

LiteSpeed[®] for SQL Server[®] 8.9.8

Release Notes

November 2023

These release notes provide information about the LiteSpeed for SQL Server release.

Topics:

- [About this release](#)
- [Key Benefits](#)
- [New features](#)
- [Enhancements](#)
- [Deprecated features](#)
- [Resolved Issues](#)
- [Known Issues](#)
- [System Requirements](#)
- [Product licensing](#)
- [Installation instructions](#)
- [More resources](#)
- [Globalization](#)

About this release

LiteSpeed for SQL Server, or LiteSpeed, is a fast and flexible backup and recovery solution that allows DBAs to easily maintain complete control over the backup and recovery process. Its low-impact, high-performance compression and encryption technology enables users to reduce storage costs and protect data, while improving both backup and disaster recovery times. With the improved compression and LiteSpeed's Fast Compression technology, LiteSpeed for SQL Server can further reduce disk space and backup time up to another 85% over traditional, compressed full backup solutions. The result is a unique backup and recovery approach, unmatched in flexibility, that greatly reduces backup times, creates a significantly smaller storage footprint, and maintains a high level of recoverability.

- LiteSpeed 8.9.8 is a minor release,

- with new features and functionality. See [New features](#) and [Enhancements](#).

Key Benefits

- Store database backups directly into the following cloud platforms: Microsoft Azure Blob storage, Amazon S3, Google Storage and S3 Compatible Storage
- Reduce storage requirements to save valuable disk space with Fast Compression (reduce storage and improve backup times up to 85% over traditional full backup solutions)
- Optimize use of available server resources with LiteSpeed's Adaptive Compression
- Reduce backup times to improve maintenance windows
- Reduce restore times to avoid excessive downtime
- Automate backup testing and running database consistency checks using Automated Restore
- Easily configure backup jobs and maintenance plans on multiple instances by deploying LiteSpeed Backup Templates
- Easily configure and monitor Log Shipping using the Create LiteSpeed Log Shipping Plan Wizard and Monitoring tab in the LiteSpeed UI Console
- Recover data and schema from backups using LiteSpeed's Object Level Recovery
- Undo critical transactions using LiteSpeed's Transaction Log Reader
- View backup performance across the enterprise using LiteSpeed's centralized reporting repository
- Easily manage SQL Agent jobs across multiple servers using LiteSpeed's Job Manager
- Easily configure maintenance plans across the enterprise using LiteSpeed's Maintenance Plan Designer
- Easily configure backups cleanup rules with Smart Cleanup Policies
- Leverage LiteSpeed's advanced engine tuning, including CPU Affinity, CPU Throttling, and Threading options
- Analyze your environment for best backup performance and identify bottlenecks using LiteSpeed's Backup Analyzer
- Eight highly optimized levels of compression
- Secure data using backup encryption up to AES-256

New features

New features in LiteSpeed 8.9.8:

- **An automatic process that can delete the logs files every n days** is added under Support menu item LiteSpeed Logging when the user right-clicks on a server in the server explorer tree. To enable Automatically delete log files older than the user needs to check one of the Enable checkboxes and then check the Automatically delete log files older than box and type into a numeric box number the desired number of days. Since LiteSpeed Logging option can create many log files, log files will be deleted after that number of days from the location of log files from Log file path set in the same form to free up the drive

- The argument **@Disconnect Users** is added when specifying backup options in **Create LiteSpeed Log Shipping Plan Wizard** to disconnect users while performing restore to the subscribers. This option can be checked only if **Perform full backup and then restore to initialize subscriber(s)** is also checked. If **Perform full backup and then restore to initialize subscriber(s)** is unchecked this option would be disabled and unchecked. If the option **Disconnect users when restoring full backup** was checked in the backup options tab, the script that is generated in the final step of the wizard will contain `@DisconnectUsers = 1` for the `xp_restore_database` procedure
- **The wildcard validation for the databases in the Backup Template Deployment wizard** is added under the Deploy step in order to mark the servers which don't match the given criteria. After setting a wildcard on the Select Databases step in the Backup Template Wizard, on the Select Instances step the Servers which don't contain a database with a wildcard expression would turn red.
- **The mirror option under the Backup options in the Log shipping** is added in order to copy the backup file from the original location to the defined mirror location. After selecting the checkbox and entering the mirror path by typing the path or browsing from the Backup Location dialog, clicking Next would validate the path. In the Job Manager results can be: Success if both backup and mirroring operations succeed, Warning if the mirroring operation fails, or Error if both backup and mirroring operations fail.
- **Sync local and central activities** is added in order to run synchronization between local and central repositories for one or more servers. **Configure LiteSpeed local and central synchronization** is opened after right-clicking on a specific server or all servers in Backup Manager only and selecting an option **Sync local and central activities**. Server instances, procedures, type of activity to be sync and period can be chosen. There is an option to preview the script by selecting the **View T-SQL** option. After the run is deployed popup window will be shown, showing the **Executing action** and Execution succeeded message. During the synchronization process, LiteSpeed Console is not accessible until the action is complete.
- **Reversing Log Shipping Plan Roles Procedures** are enabled in order to create a functioning log shipping plan without creating a full backup. LiteSpeed will perform steps that ensure the synchronicity between the two databases during the change role process by killing connections, disabling Log Shipping jobs, and creating a final tlog backup and restore before switching roles. A new feature will only work if Change Roles is being used to change roles of databases that are already involved in the same Log Shipping Plan and the two databases are synchronous to begin with. This feature can be used during the Change Role Wizard by first unchecking the Perform full backup and then restore to initialize subscriber(s) checkbox, and then checking the Continue shipping logs without full backup checkbox. The latter checkbox will be added as part of this feature and will not be visible unless the former checkbox is unchecked. Clicking the latter checkbox will produce a warning message box. The original feature is completely preserved.
- **Support for SQL Server 2022**

For more details please visit the following links:

- [Enhancements](#)
- [Resolved issues](#)

Enhancements

The following is a list of enhancements implemented in LiteSpeed 8.9.8.

Table 1: General enhancements

Enhancement	Issue ID
Automatically delete log files older than 'n' days option is added under the LiteSpeed Logging	LS-2358

Enhancement	Issue ID
window	
Disconnect users when restoring full backup option is added under the Backup options step in the Create Log shipping Plan Wizard window	LS-2376
The wildcard validation for the databases is added in the Backup Template Deployment wizard under the Deploy step	LS-2355
The mirror option is added under the Backup options step in the Create Log shipping Plan Wizard	LS-2359
Synchronize local and central activities option is added in the context menu of SQL Server tree in Backup Manager which to delete duplicate data in local and central repositories	LS-2329
Reversing Log Shipping plan roles procedures without performing a full backup option is added under the Backup options step in the Log Shipping Plan	LS-2322
Parameter CloudProxyBufferSize is added in LiteSpeedSettings.ini file under the [litespeed] section	LS-2349
Load databases from all instances at once option is added under the Backup Manager section	LS-2434
Logging for Cloud Proxy while using Amazon S3 Cloud Storage is implemented	LS-2432

Deprecated features

The following is a list of features that are no longer supported starting with LiteSpeed 8.9.8.

Table 2: Features that are no longer supported

Features	Issue ID
The QuestKey is deprecated in newer versions of LiteSpeed. Visit https://support.quest.com/contact-us/licensing to acquire a new license key	LS-2427
Extended stored procedure xp_memory_size marked as deprecated. It will be removed from the product with version 9.0.	LS-1406, LS-1762

Resolved Issues

In LiteSpeed 8.9.8

The following is a list of issues addressed in release 8.9.8

Resolved Issue	Issue ID
"Error occurred. Cannot find column [DatabaseName]" error is encountered when switching to LiteSpeed Activity tab	LS-2417
"The passwords entered do not match" popup window is not shown when the wrong or non-	LS-2431

Resolved Issue	Issue ID
matching password is set under the Compression step in the Backup Template Wizard	
"Object of type 'System.Int32' cannot be converted to type 'System.Nullable`1[System.UInt64]'" error is encountered when Processor affinity is manually set in the Advanced Options and Backup Template is deployed	LS-2430
"Incorrect syntax near the keyword 'values', Incorrect syntax near the keyword 'as'" error is encountered when SQLServers (Central) Reports tab in the application is clicked while using SQL Server 2005	LS-2383
Subfolders can be added with the same name under the Backup location window in the Backup Template Wizard window	LS-2366
Performance is decreased when using LiteSpeed GUI Console with the Search feature implemented	LS-2433
Backup is failing when backing up a database with a filename containing spaces to S3 Compatible Storage (Nutanix)	LS-2481
"Invalid Parameter Detected" error is encountered when data type 'datetime2' is included in the SQL table and the Recover Table option in OLR is used	LS-2485

In LiteSpeed 8.9.7

The following is a list of issues addressed in release 8.9.7

Resolved Issue	Issue ID
SQL Server activities between LiteSpeedCentral and LiteSpeedLocal SQL databases across all imported SQL Servers are not synchronized	LS-2348
"List of Objects in cloud exception: The remote name could not be resolved: 'blob.core.windows.net'" error is encountered when GovCloud (US) Region is checked under the Amazon S3 storage and the backup process is run	LS-2428
The automated job is failing when the database is in the exclusive mode	LS-2338
"Invalid parameter detected" error is encountered when '%' character is used in an extended stored procedure parameter	LS-2332
The Object level recovery feature restores only partial data from the cloud Amazon S3 for tables over 1 GB in size using the direct mode or bulk insert option	LS-2335
"Transaction (Process ID) was deadlocked on lock resources with another process and has been chosen as the deadlock victim" error is encountered when parallel backups are performed	LS-2339
Reduced console freezes when working with a large number of activity statistic events	LS-2345
Enterprise Console is reverting display Instance name changes when synchronizing activities	LS-2330
"Error code 1205: Transaction (Process ID 782) was deadlocked on lock communication buffer resources with another process and has been chosen as the deadlock victim" error is encountered when the deadlock occurs on the msdb database entry during the backup process	LS-2350
"Not enough space for ending backup" error is encountered when backing up to Nimble storage resulting in the incorrect termination of backup	LS-2351
Smart Cleanup fails to delete the backups from the location if the variable %TYPE% is used in the @Locations parameter	LS-2297

Resolved Issue	Issue ID
"Header info is empty. Check SQL Server works properly." error is encountered when SLSRecast is run via CLI	LS-2346
The stored procedure for reverting display Instance name changes in the Enterprise Console when synchronizing activities is not being installed during remote deployment	LS-2349
"Cannot assign a default value to a local variable" error is encountered when configuring the instances in the LiteSpeed Configuration Instance Wizard window while using SQL Server 2005	LS-2365
"Target database is dropped" error is encountered when the xp_restore_automated procedure is run to restore a database from an older SQL Server version to a newer one	LS-2363
"SELECT" statements on the msdb databases are now performed with "WITH (NO LOCK)" hint during the backup process	LS-2375
"Error code 1205: Transaction (Process ID) was deadlocked on lock communication buffer resources with another process and has been chosen as the deadlock victim" error is encountered when the deadlock occurs on the LiteSpeedLocal, LiteSpeedCentral and msdb databases entry during the backup process	LS-2381
The warning message "Optimization for OLR is skipped" is now is shown in the LiteSpeed Activity tab when the backup process is successfully finished while the OLR map is skipped due to insufficient storage space	LS-2374
"Specified backup should be a Full Database backup type" error is encountered when using Object Level Recovery with 100 and more data files in the SQL backup database	LS-2377

In LiteSpeed 8.9.5

The following is a list of issues addressed in release 8.9.5

Resolved Issue	Issue ID
LiteSpeed does not crash when requests notification operators list in the deployment wizard.	LS-1795
Fast compression does not reset FC sequence to "F0" after any normal full backup if database name has "/".	LS-2127
Maintenance plans do not report formatting is incorrect anymore.	LS-2141
Help files now include the minimum AWS permissions requirements.	LS-2151
MSDB updated when a verify fails at the end of a backup.	LS-2155
Automated striping options takes to account a filestream size.	LS-2163
Maintenance plans do not report "Invalid pointer operation" anymore.	LS-2167
Cloud parameters partsize and parallel uploads are now supported in the backup maintenance plan.	LS-2262
LiteSpeed deletes record about backup in msdb database in case of a failed write to disk operation.	LS-2283

In LiteSpeed 8.9.1

The following is a list of issues addressed in release 8.9.1

Resolved Issue	Issue ID
Tlog backups do not hang sporadically anymore.	LS-1983
Smart Cleanup resources usage significantly decreased.	LS-1980, LS-1981
Backup Analyzer now shows a warning message if the data sample size too low.	LS-1083
Console now may recognize AlwaysOn Group Listener used as a central repository.	LS-1643
Backup to cloud performance has been optimized.	LS-1892
Tlog backups do not fail with the error "The connection is no longer usable..." anymore.	LS-1893
Restore_headeronly stored procedure performance has been optimized for Cloud storage.	LS-1896
Maintenance plans do not hang anymore in case of Cloud storage.	LS-1932
Core correctly handle Access denied error in case of IAM authentication.	LS-1960
Smart Cleanup now correctly handles non-immediate deletions of Cloud storages.	LS-2001, LS-2028
LiteSpeed now correctly calculates CloudPartSize and CloudParallelUpload parameters for large and very large databases.	LS-2009
LiteSpeed does not leave a database in restoring state after restore anymore.	LS-2029
LiteSpeed now uses nolock option for queries to TempDB tables.	LS-1978
Auto-filters disabled for the LiteSpeed Activity tab.	LS-1927
Restore process now able to use LSM file from the backup file.	LS-1712

In LiteSpeed 8.9

The following is a list of issues addressed in release 8.9

Resolved Issue	Issue ID
Log Shipping restore job now fails in case of the first tlog backup was not found.	LS-1401
The AG-related SELECT statement now runs only once.	LS-1033
The updating license key procedure described in the help file.	LS-1232
Fast Compression now takes into account Sql Server native differential backups.	LS-1416
A cluster uninstall script now deletes empty Quest Software folder in Program Files.	LS-1450
Automated restore now takes into account t-log backups created during a full backup.	LS-1452
Maintenance plans now correctly apply the "Order selected databases" option.	LS-1522
Automated restore now correctly sorts backup files	LS-1533
Maintenance plans do not fail now with "session expired"	LS-1569
TDE compressed backups now supports starting SQL Server 2016 SP2 CU8, SQL Server 2017 CU16 and SQL Server 2019 RTM versions	LS-1584, LS-1585

Resolved Issue	Issue ID
Log reader now does not hang on large backups.	LS-1592
LiteSpeed now works with Amazon Web Services IAM Roles as expected.	LS-1603
LiteSpeed now correctly calculates the cloud automatic stripping option.	LS-1628
LiteSpeed now supports the pound symbol in Sql Server passwords where allowed.	LS-1630
LiteSpeed now supports the creation of subfolders for encrypted objects in the Amazon Web Services cloud.	LS-1651

In LiteSpeed 8.8

The following is a list of issues addressed in release 8.8

Resolved Issue	Issue ID
Corrected a problem on restoring on old backup to source database. Automated restore used to incorrectly choose older backups with a higher LSN number that newer backups created after the restore.	LS-514
Corrected a problem where DCR backup files larger than 4GB with Verify option turned on failed.	LS-924
Corrected a problem behind error on upgrade of server during upgrade of LiteSpeed Local 'Latin1_General_100_CS_AS_KS_WS_SC'	LS-982
Cloud browsing performance has been improved in maintenance plans. This is specifically related to the time taken to complete backup jobs when cleanup is enabled.	LS-1000
Corrected a display problem, when a backup or restore verify ran for a longer period of time it showed up in the console as failed but was still running in the background.. The central repository is now updated in real time with progress percentage of restore.	LS-1027
Corrected a problem where OLR failed to start when processing more than 200 TLOG backups.	LS-1030
TSM Issue "Error in conversion TSMEstimatedSize" has been fixed.	LS-1035
Issue related to TSM server generates too many TSM database transactions has been fixed.	LS-1036
Issue "Template was not deployed. Installed LiteSpeed version (8.6.1.36) does not support Azure Blob Storage." when deploying the template has been fixed.	LS-1037
The help files have been updated to include always on group support in SQL Server 2014 and SQL Server 2016.	LS-1123
Log shipping jobs do not check contiguous memory before executing any more.	LS-1127
The option to "Force a full backup if one has not been created" is now applied in the case where a database name does not match the logical name of the MDF file.	LS-1150
xp_restore_verifyonly now reports compression level or adaptive compression mode	LS-1187
Overlapped write has been disabled by default for network storage since it generates too many issues with non-compatible windows storage.	LS-1197
The ability to add / hide copy-only full backups from a selection has been added to Intellirestore	LS-1207
Fast compression template job now records failed backups to Litespeed activity.	LS-1220

Resolved Issue	Issue ID
Fast compression maintenance plans now support variable "%TYPE%".	LS-1246
Litepseed now sets maximum striping/CloudPartSize values for backups to cloud databases that cannot be read.	LS-1262
Improve stability of a backup transfer process to Amazon cloud.	LS-1289
Disable OLRMAP option for TLOGS in Backup Templates.	LS-1296
Backup wizard no longer ignores "Use SSL" setting for Microsoft Azure.	LS-1340

In LiteSpeed 8.7.1

The following is a list of issues addressed in release 8.7.1

Table 3: Core issues

Resolved Issue	Issue ID
Corrected a problem where Log shipping calls to check memory should not crash server or consume up server resources.	LS-1127
Corrected a problem behind a Delete File error on backup to Google Storage for files containing special symbols, slashes or spaces including files in subfolders.	LS-1320
With tlog backups, changed the default setting for the option "Optimize Object Level Recovery speed" to off as in some cases there is more difficulty with its usage than profit.	LS-1222
Corrected a display problem, when a backup or restore verify ran for a longer period of time it showed up in the console as failed but was still running in the background.	LS-1027
Litepseed now sets maximum striping/CloudPartSize values for backups to cloud databases that cannot be read.	LS-1262
The LiteSpeed activity page now records successful and failed fast compression backups.	LS-1220
Fast Compression now shows all messages in the logs, not just messages from the last database.	LS-1218
Fast Compression backups no longer backup databases in STANDBY mode.	LS-1236
OLR is now able to execute requests to process more than 200 TLOG backups.	LS-1030 CSR 4369943
LiteSpeed now locks backup files during regular backup full / differential / TLOG / fast compression.	LS-1194
LiteSpeed now includes logging and retries into the CloudProxy where it checks for bucket existence and requests a bucket's region	LS-1161

In LiteSpeed 8.7

The following is a list of issues addressed in release 8.7

Table 4: Core issues

Resolved Issue	Issue ID
The Instance configuration wizard now allows you to edit the instance name at the SQL Instances step. Ctrl+Left Click on an empty place near the "use the same login ..." check box.	LS-552
When the console is setup to use "central" view, refresh now correctly updates the list of registered SQL Servers.	LS-570
Automated restore now reports the correct message for a dropped database..	LS-576
The Database tab at the instance level now shows the last backup for all databases.	LS-580
LiteSpeed Core is now able to correctly read files with non-standard sector sizes from storage.	LS-643
LiteSpeed now handles license information from old license types (License types used by LiteSpeed versions prior to 8.6).	LS-646 LS-647 LS-649 LS-780
Instance configuration now allows the SQL name to include a port number.	LS-656
Multi-database Fast Compression now correctly works with the %DATABASENAME% parameter.	LS-708
Maintenance Plans can now run backups without an additional call to xp_restore_headeronly	LS-721
On upgrade LiteSpeed is now able to correctly handle the old license type (License types used by LiteSpeed versions prior to 8.6).	LS-780
Corrected an issue where Automated Restore ran with no results.	LS-819
Symbol "]" is now allowed in the database name in backup Maintenance Plans.	LS-823
Symbol "{" is now allowed in OLR scripts..	LS-845
"Always on availability group" options are now disabled when "System Databases" is selected in Maintenance Plans.	LS-854
Remote Deploy now supports TLS 1.2 automated provider selection.	LS-855
Backup Template jobs now produce an error when the backup path option is selected and not used.	LS-871
LiteSpeed Core now works correctly on receipt of unexpected errors from the SQL Server.	LS-890
Browsing for a backup location on windows 2016 no longer results the error "Arithmetic operation resulted in an overflow."	LS-904
The LiteSpeed Console now reports the server as registered when the native Log Shipping plan includes a server port number in "name".	LS-186
The Log Shipping wizard now uses the port number of a registered SQL Server instance.	LS-897
Fast Compression smart cleanup tasks are now able to delete files in the case of locked files.	LS-903 LS-820

In LiteSpeed 8.6.1

The following is a list of issues addressed in release 8.6.1.

Table 5: Core issues

Resolved Issue	Issue ID
Handling of the error "The process cannot access the file because it is being used by another process" in maintenance plans has been improved.	LS-721
Fast Compression backup for multiple databases now supports the %DATABASENAME% variable.	LS-708
LiteSpeed core work with different drive sector sizes has been improved.	LS-643, LS-649
Smart cleanup is able to work with a larger number of files now.	LS-644
License verification is now optimized for old format keys (prior to version 8.6).	LS-646, LS-647
The Instance Configuration Wizard now allows you to set a port number for SQL Server instances on non-standard ports.	LS-656

In LiteSpeed 8.6.0

The following is a list of issues addressed in release 8.6.0.

Table 6: Core issues

Resolved Issue	Issue ID
Errors "Database 'name' is invalid: not found" may occur during smart cleanup process on fast computers	LS-293
Cloud buckets browsing may fail with error "List of Objects in cloud exception: The remote server returned an error: (404) Not Found" in case of a lot of cloud objects	LS-369
Automated restore does not show error in case of drop database operation fail	LS-207
Automated restore may fail drop database if the database in use by other connection	LS-214
Backups executed with depreciating @LSECompatible=1 parameter can't be restored.	LS-323
Backup performance slow due to the running of unneeded T SQL statement.	LS-384
Automated restore changes file names and extension for secondary data files	LS-483
Backup of AG secondary replica fails if the replica is not set to be readable.	LS-498

Table 7: Log Reader issues

Resolved Issue	Issue ID
Log reader may fail when reading large log files because it could not use all available RAM on the machine	LS-6

Table 8: OLR issues

Resolved Issue	Issue ID
OLR should support sparse columns	LS-258

Table 9: Job Manager issues

Resolved Issue	Issue ID
Job Manager may raise an error in case of adding job step to a job.	LS-446

Table 10: Backup Template issues

Resolved Issue	Issue ID
Template deployment may move registered instances to the "unregistered instances" category	LS-448

Table 11: Console issues

Resolved Issue	Issue ID
The user interface console displays an incorrect message if the central repository instance is setup with a port number	LS-503

Table 12: Maintenance Plan issues

Resolved Issue	Issue ID
Maintenance plans create but do not drop temp tables.	LS-516
Maintenance plans may fail with error "Access violation at address 00511475 in module 'sqlservr.exe'. Read of address 7FFD5DF6" during fast compression with smart cleanup plan execution in some cases.	LS-521

In LiteSpeed 8.5

The following is a list of issues addressed in release 8.5.

Table 13: Backup and Restore resolved issues

Resolved Issue	Issue ID
Performance issue related to mirrored backups resolved	115926
Issue with hanging backups on high load systems resolved	119546 119800
LiteSpeed install on windows 2012/2016 servers does not need NET 3.5 any more	119868
"Provider" parameter added to LS Core ini file	119658

Table 14: Fast Compression resolved issues

Resolved Issue	Issue ID
Number of threads from LiteSpeed defaults correctly applied in Fast Compression	119711
Escalation events do not raise error status for backup	119780
Fast Compression can figure out special cases caused by SmartCleanup	119735

Table 15: Remote Deploy resolved issues

Resolved Issue	Issue ID
Remote deploy wizard opens normally on all systems	119799

Table 16: OLR resolved issues

Resolved Issue	Issue ID
Filtered Index is supported	119598
NTEXT,TEXT, IMAGE types can be restored via Direct Mode	119724

Table 17: Maintenance plans resolved issues

Resolved Issue	Issue ID
Maintenance plan reports can be emailed in all cases	119476
Striped backups can be deleted from cloud with “delete files older then” option	119689

Table 18: Instance Configuration Wizard resolved issues

Resolved Issue	Issue ID
AlwaysOn Group listener can be used for the central repository connection	119600 119596

Known Issues

The following is a list of issues, including those attributed to third-party products, known to exist at the time of release.

Table 19: Version compatibility known issues

Known Issue	Issue ID
Database backups created with LiteSpeed Version 8.x cannot be restored using older versions of LiteSpeed. However, backups created with previous versions of LiteSpeed can be restored with LiteSpeed 8.2.	N/A

Table 20: Installation known issues

Known Issue	Issue ID
LiteSpeed Console is installed, even if it not selected with the 32-bit installer.	LS-1841

Table 21: Console known issues

Known Issue	Issue ID
On Windows 8.1, console logging cannot be enabled when UAC is enabled. The workaround is to run LiteSpeed with the “Run as Administrator” option to enable console logging.	113540

Table 22: Backup and restore known issues

Known Issue	Issue ID
Mirroring is not supported for TSM backups.	49305
LiteSpeed incorrectly writes successful backup details to the SQL Server error log or event viewer if DBCC TRACEON (3226) is run with the backup. These details are not written for a native backup.	38972
On using LiteSpeed Automated Restore to restore an old backup to the source database, automated restore chooses older backups with a higher LSN number in preference to newer backups created after the restore. Workaround: Remove all the backups from old the database (created before the restore) from the backup folders scanned by Automated Restore.	LS-514

Table 23: Activity logging known issues

Known Issue	Issue ID
NT AUTHORITY\SYSTEM account must be added to the sysadmin server role on the local instances of SQL Server 2012 or higher in this very rare scenario: <ul style="list-style-type: none">• The central repository is on the same server as the Local repository and• You selected Local System on the Service Account wizard page of the Instance Configuration Wizard and• You selected to use Windows authentication for the repositories.	104669

Otherwise, the local instance will not report to the central repository.

Workaround: Instead of adding NT AUTHORITY\SYSTEM account to the sysadmin server role, you can either provide a Windows domain account on the Service Account wizard page or use SQL Server Authentication for the local and central repositories.

Table 24: Backup Analyzer known issues

Known Issue	Issue ID
The LiteSpeed Backup Analyzer backs up the requested amount of data for analysis and then automatically aborts the backup process. This generates VDI error messages in the LiteSpeed SQL Server error log. Please ignore them.	79697
Backup Analyzer shows success empty results in case of failed connection to a cloud.	LS-2012

Table 25: Log shipping known issues

Known Issue	Issue ID
The publisher and subscriber servers must have the same version of LiteSpeed.	52230
In the native SQL Server 2000 log shipping plans, if the monitoring server is not the same as the subscriber server, information about the restore time is based on the restore job history and may be different from the actual restore time.	98644
On uninstall of LiteSpeed 8.1 followed by install of a modern LiteSpeed, logshipping jobs do not point to the new executable path. Workaround: At the logshipping module, select the plan and right-click on its name. Click convert to LiteSpeed plan.	LS-1286

Table 26: Maintenance plans known issues

Known Issue	Issue ID
Legacy native plans on SQL Server 2008 may fail due to Microsoft backward compatibility issue. See http://support.microsoft.com/kb/955626 .	60281
LiteSpeed does not support regular expressions with the IgnoreCase option. To ignore case, use ([Aa][Bb][Cc]) instead of (?i:abc).	94513
.Net Framework 4.5 has an UI issue: editable fields may show incorrect values. It applies to Maintenance Plans. Solution: upgrade .Net Framework to 4.5.2 version.	LS-1844

Table 27: Log Reader known issues

Known Issue	Issue ID
User information displays only for operations in sessions that are currently active. The online log and backups do not contain user information and only contain the SPID for the transaction.	37112
Log Reader does not support row-level and page-level compression.	N/A

Table 28: Object Level Recovery known issues

Known Issue	Issue ID
Restore of a table with default values after adding a NOT NULL column to the existing table will result in an error in the case of using Direct Mode (the issue is related to SQL Server 2012 and higher). Workaround: use Bulk Insert recovery mode.	119733

Known Issue**Issue ID**

If there is data of variant type with size > 7991 in the table data, recovery using Bulk Insert will result in a BCP internal error: " The column is too long in the data file for...". Workaround: use Direct Mode for data recovery.

119732

System Requirements

Before installing LiteSpeed 8.9.8, ensure that your system meets the following minimum hardware and software requirements.

Hardware Requirements

Table 29: List of hardware requirements

Requirements	Details
Processor	Follow the recommendations for the SQL Server version used.
Disk Space	500 MB of disk space for installation NOTE: The disk space required may vary based on options selected during installation.
Memory	Follow the recommendations for the SQL Server version used. NOTE: The memory required may vary based on the following: <ul style="list-style-type: none"> • Applications that are running on your system • Size and complexity of the database • Amount of database activity • Number of concurrent users accessing the database
Monitor	Monitor with a minimum resolution of 1600 x 1024

Software Requirements

Table 30: List of software requirements

Requirements	Details
Operating System	Microsoft Windows Server 2008 32-bit and 64-bit (x64) (All Service Packs) Microsoft Windows Server 2008 R2 64-bit (x64) (All Service Packs) Microsoft Windows Server Core 2008 R2 Microsoft Windows Server 2012 64-bit (x64) (All Service Packs) Microsoft Windows Server Core 2012 Microsoft Windows Server 2012 R2 64-bit (x64) (All Service Packs) Microsoft Windows Server Core 2012 R2

Requirements	Details
	<p>Microsoft Windows Server 2016 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows Server Core 2016</p> <p>Microsoft Windows Server 2019 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows Server 2022 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows 7 32-bit and 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows 8 32-bit and 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows 8.1 32-bit and 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows 10 32-bit and 64-bit (x64) (All Service Packs)</p> <p>Microsoft Windows 11 64-bit (x64) (All Service Packs)</p>
Database Software	<p>SQL Server 2005 32-bit and 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2008 32-bit and 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2008 R2 32-bit and 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2012 32-bit and 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2014 32-bit and 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2016 64-bit (x64) (All Service Packs)</p> <p>SQL Server 2017 64-bit (x64) (All Service Packs) when hosted on a Windows operating system.</p> <p>SQL Server 2019 64-bit (x64) (All Service Packs) when hosted on a Windows operating system.</p> <p>SQL Server 2022 64-bit (x64) (tolerant support) when hosted on a Windows operating system.</p> <p>NOTE: Compressed backups for TDE databases supported starting following versions: SQL Server 2016 SP2 CU8, SQL Server 2017 CU16, SQL Server 2019</p>
Additional Software	<p>.Net Framework 4.5.2 installed before you install the LiteSpeed UI Console and LiteSpeed Core Cloud Components.</p> <p>.Net Framework 3.5 required with SQL Server 2005, 2008 and 2008R2.</p> <p>If using IBM Spectrum Protect™ (Tivoli Storage Manager - TSM), the TSM API and Backup/Archive Client version 5.3 or later should be installed.</p> <p>Microsoft Edge or equivalent internet browser program. (The latest versions of internet browsers are recommended to use)</p> <p>Adobe Reader or any equivalent program that can open/view PDF guides.</p>

Supported Cluster Requirements

- Windows Server 2008 Failover Cluster
- Windows Server 2008 R2 Failover Cluster
- Windows Server 2012 Failover Cluster
- Windows Server 2012 R2 Failover Cluster
- Windows Server 2016 Failover Cluster
- Windows Server 2017 Failover Cluster
- Windows Server 2019 Failover Cluster

- HP PolyServe Matrix Sever 3.6.1
- Veritas Storage Foundation HA for Windows 5.0

Supported Deduplication Storage Appliances

LiteSpeed has been tested on Dell DR, EMC Data Domain, EMC ECS, PureStorage, and ExaGrid storage appliances.

VMware and Hyper-V Environments

LiteSpeed has been tested and is certified to work under VMware and Hyper-V environments.

Upgrade and Compatibility

For information about registering LiteSpeed and for upgrade instructions, please see the *LiteSpeed Installation Guide*.

Note that from LiteSpeed 8.5 the default install file path has changed. On upgrade the install file path will not change automatically. You can change the file path during the upgrade process: Browse "Folder name".

Repository Compatibility

If receiving the message "The version of the <RepositoryDatabaseName> on server <ServerName> is greater than the version of this release of LiteSpeed for SQL Server", please see the online Help topic "Upgrade Repositories". The message is an indication that the statistics agent on the older server does not match the newer version of LiteSpeed and must be upgraded.

In addition, there are special considerations if you are upgrading from LiteSpeed 4.x. Review the following before upgrading from LiteSpeed 4.x to LiteSpeed 5.0 or later.

Maintenance Plans

LiteSpeed 5.x and later do not support SSMS plug-in functionality. However, the LiteSpeed UI Console allows you to read SSMS plug-in maintenance plans and upgrade them to SSIS LiteSpeed maintenance plans.

Log Shipping

The SQL Server versions supported for log shipping depend upon the LiteSpeed release:

SQL Server	7.x	8.0-8.6.0	8.6.1-8.8	8.9-8.9.7
2005	•	•	•	•
2008 / R2	•	•	•	•

SQL Server	7.x	8.0-8.6.0	8.6.1-8.8	8.9-8.9.7
2012	•	•	•	•
2014	•	•	•	•
2016		•	•	•
2017			•	•
2019				•

Product licensing

For existing customers:

- If you purchased LiteSpeed and received your new license, enter the License Key during the installation or register LiteSpeed later. The license is updated per server not per instance.
- If you purchased LiteSpeed but have not received your new LiteSpeed license, please go to <https://support.quest.com/contact-support> and request your upgrade.
- If you have any other licensing questions related to your purchase, please go to <https://support.quest.com/contact-support>.

For trial customers:

- If you want to purchase LiteSpeed or require a trial extension, please contact your sales representative or open <https://support.quest.com/contact-support>.

Installation instructions

Double-click on the appropriate installer (.msi file) and follow the on-screen directions.

- LiteSpeed.msi–32-bit installer
- LiteSpeed-x64.msi–64-bit installer

See the LiteSpeed *Installation Guide* for full details on installing LiteSpeed. The *Installation Guide* is located on the product web site and the Quest Support Portal.

Note: It is required that .Net 4.5 is installed before installing LiteSpeed Console and LiteSpeed Core Cloud Components.

More resources

Additional information is available from the following:

- [Online product documentation](#)
- [Database Performance Monitoring Community](#)

Globalization

This section contains information about installing and operating this product in non-English configurations, such as those needed by customers outside of North America. This section does not replace the materials about supported platforms and configurations found elsewhere in the product documentation.

This release is Unicode-enabled and supports any character set. It supports simultaneous operation with multilingual data. This release is targeted to support operations in the following regions: North America, Western Europe and Latin America, Central and Eastern Europe, Far-East Asia, Japan.

This release has the following known capabilities or limitations: Note: Litespeed for SQL Server 4.8.4 has been localized in Japanese. 5.0 & more recent releases are English only versions.

About us

We are more than just a name

We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece – you – to the community, to the new Quest.

Contacting Quest

For sales or other inquiries, visit www.quest.com/contact.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

Third-party contributions

This product contains the following third-party components. For third-party license information, go to <https://www.quest.com/legal/license-agreements.aspx>. Source code for components marked with an asterisk (*) is available at <https://opensource.quest.com>.

Table 31: List of Third-Party Contributions

Component	License or acknowledgement
ActiPro Syntax Editor (for Windows Forms) 4.0	ActiPro Syntax Editor (for Windows Forms) 4.0 Copyright (c) 2002-2019 Actipro Software LLC. All rights reserved.
AWS SDK for .NET 3.3	<p>Copyright 2009-2017 Amazon.com, Inc. or its affiliates. All Rights Reserved.</p> <p>*****</p> <p>THIRD PARTY COMPONENTS</p> <p>*****</p> <p>This software includes third party software subject to the following copyrights:</p> <ul style="list-style-type: none"> -Json processing from LitJson - All the source code and related files distributed with this software have been dedicated to the public domain by the authors. Anyone is free to copy, modify, publish, use, compile, sell, or distribute the software, either in source code form or as a compiled binary, for any purpose, commercial or non-commercial, and by any means. - Parsing PEM files from Bouncy Castle - Copyright (c) 2000 - 2011 The Legion Of The Bouncy Castle (http://www.bouncycastle.org) Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions: The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software. THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE. - Performing CRC32 checks from vbAccelerator.com

Component	License or acknowledgement
	<p>vbAccelerator Software License Version 1.0 Copyright (c) 2002 vbAccelerator.com</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <p>Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer</p> <p>Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.</p> <p>The end-user documentation included with the redistribution, if any, must include the following acknowledgment:</p> <p>"This product includes software developed by vbAccelerator (http://vbaccelerator.com/)."</p> <p>Alternately, this acknowledgment may appear in the software itself, if and wherever such third-party acknowledgments normally appear.</p> <p>The names "vbAccelerator" and "vbAccelerator.com" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact vbAccelerator through steve@vbaccelerator.com.</p> <p>Products derived from this software may not be called "vbAccelerator", nor may "vbAccelerator" appear in their name, without prior written permission of vbAccelerator.</p> <p>THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL VBACCELERATOR OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p> <p>This software consists of voluntary contributions made by many individuals on behalf of the vbAccelerator. For more information, please see http://vbaccelerator.com/.</p> <p>The vbAccelerator licence is based on the Apache Software Foundation Software Licence, Copyright (c) 2000 The Apache Software Foundation. All rights reserved.</p> <p>- MD5 checks in the Windows Phone 8 variant of the SDK from Microsoft Corporation</p>

Component	License or acknowledgement
	<p>Microsoft Public License (MS-PL)</p> <p>This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.</p> <p>1. Definitions</p> <p>The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.</p> <p>A "contribution" is the original software, or any additions or changes to the software.</p> <p>A "contributor" is any person that distributes its contribution under this license.</p> <p>"Licensed patents" are a contributor's patent claims that read directly on its contribution.</p> <p>2. Grant of Rights</p> <p>(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.</p> <p>(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.</p> <p>3. Conditions and Limitations</p> <p>(A) No Trademark License- This license does not grant you rights to use any contributors' name, logo, or trademarks.</p> <p>(B) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.</p> <p>(C) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.</p> <p>(D) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.</p> <p>(E) The software is licensed "as-is." You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.</p>

Component	License or acknowledgement
	<p>** iOS4Unity - https://github.com/Hitcents/iOS4Unity/</p> <p>** SQLitePCLRaw - https://github.com/ericsink/SQLitePCL.raw</p> <p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions.</p> <p>"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.</p> <p>"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.</p> <p>"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.</p> <p>"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.</p> <p>"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.</p> <p>"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.</p> <p>"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).</p> <p>"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.</p> <p>"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic,</p>

verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative

Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the

Component	License or acknowledgement
	<p>Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p> <p>END OF TERMS AND CONDITIONS</p> <p>- Endian Conversion for EventStream Event decoding [Amazon.Util.EventStreams.EndianConversionUtility] from IPAddress.cs https://github.com/Microsoft/referencesource/</p> <p>The MIT License (MIT)</p> <p>Copyright (c) Microsoft Corporation</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
DEVEXPRESS WinForms Controls 21.2.6	<p>Copyright 2000-2020 The Legion of the Bouncy Castle Inc.</p> <p>Copyright Microsoft Corporation. All rights reserved. Copyright 2018 Developer Express Inc.</p> <p>Copyright .NET Foundation and Contributors. All rights reserved.</p>
Fast Memory Manager 4	<p>Mozilla Public License (MPL) 1.1 - Copy of the license may be found on the website</p>
Google APIs Client Library for .NET 1.38	<p>Apache License Version 2.0, January 2004.</p>
Google.Api.Gax (Google API) 2.5	<p>Copyright Jerome Touffe-Blin ("Author") All rights reserved.</p>

Component	License or acknowledgement
	<p>Copyright 2016, Google Inc. All Rights Reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <ul style="list-style-type: none"> * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer. * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution. * Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission. <p>THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p>
<p>Google.Api.Gax.Rest (Google API) 2.5</p>	<p>Copyright Jerome Touffe-Blin ("Author") All rights reserved.</p> <p>Copyright 2016, Google Inc. All Rights Reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <ul style="list-style-type: none"> * Redistributions of source code must retain the above copyright

Component	License or acknowledgement
	<p>notice, this list of conditions and the following disclaimer.</p> <p>* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.</p> <p>* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.</p> <p>THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p>
Google.Apis 1.38.0.0	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity.</p>

For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell,

import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor,

Component	License or acknowledgement
	<p>except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.</p> <p>7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
Google.Apis.Auth 1.38.0.0	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether</p>

by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are

necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

Component	License or acknowledgement
	<p>7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
<p>Google.Apis.Auth.PlatformServices 1.38.0.0</p>	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.</p>

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a

cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides

Component	License or acknowledgement
	<p>its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
Google.Apis.Core 1.38.0.0	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the</p>

preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or

contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including,

Component	License or acknowledgement
	<p>without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
<p>Google.Apis.PlatformServices 1.38.0.0</p>	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.</p>

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such

litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A

Component	License or acknowledgement
	<p>PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
Google.Apis.Storage.v1 1.38.0.1470	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to</p>

other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any

Component	License or acknowledgement
	<p>risks associated with Your exercise of permissions under this License.</p> <p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
Google.Cloud.Storage.V1 (Google API) 2.2	<p>Apache License Version 2.0, January 2004 http://www.apache.org/licenses/ TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION</p> <p>1. Definitions. "License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document. "Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License. "Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity. "You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License. "Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files. "Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types. "Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated</p>

by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below). "Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof. "Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution." "Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without

modifications, and in Source or Object form, provided that You meet the following conditions: (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and (b) You must cause any modified files to carry prominent notices stating that You changed the files; and (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

Component	License or acknowledgement
	<p>8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.</p> <p>9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.</p>
HtmlViewer 11	<p>MIT</p> <p>Copyright (c) 1995 - 2008 by L. David Baldwin Copyright (c) 2008 - 2009 by Sebastian Zierer (Delphi 2009 Port) Copyright (c) 2008 - 2010 by Arvid Winkelsdorf (Fixes) Copyright (c) 2009 - 2017 by Bernd Gabriel (Fixes, Enhancements)</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.</p> <p>IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,</p>

Component	License or acknowledgement
	<p>TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p> <p>Note that the source modules HTMLGIF1.PAS, DITHERUNIT.PAS and HTMLMISC.PAS are covered by separate copyright notices located in those modules:</p> <p>Copyright (c) 1995 - 2008 by Anders Melander (DitherUnit.pas) Copyright (c) 1995 - 2008 by Ron Collins (HtmlGif1.pas) Copyright (c) 2006 - 2009 by Phil Hess (HtmlMisc.pas)</p>
irrxml 1.2	<p>This product contains portions of the PAWN scripting software (formerly known as SMALL).</p>
JEDI JCL/JVCL 2.8	<p>Mozilla Public License (MPL) 1.1 - Copy of the license may be found on the website</p>
jsoncpp 1.9.2	<p>Copyright (c) 2007-2010 Baptiste Lepilleur and The JsonCpp Authors Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions: The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software. THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
jvcl 3.48	<p>Mozilla Public License (MPL) 1.1 - Copy of the license may be found on the website</p>

Component	License or acknowledgement
LibTomCrypt 1.17	Copyright Notice - LibTomCrypt 1.17
LZMA 4.65	Public Domain
Microsoft Windows Azure Storage 9.3	Apache License Version 2.0, January 2004
Microsoft.Azure.KeyVault.Core 2.0.4.0	<p>The MIT License (MIT)</p> <p>Copyright (c) 2015 Microsoft</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
Newtonsoft.Json 13.0.1.25517	<p>Copyright (c) 2007 James Newton-King</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
NUnit 3.12.0	Copyright (c) 2019 Charlie Poole, Rob Prouse

Component	License or acknowledgement
	<p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
<p>NUnit3TestAdapter 3.16.1</p>	<p>Copyright (c) 2021 Charlie Poole, Rob Prouse</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
<p>pugixml 1.9</p>	<p>Copyright (c) 2006-2015 Arseny Kapoulkine</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p>

Component	License or acknowledgement
	<p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
QuickLZ 1.5	QuickLZ Commercial License 1.0
SharpZipLib 0.81.0.1407	<p>The library is released under the GPL with the following exception: Linking this library statically or dynamically with other modules is making a combined work based on this library. Thus, the terms and conditions of the GNU General Public License cover the whole combination.</p> <p>As a special exception, the copyright holders of this library give you permission to link this library with independent modules to produce an executable, regardless of the license terms of these independent modules, and to copy and distribute the resulting executable under terms of your choice, provided that you also meet, for each linked independent module, the terms and conditions of the license of that module. An independent module is a module which is not derived from or based on this library. If you modify this library, you may extend this exception to your version of the library, but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version.</p> <p>Note The exception is changed to reflect the latest GNU Classpath exception. Older versions of #ziplib did have another exception, but the new one is clearer and it doesn't break compatibility with the old one.</p> <p>Bottom line In plain English this means you can use this library in commercial closed-source applications.</p>
Spring4D 1.2.4	Copyright (c) 2009 - 2019 Spring4D Team. Apache License Version 2.0
SQLVDI N/A	<p>Microsoft SQL Server Sample Code Copyright (c) Microsoft Corporation All rights reserved. MIT License.</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p>

Component	License or acknowledgement
	<p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
System.Interactive.Async 3.2.0.702	<p>The MIT License (MIT)</p> <p>Copyright (c) .NET Foundation and Contributors All rights reserved.</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
Task Scheduler Managed Wrapper 2.8	<p>Copyright (c) 2003-2010 David Hall</p> <p>Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED</p>

Component	License or acknowledgement
	<p>TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>
TimeSpan Helper Library 2.2	<p>BSD Copyright (c) 2009, dahall All rights reserved.</p> <p>Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:</p> <p>Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.</p> <p>Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.</p> <p>Neither the name of CodePlex Community nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.</p> <p>THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.</p>
Tulpep.ActiveDirectoryObjectPicker 2.3	<p>Microsoft Public License (Ms-PL) http://www.opensource.org/licenses/MS-PL</p>
TurboPack LockBox. 10.1 Berlin / VER310 / PKG 240	<p>Mozilla Public License (MPL) 1.1 - Copy of the license may be found on the website</p>
Virtual Treeview (JAM Software) 7	<p>Mozilla Public License (MPL) 1.1 - Copy of the license may be found on the website</p>
WinForms Group Controls 1.8	<p>This component is governed by the Apache License 2.0 (Apache)</p>
Wizard .NET Library 2.2.3	<p>Copyright (c) 2013 David Hall</p> <p>Permission is hereby granted, free of charge, to any person obtaining a</p>

Component	License or acknowledgement
zlib 1.2.8	<p>copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:</p> <p>The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p> <p>THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.</p>

© 2023 Quest Software Inc. ALL RIGHTS RESERVED.

This guide contains proprietary information protected by copyright. The software described in this guide is furnished under a software license or nondisclosure agreement. This software may be used or copied only in accordance with the terms of the applicable agreement. No part of this guide may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording for any purpose other than the purchaser's personal use without the written permission of Quest Software Inc.

The information in this document is provided in connection with Quest Software products. No license, express or implied, by estoppel or otherwise, to any intellectual property right is granted by this document or in connection with the sale of Quest Software products. EXCEPT AS SET FORTH IN THE TERMS AND CONDITIONS AS SPECIFIED IN THE LICENSE AGREEMENT FOR THIS PRODUCT, QUEST SOFTWARE ASSUMES NO LIABILITY WHATSOEVER AND DISCLAIMS ANY EXPRESS, IMPLIED OR STATUTORY WARRANTY RELATING TO ITS PRODUCTS INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT. IN NO EVENT SHALL QUEST SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION OR LOSS OF INFORMATION) ARISING OUT OF THE USE OR INABILITY TO USE THIS DOCUMENT, EVEN IF QUEST SOFTWARE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Quest Software makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and product descriptions at any time without notice. Quest Software does not make any commitment to update the information contained in this document.

If you have any questions regarding your potential use of this material, contact:

Quest Software Inc.

Attn: LEGAL Dept

4 Polaris Way

Aliso Viejo, CA 92656

Refer to our Web site (<https://www.quest.com>) for regional and international office information.



Patents

Quest Software is proud of our advanced technology. Patents and pending patents may apply to this product. For the most current information about applicable patents for this product, please visit our website at <https://www.quest.com/legal>.

Trademarks

Quest, Toad, Toad World, LiteSpeed, the Quest logo, and Join the Innovation are trademarks and registered trademarks of Quest Software Inc. For a complete list of Quest marks, visit <https://www.quest.com/legal/trademark-information.aspx>. All other trademarks and registered trademarks are property of their respective owners.

Legend

-  **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.
-  **IMPORTANT, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

LiteSpeed Release Notes
Updated - November 2023
Version - 8.9.8