This document describes the modifications and fixes made in CitectSCADA version 7.10 Service Pack 1 as well as providing installation information.

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All projects *must* be upgraded and recompiled after installing this Service Pack. Failure to do so will result in conflicting database size messages. To force an upgrade, edit the Citect.ini file and set [CTEDIT] UPGRADE=1. Ensure that the menu option LQ3URMHFW(GLWRU:7RROV:2SWLRQV is checked, or set [CTEDIT] INCREMENTALCOMPILE=0. Customers should also do an (in Graphics Builder: Tools: Update Pages) on any projects using CSV_Include templates.

This Service Pack contains the known issues described below.

A change made in v7.10 resulted in locale settings being reflected in CTAPI communications, causing interoperability issues in some locales. This has been fixed by ensuring that CTAPI tag read and writes are "InvariantCulture" format (use decimal points) regardless of local regional settings.

Customers experiencing this issue should contact Support for a Hotfix.

After uninstalling service pack 1 all projects that use the CSV_Include project (including the CSV_Example and Facilities projects) give a compile error indicating "incorrect arguments".

Customers experiencing this issue should do an (in Graphics Builder: Tools: Update Pages) on any affected projects.

On Microsoft Vista, the Web Server Service Pack cannot be uninstalled independently from the base application. Instead the CitectSCADA Web Server must be uninstalled to remove both the base product and Service Pack, and then the base product may be reinstalled. This has been documented in Knowledge Base article Q5450.

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If you already have hot fixes installed on version 7.10, you should review this document carefully to ensure that the hot fixes you have installed are included in this Service Pack. In the event of a discrepancy contact your regional support office for assistance.

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For general information about service packs, see Knowledge Base article Q2181.

This service pack applies to three of the products shipped with CitectSCADA version 7.10:

a) CitectSCADA

b) CitectSCADA Web Server

c) CitectSCADA Internet Display Client

Separate service pack installers have been created for each of these products, allowing you to choose which products you wish to upgrade to Service Pack 1, depending on your requirements.

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The procedure for installing Service Pack 1 for CitectSCADA depends on whether you are an existing user of CitectSCADA version 7.10 or a new user.

1. Run SDWFKILOH³CitectSCADA SCADA 7.10 Service Pack 1.exe´
2. Open Citect Explorer, wait until upgrade has completed.
3. For any project using CSV_Include templates:
    a. Select the project in Citect Explorer.
    b. In Citect Graphics Builder, select Tools: Update Pages, then click Yes to continue.
4. Ensure the Incremental Compile PHQX SWLRQLQ3URMHFW(GLWRU:7RROV:2SWLRQV is turned OFF then recompile each project.
5. For any webclient project whose graphics pages were updated in step 3, redeploy:
    a. Run Citect Explorer: Tools: Web Deployment Preparation.
    b. Follow the steps below IRU³Upgrading CitectSCADA 7.10 Web Server to Service Pack 1´ and re-save the project deployment.

1. Install CitectSCADA 7.10.
2. Open Citect Explorer for the first time and then close.
3. Run CitectSCADA SCADA 7.10 Service Pack 1.exe´
4. Open Citect Explorer, wait until the upgrade has completed.
5. For any project using CSV_Include templates:
    a. Select the project in Citect Explorer.
    b. In Citect Graphics Builder, select Tools: Update Pages, then click Yes to continue.
6. Ensure the Incremental Compile PHQX SWLRQLQ3URMHFW(GLWRU:7RROV:2SWLRQV is turned OFF then recompile each project.

Installing Service Pack 1 for CitectSCADA Web Server requires that you install Service Pack 1 for CitectSCADA as well otherwise the web client will not work correctly. You should perform this installation as per one of the above two scenarios, then:

1. On your web server(s) (machines running IIS), run SDWFKILOH³CitectSCADA WebServer 7.10 Service Pack 1.exe´. This will install an updated CAB file: CitectSCADAWebClient_7_10_1_8.cab, which will become available to all your web clients.
2. On all your web client machines, take the following actions:
    a. Run Control Panel: Add/Remove Programs.
    b. Run Control Panel: Add/Remove Programs in ARP, you should delete the *%windir%\system32\citect\webclient\710* directory. (*NB: %windir% indicates the default windows installation directory.)*
    c. In the CitectSCADA Web Deployment Configuration (in Internet Explorer):
        i. Select µCitectSCADAWebClient_7_10_1_8.cab¶from the *Client Control* drop down menu.
        ii. Save the deployment by selecting the action to save deployment.

Installing Service Pack 1 for CitectSCADA IDC requires that you install Service Pack 1 for CitectSCADA on your servers otherwise the IDC will not work correctly. You should perform installation as per one of the above two CitectSCADA scenarios, then:

1. On each of your IDC machines, run SDWFKILOHFWSCADA IDC 7.10 Service Pack 1.exe´.

The procedure for removing (rolling back) Service Pack 1 depends on which Operating System you are running.

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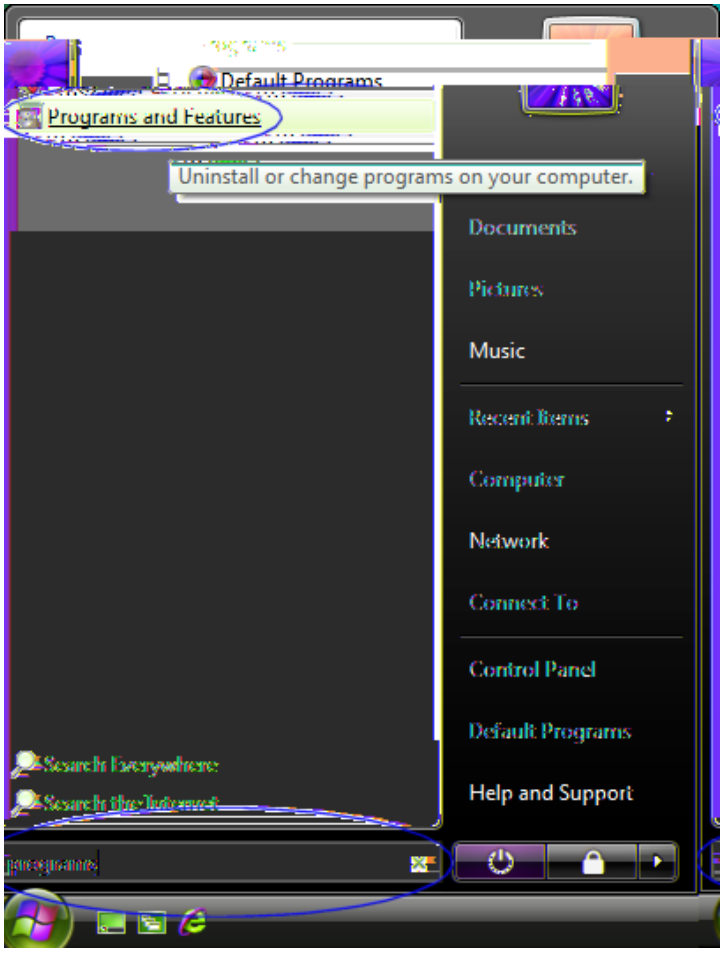
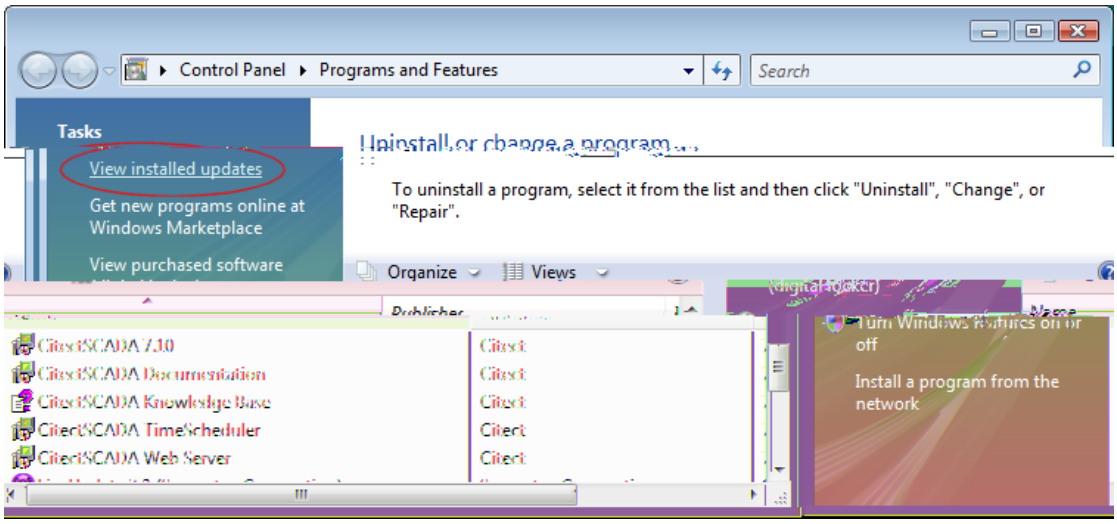
On Microsoft Vista, the Web Server Service Pack cannot be uninstalled independently from the base application. Instead the Citect Web Server must be uninstalled to remove both the base product and Service Pack, and then the base product may be reinstalled. This has been documented in Knowledge Base article Q5450.

Follow these steps to uninstall products other than the Web Server:

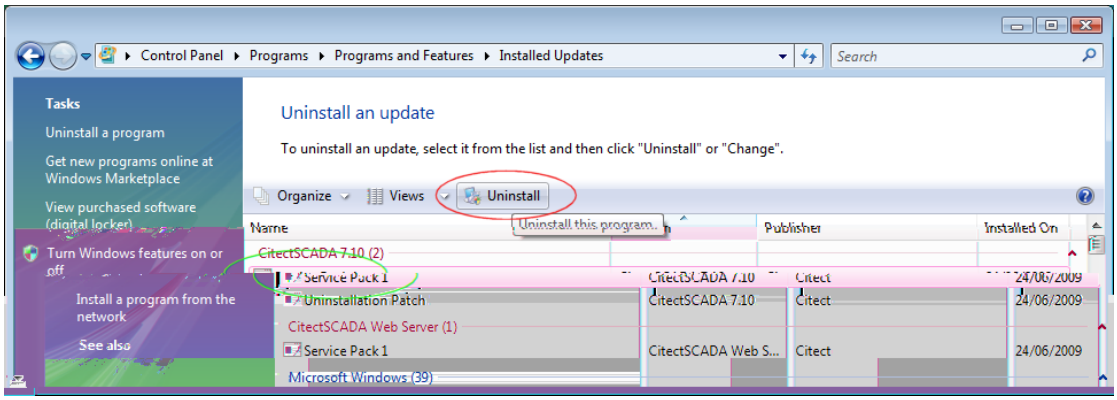
1. From the bin directory of your Citect installation, r SDWFKILO CitectSCADA SCADA 7.10 Uninstallation Patch.exe´ *(This will ensure that Service Pack 1 and future service packs may be uninstalled)*. For further information, see Knowledge Base article Q5444.
2. typing its name in the Start Search bar then selecting it from the list:



3. [illegible] from the side panel that is presented:



4. Select [illegible] from the side panel that is presented:



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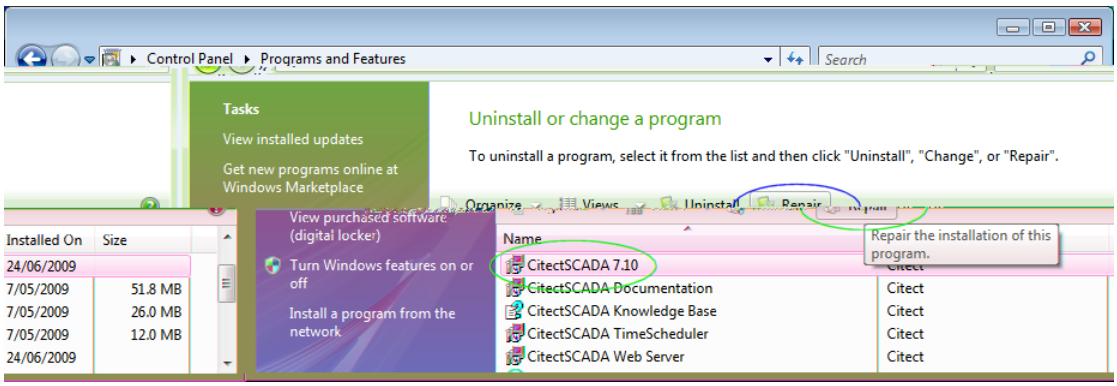
If you have User Access Control switched on in Windows Vista, the orange UAC dialog will be displayed before the uninstaller is launched. Select allow and proceed with the uninstallation. This is a limitation imposed by the User Access Control and cannot be avoided.

5. Once the removal is complete, return to the Uninstall or change a program [illegible]

6. Select the pare[illegible] CitectSCADA 7.10 [illegible] Repair:



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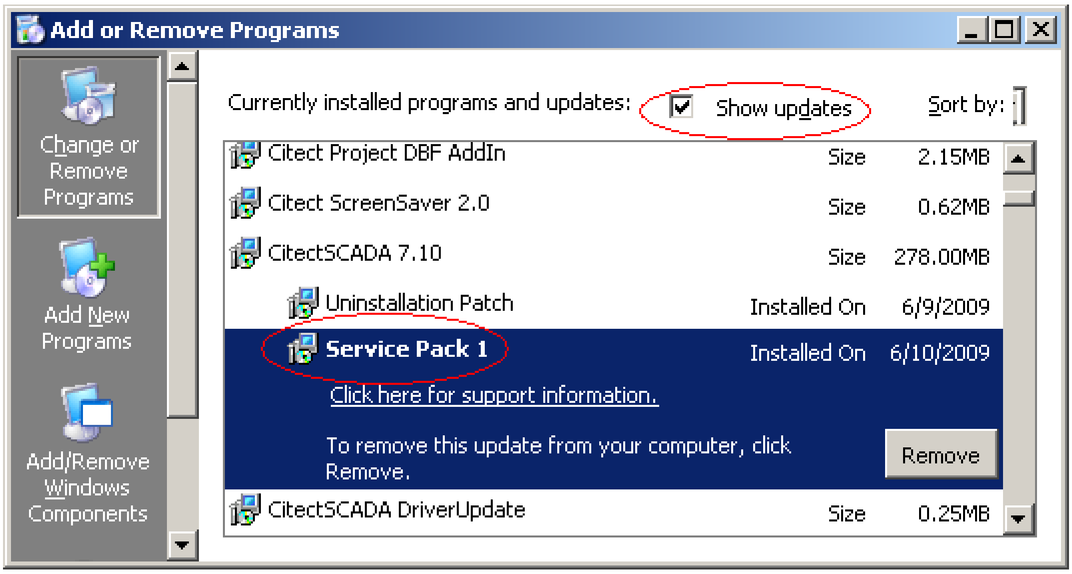
As in step 4, if User Access Control is on the orange UAC dialog will be displayed before the repair is launched. Select allow and proceed with the repair.

7. Open Citect Explorer, wait until upgrade has completed.
8. For any project using CSV_Include templates:
    a. Select the project in Citect Explorer.
    b. In Citect Graphics Builder, select Tools: Update Pages, then click Yes to continue.
9. Ensure the Incremental Compile PHQXRSWLRQLQ3URMHFW(GLWRU:7RROV:2SWLRQV is turned OFF then recompile each project.

Follow these steps to uninstall:

1. From the bin directory of your Citect installation, rXQ³SDWFKILOH³CitectSCADA SCADA 7.10 Uninstallation Patch.exe´ *(This will ensure that Service Pack 1 and future service packs may be uninstalled).* For further information, see Knowledge Base article Q5444.
2. Programs.
3.



4. You should see the service pack listed as a sub-entry under the parent product.
5. Select this sub-LWHPDQGFOLFN³5HPRYH¶
6. µCitectSCADA 7.10¶DQG FOLFNWKH³XGHUOLQHGOLQN³ &OLFNKHUHIRUVXSSRUWLQIRUPDWLRQ´ WKHIROORZLQJSRSXSZLOODSSHDU

7. [redacted]
8. Open Citect Explorer, wait until upgrade has completed.
9. For any project using CSV_Include templates:
    a. Select the project in Citect Explorer.
    b. In Citect Graphics Builder, select Tools: Update Pages, then click Yes to continue.
10. [redacted]
    recompile each project.

ARP (as shown in Figure 1) is not available under these operating systems, so an uninstall of the service pack must be performed manually as follows:

1. From the bin directory of your Citect installation, r[redacted]ctSCADA SCADA 7.10 Uninstallation Patch.exe´ *(This will ensure that Service Pack 1 and future service packs may be uninstalled)*. For further information, see Knowledge Base article Q5444.
2. Open a command prompt e.g. 6WDUW[redacted]un: ´FPG´: [enter].
3. For each product you wish to uninstall:
    a. Copy the uninstall command from Table 1 and paste into the command prompt, and press <enter>.

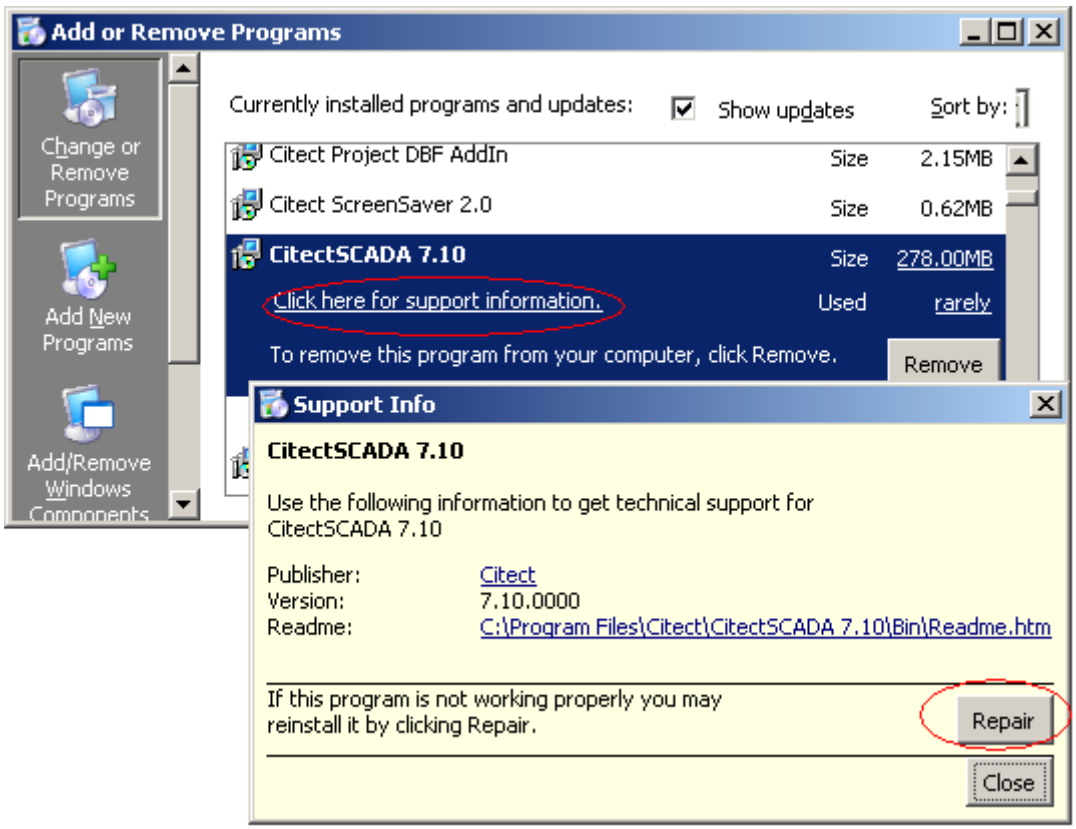
CitectSCADA SCADA 7.10 Service Pack 1	msiexec /uninstall {4D093BD2-DBA3-4402-9686-DF817108597F} /package {3582EEF6-782C-4884-9278-E54D015B1AD3} /qb
CitectSCADA WebServer 7.10 Service Pack 1	msiexec /uninstall {A0F449A1-9FEE-446D-987C-

	EF18F349E3BE} /qb
CitectSCADA IDC 7.10 Service Pack 1	msiexec /uninstall {780FCB3E-34C4-4B4C-B783-41F37532BD01} /package {75C5890B-59A9-4BDC-B490-1816F8F06174} /qb

b. [illegible] ntrol 3DQHO:[illegible]G5HPRYH3URJUDPVRUSUHVV)WRUHIUHVKLIDOUHDG\RSHQ

c. You should now see the product name has returned to the original pre-service pack name.

d. [illegible] Figure 3, this is [illegible]CitectSCADA 7.10[illegible]DQGFOLFNWKH [illegible]XGHUOLQHGOLQN[illegible]LFNKHUHIRUVXSSRUWLQIRUPDWLRQ¶KHIROORZLQJ[illegible]



e. [illegible]

4. Open Citect Explorer, wait until upgrade has completed.
5. For any project using CSV_Include templates:
   a. Select the project in Citect Explorer.
   b. In Citect Graphics Builder, select Tools: Update Pages, then click Yes to continue.
6. Ensure the Incremental Compile PHQX[illegible]SWLRQLQ3URMHFW(GLWRU:7RROV:2S[illegible]WLRQ[illegible] OFF then recompile each project.

Listed below are the files that will be updated in the CitectSCADA *IDC* product after installing 7.10 service pack 1.

_CommonFilesFolder_\Citect\Analyst.dll	
_CommonFilesFolder_\Citect\Ct_ipc.dll	
_CommonFilesFolder_\Citect\CtApi.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\Citect32.exe	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\Citect32.exe.config	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\Client.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\CSAPSI.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\Ct_ipc.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\CtApi.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\CtVersion.dll	
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\CtVersion.xml	
_CommonFilesFolder_\Citect\CtRes32.DLL	English install only
_ProgramFilesFolder_\Citect\CitectSCADA IDC 7.10\Bin\CtRes32.DLL	English install only
Citect.Platform.DatasourceDevelopmentKit.BaseDatasource.dll	
Citect.Platform.Logging.TraceListeners.dll	
Citect.Platform.Net.Session.Tcpip.dll	
Citect.Platform.Net.SessionManager.dll	
Citect.Platform.PSI.BaseConnector.dll	
Citect.Platform.PSI.Connector.dll	
Citect.Platform.PSI.Interfaces.dll	

Listed below are the files that will be updated in the *SCADA* product after installing 7.10 Service Pack 1.

_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\AlarmServer.dll	
_CommonFilesFolder_\Citect\Analyst.dll	
_CommonFilesFolder_\Citect\CiOPCDrv.dll	English install only
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\Citect32.exe	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\Config\Citect32.exe.config	
_CommonFilesFolder_\Citect\CiTrendArchiveFileOffset.dll	
_CommonFilesFolder_\Citect\CiTrendArchiveFileOffset8Byte.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\Client.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\ComputerSetupEditor.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CSAPSI.dll	
_CommonFilesFolder_\Citect\Ct_ipc.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\Ct_ipc.dll	
_CommonFilesFolder_\Citect\CtApi.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtApi.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtBack32.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtCicode.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtCmp32.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtDraw32.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtEdit32.exe	
_CommonFilesFolder_\Citect\CtEng32.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtEng32.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtExplor.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtProj.dll	
_CommonFilesFolder_\Citect\CtRes32.DLL	English install only
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtRes32.DLL	English install only
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtUtil.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtVersion.dll	
_CommonFilesFolder_\Citect\DatabaseExchange.ocx	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\Diskdrv.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\IOConnectors.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\IoServer.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\ReportServer.dll	

_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\RuntimeConfiguration.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\RuntimeManager.exe	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\TrendServer.dll	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\Include\tag.ci	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CTTAGDB.dll	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\FUNC0.DBF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Math.ci	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_MultiMonitors.ci	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\Include\zoom.ci	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Alarms.ci	
_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CtVersion.xml	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\Include\LABELS.DBF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\changes.DBF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AdminTools.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AdminTools.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Alarm.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Alarm.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmDisabled.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmDisabled.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmHardware.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmHardware.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\csv_alarms.ctm	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmSummary.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_AlarmSummary.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Analyst.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Analyst.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_File.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_File.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Start.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Start.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Trend.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_Trend.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_TrendDouble.ctF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\CSV_TrendDouble.ctg	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\pages.DBF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\pgbutton.DBF	
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\pgkey.DBF	

_CommonAppDataFolder_\Citect\CitectSCADA 7.10\User\CSV_Include\pgtouch.DBF
_CommonAppDataFolder_\Citect\CitectSCADA 7.10\Data\CSV_Example.ctz
Citect.Platform.DatasourceDevelopmentKit.BaseDatasource.dll
Citect.Platform.Logging.TraceListeners.dll
Citect.Platform.Net.Session.Tcpip.dll
Citect.Platform.Net.SessionManager.dll
Citect.Platform.PSI.BaseConnector.dll
Citect.Platform.PSI.Connector.dll
Citect.Platform.PSI.Interfaces.dll

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_ProgramFilesFolder_\Citect\CitectSCADA 7.10\Bin\CitectSCADA SCADA 7.10 Uninstallation Patch.exe

– –

Listed below are the files that will be added to the *WebServer* product after installing 7.10 Service Pack 1.

Citect\client\710\CitectSCADAWebClient_7_10_1_8.cab

This Service Pack resolves the issues described below. If you have any hotfixes installed on your current version, please check if they are included in this service pack. If the hotfix is not included in the list below, or you have any concerns regarding the issues covered, please contact Support *before* installing this Service Pack.

	Sometimes when switching between pages or other operations, the alarm page or banner will go blank. This has now been fixed.
	In systems with many units spread across multiple IOServers, and where there are tags in a cluster that are not defined on all IOServers, the IOServer processes may display unusually high CPU usage. This was caused by those servers trying to service tags not defined on that server, resulting in unnecessary checks to find out if a tag exists or not. This has now been fixed.
	Networks where there is high packet-loss or high latency may experience an issue where server processes suffer unusually high CPU in the Tran.Task.Delay task. This is because connection attempts are timing out and not being correctly cleaned up. This issue has now been fixed.

	problem has been fixed.
	Some systems will notice an extended delay (often 10 to 15 or more seconds) when switching from an active I/O server to a secondary I/O server when the SCADA system is shutdown cleanly. This was caused by the networking layer not being shutdown at an appropriate point in the shutdown sequence. This issue has now been fixed.
	This enhancement allows a user to sort alarms by "Type". Currently users can sort alarms via Cicode funtion AlarmSetInfo by "Tag", "Name", "Category", Priority, "Area", "Priv", "Time", "State", and Cluster and . "Type" sorting orders an alarm into four different categories which are unack, ack, cleared and disabled.
	AlarmSumSplit now has the following signature: INT AlarmSumSplit (INT Index [,STRING ClusterName=""] [,LONG onTime = 0] [,LONG onMilli = 0] [,INT bRedundant = FALSE]) By default, when none of optional parameters are provided, the behaviour of this function is unchanged - it creates a new event based on existing event with given index, setting onTime and AckTime of newEvent to current time. OffTime of original alarms is set to onTime of newly created alarm. If original event's OffTime is already set (not zero), no split is performed. When using AlarmSumSplit in a new way, onTime and onMilli must be provided - they are used to set OnTime and OnMilli of newly created event. Before event is split, function performs search for existing event with time equal to time and milliseconds provided. If such event already exists, a condition known as time conflict occurs and no split is performed. -1 is then returned to cicode and user error CT_ERROR_ALARM_TIME_CONFLICT (0x204) = 516 is set. User code must then check error code by calling IsError(). This condition indicates that user code can retry operation by providing altered timestamp (in most cases, increasing milliseconds value by 1 will be sufficient) AlarmSumSplit call now can be redundant. If bRedundant flag is set to true, server will first try to split event locally and if it succeeds, message is forwarded to redundant server, which then splits corresponding event if it exists on it. Note - it primary server could not split the event, redundant server will not be informed, i.e. it won't even try to split event too. Redundancy is off by default.
	An internal buffer overrun was causing a corruption resulting in the active alarm list becoming corrupted. This problem has been fixed.
	When many alarms are triggered at once (an "avalanche") there is a race condition potentially leading to a crash. This has now been fixed.
	A crash may occur when the number of alarm records being processed exceeds the alarm cache size ([Alarm]CacheLength), due to the most recently used cache record being reused. This has now been fixed.
	Some display clients may crash when retrieving event data from Alarm server, due to an internal race condition. This has now been fixed.
	Every time AlarmSumSplit created a new event, it was always setting that new event as current event. This had side effects when the event being split was a completed event (which already has OffTime set) from the past but there was a newer incomplete event. This leads to noticeable side effects on alarm summary page where events with certain timestamps may appear to be missing.

	The default behavior for logging in v7.0 allowed the tracelog.dat file to grow without bound, eventually leading to a crash. This was fixed by changing the default behavior to cap file size at 2MB. This can be overridden using the citect32.exe.config file.
	Subscriptions automatically created for pages, as well as manually created by calling the TagSubscribe cicode function, were not honouring the [Code]WriteLocal parameter. Instead they were being forced to update the local cache on any write.
	Added conversions to string type and trigger an error if the conversion fails
	To improve performance, the system uses a local cache to store variable/tag values while executing a code slice. The local cache was not being updated for local array variables. If the code being executed within the given code slice involved a read from the local array variable the result was a bad value(the read is performed on the local cache which contains an old value).
	A user triggers a popup via right clicking on one of the alarms from the section displaying the last 3 alarms on a CSV page and selecting the tag name. The popup opens correctly but displays the hardware alarm "Wrong Type For Text Display". This has now been resolved.
	When the project editor find and replace feature is used, any open graphic pages are closed even when nothing was replaced on the page. This issue has been resolved.
	When there are multiple page properties dialogs open, the information on the Event tab shows the settings from the most recently opened dialog on all dialogs. This has now been resolved.
	DspPopupMenu() uses certain (special) characters as flags for various Menu adornments. Page Titles that have any commas (','), as well as any leading Tilde ('~') or Exclamation ('!') characters are now displayed without those characters in the toolbar drop-down menus.
	Compiler no longer adds the extra space. (Recompile project for change to become evident.)
	An error in the coding of the Database Exchange control meant that arguments were not being relayed to stored procedures. This has now been fixed.
	The PageGoto Cicode function does not display the page on the active window if called from a popup page. This problem should only occur on multi-monitor CSV_Include projects with 1 monitor. This issue has been resolved.

	Alarm synchronization between redundant alarm servers was being performed in an inefficient manner, leading to a long period of high CPU usage when starting a second server. This has now been corrected with the duration of high CPU greatly reduced and startup times improved.

	An unnecessary assumption in the code - that output devices were always single devices - would lead to a crash in the report server when a group was used as an output device. This problem has now been fixed.
	A logic error was introduced when refactoring the functions that handle alarm messages based on category. This problem has now been resolved.
	Each subscription callback event requires a new Cicode thread. Thus if multiple callbacks were triggered simultaneously, this would exhaust the pool of available threads, leading to an "Out of Cicode threads" error. This has been fixed by introducing a queuing mechanism to handle subscription callbacks in order to throttle the maximum number of callback threads that will execute simultaneously. This maximum is controllable by a Citect.ini parameter [Code]CallbackThreads with a range of 1 to 512 and a default of 5.
	The CBS_SORT style was added to the 'Startup Page' and 'Project Lists' dropdowns. This enhancement has been made.
	The trend name is not reported when [Trend]TrendDebug is enabled. Specifically in cicode functions "TrnSetTable" and "TrnEventSetTableMS". This has now been resolved.
	CSV_Math_RoundDown() and CSV_Math_Truncate()have been fixed so that they always round down.
	Pasting text from a closed Rich Text windows no longer crashes Citect
	The logic to handle dynamic cluster changes in AlarmDsp only handled transitions from single-to-multi cluster and multi-to-single cluster but not single-to-single. This resulted in alarms not being correctly filtered on screen. This has now been fixed.
	Cicode that is configured to run when a page exits via the "on page exit command" field may not be executed as expected. This issue has now been resolved.
	This problem has been resolved - the Citect application directory path can now contain a full-stop (".") character.
	The Sentinel licensing routines display Dialog boxes which are run on the main thread of the various servers, thus they block (stall) waiting for a user to dismiss them. The [Debug]SysErrDsp CITECT.INI setting now also gates the display of the various Dialog boxes produced by the Sentinel licensing routines. When set to zero, [Debug]SysErrDsp prevents the display of these Dialog boxes.
	Writes to a tag on a StandbyWrite IO Device may have been issued to the wrong IO Device. The last IO Device entry, for the same channel, in the IODevice form would receive the write request. This issue has

	now been rectified.
	An error in the implementation of HF710R140585 meant that customers using this HF to subscribe to more than 32768 tags would receive a negative handle passed to the callback function. This was only a problem for users of the abovementioned HF (or combo HF's including Bug 40585), and has now been fixed.
	From v7, it was possible to leave a genie window having used the Pulse function, and for the 0 => 1 => 0 sequence not to occur. i.e. the tag was set but not reset. This would happen if the window was left before the 2 second period had expired. This bug has been fixed.
	In Citect SCADA V7, the driver DataBase() function for remote devices can be called before InitChannel() which results in several problems - one of which is blockMax is then zero which causes the reported problem. This problem has been resolved.
	This crash was possible when importing tags from OPC Servers that only supported v2 or later of the OPC specification. This issue has now been resolved.