



Trimble Business Center

Enterprise Deployment Guide

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TRANSFORMING THE WAY THE WORLD WORKS



Overview

This document describes the various methods a system administrator can use to install (deploy) Trimble Business Center on multiple computers on their Windows-based network (enterprise) more quickly and efficiently than copying the Installation download to each computer and performing the installation manually.

The document includes the following sections:

- Windows installer package file - This section explains the purpose of the Windows installer package file Trimble Business Center.msi and how it is used in the deployment process.
- Deployment methods - This section describes several basic methods you can use to deploy Trimble Business Center.
- Prerequisite programs. - This section lists the prerequisite programs that must be installed prior to installing Trimble Business Center.
- Deploy using Msiexec.exe - This section describes the command options and parameters used to run Msiexec.exe directly.
- Deploy software updates using Msiexec.exe - This section explains how to download software updates and deploy them using Msiexec.exe.
- Deploy using Setup.exe - This section describes the command options and parameters used to run Setup.exe.
- Configure application and project settings - This section explains how to customize Trimble Business Center application and project settings on enterprise computers after installation is complete.

Note on licensing:

To access licensed features in Trimble Business Center, each user must either have a Sentinel HASP single-user hardware key installed on his computer or have access to a Sentinel HASP multi-user key installed on a network server. For more information on network licensing, see the *Network Licensing Read Me* document.

Windows installer package file

Your Trimble Business Center Installation download includes the Windows installer package file Trimble Business Center.msi. This file must be processed with the Windows installer program Msiexec.exe to install Trimble Business Center on a target computer. The Msiexec.exe program is included with your Windows operating system. You can run the Msiexec.exe program to remotely install and customize Trimble Business Center on any computer on your Windows-based network from a single Trimble Business Center.msi file.

Trimble Business Center.msi can be processed to install Trimble Business Center using either of the following methods:

- **Msiexec.exe** - Run the Windows installer program Msiexec.exe directly to process the Trimble Business Center.msi file. Use command options and parameters to customize the installation. Note that all prerequisite programs must be installed prior to running Msiexec.exe. For more information on running Msiexec.exe directly, see [Deploy using Msiexec.exe](#).
- **Setup.exe** - Run the Trimble Business Center installation program Setup.exe to (1) install all prerequisite programs and (2) invoke the Msiexec.exe program to process the Trimble Business Center.msi file. Use command options and parameters to customize the installation. For more information on running Setup.exe, see [Deploy using Setup.exe](#).

Deployment methods

You can use any of the following methods to install (deploy) Trimble Business Center on computers connected to your Windows-based network:

- Network share
- Scripting
- .MSI deployment

Note: Users must have Administrator privileges to install Trimble Business Center, regardless of the deployment method. If they do not have Administrator privileges, the setup must be deployed using the Windows Run As command to execute the program as an Administrator. See your Windows documentation for more information.

Network share

This deployment method incorporates the use of a "network share" folder that is accessible by other computers connected to the network. All of the Trimble Business Center installation files from the Installation download folder can be copied into the network share folder. Users can then be notified as appropriate to install Trimble Business Center remotely by double-clicking Setup.exe in the folder.

Note: Users must have Read permissions to access the network share.

Scripting

This deployment method incorporates the use of an installation script (typically a text file) containing a set of commands that can be executed on a computer with no user interaction. The installation script can be used to run Msiexec.exe or Setup.exe with the appropriate command-line options and parameters necessary to configure the installation as required.

You can run an installation script using any of the following methods:

- Run the script manually at each individual workstation.
- Notify each user with instructions on running the script.
- Set up the script so that it automatically runs on login.

For more information about using the Msiexec.exe program to install Trimble Business Center, see [Deploy Using Msiexec.exe](#).

For more information about using the Setup.exe program to install Trimble Business Center, see [Deploy Using Setup.exe](#).

.MSI deployment

This deployment method incorporates an enterprise deployment tool that supports the installation of Trimble Business Center on multiple computers using the Trimble Business Center.msi file.

For more information about using Microsoft enterprise deployment methods, see your Microsoft documentation.

For more information about using the Msiexec.exe program to install Trimble Business Center, see [Deploy Using Msiexec.exe](#).

Prerequisites

Installing Message Queueing (MSMQ)

Prior to installing any prerequisite program, Message Queuing must be installed on the operating system. When deploying using setup.exe, it is automatically installed. For other deployment methods, it can be enabled by either of the following methods:

To enable Message Queuing through the Windows Control Panel:

1. Open Control Panel.
2. Click Programs > Programs and Features > Turn Windows features on or off.
3. Expand the Microsoft Message Queue (MSMQ) Server node and select the Microsoft Message Queue (MSMQ) Server Core checkbox.
4. Click OK.

To enable Message Queuing from the Command prompt:

1. Open a Command prompt window with Administrative credentials (that is, choose Run as Administrator).
2. Run the following command:

```
Dism /Online /NoRestart /Enable-Feature
/FeatureName:MSMQ-Container /FeatureName:MSMQ-Server
```

Prerequisite Programs

The following table lists programs that must be installed prior to installing Trimble Business Center.

If you deploy using Setup.exe, the prerequisite programs are automatically installed as necessary using a built-in bootstrap application.

If you deploy using Msiexec.exe, you must first install the prerequisite programs listed here. This can be accomplished using a bootstrap application. The prerequisite programs can be downloaded from the following folders in the Installation download folder:

Prerequisite	Prerequisite folder
.NET Framework 4.7.2	NETFX472
.NET Framework 3.5 SP1	See note below
Microsoft Visual C++ 2015-2019 Redistributable Package (x64)	VCRedist2015-2019_x64
Microsoft Visual C++ 2015-2019 Redistributable Package (x86)	VCRedist2015-2019_x86
Microsoft Visual C++ 2013 Redistributable	VCRedist2013_x64

Prerequisites

Package (x64)	
Microsoft Visual C++ 2013 Redistributable Package (x86)	VCRedist2013_x86
Microsoft Visual C++ 2012 Redistributable Package (x64)	VCRedist2012_x64
Microsoft Visual C++ 2012 Redistributable Package (x86)	VCRedist2012_x86
Visual Studio 2010 Tools for Office Runtime	VSTO2010
Sentinel HASP Runtime	HASPSetup
Sentinel HASP Vendor Library	HASPVendorLib
Microsoft Windows Mobile Device Center 6.1	WMDC61 (x64)
IFC Plugin	TeklaIFC
FARO LS	FAROLS
SitechCS ANZ Toolbox	ANZToolbox
SiteVision AR Exporter	SiteVisionAR
Convert To Rinex	ConvertToRinex
Configuration Toolbox	CToolbox
TBC External RESTful API	ExternalRestfulApi
TBC Activity Worker Service	WorkerService
Trimble Sync Manager	TSM

Note: The Microsoft .NET Framework 3.5 SP1, which is required to operate Trimble Business Center, is not installed by default with the Microsoft Windows® 8, 8.1, and 10 operating systems. If you deploy using Msiexec.exe, it might be more efficient to install .NET Framework 3.5 SP1 manually on each client computer, prior to installing TBC. To manually install .NET Framework 3.5 SP1 on a client computer running Windows 8, 8.1, or 10 operating systems, open the Control Panel and select Programs and Features. Then select "Turn Windows features on or off" and select the Microsoft .NET Framework 3.5 check box. This option requires an Internet connection. If there is no Internet connection or the local group policy prohibits enabling optional Windows features through Windows Updates, the .NET Framework 3.5 SP1 can be installed offline by running the setup launcher (setup.exe). For more information, see "Deploy using Setup.exe" later in this document. If the .NET Framework 3.5 SP1 is to be installed offline on Windows 8 and 8.1 operating systems, the original Windows DVD is also required.

Note: Prior to installing prerequisite programs, it is recommended that you close all other applications. This will make it possible to update relevant system files.

Deploy using Msiexec.exe

The Windows Installer executable program Msiexec.exe can be used to install, modify, and perform other operations on the Trimble Business Center.msi file. Msiexec.exe is located in the Windows System folder (typically C:\Windows\system32).

The Trimble Business Center.msi program and the optional .msi installation packages are located in the following folders in the Installation download folder:

MSI Package	Package folder
Trimble Business Center	TBC
Trimble Business Center Help	Help_<language culture>
Coordinate System Manager	CSM
Feature Definition Manger	FDM
Trimble Office Synchronizer	Synchronizer
Trimble SCS Data Manager	SDM
UASMaster	UAS
UASMaster Add-On	UASAddOn

Note: Prior to installing Trimble Business Center on a computer, you must install the prerequisite programs listed in Prerequisite Programs. This can be accomplished using a bootstrap application. For more information about installing prerequisite programs, see Prerequisite programs.

Windows Installer command line options and parameters

Standard Windows installer command line parameters are used to run Msiexec.exe. The typical usage is:

```
msiexec /Option <Required Parameter> <Optional Parameter>
```

See "Command Line Examples" later in this section for examples of various commands using this syntax.

Common Windows Installer options

The following table lists the available installer options.

Option	Parameters	Description
/i	Package (.msi file)	Installs the product
/x	Package (.msi file)	Uninstalls the product
/q	n b r	<p>Determines how the Installation Wizard is displayed during installation:</p> <p>n = The Installation Wizard does not display.</p> <p>b = The Installation Wizard displays basic user interface.</p> <p>r = The Installation Wizard displays in read-only mode.</p>

Command line parameters

Command line parameters can be used to customize the installation by using the format `<Parameter>=<Value>`. The following table lists the available parameters. If a parameter is not specified on the command line, the default parameter value shown in the table is used.

Parameter	Value	Default	Description
INSTALLDIR	Path	C:\Program Files\Trimble\Trimble Business Center	Specifies the Trimble Business Center install location
ProductLanguage	Locale ID (see Language table below)	1033	Specifies the language of the installation
DESKTOP	1 or "" (true or false)	1 (true)	Adds a shortcut to the desktop when Trimble Business Center is

			installed
VC90	1 or "" (true or false)	"" (false)	Enables installation of machine control exporters for GCS900 12.5 through 12.8
TRANSFORMS	Language transform (see Language table below)	1033.mst (English – US)	Applies Windows Installer database to modify settings of an installation
ADDLOCAL	Language Feature (see Language Features table below)		Specifies additional language features to be installed

Languages for the TRANSFORMS parameter

The TRANSFORMS parameter can be used to modify the language of the installation. A transform file (.MST) with the name of the locale ID is required. The following table lists the supported languages.

Language	Locale ID (LCID)
Chinese – Simplified	2052
Czech	1029
Danish	1030
Dutch	1043

English - UK	2057
English - US	1033
Finnish	1035
French	1036
German	1031
Italian	1040
Japanese	1041
Korean	1042
Norwegian (Bokmal)	1044
Polish	1045
Portuguese (Brazil)	1046
Russian	1049
Spanish	1034
Swedish	1053

Program Features for ADDLOCAL parameters

In addition to the default language of the installation, the ADDLOCAL parameter can be used to enable the installation of other program features. This can include installing additional languages if more than one is required.

When enabling multiple features, use a comma to separate the features (for example, ADDLOCAL=Feature1,Feature2). The following table lists the available features for the ADDLOCAL parameters.

Feature	Purpose
Program_Files_Chinese	Files for running the program in Chinese (Simplified)
Program_Files_Czech	Files for running the program in Czech
Program_Files_Danish	Files for running the program in Danish
Program_Files_Dutch	Files for running the program in Dutch
Program_Files_EnglishUK	Files for running the program in English (United Kingdom)
Program_Files_EnglishUS	Files for running the program in English (United States)
Program_Files_Finnish	Files for running the program in Finnish
Program_Files_French	Files for running the program in French
Program_Files_German	Files for running the program in German
Program_Files_Italian	Files for running the program in Italian
Program_Files_Japanese	Files for running the program in Japanese
Program_Files_Korean	Files for running the program in Korean
Program_Files_Norwegian	Files for running the program in Norwegian (Bokmal)
Program_Files_Polish	Files for running the program in Polish
Program_Files_Portuguese	Files for running the program in Portuguese
Program_Files_Russian	Files for running the program in Russian
Program_Files_Spanish	Files for running the program in Spanish
Program_Files_Swedish	Files for running the program in Swedish

If a language feature is specified, the following program features must also be used with the ADDLOCAL parameter:

Feature	Purpose
Trimble_Business_Center	Trimble Business Center application
Program_Files	Files for running the program
Trimble_Modules	Common files shared between Trimble software
External_Modules	Third-party files required for running the software

Command line examples

The following examples demonstrate how to deploy and modify the Trimble Business Center installation using Msiexec.exe.

Note: Any file names and file paths that include spaces must be enclosed in quotes ("...") on the command line.

Default

The following command installs Trimble Business Center and related utilities silently with the default settings.

```
msiexec.exe /i "Trimble Business Center.msi" /qn
msiexec.exe /i "CoordinateSystemManager.msi" /qn
msiexec.exe /i "FeatureDefinitionManager.msi" /qn
msiexec.exe /i "Office Synchronizer.msi" /qn
msiexec.exe /i "SCSDDataManager.msi" /qn
msiexec.exe /i "UASMaster-<version>.msi" /qn
```

Localization

The following command installs Trimble Business Center silently in German:

```
msiexec.exe /i "Trimble Business Center.msi"
ProductLanguage=1031 /qn
```

The following command installs Trimble Business Center silently in a number of languages with German set as the default:

```
msiexec.exe /i "Trimble Business Center.msi"
ProductLanguage=1031
ADDLOCAL=Trimble_Business_Center,Program_Files,Trimble_Modules,External_Modules,Program_Files_German,Program_Files_Spanish,Program_Files_French /qn
```

Note: Trimble Business Center users can verify which languages are installed with the software and select the language they want to view by selecting the Language settings in the Options dialog.

Minimal

The following command installs Trimble Business Center silently to an alternative folder and does not place a desktop shortcut:

```
msiexec.exe /i "Trimble Business Center.msi"
INSTALLDIR="D:\Trimble Business Center" DESKTOP="" /qn
```

Uninstall

The following command lines uninstall Trimble Business Center and related utilities silently:

```
msiexec.exe /x "Trimble Business Center.msi" /qn
msiexec.exe /x "CoordinateSystemManager.msi" /qn
msiexec.exe /x "FeatureDefinitionManager.msi" /qn
msiexec.exe /x "Office Synchronizer.msi" /qn
msiexec.exe /x "SCSDataManager.msi" /qn
msiexec.exe /x "UASMaster-<version>.msi" /qn
```

Deploy software updates using Msiexec.exe

Periodically, updated files associated with Trimble Business Center become available for download and installation via the Check for Updates command. Examples include software patches, help files, antenna and receiver data files, converters, drivers, and coordinate systems.

Software updates are available in two file types:

- Full installation package (.msi) - Used to update an existing product if an earlier version is installed, or behave as a first-time installation if no earlier version is installed.
- Patch package (.msp) - Used to update an existing product. Contains only the changed data between the new and existing versions.

To deploy software updates to computers connected on the network:

1. Ensure your computer is connected to the Internet.
2. In Trimble Business Center, select Help > Check for Updates.

The Check for Updates dialog displays listing available updated files that are more current than the files currently installed on your computer.

Note that you can select or de-select the Check for Updates on Startup check box in the lower left corner of the dialog. If this option is selected and updates are available, you will be automatically prompted when you start the software.

3. Optionally, select the Show All Updates check box to view all updated files available, not just those that are newer than the ones currently installed on your computer.

4. If updated files are available that you want to download and install, select (check) the files in the Updates Available list.
5. Select the Save Update before Installing check box.
6. Click the Install Updates button.
7. In the Save As dialog, browse or enter the full path to the folder where you want to save the installation package. Then click Save.
8. To deploy the update, use the Windows Installer executable program Msiexec.exe with the following command line options:

- For full installation files (.msi):

```
msiexec /i <path to installation package>
INSTALLDIR=<installation directory> /qb
```

- For patch package files (.msp):

```
msiexec /p <path to patch package> /qb
```

For more information on deploying Msiexec.exe, see [Deploy using Msiexec.exe](#).

Note that you can use the command line above in conjunction with one of the following methods to install (deploy) the update package on computers connected to your Windows-based network:

- Network Share
- Scripting
- .MSI deployment

For more information, see [Deployment methods](#)

Deploy using Setup.exe

The Trimble Business Center installation suite is a bootstrap application that packages together installations and prerequisite programs (see [Prerequisite Programs](#)) as a single installation. It uses a setup launcher program (Setup.exe) to conditionally launch packages on target systems as needed.

Setup.exe command line options and parameters

The Setup.exe program is located in the Installation download folder:

The Setup.exe program accepts a number of command-line parameters. The typical usage is:

```
Setup.exe /Option<Parameter>
```

Common Setup.exe Options and Parameters

The following table lists the available options and parameters.

Parameter	Value	Description
/language:<LCID>	Locale ID (LCID) For more information, see the Language table in "Deploy Using Msiexec.exe."	Specifies the setup language
/<PropertyName>:<Value>	Setup.exe properties For more information, see "Setup.exe Properties."	Passes properties to the installation
/remove		Uninstalls Trimble Business Center
/repair		Repairs the packages that are currently on the target system and that were installed by Setup.exe
/silent		Runs the installation without user interface

Setup.exe Properties

The following table lists the available Setup.exe properties used to customize the installation.

Property	Value	Default	Description
ISInstallDir_TBC	Path	C:\Program Files\Trimble\Trimble Business Center	Specifies the Trimble Business Center install location
ISInstallDir_FDM	Path	C:\Program Files\Trimble\Feature Definition Manager	Specifies the Feature Definition Manager install location
ISInstallDir_SYNC	Path	C:\Program Files (x86)\Trimble\Office Synchronizer	Specifies the Office Synchronizer install location

ISInstallDir_SDM	Path	C:\Program Files (x86)\Trimble\SCS Data Manager	Specifies the SCS Data Manager install location
ISInstallDir_UAS	Path	C:\Program Files\Trimble\UASMaster	Specifies the UASMaster install location
ISDesktop_TBC	1 or "" (true or false)	1 (true)	Adds a Trimble Business Center shortcut to the desktop
ISMachineAddon	1 or "" (true or false)	"" (false)	Enables installation of machine control exporters for GCS900 12.5 through 12.8
ISFeatureInstall	Comma-delimited list of package feature names. For a list of available packages, see "Setup.exe Packages."		Specifies the installation packages to install. If this property is not specified, all packages will be installed.
ISFeatureRemove	Comma-delimited list of package feature names. For a list of available packages, see, "Setup.exe Packages."		Specifies the installation packages to remove

ISLanguageChineseSimplified	"true" or "false"	"false"	Specifies additional languages to install
ISLanguageCzech			
ISLanguageDutch			
ISLanguageEnglishUK			
ISLanguageEnglishUS			
ISLanguageFinnish			
ISLanguageFrench			
ISLanguageGerman			
ISLanguageItalian			
ISLanguageJapanese			
ISLanguagePolish			
ISLanguagePortuguese			
ISLanguageRussian			
ISLanguageSpanish			
ISLanguageSwedish			

Setup.exe Packages

The following table lists the installation packages that are included in the installation suite and can be launched using Setup.exe.

Package	Feature Name
Trimble Business Center Trimble Business Center Help Coordinate System Manager	TBC,TBC_MSI
Feature Definition Manger	FDM,FDM_MSI
Office Synchronizer	SYNC,SYNC_MSI
SCS Data Manager	SDM,SDM_MSI
UASMaster	UAS,UAS_MSI
TabletSync	TABLET,TABLET_MSI

HASP License Updater	LICENSE,LICENSE_MSI
Windows Mobile Device Center 6.1	WMDC X64

Command line example

The following examples demonstrate how to deploy and modify the Trimble Business Center installation using Setup.exe.

Note: Any file names and file paths that include spaces must be enclosed in quotes ("...") on the command line.

Default

The following command installs Trimble Business Center and related utilities silently with the default settings.

```
Setup.exe /silent
/ISFeatureInstall:TBC,TBC_MSI,FDM,FDM_MSI,SYNC,SYNC_MSI,SDM,
SDM_MSI,UAS,UAS_MSI
```

Localization

The following command installs Trimble Business Center and related utilities silently in a number of languages with German set as the default:

```
Setup.exe /language:1031 /silent /ISLanguageGerman=true
/ISLanguageFrench=true /ISLanguageItalian=true
/ISFeatureInstall:TBC,TBC_MSI,WMDC,FDM,FDM_MSI,SYNC,SYNC_MSI,
SDM,SDM_MSI,UAS,UAS_MSI
```

Note: Trimble Business Center users can verify which languages are installed with the software and select the language they want to view by selecting the Language settings in the Options dialog.

Minimal

The following command installs only the Trimble Business Center installation silently to an alternative folder and does not place a desktop shortcut:

```
Setup.exe/ISInstallDir_TBC="D:\Trimble Business Center"
/ISDesktop_TBC:"" /silent /ISFeatureInstall:TBC,TBC_MSI
```

Uninstall

The following command line uninstalls Trimble Business Center silently:

```
Setup.exe /remove /silent
```

Configure application and project settings

This section describes how to most easily and efficiently configure Trimble Business Center on multiple network computers to use the same application and project settings.

Configuration files location

All of the configuration files listed in this section are, by default, stored in the following folder:

- C:\Users\<user name>\AppData\Roaming\Trimble\Trimble Business Center\<version number>

Project templates

Any project can be saved in Trimble Business Center as a project template that can be used by other users in your organization to create new projects with the same project settings. The saved template can include any of the following:

- Company, user, and file information, such as field and office operators, contact numbers, and addresses
- Coordinate system information, such as a datum transformation and geoid model
- Unit settings, such as coordinate formatting
- View settings, such as a plot scale and grid line definition
- View filters and selection sets
- Computational settings, such as horizontal and vertical tolerances

Each custom project template is stored in a <project name>.vct file in the default location listed in "Configuration files location" earlier in this section.

To share a project template, you can copy the <project name>.vct file into the equivalent folder on each target computer, or to the Template folder defined in the File Location options (Tools > Options) in Trimble Business Center. For more information, see the "File Location Options" topic in the online Help.

For information on creating a project template, see the "Create a Project Template" topic in the online Help.

Application options

Application-wide options, such as startup preferences, default file locations, Internet download parameters, and display properties can be shared by copying the User.options file into the equivalent folder on each target computer. The User.options file is stored in the default location listed in "Configuration files location" earlier in this section.

Note: All folder locations for the File Location option must exist on all computers you are configuring.

For more information on setting application options, see the "Choose Application Options" topic in the online Help.

Toolbar layouts

Customized toolbars can be shared by copying the .Layout file into the equivalent folder on each target computer. The .Layout file is stored in the default location listed in "Configuration files location" earlier in this section.

Reports

To share customized reports on the network, you can save the report layout file (.RDLC) to a shared location on the network. You can then create or customize a report using the path to the .RDLC file. Finally, you can copy the report definition file (.RDF) from your computer into the equivalent folder on each target computer. The .RDF file is stored in the default location listed in "Configuration files location" earlier in this section.

For more information, see the "Create, Customize, and Run a Report" topic in the online Help.

Internet data providers

If you have customized the list of data providers, you can share the list of sites by copying the INetDownload.xml file from your computer into the equivalent folder on each target computer. The INetDownload.xml file is stored in the default location listed in "Configuration files location" earlier in this section.

For more information, see the "Add New Data Providers" and the "Add New Trimble IP-Enabled Receivers" topics in the online Help.