

Intel[®] Cache Acceleration Software (Intel[®] CAS) Version 2.0 for Windows*

Release Notes

December 2012



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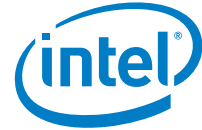
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Revision History

Date	Revision	Description
December 2012	001	Initial release of document.



1 Release Description

This document describes extensions and deviations from the release functionality described in the Intel® Cache Acceleration Software (Intel® CAS) Administrator's Guide.

1.1 Features

The new features of Intel® Cache Acceleration Software Version 2.0 for Windows* are:

- Product name change from NEVEX* CacheWorks to Intel® Cache Acceleration Software (Intel® CAS)
- vMotion with a Hot Cache
 - Intel® CAS has fully qualified support for VMware* live migration with vMotion while maintaining a fully "hot" cache
- Support for caching to a remote (shared) flash volume
- General improved caching and eviction performance

1.2 Limitations

The software package has the following limitations:

1. Due to a change in naming and install directories, you must uninstall any previous version of NEVEX* CacheWorks before installing Intel® CAS.
2. Intel® CAS requires a local or network shared dedicated NTFS formatted flash volume for cache operations.

During installation you will be warned if any non-caching data is present on the flash volume. If it is necessary to use part of the flash device for non-caching operations, you can partition the flash device and dedicate one NTFS volume for Intel® CAS.

Reduced performance and/or product instability may occur if non-caching data is placed on the flash drive after installation.

3. You must ensure that Indexing, Recycle Bin, Shadow Copy are disabled on the cache drive.
 - Indexing of the cache drive is disabled by the Intel® CAS installer. Performance will be impacted if indexing is later enabled on the cache drive.

Note: Uninstalling Intel® CAS will not re-enable Indexing. You will need to manually re-enable it.

To ensure Indexing is disabled:

- a. In Windows Explorer, right on the cache drive and select **Properties**.
- b. On the **General** tab, ensure that the **Allow files on this drive to have contents indexed in addition to file properties** checkbox is un-checked, otherwise un-check it.



- c. Click **OK**.
- The Recycle Bin for the cache drive disabled by the Intel® CAS installer. Performance will be impacted if the Recycle Bin is later enabled on the cache drive.

Note: Uninstalling Intel® CAS will not re-enable Recycle Bin. You will need to manually re-enable it.

To ensure the Recycle Bin is disabled:

- a. Right click on the Recycle Bin and select **Properties**.
- b. Select the cache drive from the list of available drives.
- c. Select the radio button **Don't move files to the Recycle Bin**. Remove files immediately when deleted.
- d. Click the **Apply** button.
- Shadow Copy is disabled by default.

To ensure Shadow Copy is disabled:

- a. Launch the Computer Management configuration tool (**Start -> All Programs -> Administrative Tools -> Computer Management**).
 - b. Select **Storage -> Disk Management** from the tree in the left panel.
 - c. Right-click on the cache drive volume and select **Properties**.
 - d. In the properties dialog, select the **Shadow Copy** tab.
 - e. Ensure Shadow Copy is disabled, otherwise click the **Disable** button.
4. Application acceleration is I/O workload dependent.
- Performance gains should be measured over extended periods of time and aggregated operations. A lightly loaded system where a single user is executing a single operation is unlikely to have a remarkable impact to the user. In this scenario Intel® CAS provides the benefit of allowing a significant increase in user sessions and workload. Conversely, a heavily loaded system or operations with heavy I/O show immediate improvements in response times.
5. Read performance gain through Intel® CAS grows over time as the system identifies and accelerates active data. On initial install the read acceleration will be minimal, but as hot data is identified and cached the performance continues to improve.

To test immediate read acceleration gain, run operations twice. The first will result in the caching of the active data, the second will fully utilize cached data.

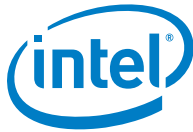


1.3 Supported Platforms

Intel® Cache Acceleration Software supports the platforms listed below for 64-bit processors.

Table 1. Supported Platforms

Platform	Notes
Windows* Server 2008 R2	
VMware* ESXi	Installed into Windows* Server 2008 R2 running as the Guest
Windows* Hyper-V	Installed into Windows* Server 2008 R2 running as the Guest
Citrix* XenServer	Installed into Windows* Server 2008 R2 running as the Guest
KVM*	Installed into Windows* Server 2008 R2 running as the Guest



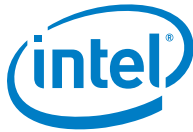
2 Known Issues

The following table lists issues known to be present in the current release.

Reference	Short Description	Impact/Status/Workarounds
CAS-1524	With short strings, Sequential Reads, Moves, Deletes and Copies are excessively longer than non-cached.	Actual read time variance unnoticeable in production due to very small read size.
CAS-1507	Minimum Cache size needed for Intel® Cache Acceleration Software. Current Cache maintenance code causes all files to be deleted when Cache is too small.	The recommended workaround is to have a minimum cache size of 5GB.
CAS-1410	Start Service from GUI does not warn when Drive letter of Cache drive not saved.	Usability issue, no functional impact.
CAS-1368	Only log to event viewer, remove Intel® Cache Acceleration Software log file (Windows* product standard).	Enhancement request.
CAS-1363	Not properly setting event IDs in event viewer for exceptions.	Results in some confusing log messages. Does not affect the running system.
CAS-1333	NON-ASCII --- Unicode characters in filenames cause files to fail to cache.	Full Unicode support planned in next major release. Extended ASCII is supported. Note: Filenames with non-extended ASCII characters will not be cached.
CAS-1290	Windows* Short File names do not work in Cache Include list.	Must use long filenames in include list.
CAS-1285	Recycle bin does not get disabled in Windows* 2003.	Windows* Server 2003 is not currently fully supported, but will be added in an upcoming release.
CAS-1278	Pattern list less informative in logs (at info level) now that it includes parent folders.	Cosmetic only.



Reference	Short Description	Impact/Status/Workarounds
CAS-1262	If Intel® Cache Acceleration Software is attempted to upgrade, with the Intel® Cache Acceleration Software service already running, the upgrade may not always work as expected.	It is recommended to shut down the service completely before attempting to upgrade.
CAS-1248	Certain errors such as Cache file/disk size reporting have been observed to be inaccurate, especially when caching is enabled in conjunction with antivirus/malware scanner or software such as e.g., Microsoft* Security Essentials.	It is not recommended to use security/antivirus/malware scanners in conjunction with running caching software.
CAS-1243	It is not recommended to perform shadow copying on the cached drive.	Shadow copying should always be explicitly avoided for correct caching operations.
CAS-1231	The Intel® Cache Acceleration Software currently only supports 512 byte sector I/O. Support for other sizes not available.	Ensure that the sector size is only 512 bytes. Support for other sizes such as 4K bytes will be addressed in a future release.
CAS-1223	The drive indexing and recycle bin features are turned off on Intel® Cache Acceleration Software service startup. These are not enabled after stopping the service or even changing the cache drive.	Impact / workarounds yet to be evaluated.
CAS-1218	Visual indicator required that Service has Failed when SSD drive Dies / Disappears from the system.	Usability enhancement.
CAS-1188	Transacted IO test does not work with Intel® Cache Acceleration Software.	Currently, we do not support Transacted IO in 2.0
CAS-1170	Intel® Cache Acceleration Software does not handle SSD sector size greater than HDD sector size.	Intel® Cache Acceleration Software works based on 512 bytes. Cache drive (SSD) sector size bigger 512 bytes will not work optimally
CAS-1158	Caching software throws exceptions while opening (actual files)/saving (meta files) files.	We don't see this issue with our tests with 2.0 because design/architecture have changed since the issue was logged.
CAS-1155	If performance counters corrupt we should automatically run the perfmon repair.	Workaround documented in Intel® CAS Administrator's Guide.



Reference	Short Description	Impact/Status/Workarounds
CAS-1149	All paths through the installer do not give installation complete message.	Cosmetic only.
CAS-1099	Unable to save Include list as a standard user due to (windows) user access restrictions.	Intel® Cache Acceleration Software needs to be executed as user "Administrator"
CAS-1088	NAS drives cannot be cached.	NAS support will be included in an upcoming release.
CAS-1083	System freezes when user data takes space on the Cache Drive, thus making Max Cache Size greater than the available space.	The Cache Drive is for use by Intel® Cache Acceleration Software only. User should not put data into it.
CAS-1064	Intel® Cache Acceleration Software GUI will not allow you to add one character file names (non-wildcard).	If you have to specify a one-character filename, prefix it with the drive letter and path. For example, if you want to cache the file 'j' found on the root of the R drive, add "R:\j" to the include list.
CAS-0988	Upgrades to existing Intel® Cache Acceleration Software fails to automatically close the service and the GUI.	In some instances during an uninstall, reinstall, or upgrade, the prompt to automatically shut down our processes is unavailable requiring the end user to shut things down manually. These processes are: the service, which must be stopped by a system administrator via the GUI, using one of 'sc stop intelcasservice', 'net stop intelcasservice', or 'powershell stop-service intelcasservice' from the command line, or by finding it in the services.msc list; the GUI, which must be shut down by right-clicking the taskbar icon and selecting 'Quit'; and any open Windows Explorer windows, as one of our components attaches to Explorer.
CAS-0979	System fails to load at normal speed after filtering *.exe and *.dll...	We recommend not caching .exe or .dll files, as they appear to cause some system slowdown.
CAS-0629	Security issue: Encrypted true files are clear text in cache.	The caching software is triggered before any encryption, so encrypted files appear as plaintext in the cache file. We recommend not caching encrypted files.



Reference	Short Description	Impact/Status/Workarounds
CAS-0600	Intel® Cache Acceleration Software doesn't mark SSD as "in use".	The SSD that is being used as the cache drive should not be removed while the Intel® Cache Acceleration Software service is active. Please stop the service before attaching or removing drives.
CAS-0582	Does not support cache drive as a mapped (NAS) network drive.	The workaround is to use a local cache drive or a SAN-based remote drive.
CAS-0542	Installer may give a message that a newly formatted SSD drive is not empty.	This message may be ignored in this scenario. No functional impact.
CAS-0538	Unable to cache a locked/private file, e.g. pagefile.sys	This feature is not supported in this version.
CAS-0501	If there's only c:\ drive in the system, all the filter rules with "c:\\" in it will be removed, e.g. "c:*.txt".	Installer will flag this as an error. The workaround is to remove "c:\\" from the filter rule, use "*.txt" instead.
CAS-0478	Caching ADS (Alternate Data Streams) is not supported	This feature is not supported in this version.
CAS-0421	Intel® Cache Acceleration Software is likely to fail after installing on systems without a C drive.	A system with C drive is recommended.
CAS-0420	Log folder created on C drive when application installed on other drives.	No functional impact.
CAS-0361	After enabling Menu Bar in Windows* Explorer, multiple Intel® Cache Acceleration Software FasTier menu items display when clicking File menu repeatedly.	No functional impact.
CAS-0333	Right Mouse on Start Button shows Intel® Cache Acceleration Software > Add to include list menu. It should only appear on standard folders.	No functional impact.
CAS-0271	Applying filter rule to C:\Windows*. * is not prevented in the Intel® CAS UI.	Intel® CAS is designed to accelerate data files. Caching all of the C:\Windows directory should be excluded.



3 Resolved Issues

The following issues have been fixed since the previous release:

Reference	Short Description
CAS-1413	If you pin two files each smaller than the cache but together both larger than the cache you get a blue screen or other failure.
CAS-1326	Too many INFO level messages, some suggestions to move to DEBUG - Performance and Log readability Suggestion.
CAS-1292	Total Cache (MB) perf counter is not being updated by Cache Statistics for reads or writes.
CAS-1280	Hyper-V* VMs don't boot when cached with the previous release.
CAS-1246	Ungraceful handling of old driver version.
CAS-1245	Pinning does not appear to work as expected for Outlook* .pst files.
CAS-1231	Intel® CAS for Windows requires 512 byte sectors.
CAS-1210	When a shortcut is in a directory that is being cached, we are caching the shortcut.
CAS-1126	There should be no references to LFS in our product... IE rename txt file, Config value entries and if in our docs reword to a new name.
CAS-0655	MaxDynamicCacheSize could fail for large drives... defined as an int
CAS-0212	User can copy/paste any file into include list, which should be disallowed, that sometimes causes the program unresponsive.