

Esgyn Corporation

Release Notes for EsgynDB R2.5



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EsgynDB is based on the Apache Trafodion project – a webscale SQL-on-Hadoop solution enabling transactional or operational workloads on Hadoop. Trafodion builds on the scalability, elasticity, and flexibility of Hadoop, and further extends Hadoop to provide guaranteed transactional integrity.

The EsgynDB Enterprise and Enterprise Advanced Editions extend the functionality available in Apache Trafodion by including additional components such as EsgynDB Manager for managing the database, ADO.NET driver for Windows-based client applications, and features such as support for ORC and Parquet storage formats, Backup/Restore, multi-tenancy and better performance and stability.

In addition to new features and defect repairs introduced in this release, it also includes content shipped through EsgynDB release R2.4.8.

Features

R2.5.0

Category	Features
Infrastructure	<ul style="list-style-type: none"> Support for HDP 2.6 Integration with Ambari for installation on HDP distributions Advanced <ul style="list-style-type: none"> Enhance multitenancy support with more flexible resource allocation (Technical Preview)
Usability	<ul style="list-style-type: none"> Command <code>initialize trafodion</code> will display progress on initialize operations Bulk Load operation can now generate statistics concurrently, eliminating a second step to <code>UPDATE STATISTICS</code> Enhanced get table utility to return a count of the number of tables Support for Oracle functions <code>listagg</code>, <code>sys_guid</code> Support for MySQL functions <code>unix_timestamp</code>, <code>uuid</code>, <code>sleep</code> Support Hive DDL operations from EsgynDB
Manageability	Advanced <ul style="list-style-type: none"> REST support for EsgynDB tenant and user management
Database	<ul style="list-style-type: none"> Extend <code>UPDATE STATISTICS</code> utility to replicate Histograms and Histogram Intervals data from a source table Support for <code>TABLESAMPLE</code> Support for ANSI <code>OVERLAY</code> function Extend <code>CREATE TABLE</code> to support ANSI SQL syntax (<code>LIKE</code>) Extend <code>ALTER SEQUENCE</code> to support <code>RESTART WITH</code> Advanced <ul style="list-style-type: none"> Support for Hot/Cold (Technical Preview) Support reads of Hive tables hosted on Amazon S3 Support Incremental Update Statistics for Hive tables
Performance	Advanced <ul style="list-style-type: none"> Support for Range-spec filter Support for vectorized ORC reads
Security	<ul style="list-style-type: none"> SSL support in EsgynDB Manager and REST Server components

Advanced

- Extend component privileges support in EsgynDB Manager to the Workbench and script execution screens
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Migration Considerations

This section is broken into two sub-sections – users migrating from R2.3 to R2.4, and users migrating from releases prior to R2.3.

Migration from R2.4 or earlier

Users upgrading to R2.5 may be affected by the following changes

Application

1. SQL ALTER TABLE syntax has been enhanced to conform with ANSI SQL syntax.

Previous syntax

```
ALTER TABLE <table> ALTER COLUMN <column> <datatype>
```

New syntax

```
ALTER TABLE <table> ALTER [COLUMN] <column> [SET DATA TYPE] <datatype>
```

Migration from R2.3

Users upgrading from EsgynDB R2.3 release may be affected by the following changes

System

1. Backup / Restore

The backup and restore utility now supports incremental backup capability. An arbitrary set of schemas and tables can be identified for incremental backup, so that only changes between two backup operations will be captured. This is an online operation.

The online full database backup and offline full database restore feature that was supported in R2.3 is now referred to as **system backup** and **system restore** in R2.4. The query syntax for this operation has changed in R2.4 to “backup system, tag ‘xyz’;” and “restore system, tag ‘xyz’;”.

Backups taken in prior releases (EsgynDB R2.2 and EsgynDB R2.3) are incompatible with EsgynDB R2.4. After an upgrade to EsgynDB R2.4, the administrator is encouraged to take new backup.

Application

1. Keywords UUID and VALUE are no longer treated as reserved
UUID and VALUE are now treated as non-reserved ANSI words.
2. Region Transactions
Transactions that involve single row / single table (ie single region) are now handled by the DTM subsystem. Conflicts in such a case will result in SQL error 8448.

Migration from R2.2 or earlier

Users upgrading from pre-R2.2 or R2.2 EsgynDB releases should first upgrade to EsgynDB R2.3, then to EsgynDB R2.4. As part of the upgrade to R2.3, they may need to execute additional steps after the installation of the release and once EsgynDB is started.

System

1. Hbase namespace

EsgynDB metadata in R2.3 is now hosted in separate namespaces instead of the default HBase namespace in pre-R2.3 releases.

Migration of existing metadata from the default HBase namespace to EsgynDB reserved namespaces is done automatically by the installer when migrating from pre-R2.3 to R2.3 releases. Reserved namespaces are TRAF_RSRVD_1 through TRAF_RSRVD_7.

User data will continue to be hosted in HBase default namespace, unless it is migrated explicitly. Refer to the EsgynDB Product Guide for additional details.

When multi-tenancy is enabled and a tenant is created, a “tenant” namespace is automatically created to hold data. Generally, there is one (maybe two) schema associated with a tenant. Any schema or objects created when tenants are enabled are created in the tenant namespace. There is also a default namespace if a tenant is not specified at connection time.

2. TRAF_HOME

A new environment variable named TRAF_HOME has been introduced to replace the variable SQ_HOME. This is a name change only. Just like SQ_HOME, TRAF_HOME represents the root of the EsgynDB installation tree.

3. Log files

EsgynDB log files for individual product modules have been simplified greatly. Each product module now has a single log file. Log directories remain unchanged from their locations in pre-R2.3 releases.

Connectivity subsystem	\$TRAF_HOME/dcs-2.3.0/logs
REST subsystem	\$TRAF_HOME/rest-2.3.0/logs
EsgynDB Manager	\$TRAF_HOME/dbmgr-2.3.0/logs
Other subsystems	\$TRAF_HOME/logs

4. Elasticity

Support for elastically adding nodes has been simplified in this release. New nodes can be dynamically added into the EsgynDB instance on demand. Prior to R2.3, virtual nodes had to be preconfigured in order to avoid an EsgynDB instance restart when adding new nodes. This is no longer needed.

5. Backup / Restore

Enhancements in the backup and restore utility now enable online backups and online restores of an arbitrary set of schemas and/or tables. If all schemas are included in the backup, then it is called a full database backup.

Prior to R2.3, separate backup (run_full_trafodion_backup.sh) and restore (run_full_trafodion_restore.sh) utilities were used for online full database backup and offline full database restore. Both utilities are no longer supported starting with EsgynDB R2.3 release.

Note: Support for online backup and online restore of schemas or tables is only available in the Advanced Edition of EsgynDB.

6. Installer

A new python-based installer has been introduced in EsgynDB R2.3, subsuming the old bash installer which is now obsolete.

7. Licensing

The EsgynDB product license has been extended to support new features. Existing production licenses for R2.2 will continue to work with R2.3 through to their expiry date. However, it is recommended to update to the new license key as part of the upgrade to R2.3.

Application

1. SQL Error 8606 is obsolete

Starting in EsgynDB R2.2, SQL applications should interpret error 8616 as a retryable error. This error replaces error 8606.

Old error:

```
8606: Transaction subsystem <name> returned error <number> on a commit transaction.
```

New error:

```
8616: A conflict was detected during commit processing. Transaction has been aborted.
```

Notes

1. Generate statistics concurrent with Bulk Load operation

Statistics can now be generated during the Bulk Load operation eliminating the need for a separate UPDATE STATISTICS step at the end.

The syntax is

```
LOAD WITH UPDATE STATISTICS INTO table-name SELECT * FROM source-table-name
```

This will bulkload data into *table-name*, and concurrently update the histograms for the table.

2. Recovery after a hardware failure

The default TCP timeout to detect a broken connection in Linux is 2+ hours. Client applications connected to EsgynDB over TCP/IP may appear to hang after a failure (node failure, network failure, etc). In order to reduce the failure detection time for such broken connections, use the following keepalive settings across the cluster –

```
pdsh $MY_NODES 'sysctl -w net.ipv4.tcp_keepalive_time=240'  
pdsh $MY_NODES 'sysctl net.ipv4.tcp_keepalive_intvl=15'  
pdsh $MY_NODES 'sysctl net.ipv4.tcp_keepalive_probes=4'
```

3. HBase lease timeout patch

HBase uses a lease mechanism to protect against memory leaks in Region Servers caused by potential client instabilities that would open scanners, but die before having the opportunity to close cleanly and release resources. This mechanism relies on a server side timer, configured by the **hbase.client.scanner.timeout.period** parameter in *hbase-site.xml*. If a client fails to call `next()` within the timeout period, the server will assume the client died, and will force close the server side scanner and release resources. However, in EsgynDB, there are legitimate use cases where client is busy doing heavy processing, and needs more time than specified in the default scanner timeout value. Increasing the **hbase.client.scanner.timeout.period** value has the side effect of weakening the safety mechanism previously described.

The HBase community agrees that the correct behavior of this safety feature should be to have the client “reset” the scanner and resume where it left off instead of giving up and throwing an exception. The change will be implemented in a future release of HBase. In the meantime, this EsgynDB release includes a mechanism to invoke the correct behavior via a custom setting. You can enable the behavior by adding this parameter in *hbase-site.xml*

```
<property> <name>hbase.trafodion.patchclientscanner.enabled</name><value>true</value> <description>Enable an EsgynDB feature to allow a client to reset the HBase scanner and resume where it left off instead of throwing an exception upon expiry of the HBase hbase.client.scanner.timeout.period timer</description> </property>
```

The default value of the parameter is **false**.

Fixed Issues

R2.5.0

ID	Component	Description
M-3550	Foundation	EsgynDB startup fails when hostname is in short form and not FQDN
M-4507	SQL	[FIRST 1] or [LIMIT 1] report incorrect result when row size returned is very wide
M-4554	SQL	SQL 'unregister component' command will fail if the component was registered with system detail info
M-4652	SQL	Create Index failure due to incorrect permissions on /user/trafodion/bulkload
M-4706	Foundation	Node up fails always
M-4835	SQL	Support insert into Hive table that writes to many partitions
M-4855	SQL	LEAD() function computes non-deterministic results when the offset argument is a one-row sub-query
M-4874	Connectivity	dcserver failure will cause it to go into a restart loop
M-4880	SQL	Scan against a native HBase table does not get parallel plan
M-4914	SQL	hbase cache blocks is OFF for broad table with narrow index
M-4918	SQL	Incremental update stats cores on MONTHDATA table. Orphaned sample table on abrupt exit causes subsequent errors.
M-4973	SQL	SHOWSTATS sometimes gives strange message when stats don't exist
M-5019	Connectivity	Bind Floating IP does not work with CM install
M-5088	Installer	After an elastic addNode, mxosrvrs on newly added node aren't used until sqstop/sqstart
M-5093	SQL	parallel_num_esps CQD result in twice as much ESPs as expected
M-5177	SQL	Use of rowset with large memory leads to various errors at runtime
M-5584	SQL	control query shape sometimes does not affect showplan
M-6019	SQL	Pushdown predicate originated from range optimization to Parquet table produces incorrect result
M-6562	SQL	Run-time partition elimination is less effective with min/max filters
M-6817	SQL	Remove unnecessary log info and events in SQL log
M-6973	SQL	UDR region stats fail on table under schema with valid special character
M-7200	SQL	alter table alter column from int to bigint would generate one tmp table with only one partition
M-7204	SQL	gen_hshj_min_max_opt 'on' gives wrong result on basic TPCDS based query
M-7321	SQL	query hive data get core dump
M-7502	SQL	Update Statistics with RMS down treats warning 2024 as error and does not continue
M-7528	SQL	to_date() function cannot use dynamic parameter
M-7575	Backup/Restore	Export/Import of backups require sudo access as hbase user from Trafodion user space.
M-7638	SQL	cleanup zookeeper znode at startup for lock

M-7672	SQL	Enable parallel insert into Hive dynamic partition by default
M-7722	SQL	Compilation error when using arguments to the ldap function
M-7738	SQL	ESP cores after node failure
M-7779	SQL	canDrop() and inverseCanDrop() in SetBloomFilter<Binary> class are not called for STRING and other data types
M-7947	SQL	LEAD() does not handle a constant literal as the default value properly
M-797	SQL	count(*) with predicate purely on partition columns can use ORC aggregate
M-8005	SQL	add update statistics in bulkload
M-8007	General	Initialize Trafodion takes a very long time on a secure cluster and doesn't indicate activity for long periods
M-8192	Installer	If adding node via add_nodes.py with the MultiTenant license, the new node doesn't mount cgroup.
M-8271	Installer	If change the traf_user to another user (not trafodion) while install esgynDB, then db_uninstall.py won't uninstall it.
M-8299	General	ERROR[2050] TRAF_LOAD_TAKE_SNAPSHOT is not the name of any DEFAULTS table attribute.
M-8310	Installer	installer should modify the ulimit -s to 10M
M-8332	SQL	ISNULL/NULLIF function with NULL literal fails for all non-numeric types
M-8349	SQL	The compilation of a scan query against a native mapped Hbase table does not receive the region keys of the table
M-8350	SQL	Compiler can not fetch stats for a mapped HBase native table, even though the stats exists
M-8420	SQL	Estimation of the number of entries in a bloom filter can be very low
M-8457	SQL	HBASE: alter table add drop column don't work with full external table names
M-8458	SQL	HBASE: alter table add column with a non-null default should return a 3242 error
M-8460	SQL	RMS start error when pid_max = 196608
M-8531	Installer	EsgynDB installation will fail if the license is not provided via python installer
M-8611	SQL	traferkerberos doesn't return correct status when cluster has more than 10 nodes
M-8686	SQL	Broken pipe exception - ERROR[1192] Failed to retrieve data from Hive metastore.
M-8908	DTM	DDL create/drop performance improvements
M-8967	General	dcscheck -active, dcscheck return inconsistent and most likely wrong active DCS Master when multiple masters configured
M-8971	Foundation	Monitor cores created un-necessarily
M-8985	SQL	Fix boundary condition when applying chunk headers to IPC messages
M-9039	Installer	"/opt/trafodion" directory is not deleted when uninstalling EsgynDB using db_uninstall.py
M-9136	DTM	Backup operation failes with an IdTmException caused by error 40
M-9137	EsgynDB Manager	Invalid pages are shown in EsgynDB Manager after refresh in browser

M-9164	SQL	Improve TPC-DS Q48 resource usage on ORC
M-9197	SQL	get commands not returning correct information
M-9367	SQL	hybrid query caching (HQC) heap can grow significantly during the usage of the hybrid query caching feature
M-9471	Installer	Ambari installer "Check EsgynDB" step will show server is not up, even though EsgynDB is actually up
M-9497	SQL	Transaction hangs in preparing state when trying to drop the "_PRIVMGR_MD_" schema
M-9551	Foundation	startup will not work if nodes' default hostname is short hostname

The following Trafodion JIRAs have been addressed.

ID	Component	Description
T-1610	SQL	Generate constraint expression for update/merge commands
T-1715	SQL	UPDATE STATISTICS allocates memory even when a SAMPLE table is used
T-1782	SQL	Auto assignment of NOT NULL attr to primary key
T-1881	SQL	RI predicate generating string should not contain _SALT_ column
T-1966	BR	TrafexportSnapshot ran into NoClassDefFoundError on HDP 2.4
T-2205	SQL	invalid char at create schema when authorization name is very long
T-2231	DTM	support transactional ddl exceptions to SQL
T-2249	SQL	Cannot use library management SPJs after an upgrade
T-2308	LOB	JDBC support insert LOB
T-2335	SQL	support some functions as column default, part1 commit
T-2341	SQL	Redesign UPDATE STATISTICS retry logic
T-2389	SQL	Change Incr UPDATE STATS to not use CBFs by default
T-2414	DTM	Enhance 8616 commit conflict error message to include txn commit details
T-2428	Installer	Enable local customization to trafodion bashrc
T-2542	Security	Grantor is not correct when granting privileges on behalf of a role
T-2566	SQL	Reduce the virtual memory allocated in Trafodion
T-2576	SQL	Fix long varchar bug in incremental UPDATE STATISTICS
T-2596	SQL	Improve the log4j and log4cxx infrastructure
T-2600	Security	Unable to create view ... but user has SELECT privilege
T-2617	SQL	Optionally push estimate row count logic into HBase
T-2628	SQL	SQL engine work for Elasticity
T-2630	SQL	Merge returns internal error when the table has a constraint
T-2645	SQL	First draft of a rewrite of the MDAM costing code
T-2651	Foundation	The monitor to monitor process communication cannot handle a network reset
T-2661	SQL	MDAM not chosen for OR predicate of leading index column
T-2662	SQL	Fix incr stats bug when enormous sample tables are used
T-2668	Connectivity	one mxosrvr can't startup, dcsServer down

T-2673	SQL	Improve incremental update stats performance
T-2678	SQL	Non-printable characters in log files
T-2681	SQL	Repeated execution of prepared SQL select statement causes memory leak
T-2682	SQL	JVM startup options like heap are not passed correctly
T-2683	SQL	Add a new explain option to mask variant fields in output
T-2686	Connectivity	setCursorName(String name) fails
T-2688	SQL	Need a way to find queries that are stuck in RMS
T-2692	Foundation	Fixed monitor startup when hostname is in various forms
T-2693	SQL	Misleading error message for 'get schemas' when <code>_MD_</code> tables in HBase are not available
T-2695	SQL	SSMP process (<code>\$ZSMxxx</code>) sees too many opens from the Master process
T-2696	SQL	Control query cancel qid fails with error 8031
T-2697	Installer	Set bulkload permissions for hbase upload
T-2698	SQL	Ensure RMS can be disabled properly
T-2700	SQL	Avoid parallel plans for single salt partns (R2.3)
T-2702	Drivers	Fix wrong offset when the charset type is ucs2 in SQLTOC
T-2704	Connectivity	Resolve the random schema not exist issue
T-2705	Security	User that has SHOW privilege cannot do "showddl user"
T-2709	SQL	getpwuid is not a Thread-safe function
T-2712	ODB	odb didn't extract data from database to correct xml file
T-2714	ODB	odb does not load data correctly
T-2716	SQL	Query compilation gets stuck at listSnapshots() at times
T-2717	ODB	odb give wrong data and dcsmaster hang
T-2719	SQL	Check for truncation of character columns
T-2721	ODB	When setting max property , copy data from mysql to trafodion failed
T-2722	SQL	Change purgedata to use HBase truncate api
T-2725	Drivers	SQL types are REAL, FLOAT, and DOUBLE. Some values are inserted, a stack overflow occurs when SQLGetData is executed
T-2727	SQL	Memory leak in the compiler part of the code
T-2728	SQL	SHOWSTATS sometimes gives strange message
T-2729	SQL	Fix bug reading region keys for hbase <code>_ROW_</code> and <code>_CELL_</code>
T-2730	SQL	process loop when infer_charset cqid is ON and query invalidation is done
T-2731	SQL	CodeCleanup: Remove obsolete, legacy and unused code
T-2732	SQL	Add delimited identifier handling to sample table code
T-2733	SQL	Provide an improved memory quota assignment for big memory operators (BMO)
T-2736	SQL	Missing predicates on salt columns
T-2738	SQL	Rowset buffer size during insert/upsert should be limited
T-2739	SQL	RMS semaphore handling need to log the error for easy resolution

T-2746	Foundation	Monitor exhibits memory corruption in large cluster configuration > 30 nodes
T-2749	SQL	Fix issue with reserved words as column names
T-2751	SQL	Unnecessary PROBE_CACHE in an index join
T-2752	SQL	Fix error message when UDR method not found
T-2753	Connectivity	LOB: filetolob() no longer works in trafci
T-2754	SQL	Get statistics cores sqlci or mxosrvr at str_sprintf()
T-2757	Connectivity	JDBC executeQuery() throws exception on the "with ... select" stmt
T-2758	SQL	Sort operator that uses TopN sort at runtime is not accurately determined at compile time
T-2761	SQL	Error when all TMUDF columns are eliminated
T-2762	SQL	Allow UPDATE STATS to create sample tables regardless
T-2763	SQL	Left join with non-equi join predicate in ON clause may cause corefiles
T-2765	SQL	Change heuristics so MDAM is considered more often
T-2772	SQL	Retrieve a value from Json string got an error
T-2773	ODB	When the timeout is set, odb is still hang
T-2775	SQL	Insert does not raise duplicate row error for hbase
T-2776	SQL	Mdam plans with more than one disjunct sometimes cause
T-2781	SQL	Omit LOB columns from update stats sample tables
T-2782	SQL	reserve UDRs classloader sequence
T-2783	SQL	jdbc_test_cdh fails at times with type 2 JDBC driver
T-2784	Tools	trafci help has no description for jline
T-2785	Connectivity	mxosrvr dumps core generated when loading data from Oracle
T-2787	Connectivity	JDBC does not implement wrapper related API
T-2788	Connectivity	jdbc does not implement ClientInfo related api
T-2789	Connectivity	jdbc does not implement NetworkTimeout related api
T-2790	Connectivity	jdbc does not implement abort related api
T-2792	SQL	Single character change to stop leaking temp files
T-2797	ODB	odb variable name conflict
T-2800	Installer	Fix modifications to set TRAF_ENABLE_AUTHENTICATION
T-2801	SQL	select count(*) with cqd hbase_coprocessors 'off' and
T-2803	SQL	new COMMENT-ON SQL statement: init
T-2805	SQL	Add "or edition" to error info 4222
T-2806	SQL	optimize 'hbase classpath' cmd in sqenvcom.sh
T-2811	Connectivity	When convert NULL to SQL_VARCHAR, the length was not sent to server
T-2812	Foundation	sqenv.sh file not found
T-2813	SQL	Salting + heuristics prevent MDAM plan on base table from being considered
T-2814	SQL	Fix error message 2243
T-2818	Drivers	For Server 2008, function pow() in ODBC driver throws STATUS_ILLEGAL_INSTRUCTION
T-2819	SQL	Fix 4247 error on drop table when certain CQDs are set

T-2821	SQL	Trafodion core code base needs to be thread safe
T-2822	SQL	Make [first n] views non-updatable; prevent bad MERGE
T-2823	JDBC	some test case donot close connection
T-2824	Connectivity	some "hp" code in trafodion
T-2825	Connectivity	add jdbc user case
T-2826	Connectivity	Consolidate trafci defaults in trafci.sh script
T-2827	SQL	Turn update costing code on by default
T-2828	Connectivity	Multi-threaded batch loading causes the program to crash
T-2830	Tools	odb export will scan full table with splitby column
T-2832	SQL	Fix for a second case for Trafodion-2832.
T-2834	DTM	Streamline supported xn access modes
T-2836	SQL	Enable Trafodion SQL processes to configure garbage collector in its embedded JVM
T-2838	SQL	Add error check to NATableDB::get
T-2839	SQL	Change Incr UPDATE STATS to not use CBFs by default
T-2840	SQL	Make [first n] with ORDER BY views non-updatable
T-2843	SQL	Fix outer join on aggregate bug
T-2844	DCS	add strategy to dcserver for restart moxsvr
T-2846	Drivers	optimize for batchException message display
T-2848	Installer	vanilla hadoop version in install_local_hadoop should change
T-2853	SQL	Memory leak of ComDiagsArea in Context
T-2854	SQL	Load encounter Operating system error 201
T-2856	Utilities	Add optimizer/UdrErrors.h to analyzeMessageGuide.py
T-2868	SQL	bug of hbase option TTL
T-2871	Infrastructure	Add web references to security mailing list
T-2873	SQL	Fix for avoiding cores during expression eval for
T-2875	Utilities	Fix inaccuracies in text comparison in
T-2877	DCS	restart DCSServer when switch to backup-master
T-2879	SQL	Core dump due to reference to deallocated memory for
T-2881	Foundation	HA fixes Fixed multiple problems in monitor Allgather()
T-2883	Foundation	Preliminary Scale Enhacements - Increased cluster node
T-2884	Foundation	Disabled monitor agen mode startup in workstation
T-2885	DCS	dcserver cant be restart while switching master
T-2888	SQL	Streamline setjmp/longjmp concepts in Trafodion
T-2890	Connectivity	When using failed connection handle to alloc statement
T-2896	SQL	Internal error in stored procedures when a warning is
T-2897	SQL	Invalid name in MySQL log file when using
T-2898	SQL	fix sql regression failure
T-2901	SQL	Using sequence to do upsert get wrong number of rows after several times
T-2904	SQL	Optionally add leading space when get a number column
T-2905	trafci	query id contain null

T-2908	SQL	Create table with wrong char length hang and crash
T-2912	SQL	Better handling of non-deterministic scalar UDFs
T-2913	SQL	Tweak some MDAM-related heuristics
T-2916	ODB	ODB crashes when there are several string truncation warnings during load
T-2917	SQL	Refactor Trafodion implementation of hdfs scan for text
T-2922	SQL	Fix return incorrect affect row count
T-2927	SQL	Refactor and improve UPDATE STATISTICS logging
T-2930	SQL	[FIRST N] will cause sqlci core dump
T-2931	SQL	Call udf function on chinese character will cause
T-2932	Connectivity	ConnectionTimeout value for jdbc cannot be larger than 32768
T-2937	ODB	the actual copied data is less than expected when copying data from MySQL to Trafodion
T-2939	ODB	odb copied data exceeds the max size specified by max option when copying data
T-2951	SQL	group_concat on utf8 column with chinese character get
T-2952	SQL	Large amount of data will cause error in sequence
T-2955	ODB	odb crash when executing sql statements in a file and the file contains space only line.
T-2957	JDBC T4	T4JDBC should support compound statement
T-2958	Config	Consolidate the master and backup files in dcs conf
T-2963	SQL	RMS infrastructure now reads the configured pid Max
T-2964	SQL	Fix bug in new MDAM costing code concerning comparisons
T-2965	SQL	Fix row count stats for partial groupby
T-2966	SQL	Fix new MDAM costing code to respect CQS forces
T-2967	SQL	Fix CommonLogger::buildMsgBuffer core in UPDATE STATS
T-2969	SQL	Fix interaction of [first n] etc. with subqueries
T-2974	SQL	Make event log reader and JDBC real TMUDFs
T-2977	SQL	Fix issues with maximum key length detection
T-2978	SQL	fix update statistics hang
T-2981	Connectivity	mxosrvr crashes during explain using EXPLAIN_QID
T-2982	SQL	JNI HDFS interface should support varied sized large buffers for read/write
T-2983	SQL	Be careful to preserve inputs needed for output
T-2985	Infrastructure	Update Project Web Site for Apache Trafodion Release
T-2988	SQL	prepare query returns 2006 internal error
T-2990	SQL	Fix CREATE TABLE LIKE having long numeric default
T-2991	Drivers	jdbct4 not support nchar & nvarchar
T-2999	SQL	make UUID non reserved keyword
T-3000	SQL	Fix binder issue with index maintenance on MERGE DELETE
T-3002	SQL	Fix UPDATE STATS for certain INTERVAL data types
T-3003	Connectivity	Trafodion keepalive support

T-3004	SQL	SQL dense buffers structure contain a size limit due to an incorrect cast
T-3005	SQL	Fix issues with keys on long columns
T-3006	SQL	unix_timestamp runtime core dump issue
T-3007	SQL	update statistics report error on volatile table
T-3008	SQL	support a new TMUDF to generate a series of Number
T-3009	SQL	Streamline error handling in Executor utility commands
T-3015	SQL	compare string to BIGNUM return no result
T-3018	SQL	Fix issue with UPPER on an UPSHIFT column
T-3019	Connectivity	pstmt.setByte cannot support string.getbyte well
T-3021	SQL	union, intersect, except should be cacheable
T-3024	SQL	function lower() return null for varchar column when
T-3025	SQL	order by clause in subquery does not work
T-3028	SQL	Support CONTROL QUERY SHAPE (CQS) for Hive insert
T-3031	SQL	Fix two issues with nested subquery plans
T-3039	Connectivity	SendEventMsg is used in a wrong way
T-3041	SQL	Repository performance improvement: Support watchdog query cache to improvement performance
T-3042	SQL	RAND() function is not always random
T-3043	SQL	Add missing binder check for DATE_PART function
T-3046	Security	Privilege support for native HBase tables
T-3047	SQL	Cannot get right result using prepare statement with
T-3050	SQL	Change default for CQD COMP_BOOL_158 to 'ON'
T-3052	SQL	Fix core in PCode evaluator
T-3054	DTM	update pom.xml.cdh for hbase-trx to build protobuf
T-3056	SQL	Make UPDATE STATS tolerate the absence of RMS (cherry
T-3059	SQL	remove "mt_" column family
T-3065	SQL	Trafodion to support compressed Hive Text formatted
T-3066	SQL	Fix bug that causes 2053 warning on deeply nested
T-3069	Security	when open security, there may meet error if cert file be changed
T-3071	SQL	Add missing binder checks for DATEDIFF etc. + other
T-3074	Security	Failed to register or unregister user when database security is not enabled
T-3075	Installer	Installer needs to support RH7 / Centos7
T-3086	SQL	Traf support for DDL operations on Hive objects
T-3088	SQL	Fix data conversion issue with INTERVAL literals
T-3091	SQL	Unnamed Dynamic parameter doesn't work in WITH
T-3092	SQL	Incorrect rowcount reported after commit conflict error
T-3095	SQL	Trafodion process should abort when it encounters OOM
T-3097	SQL	At times the query involving sequence function fail and dumps core
T-3101	SQL	Enhance the 'get table' utility to return number of rows
T-3105	Driver	meta.getColumns should return 24 columns
T-3107	SQL	select count(0) with long varchar hitting jvm OOM error

T-3109	SQL	Comment can not transfer single quote normally in comment string
T-3110	SQL	Refactor LOB access to use the new implementation of HdfsClient
T-3112	SQL	Fix GET statement issues
T-3115	SQL	Support nanosec precision for Timestamp/Interval
T-3118	SQL	Improve on parts of EXTRACT
T-3121	SQL	Enhance 'initialize trafodion' to return progress status
T-3126	SQL	Refactored HDFS client implementation should also
T-3128	SQL	Fix issue with interval literals in multi-column
T-3131	SQL	Fix some reserved and non-reserved word issues
T-3133	SQL	limit n support in subquery
T-3135	SQL	Remove anachronisms from keyword tables
T-3138	SQL	Part 1 of removing static SQL code from ustats + one
T-3145	SQL	Make "hbase_options" as default setting and use cqcd to
T-3148	SQL	Fix UPDATE STATS bug on Hive tables w/ column
T-3149	JDBC T4	Delete duplicated property names in
T-3152	SQL	Fix bug in UPDATE STATISTICS CREATE SAMPLE
T-3153	SQL	Fix issue with CREATE EXTERNAL TABLE
T-3164	Connectivity	Restart mxosrvrs on-demand
T-3165	SQL	HDFS storage option not work well if table use namespace
T-3166	SQL	Enhance 8427 error detail when thrown by sequence
T-3171	SQL	Refactor Hive sequence file reading to use the new
T-3173	SQL	Enhance ExeCliInterface fetchAllRows to save the data
T-3175	SQL	Enhance ExeCliInterface get interface to return null
T-3177	SQL	Error when selecting count(*) from event_log_reader UDF
T-3180	SQL	At times establishing a JDBC/ODBC connection takes observably long time
T-3182	Foundation	Cleanup monitor log content
T-3194	Security	Revoke grant option for all on objects also revokes all privileges from user/role
T-3195	Security	Get schemas for role and get schemas for user working incorrectly
T-3202	SQL	Fix bug with CASE in paging function
T-3210	Connectivity	Support exclamation mark when open jline in trafci
T-510	SQL	Internal error or core dump with set table timeout

Known Issues

ID	Component	Description
M-7552	BR	Concurrent backup/restore operations or concurrent DDL operation with backup/restore operation return errors.
M-7505	BR	Export/Import of backup fails on cluster with Cloudera CDH Parcels and Kerberos environment.
M-7324	BR	Export/Import of backups in Hortonworks HDP environment hangs

M-7217	Connectivity	trafici connection attempt fails with “*** ERROR[29162] Unexpected programming exception has been found...” after a node failure
M-7174	Connectivity	Un-necessary logging in DCSTMaster logs causes logs to grow rapidly
M-7162	Foundation	When hostname is either all upper-case or mixed case, the EsgynDB instance fails to start
M-6909	SQL	Compiler crashes for certain ORC insert select statement during codegen
M-6796	SQL	Cached Hive NATable cause MXOSRVRs to fail with a SIGSEGV

Platform Support

Operating Systems	CentOS 6.5 – 6.9, 7.2 – 7.4 Red Hat 6.5 – 6.9, 7.2 – 7.4
Hadoop Distributions	Cloudera distributions CDH 5.9 – 5.13 Hortonworks distributions HDP 2.4 – 2.6.3
Java	Minimum Recommended JDK 1.8

Documentation

EsgynDB	EsgynDB Installation Guide R2.5.0 EsgynDB SQL Reference Manual R2.5.0 EsgynDB CQD Reference Manual R2.5.0
Clients	Trafodion Client Installation Guide R2.3.0 EsgynDB ODBC Driver Installation Guide R2.4.0
EsgynDB Manager	EsgynDB Manager User Guide R2.5.0

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