

SofTrack Administrator Reference Guide

Common reasons and resolutions for Bentley® Overages:

The purpose of this guide is to provide the most common causes of overages, and how to avoid them. If you have experienced any Bentley overages while using SofTrack please refer this document. We are always available at support@softwaremetering.com for a direct review of any Bentley overages to identify the cause and resolution.

Pre-installation requirements not being met:

It is critical that all SofTrack pre-installation requirements have been met on the Server, Network, and each Workstation that SofTrack will be installed and active upon.

For example, when the pre-install requirements have not been met, it is possible that an antivirus may interfere with the SofTrack Local Workstation Agent (LWA), or communication may be interrupted.

SofTrack Server Agent (SSA) Host Requirements

NOTE: You will find specific system requirements starting in Chapter 1 section "**SofTrack Server Agent Requirements**" of the [SofTrack Administrator's Guide](#).

The following include common situations that must be met:

- An always-on Windows OS machine (preferably "Server" class) with fixed IPv4 address (disable DHCP)
- In Power Settings, both "Sleep Mode" and "Hibernation Mode" must be disabled (allowing the screen saver to engage is ok) , further, "High Performance" power plan must be engaged
- Ensure the Server clock is synchronized with the following:
 - We suggest you synchronize your server's clock as indicated here:
<http://www.nist.gov/pml/div688/grp40/its.cfm>
- If hosted on VMWARE, please implement recommendations in the following document:
 - [VMWARE Configuration for SofTrack](#)

- If not hosted on VMWARE, use Windows Device Manager to increase the Receive and Transmit Buffers of the server's physical network adapter(s) to the maximum value allowed
- Create antivirus exclusions for SofTrack components (referenced in Workstation Requirements)

To ensure your server does not exhaust its internal TCP ports, please perform the following:

1. At the server host, logon and open CMD.EXE as Administrator
2. Type the following:
netsh int ipv4 set dynamicportrange tcp startport=10010 numberofports=55010
3. Press Enter

To make sure your server does not time-out connections, please perform the following:

1. Open REGEDIT.EXE
2. Browse to
[HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters
]
3. Create a DWORD value named "KeepAliveTime"
4. Set the Value to "120000" as a decimal value

After these are implemented a server reboot is required.

SofTrack Local Workstation Agent (LWA) Requirements

- Ensure that each Workstation clock is synchronized with the following:
 - We suggest you synchronize your each workstation clock as indicated here: <http://www.nist.gov/pml/div688/grp40/its.cfm>
- Confirm no software or hardware based firewalls and no antivirus or other protective products are blocking TCP/UDP port 3884 on an device including network switches.
- Create antivirus exclusions for all SofTrack components

- *SoftTrack Server Agent Components:*
 - C:\WINDOWS\SYSWOW64\STSRVC.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\STVIEW2K.SYS
 - C:\WINDOWS\SYSTEM32\DRIVERS\STVIEW64.SYS

- *SoftTrack Local Workstation Agent Components (may also be present on servers)*
 - C:\WINDOWS\SYSWOW64\DRIVERS\STLWA_NT.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\STLWA_NT.EXE
 - C:\WINDOWS\SYSWOW64\DRIVERS\NWLWA32.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\NWLWA32.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\STBW_K32.SYS
 - C:\WINDOWS\SYSTEM32\DRIVERS\STLWMON.SYS
 - C:\WINDOWS\SYSTEM32\DRIVERS\STVISTA.SYS
 - C:\WINDOWS\SYSTEM32\DRIVERS\STBW_K64.sys
 - C:\WINDOWS\SYSTEM32\DRIVERS\STLWA_64.sys
 - C:\WINDOWS\SYSWOW64\DRIVERS\CPTLWA32.DLL
 - C:\WINDOWS\SYSTEM32\DRIVERS\CPTLWA32.DLL
 - C:\WINDOWS\SYSWOW64\DRIVERS\CPTLWA64.DLL
 - C:\WINDOWS\SYSWOW64\DRIVERS\CPT_X64A.EXE
 - C:\WINDOWS\SYSWOW64\DRIVERS\LWATRAY.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\LWATRAY.EXE

- *SoftTrack Quick Inventory Service*

- C:\WINDOWS\SYSWOW64\DRIVERS\QISVC0.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\QISVC0.EXE
 - C:\WINDOWS\SYSWOW64\DRIVERS\BARCODE.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS\BARCODE.EXE
- *SofTrack Quick Inventory collection tool*
 - C:\WINDOWS\SYSWOW64\DRIVERS\INVENTORY.EXE
 - C:\WINDOWS\SYSWOW64\DRIVERS_SMBIOS_.EXE
 - C:\WINDOWS\SYSTEM32\DRIVERS_SMBIOS_.EXE
 - C:\WINDOWS\SYSWOW64\DRIVERS\STNW32.DLL
 - C:\WINDOWS\SYSTEM32\DRIVERS\STNW32.DLL
- *SofTrack STUSER Utility*
 - STUSER.EXE

NOTE: Trend Micro Users

1. There is a "regular" exclusions list and a "Smart Scan" exclusions list. Add SofTrack components to both.
 - a. For more detail, please reference section 10 of this document:
 - i. https://esupport.trendmicro.com/media/13177957/OSCE_11_BPG.pdf
2. Add "C:\Windows\syswow64\drivers\stlwa_nt.exe" to the Behavior Monitoring exception approval list
 - a. For more information, please refer to this page:
 - i. http://docs.trendmicro.com/all/ent/officescan/v10.0SP1/en-us/osce_10.0_sp1_olhsrv/osceag/osceag-scan/behavior_monitoring.htm

3. There is a known conflict with the "Unauthorized Change Prevention Service" (TMBMSRV.exe) and SofTrack. Having both enabled can cause system instability. Trend Micro is aware of this issue and is actively investigating it. As a temporary solution, please disable the "Unauthorized Change Prevention Service"

These are also offered by Trend Micro technical support:

- Add SofTrack components into "Unauthorized Change Prevention Service" exclusion list.
- <http://esupport.trendmicro.com/solution/en-US/1095115.aspx>
- [If experiencing poor performance]
<http://esupport.trendmicro.com/pages/improving-the-performance-of-officescan-related-clients-agents.aspx>

Network Requirements

- Confirm WAN ACCELERATORS (Caching Devices) such as RiverBed WAN Accelerator have "pass-through" rules defined for all inbound + outbound port 3884 traffic (so none is cached) at each WAN Accelerator Device.
- Confirm no software or hardware based firewalls and no antivirus or other protective products are blocking TCP/UDP port 3884 on an device including network switches.
 - Port 3884 must be open across the entire network
- Ensure any Intrusion Defense System excludes the SofTrack components and does not interfere with traffic over TCP/UDP port 3884

Local Workstation Agent not installed or active on workstations accessing metered software:

For SofTrack to be able to effectively meter software and prevent overages, the Local Workstation Agent (LWA) must be installed and active on each workstation that has the potential to access metered software.

To assist in determining your count of workstations utilizing Bentley Licenses we have developed the following:

1. Logon to your account via Bentley's website as the Administrator and run the "Application Usage by Hour Report"

- a. <http://selectserver.bentley.com/bss/admin/default.aspx>
2. When logged into the Bentley Admin page, go to Reports > Machine Based Reports > Application Usage By Hour
3. Define a Date Range (we suggest 3 months or more), select the Product (All product is best) you want to review, and then the Site.
4. Click on: Run Report
5. Export to CSV format
6. Download <http://www.softwaremetering.com/outgoing/countcsv.zip>
7. Extract (contains a single file "countcsv.exe") to the same folder path you downloaded the CSV file
8. On Windows start bar click "Start" and "Run" and enter "CMD.EXE"
9. In the resulting "CMD" window, change the folder path to be where you downloaded the CSV file. For example:

```
cd c:\users\admin\downloads
```

10. Enter the command:

```
countcsv 6 "application usage by hour.csv" >results.txt
```

11. Open the resulting "results.txt" in NOTEPAD.EXE and review

Note, the value "6" in "countcsv 6 .." above indicates the column number (starting with 1) where the workstation name is found in the Bentley Application By Hour CSV file, typically this is column 6, however we have also seen it at column 1. If the results.txt values do not appear correct, open the CSV file and determine the column that contains workstation names and then edit the command such as

```
countcsv 1 "application usage by hour.csv" >results.txt
```

Once you have ensured that all workstations accessing Bentley software have the LWA installed, we recommend enabling the Daily LWA Inactivity Summary report to alert you of any workstations where the LWA is inactive (generally due to antivirus disabling the LWA). This alert has the additional option to scan for workstations that do not have the LWA installed. You can find more information about this setting in Chapter 6 section "Send Alerts of LWA Inactivity" of the [SofTrack Administrator's Guide](#).

Please note alerts are sent via email, if not already done, you will need to configure SofTrack's email settings to receive these alerts. More information about configuring your email can be found in Chapter 6 section "Email Alerts" of the [SofTrack Administrator's Guide](#).

Out of Date SofTrack Installation:

We periodically release updates to SofTrack to address any of the following:

- New Bentley Applications
- Changes to current Bentley applications
- Changes required by Microsoft updates
- New Features
- Performance improvements

It is important that you keep your SofTrack installation up to date because of this. The delivery email address specified for receiving your SofTrack order is automatically added to our update email notification list. If you require additional email address(es) to receive our notification emails, you can sign up here:

<http://www.softwaremetering.com/support.htm>

We recommend updating your SofTrack installation anytime you receive an update notification email. If you need assistance with the update, or would like a custom MSI for installation of the LWA, please contact support@softwaremetering.com.

Please note, when performing updates workstations must be rebooted for any further metering to occur. It is advised to update during a period where metered application usage will be minimal.

You can check the current version of all SofTrack Components here:

https://209.59.135.5/count/VerChk_RefBuild.txt

SofTrack not configured correctly

It is important that your SofTrack License Profiles have been correctly configured. Each time you install a new or updated Bentley product it is important to review the License Profiles to ensure continuity. It is always important to ensure all recommended settings are enabled. When adding any new metered software to your workstations, we recommend contacting our Support Team for assistance with ensuring these applications are correctly metered.

Common profile misconfigurations:

- Bentley applications using the "Standard Licensing Profile"
 - Bentley applications should always be on "Calendar 10-minute", "Calendar Hour", or "Calendar Day" depending on how your specific applications are licensed with Bentley
 - See this guide for more information:
http://www.softwaremetering.com/outgoing/Bentley_License_Policy_Configuration_Recommendations_for_SofTrack.pdf
- Not checking "10 minutes is minimum usage" for Bentley applications
 - "10 + 20 minutes is minimum usage" for ALL versions gINT prior to release of gINT v10
- Incorrect "Maximum Concurrent Users" set
 - This should be how many licenses of an application you own or other suitable value
- When using "Groups Tracked", not ensuring the "SofTrack Service" is logged in user a user or service account that has sufficient permissions to read all users/group in Active Directory (typically a domain admin account is used)
- Incorrect "Local Windows Files to Meter" or "Command Line" entries
 - Any .exe or .dll file used by an application needing to be metered must be entered into the Local Windows files to Meter
 - Please review Chapter 11 of [SofTrack Administrator's Guide](#)
 - Any Bentley Code or specific launch sequence (such as a pipe count for WaterCAD) must be entered into the Command line
 - List of Bentley Codes can be found here: [List of Bentley Product Codes](#)

It is important you confirm your licensing structure with Bentley. You will need to know exactly how many licenses you own for each Bentley application. Also it is important to discover, from Bentley, if the specific application shares a pooled license or uses a standalone license.

If you are pooling Bentley licenses across countries (lumping all licenses together instead of treating as separate based off country), please ensure that you have

permission from Bentley first. It is important to confirm this with Bentley, as normally Bentley does not allow licenses to be pooled across countries.

Common SofTrack misconfigurations:

Once all SofTrack License Profiles have been correctly created, we recommend the following for maximum protection against overages:

- Blocking Untracked Bentley A, B, C codes
 - This will block any Bentley Application not currently tracked by SofTrack whose code has not been set to ignore (any unknown or unowned Bentley products)
 - Full details are found near the end of Chapter 6, section “Automatic blocking and alerting of Bentley codes not tracked” of the [SofTrack Administrator's Guide](#)
- Disallowing offline usage of metered applications
 - This will block any metered applications from being accessed while offline from the SofTrack Server. For non-Bentley metered applications, you can select the option “Profile exempt from offline always block” from within the profile.
 - Further details are found in Chapter 3, section “Offline Metering and Auditing” of the [SofTrack Administrator's Guide](#)
 - SofTrack has the ability to allow users to “check out” a license for offline use before going offline.
 - Further details are found in Chapter 3, section “Allow Users to perform SELF CHECK-OUT and CHECK-IN via LWATRAY.EXE” of the [SofTrack Administrator's Guide](#).
- Maintaining SofTrack
 - Please note that you will need to maintain SofTrack, as the initial configuration done at the time of installation will no longer be effective when changes have been made to the environment, such as adding and/or upgrading Bentley products. When changes to Bentley applications are introduced, such as different .exe files or Bentley codes, SofTrack must be updated to include these changes.
- SofTrack's WX Alerts

- Any SofTrack WX alert received must be resolved immediately. If you have configured your email in SofTrack, you will receive an email each time a WX alert happens, and every 15 minutes after until the WX alert is resolved. It is critical that any WX alert be resolved immediately as this may affect any metering.
 - Full details are found in Chapter 6, section “[SofTrack Server Agent Version: Server Alert Log](#)” of the [SofTrack Administrator's Guide](#).
- Daily LWA Inactivity Summary report
 - This will alert you of any workstations where the LWA is inactive (generally due to Antivirus disabling the LWA).
 - Full details are found in Chapter 6, section “[Send Daily LWA Inactivity SUMMARY as configured](#)” of the [SofTrack Administrator's Guide](#).
- Scan for workstations that do not have the LWA installed
 - This will alert you of any workstations that do not have the LWA installed
 - Full details are found in Chapter 6, section “[Scan for Workstations that do not have the LWA installed](#)” of the [SofTrack Administrator's Guide](#).
- SofTrack's Email alerts
 - Email Alerting Configuration details are found in Chapter 6, section “[Email Alerts: How](#)” of the [SofTrack Administrator's Guide](#).
 - SofTrack's email alerts you inform you of the following:
 - SofTrack Server Agent starting
 - SofTrack Server Agent stopping
 - SofTrack Server Agent licensing violation (over deployed or not licensed) (WX)
 - Software License Profile Activity including Idle Warnings and Termination (requires configuration)
 - Executable File Created (EXE or DLL) (requires configuration)

- LWA Inactivity (workstation agents not in regular communication) (requires configuration)
- Idle Warnings and Idle Terminations (requires configuration in each SofTrack License Profile)
- License Profile usage has reached a pre-configured alerting level