installation, make sure that, even after performing a restart, the drive retains the same drive letter assigned to it when installation was started.
- The network path must not contain any blanks.



2. Installation environment

2.1 Virus scanner

If a virus scanner is installed on the TruTops computer and is active, the following notes must be observed:

- Using a virus scanner can generally cause a loss in performance of your computer (irrespective of TruTops installation).
- If performance losses mainly occur when working with TruTops products, the following file types should be excluded from the access check of the virus scanner ("On access scan"):
 - .TMT, .GMT, .TAF, .GEO, .LST, .JOB, .PPJ, .PDF, .BMP
- The virus scanner should be switched off during installation, otherwise unusual side effects could occur in the application.

2.2 Personal firewalls

Access control When operating TruTops with a network database, some TruTops processes access the network database via free network ports. Personal firewalls monitor these ports and prevent access to unknown files. To ensure trouble-free TruTops operation, firewall settings must therefore be set such to guarantee free access for TruTops processes.

Windows Firewall If the default Windows Firewall is used, the TruTops installation routine can automatically carry out these adjustments. The user must configure the firewall themselves if other firewall products are used. Detailed information about the files and processes to be activated is displayed during installation and can be found in the installation manual of the respective TruTops product.

2.3 Network

The network must fulfill the following conditions when being operated in PDM mode or when carrying out network database installation:

- Active TCP/IP protocol
- Functional name resolution.
- Transmission rate at least 100 Mbit/s

If the computer is not being run on the network (e.g. Notebook), the so-called "Microsoft Loopback Adapter" must be installed (see "Installation manual for TruTops, Part 2: Installation and backup of data").

3. Operating system

3.1 General notes

- Server operating system**
- Client applications should not be run on a server operating system.
 - For a client/server operation with more than 4 clients, a server operating system should be installed on the server computer.
- Service packs**
- All TruTops products are tested with the current service packs of the respective operating systems prior to release (see Table2, p. 11). If another service pack is published after printing this document, it will promptly be released. Operability cannot be guaranteed until release.
- PDM data storage**
- The following specifications apply for the data storage of PDM data:
- If possible, the data should be stored on the PDM server PC.
 - The hard drive of the data storage must be formatted in the "NTFS" file system otherwise losses in performance could occur.
 - PDM data cannot be accessed via SAMBA.
- Use via terminal server**
- In current versions, TruTops products can be used via Terminal Server.
- Domain controller**
- Installation of TruTops Server on a domain controller is not recommended.

3.2 Supported operating systems

Note

The operability of TruTops products is only guaranteed for the versions, editions and service packs listed below. The installation of TruTops products on non-listed and non-approved systems, as well as the installation of non-approved service packs on existing TruTops installations, is at the user's own risk.

| | Windows XP | Windows Vista | Windows 7 | Windows Server 2003 (also R2) | Windows Server 2008 (also R2 ²) |
|--|----------------|--|--|--|--|
| Service pack | SP 3 | SP 1 or higher | | SP 2 or higher | SP1 |
| Edition | Professional | Professional Business Enterprise Ultimate | Professional Ultimate Enterprise | Standard Small Business ³ | Standard Enterprise Datacenter Small Business ^{3 4} |
| Bit version | 32/64 bit | 32/64 bit | 32/64 bit | 32/64 bit | 32/64 bit |
| TruTops Client | X | X | X | ∅ ⁵ | ∅ ³ |
| TruTops Server | ∅ ⁶ | ∅ ⁶ | ∅ ⁶ | X | X ³ |
| Advanced shop floor programming | X | X | X | X | X ³ |
| TruTops Fab/Monitor Client | X | X | X | ∅ | ∅ ³ |
| TruTops Fab Server | - | - | - | X | X ³ |
| TruTops Monitor Server | X | X | X | X | X ³ |
| Job Order Interface | X | X | X | X | X ³ |
| TruTops Cell Client | X | X | X | - | - |
| TruTops Cell Server | X | X | X | X | X ³ |
| TruTops Calculate Client | X | X | X | ∅ | ∅ ³ |
| TruTops Calculate Server | X | X | X | X | X ³ |
| TruTops Unfold | X/O | X/O | X/∅ | - | - |
| Tube Design | X/O | X/O | X/∅ | - | - |

Supported operating systems

Table2

- Key**
- X = Installation possible and enabled
 - O = Installation possible but not enabled
 - ∅ = Installation possible but not recommended
 - - = Installation not possible

² The ".NET Framework" server feature must be activated before installation in the server manager.

³ All TRUMPF clients (CAD/CAM computers and machines used with TruTops Fab) **must** be in the Small Business server domain.

⁴ Small Business Server 2008 and 2011.

⁵ Client installation on the server can be carried out for support purposes. However, it cannot be used as a productive work station.

⁶ Up to 3 clients max., due to performance problems.

3.3 Installation on virtual systems

TruTops products can also be operated in a virtual environment (e.g. VMware Workstation/ESX, Microsoft Virtual PC). However, due to the numerous variants and basic requirements for virtual systems, operability cannot be guaranteed.

Support TRUMPF also deals with support requests relating to TruTops products installed in a virtual system environment.

Please note:

- TRUMPF is not obliged to provide solutions for problems arising from the operation in a virtual system environment.
- If problems arise during operation in a virtual system environment, the customer must prove that the problem has **not** arisen due to operation in the virtual system environment.
- The TruBend Cell 7000 machine cannot be programmed in a virtual system environment.

Licensing We strongly advise against the activation of licenses on virtual systems and recommend the use of real hardware for the operation of the license server instead.

4. Database

4.1 Microsoft SQL Server

Compatibility The "Microsoft SQL Server 2008 R2 Express Edition with Advanced Services" is also installed when the server installation of a TruTops product takes place.

During installation on the server PC, the following points must be observed:

- The Microsoft SQL Server 2005 Express Edition tools cannot be installed parallel to the corresponding Microsoft SQL Server 2008 R2 Express Edition tools. If the Microsoft SQL Server 2005 Express tools are installed on the computer, they have to be uninstalled before installing the Microsoft SQL Server 2008 R2 Express Edition.⁷
- If Microsoft Visual Studio 2008 is installed on the computer, it has to at least be updated with Service Pack 1 before the MS SQL Server 2008 R2 Express Edition can be installed.⁷

New instance The Microsoft SQL Server 2008 R2 Express Edition is installed in its own instance ("TRUMPFSQL1"). This ensures that existing SQL Server instances are not affected.

If there is already a TRUMPF product installed on the computer which uses the Microsoft SQL Server 2000/2005, the corresponding SQL Server instance ("TRUMPF") remains installed and running. It can be turned off or uninstalled at any time as long as it is no longer needed by a product.

Microsoft SQL Server 2008 R2 Express Edition is limited to the use of 1 GB RAM maximum.

If an SQL Server 2008 R2 already exists, it can also be used for TruTops. However, in this case it is also necessary to install a separate TRUMPFSQL1 instance. For more information please contact TRUMPF CAD/CAM Support.

⁷ This is checked before the installation of the MS SQL Server 2008 R2 Express Edition.

4.2 Backup of data

Note

In terms of data protection, TRUMPF only provides the programs necessary for the backup of TruTops data. The user has sole responsibility for backing up the data, databases and users, as well as for backing up the whole system. TRUMPF also recommends protecting hardware against power failure by using an uninterruptible power supply (UPS).

Automatic backup So-called "scheduled tasks", which back up all databases and the content of the PDM Server at regular intervals, are set up automatically during TruTops installation. However, only a limited number of previous versions are archived, the respectively oldest backup is overwritten during subsequent backups.

Placement location The backup is saved in a defined folder on the server PC hard drive.

Note

Make sure that this folder is additionally backed up on an external medium so that the data can be restored should the server hard drive be defective.

Further information Part 2 of the installation manual contains detailed information on backing up data (Installation manual for TruTops, Part 2: Installation and backup of data) .

5. Hardware requirements

TruTops Fab Module Storage Slightly different requirements apply in the case of TruTops Fab Module Storage (see section 5.5, p.17).

5.1 Processor

A powerful processor of the current generation is recommended for all TruTops products, regardless of the operating mode.

| | Required | Recommended |
|---------------|--|--|
| Client | Intel® Core™2 Duo (at least 2.8 GHz) or comparable | Intel® Core™ i5 or comparable |
| Server | AMD Opteron™/Intel® Xeon®, 2 cores or comparable | AMD Opteron™/Intel® Xeon®, 4 cores or comparable |

Processors

Table3

5.2 Internal memory

| | Required | Recommended |
|--|-----------------------|-------------|
| Client (single application)⁸ | 2 GB RAM ⁹ | 4 GB RAM |
| Client (multiple applications)¹⁰ | 2 GB RAM | 4 GB RAM |
| TruTops Server (without client) | 2 GB RAM | 4 GB RAM |
| TruTops Fab/Monitor Server (without client) | 2 GB RAM | 4 GB RAM |
| TruTops Fab Server + TruTops Server | 3 GB RAM | 4 GB RAM |

Internal memory

Table4

Notes

- Due to a large number of standard services, Windows Vista tends to have a higher memory usage compared with other systems.
- If multiple technology modules are used simultaneously in TruTops, the recommended memory capacity should be used.
- The 32 bit versions of Windows operating systems have an approximate maximum capacity of only 3 GB RAM. However, it is still recommended to use 4 GB RAM in 2 x 2 GB modules, as modern mainboards can use the so-called "dual-

⁸ e.g. only TruTops Laser

⁹ TruTops Unfold and TruTops Fab Clients can be operated with just 1 GB RAM.

¹⁰ e.g. TruTops Laser + TruTops Punch

channel mode" in such a case. This mode enables considerably faster access times.

5.3 Screen

| | Required | Recommended |
|---------------|----------------|-------------------|
| Client | 17", 1280x1024 | 20 ", 1600 x 1200 |
| Server | 1280x1024 | |

Screen/Resolution Table5

Note

For TruTops Fab/Monitor it is recommended to use Windows XP in the "Windows XP design" window style.

5.4 Graphics card

Windows Vista/Open GL

Some TruTops products (see Table6, p. 16) require hardware-based Open GL support via the graphics card (a software emulation is not sufficient). Especially in Windows Vista, check if the graphics card supports this mode. Compatible chip sets can be found on the SolidWorks website (www.solidworks.com).

For TruTops, TRUMPF recommends Nvidia graphic cards, also recommended by SolidWorks. ATI/AMD graphic cards are not supported.

Client PC

| | Required | Recommended |
|---|--|--|
| TruTops Cell TruTops Bend TruTops Unfold Tube Design | 256 MB Open GL, 3D modes, hardware-supported | 256 MB Open GL, 3D modes, hardware-supported |
| Other products | 128 MB | 128 MB |

Graphics card/graphics memory Table6

Server PC

| | Required |
|----------------------------|------------------------------|
| TruTops Fab/Monitor | Minimum resolution 1280x1024 |
| Other products | No special requirements. |

Graphics card Table7

5.5 Special system requirements for TruTops Fab Module Storage

Only the differences of TruTops Fab Module Storage to the requirements of other TruTops products are listed here. For the remaining points, the requirements of the TruTops products apply.

- Server**
- Before installation, a hard drive partition with the drive letter "D:" and at least 36 GB of free memory must be available.
 - In the special case of the server being serially linked to the storage control system, a serial interface (RS-232) is required for each automatically connected storage system.

- Virtualization**
- The following basic requirements apply when using a virtual server:
- "VMware ESX" must be used as the virtualization software.
 - The customer is responsible for "VMware ESX" software support and administration.
 - The pre-installation of TruTops Fab software with Module Storage on the ESX server is carried out by TRUMPF via remote diagnostics. Additional assistance at the customer's premises could result in additional costs.
 - The virtual server must be accessible in the network via a fixed IP address.
 - Within the network, the virtual server must be integrated into the domain like a computer.
 - The virtual TruTops Fab server must be connected to the storage control system via a TCP/IP network connection.

6. Required hard drive space

The required hard drive space depends on the product installed, the type of installation (client, server), the operating mode (PDM, file system) and the customer data accrued.

Space required for installation

The values listed below show the minimum amount of memory required during installation.

| | Server | Client |
|----------------------------|--------|--------|
| TruTops | 15 GB | 2 GB |
| TruTops Fab/Monitor | 36 GB | 1 GB |
| TruTops Cell | 4 GB | 1 GB |
| TruTops Unfold | - | 3 GB |
| TruTops Calculate | 15 GB | 2 GB |
| Tube Design | - | 3 GB |

Required hard drive space

Table8

Notes

- The memory capacity requirements for database backups¹¹ have already been taken into account.
- When installing client and server or several products on a computer, add the values together.
- "MS SQL Server" is always installed on the boot drive and requires approx. 1.5 GB memory. If a server is not installed on the boot drive, the 1.5 GB can be subtracted from the values given in the table. 1.5 GB must, however, be available on the boot drive.

Space required for productive use

During productive use, in addition to installation files, space is required for user data (e.g. drawings, NC programs, sheet layouts) as well as for the PDM database which increases in size parallel to the user data.

The space requirements depend greatly on the type of saved files. For example, files from 3D models (TruTops Unfold or TruTops Cell) require considerably more space than simple GEO files.

For a typical file storage it can be assumed that 100,000 files will require approx. 15 GB memory as a rough average, whereby large deviations above or below this value cannot be ruled out in individual cases.

PDM server update

If a PDM server (< V2.0) is already installed on the server computer, additional hard drive space must be provided for the update to the new version, because the saved data in the PDM is exported into the file system.

The precise hard drive space required for this is determined automatically at the beginning of the installation and is displayed by the installation wizard.

¹¹ The requirements are based on empirical values. The space requirements for large archives may be greater.

7. Version compatibility

TruTops Fab

TruTops Monitor TruTops Fab and TruTops Monitor can **not** be installed together on one computer.

TruTops products The following table shows which TruTops Fab version can be used with which TruTops products and versions.

| | | | TruTops Fab | | | | | | | | |
|--------------------------|-------------|-------------|-------------|---------------|-----------------|-------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | | 6.0.0 | 5.2.0 - 5.9.0 | 5.1.0 | 5.0.0 | 4.0.1 | 4.0.0 | 3.4.0 | 3.3.0 | 3.2.0 |
| TruTops version | PDM version | File system | | | | | | | | | |
| 3.0.0 | 3.0 | x | x | x | | | | | | | |
| 2.2.0 - 2.2.9 | 2.4 | x | x | x | x ¹² | - | - | - | - | - | - |
| 2.1.0 | 2.3 | x | x | x | x | x | x | x ¹³ | x ¹³ | x ¹³ | x ¹³ |
| 2.0.1 | 2.1 | x | | x | x | x | x | x ¹³ | x ¹³ | x ¹³ | x ¹³ |
| 2.0.0 | 2.1 | x | | x | x | x | x | x | x | x | x |
| 1.2.x | 2.1 | x | | - | x | x | x | x | x | x | x ¹⁴ |
| 1.1.1 | 2.0 | x | | - | - | - | x ¹⁵ | x ¹⁵ | x ¹⁵ | x ¹⁵ | x |
| 1.1.0 | 2.0 | x | | - | - | - | - | - | - | - | x |
| 1.0.1 | 2.0 | x | | - | - | - | - | - | - | - | x |
| 1.0.0 | 2.0 | x | | - | - | - | - | - | - | - | - |
| TruTops Calculate | | | | | | | | | | | |
| 6.0.0 | | | x | x | - | - | - | - | - | - | - |
| 4.4.0 - 4.11 | | | x | x | - | - | - | - | - | - | - |
| 4.3.0 | | | | - | x | x | - | - | - | - | - |
| 4.2.1 | | | | - | x | x | x | x | x | x | x |
| 4.2.0 | | | | - | x | x | x | x | x | x | x |
| 4.1.x | | | | - | - | - | - | x | - | - | x |
| 4.0.0 | | | | - | - | - | - | - | - | - | - |
| 3.x.x | | | | - | - | - | - | - | - | - | - |
| TC-CELL | | | | | | | | | | | |
| 4.0.0 | | | | - | - | - | x | - | x | x | - |
| 3.3.0 | | | | - | - | - | - | x | - | - | x |
| 1.10.3 | | | | - | - | - | - | - | - | - | - |

TruTops Fab/TruTops compatibility

Table9

¹² Can only be run with updated component "TTFProgService".

¹³ Not compatible if long LTT designators are used (e.g. L20)

¹⁴ For TruTops with Python 25 it is necessary to replace the Perl.exe files on the TruTops Server.

¹⁵ Only with TruTops 1.1.1 supplied after 11/2007 and only with installed patch for Python scripts and PDM browser 2.0. Parallel nesting and NC generation processes are not possible.



3D tube construction

TruTops must be completely installed for 3D tube construction.
The following version dependencies apply here:

| TruTops version | 3D tube construction |
|--------------------------------|----------------------|
| 1.2.0/1.2.1/1.2.2/1.2.3/1.2.10 | 1.0.0 |
| 1.2.11/2.0.0 | 1.1.0 |
| 2.0.1/2.0.2 | 1.1.1 |
| 2.1.0 | 1.2.0 |
| 2.1.1 | 1.2.1 |
| 2.2.0 - 2.9.0 | 1.3.0 |
| 3.0.0 | 2.0.0 |

Version dependencies for 3D tube construction

Table10



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