

Welcome to TIBCO ActiveSpaces® Transactions

ActiveSpaces® Transactions is an in-memory transactional application server that provides scalable high-performance transaction processing with durable object management and replication. ActiveSpaces® Transactions allows organizations to develop highly available, distributed, transactional applications using a standard Java programming model.

TIBCO ActiveSpaces® Transactions provides these capabilities:

- Transactions - high performance, distributed *All-or-None* ACID work.
- In-Memory Durable Object Store - ultra low-latency transactional persistence.
- Transactional High Availability - transparent memory-to-memory replication with instant fail-over and fail-back.
- Geographic Redundancy - Replicate transactions across a WAN with split brain avoidance and reconciliation
- Distributed Computing - location transparent objects and method invocation allowing transparent horizontal scaling.

Where to Find Information

See the *Quick Start Guide* in the TIBCO ActiveSpaces® Transactions SDK for quickly getting TIBCO ActiveSpaces® Transactions up and running and configured with your IDE of choice.

The following information is also shipped in the SDK:

- *Installation Guide* - Installation instructions
- *Architect's Guide* - Architectural details
- *Java Developer's Guide* - Programmer documentation
- *Administrators's Guide* - Administration documentation
- *Performance Tuning Guide* - Application performance tuning documentation
- *System Sizing Guide* - Sizing machine resources for TIBCO ActiveSpaces® Transactions applications
- *API reference* - javadoc for all APIs
- *Code snippets* - source code for the programming snippets in the *Developer's Guide*
- *Examples* - source code examples of integrating TIBCO ActiveSpaces® Transactions with common Java technologies, application templates, and channels.

We encourage you to join the TIBCO ActiveSpaces® Transactions development community at [DevZone](#)

We look forward to hearing your feedback to help us improve TIBCO ActiveSpaces® Transactions to meet your application needs.

Supported Platforms

TIBCO ActiveSpaces® Transactions is supported on

- Red Hat Enterprise Linux Server versions 6.0 to 7.3 on 64-bit x86 (x86_64) processors.
- Oracle Solaris 10 1/13 in 64 bit mode on SPARC V9 architecture on both Sun and Fujitsu hardware.

Red Hat Platform Requirements

The *compat-expat1*, *pstack*, *gdb*, and *sysstat* packages must be installed when running on Red Hat. The *rpm* package manager can be used to query and verify that these packages are installed.

- `rpm -q compat-expat1 - compat-expat1-1.95.8-8.el6.x86_64`
- `rpm -q pstack - pstack-1.2-7.2.2`
- `rpm -q gdb - gdb-7.0.1-42.el5`
- `rpm -q sysstat - sysstat-7.0.2-11.el5`

Red Hat 6.2, and later releases, ship with a new implementation of malloc that consumes more heap memory by default. Details can be found here - [13.4. GNU C Library \(glibc\)](#). Tuning the `MALLOC_ARENA_MAX` environment variable can reduce memory allocation.

To run on Red Hat 7 perform these steps:

1. `cd /lib64`
2. `sudo ln -s libssl2.so.3.0.0 libssl2.so.2`

Solaris Platform Requirements

The *sudo* package must be installed when running on Solaris.

Supported Browsers

TIBCO ActiveSpaces® Administrator supports these browsers. The version number is the minimum version supported.

- Chrome 16
- Firefox 24.6.0
- Internet Explorer 9
- Safari 5

JRE Version

TIBCO ActiveSpaces® Transactions ships with version *1.8.0_25* of the Oracle JRE. It has also been certified on OpenJDK versions *1.8.0_25* and *1.7.0_80*.

Major Improvements

- Upgrade to OpenSSL 1.0.2j.
- On-going stability improvements.

Upgrading

The following changes must be made to upgrade from previous releases.

- No changes required

Deprecations

The following features were deprecated in this release and will be removed in a future release. Please update your applications and development environment.

- None

2.5.8 Resolved Issues

Defect

- [\[SB-42177\]](#) - DIST: Query processing can result in abandoned transactions.
- [\[SB-42222\]](#) - 3RDPARTY: OpenSSL security MITM vulnerability
- [\[SB-42356\]](#) - DIAG: swdiag -A doesn't handle large shared memory.

2.5.7 Resolved Issues

Defect

- [\[SB-41352\]](#) - JBA: memory leak with sequence parameters to exposed modeled IDLos methods

Feature

- [\[SB-31581\]](#) - 3RDPARTY: support on RedHat 7

Task

- [\[SB-31621\]](#) - 3RDPARTY: Certify AST on RedHat Linux 7.x
- [\[SB-31638\]](#) - 3RDPARTY: certify AST on RedHat 6.9 with a kernel version of 2.6.32-696
- [\[SB-31685\]](#) - 3RDPARTY: RHEL 6.8 certification in release note
- [\[SB-31721\]](#) - MONITORING: update tuning guide to describe hash statistics cost

2.5.6 Resolved Issues

Bug

- [\[FLUENCY-8254\]](#) - CLASSLOADER: assertion at CodeFactory.getStackConsumption(CodeFactory.java:810)
- [\[FLUENCY-8838\]](#) - RT: Crash when calling Java abort trigger from distribution.
- [\[FLUENCY-8840\]](#) - DIST: poll() timeouts during shutdown can release channels multiple times.
- [\[FLUENCY-8880\]](#) - DIST: Type exchange failure can lead to abandoned transactions.
- [\[FLUENCY-8995\]](#) - SWITCHADMIN: Missing hagtplugin.kcs from FILELIST.
- [\[FLUENCY-9712\]](#) - RUNTIME: crash in OSTEnv::getTransactionName()

Documentation

- [\[FLUENCY-8773\]](#) - RN: Typo in AST Release Notes
- [\[FLUENCY-8913\]](#) - DIST: add support for managing distributed transactions (DOC ISSUE)
- [\[FLUENCY-9767\]](#) - RT: rework / rename object destroyed deadlock path and reporting (DOC ISSUE)

Improvement

- [\[FLUENCY-8262\]](#) - RT: Enhance signal handler report when runtime crashes.
- [\[FLUENCY-8272\]](#) - DISTRIBUTION: Update remote node state changes to include node lists.
- [\[FLUENCY-8824\]](#) - RT: rework / rename object destroyed deadlock path and reporting

New Feature

- [\[FLUENCY-8818\]](#) - DIST: add support for managing distributed transactions

Task

- [\[FLUENCY-9816\]](#) - 3RDPARTY: 3RDPARTY: Upgrade to Universal Installer 3.6.1

2.5.5 Resolved Issues

Bug

- [\[FLUENCY-8583\]](#) - JAVASERVICE: Invalid jmethodID used for ConfigurationNotifier delete trigger.
- [\[FLUENCY-8745\]](#) - RT: sendPinnedTwoWay() uses incorrect exception index.
- [\[FLUENCY-8756\]](#) - RT: SEGV while generating stack trace

Documentation

- [\[FLUENCY-8755\]](#) - DOCUMENTATION: transactionpromotion statistic type missing

Improvement

- [\[FLUENCY-8534\]](#) - SECURITY: disable RC4 ciphers

2.5.4 Resolved Issues

Bug

- [\[FLUENCY-6881\]](#) - CLASSLOADER: Java deadlock during classloading
- [\[FLUENCY-7553\]](#) - RT: Race condition in accessing cached JVM data.
- [\[FLUENCY-8366\]](#) - JAVASERVICE: deploy fails for jar target with detach=true copytarget=true

Improvement

- [\[FLUENCY-8427\]](#) - STORE: add lock mode to all query notifier trace messages

2.5.3 Resolved Issues

Bug

- [\[FLUENCY-6918\]](#) - PARTITION: duplicates in administrator display partition
- [\[FLUENCY-7677\]](#) - SNAPSHOT: failure after install node failure
- [\[FLUENCY-7832\]](#) - ASTPERF: Nexus repository in pom-parent.xml
- [\[FLUENCY-7924\]](#) - DIST: nested transactions from disteng::ChunkExecutor
- [\[FLUENCY-7961\]](#) - STORE: crash with partially covered range query
- [\[FLUENCY-8007\]](#) - DISTRIBUTION: distsrv/deadlocktest crash
- [\[FLUENCY-8217\]](#) - RT: OSSlot::setString() re-allocates memory every time it is called.
- [\[FLUENCY-8279\]](#) - DIST: cluster query statistic being incremented for local query
- [\[FLUENCY-8301\]](#) - DIST: Allocation and use of partition version doesn't work across cluster.

Documentation

- [\[FLUENCY-7816\]](#) - 3RDPARTY: certify AST on RH 6.7 (DOC ISSUE)
- [\[FLUENCY-8001\]](#) - RT: add support for configuring maximum deadlock back-off interval (DOC ISSUE)
- [\[FLUENCY-8105\]](#) - JAVADOC: private TypeDescriptor class exposed in public docs
- [\[FLUENCY-8264\]](#) - DOC: Update copyright year in user guides
- [\[FLUENCY-8311\]](#) - DOC: The guides use the product title as ActiveSpaces® Transactions instead of TIBCO ActiveSpaces® Transactions

Improvement

- [\[FLUENCY-7621\]](#) - RT: Update deadlock backoff for OperationRetry operations.

New Feature

- [\[FLUENCY-6996\]](#) - RT: add support for configuring maximum deadlock back-off interval

Task

- [\[FLUENCY-7421\]](#) - 3RDPARTY: Upgrade OpenSSL to at least 1.0.1p
- [\[FLUENCY-7795\]](#) - 3RDPARTY: certify AST on RH 6.7
- [\[FLUENCY-7989\]](#) - 3RDPARTY: Upgrade PHP to at least 5.5.30
- [\[FLUENCY-7991\]](#) - 3RDPARTY: Upgrade Apache to at least 2.2.31

2.5.2 Resolved Issues

Bug

- [\[FLUENCY-6651\]](#) - DIST: Conflicting object writes can down-rev partition version.
- [\[FLUENCY-6918\]](#) - PARTITION: duplicates in administrator display partition
- [\[FLUENCY-7015\]](#) - DIST: CSReadChannel::processQueuedObjects() can get out of sync on deadlocks.
- [\[FLUENCY-7289\]](#) - DIST: PartitionManager.getPartitions() returned unexpected data
- [\[FLUENCY-7668\]](#) - SNAPSHOT: typo in shared memory file corrupted message
- [\[FLUENCY-7715\]](#) - RT: node installation failure
- [\[FLUENCY-7744\]](#) - DIST: Update poll of responses to terminate if the remaining nodes are dead.
- [\[FLUENCY-7750\]](#) - RT: OSProxyObject::lockAvailable() return false if calling transaction has instance locked.
- [\[FLUENCY-7753\]](#) - DIST: Remote node can create abandoned global transaction after failover processing has started.
- [\[FLUENCY-7763\]](#) - DIST: Calls to connect() can block for long periods of time.
- [\[FLUENCY-7769\]](#) - DIST: Keepalives are sent twice for each keepAliveSendIntervalSeconds.
- [\[FLUENCY-7770\]](#) - DIST: Keepalives can block in send()/recv() after a connection is established.
- [\[FLUENCY-7771\]](#) - DIST: Processing keepalives uses wrong timeout value.

Improvement

- [\[FLUENCY-6625\]](#) - DIST: Add support to allow applications to specify replica discovery behaviour.

- [\[FLUENCY-6885\]](#) - DIST: Determine if wait for release of write channels needs to be done before processing failover.
- [\[FLUENCY-7479\]](#) - DIST: JOIN_CLUSTER_PURGE write locks all instances of a type.
- [\[FLUENCY-7671\]](#) - DISCOVERY: add discovery service information to display node report
- [\[FLUENCY-7681\]](#) - DISCOVERY: document that the discovery UDP port must be accessible
- [\[FLUENCY-7726\]](#) - Doc Impact of FLUENCY-7671 DISCOVERY: add discovery service information to display node report
- [\[FLUENCY-7772\]](#) - Doc Impact of FLUENCY-6625 DIST: Add support to allow applications to specify replica discovery behaviour.
- [\[FLUENCY-7774\]](#) - DIST: Remote node disabled is being logged as an I/O error.

Task

- [\[FLUENCY-5208\]](#) - HA: Need hardware to test multiple interfaces and failover.
- [\[FLUENCY-7544\]](#) - DIST: rework distsrv/test CSCommTestCase to remove discovery dependencies.

2.5.1 Resolved Issues

Bug

- [\[FLUENCY-7541\]](#) - DIST: numberOfThreads is ignored if object count less than MinObjectsPerThread.
- [\[FLUENCY-7587\]](#) - SNAPSHOT: java/pstack stack trace not generated correctly if engine restarted
- [\[FLUENCY-7598\]](#) - DISCOVERY: administrator discoveryhost global not set correctly
- [\[FLUENCY-7630\]](#) - DIST: objectsLockedPerTransaction ignored for remote migrates.
- [\[FLUENCY-7653\]](#) - DIST: Cluster queries can enable prepare triggers, causing a runtime crash.

Improvement

- [\[FLUENCY-7245\]](#) - CLASSLOADER: Managed object slot descriptions are sensitive to Java version.
- [\[FLUENCY-7565\]](#) - DISTRIBUTION: reduce distribution start up time
- [\[FLUENCY-7586\]](#) - DOCUMENTATION: Transaction.modifiedInTransaction() for an object created in the current transaction

Task

- [\[FLUENCY-7535\]](#) - 3RDPARTY: certify on OpenJDK
- [\[FLUENCY-7580\]](#) - CONFIGURATION: mark loadactivate configuration as not publicly visible

- [\[FLUENCY-7638\]](#) - Doc Impact of FLUENCY-7535 3RDPARTY: certify on OpenJDK

2.5.0 Resolved Issues

Bug

- [\[FLUENCY-63\]](#) - DEPLOY: client fails to resolve services on macosx
- [\[FLUENCY-1032\]](#) - KSD: stresstest failure on Linux.
- [\[FLUENCY-2482\]](#) - ADMINISTRATION: no error message reported if MDNS disabled
- [\[FLUENCY-2491\]](#) - NODE: display node does not show node description if MDNS not running
- [\[FLUENCY-2601\]](#) - JAVASERVICE: Update to multi-dim arrays doesn't execute update trigger
- [\[FLUENCY-2718\]](#) - KSD: deadlock during service lookup termination
- [\[FLUENCY-3467\]](#) - KSD: deadlock is ksd stresstest
- [\[FLUENCY-3737\]](#) - STATISTICS: cleanup businesstransaction references in runtimestatistics integration
- [\[FLUENCY-3743\]](#) - STATISTICS: add method names for Asynchronous transaction statistics
- [\[FLUENCY-4360\]](#) - KSD: promotion deadlock in stresstest
- [\[FLUENCY-4465\]](#) - KSD: update shutdown sequence to tolerate active registrations.
- [\[FLUENCY-5071\]](#) - KSD: hangs when deleting LookupNotifier for BrowseAndResolveLookup
- [\[FLUENCY-5177\]](#) - NODE: display node command missing node description field
- [\[FLUENCY-5316\]](#) - KSD: cancel() is not thread safe.
- [\[FLUENCY-5461\]](#) - USAGE: help for scripted plugins not displayed
- [\[FLUENCY-5540\]](#) - KSD: not thread safe for duplicate service names
- [\[FLUENCY-5856\]](#) - AST: add javadoc to maven artifact
- [\[FLUENCY-6000\]](#) - KDM: failing to register node service record to MDNS
- [\[FLUENCY-6071\]](#) - KSD: Client application bug PID[-1]() : DNSServiceResolve active for over two minutes
- [\[FLUENCY-6141\]](#) - DIST: Loading StaticDiscovery entries with self included crashes node.
- [\[FLUENCY-6519\]](#) - SECURITY: incorrect password prompt starting node using service name (OS X)
- [\[FLUENCY-6653\]](#) - MDNS: mdns.ksh start does not check for running daemon
- [\[FLUENCY-6654\]](#) - WINDOWS: build system issues
- [\[FLUENCY-6666\]](#) - DEPLOY: NullPointerException deploying to stopped node
- [\[FLUENCY-6814\]](#) - SWTCOV: hard-codes PHP version
- [\[FLUENCY-6857\]](#) - HA: partition state remains in Updating on repartitioning error
- [\[FLUENCY-6880\]](#) - DIST: Enable of partition does not use distributed partition lock protocol.
- [\[FLUENCY-6958\]](#) - DEPLOY: copytarget=false does not work with a JAR in detached mode
- [\[FLUENCY-6961\]](#) - CODELINETOOLS: sw_mkrel 'is a directory' errors on Windows

- [\[FLUENCY-7008\]](#) - DIST: Deadlocks seen when define/enable of many partitions is done.
- [\[FLUENCY-7014\]](#) - JMX: Improve getFreePort() allocation.
- [\[FLUENCY-7019\]](#) - DIST: Failover can activate disabled partitions.
- [\[FLUENCY-7021\]](#) - DIST: Crash in Partition cardinality() method.
- [\[FLUENCY-7032\]](#) - RT: deadlock crash
- [\[FLUENCY-7052\]](#) - ADMINISTRATOR: comand - Memory fault(coredump)
- [\[FLUENCY-7082\]](#) - RT: Lock ordering issues with object services and distribution.
- [\[FLUENCY-7094\]](#) - RT: Negative array indexes do not throw ArrayIndexOutOfBoundsException.
- [\[FLUENCY-7100\]](#) - RT: remote node crash with unhandled ObjectReadNotifier exception.
- [\[FLUENCY-7106\]](#) - DEPLOY: Application arguments with quotes fails to load.
- [\[FLUENCY-7117\]](#) - RT: ManagedObject.referenceToObject() attaches the target object twice
- [\[FLUENCY-7124\]](#) - DIST: PartitionManager.getPartition() does not validate partitionName.
- [\[FLUENCY-7129\]](#) - STORE: shared memory lookup in extent notifier causes Query.query notifier method to trigger
- [\[FLUENCY-7130\]](#) - STORE: deleting an object causes NullPointerException: Cannot find reference exception
- [\[FLUENCY-7131\]](#) - STORE: ObjectNotUniqueError exception causes spurious Record.deleted call
- [\[FLUENCY-7132\]](#) - DIST: typo in StateConflict exception message.
- [\[FLUENCY-7137\]](#) - DIST: getPartitionStats() can fail if partition is not active.
- [\[FLUENCY-7138\]](#) - STATISTICS: Errors in statistics plugin are not reported.
- [\[FLUENCY-7139\]](#) - ASTA: not updated for kabira/ast application name change
- [\[FLUENCY-7143\]](#) - CACHE: number instances always returned as zero
- [\[FLUENCY-7144\]](#) - CACHE: cache size of zero bytes meaning unclear
- [\[FLUENCY-7146\]](#) - STORE: Record.modified not called if Query.query called in same transaction
- [\[FLUENCY-7148\]](#) - STORE: ClassCastException: com.sun.proxy.\$Proxy4 cannot be cast to com.kabira.platform.annotation.Key using @KeyList
- [\[FLUENCY-7151\]](#) - STORE: queryMinimum/Maximum not called with bounded ranges
- [\[FLUENCY-7156\]](#) - NODE: upgrade node command uses the ksh start/stop node commands
- [\[FLUENCY-7160\]](#) - DIST: nonResponseTimeout processing is broke.
- [\[FLUENCY-7163\]](#) - RT: SWSocket::completeConnect() can return SocketTimedOut.
- [\[FLUENCY-7164\]](#) - DIST: Errors returned by getRemoteHostAddr() are asserted.
- [\[FLUENCY-7167\]](#) - DEPLOY: non-detached JVMs displayed after node restart
- [\[FLUENCY-7172\]](#) - DIST: mutex deadlock in runtime
- [\[FLUENCY-7173\]](#) - RT: createTypeDescriptor() can throw ExceptionTypeMismatch.
- [\[FLUENCY-7174\]](#) - DIST: interoptest fails on Solaris when run against Linux.
- [\[FLUENCY-7180\]](#) - NODE: display node uses invalid report output
- [\[FLUENCY-7181\]](#) - Doc Impact of FLUENCY-7180 NODE: display node uses invalid report output

- [\[FLUENCY-7185\]](#) - NODEAGENT: restarting domain manager causes Segmentation fault: 11
- [\[FLUENCY-7215\]](#) - RT: Crash in createKTPTTypeDescriptor()
- [\[FLUENCY-7216\]](#) - DEPLOY: deploy tool IllegalArgumentException crash with bad adminport
- [\[FLUENCY-7217\]](#) - OSX: dynamically linked executables cannot find shared libraries
- [\[FLUENCY-7218\]](#) - KDM: add node following a remove node fails.
- [\[FLUENCY-7220\]](#) - RT: Caching of key descriptor in static map caused failures after type removal.
- [\[FLUENCY-7221\]](#) - MONITOR: string.cpp:3389: Invalid pointer 'cString', address 0x0 is SW_HOME not set
- [\[FLUENCY-7224\]](#) - RUNTIME: cannot start node with UTF-8 multibyte character as node name
- [\[FLUENCY-7225\]](#) - DEPLOY: cannot deploy JVM with UTF-8 multi-byte characters in deploy options
- [\[FLUENCY-7228\]](#) - ADMINISTRATOR: typo in error message - Not able to remove node directory
- [\[FLUENCY-7230\]](#) - Doc Impact of FLUENCY-5137 DEPLOY: application parameters with embedded double quote mishandled
- [\[FLUENCY-7237\]](#) - ASTA: invalid network address information sent in commands
- [\[FLUENCY-7240\]](#) - RT: Leak of fd in SWSocket::networkSupported() on Linux
- [\[FLUENCY-7249\]](#) - DIST: Race condition in reportLocalTransactions().
- [\[FLUENCY-7253\]](#) - Doc Impact of FLUENCY-7019 DIST: Failover can activate disabled partitions.
- [\[FLUENCY-7268\]](#) - FLUSHER: recursive flusher notifier calls
- [\[FLUENCY-7275\]](#) - DIST: Failover check for method dispatches on partitioned instances is broke.
- [\[FLUENCY-7284\]](#) - FLUSHER: flushing the same object multiple times in the same transaction
- [\[FLUENCY-7288\]](#) - Doc Impact of FLUENCY-7268 FLUSHER: recursive flusher notifier calls
- [\[FLUENCY-7293\]](#) - DIST: Type mismatch processing of parent types is broke.
- [\[FLUENCY-7295\]](#) - Doc Impact of FLUENCY-6958 DEPLOY: copytarget=false does not work with a JAR in detached mode
- [\[FLUENCY-7315\]](#) - 3RDPARTY: update to universal installer version 3.3.0
- [\[FLUENCY-7319\]](#) - DIST: Discovery updates can lead to login warnings if host/port values are flipped.
- [\[FLUENCY-7337\]](#) - DIST: Illegal transitions during remote migrate.
- [\[FLUENCY-7338\]](#) - RT: KeyManager.getKeyData() does not handle keys in parent classes.
- [\[FLUENCY-7342\]](#) - KTVM: Cannot execute multiple test runs with debugger attached.
- [\[FLUENCY-7348\]](#) - STATISTICS: system allocations report contains warnings
- [\[FLUENCY-7353\]](#) - RUNTIME: NativeRuntime.isNull should return false for primitive type?
- [\[FLUENCY-7354\]](#) - RUNTIME: NativeRuntime.setBoolean doesn't seem to write values to shared-mem

- [\[FLUENCY-7385\]](#) - DIST: asyncDeletePartition() can cause a promotion deadlock.
- [\[FLUENCY-7389\]](#) - DEPLOY: JVMs don't have names in external tools
- [\[FLUENCY-7401\]](#) - DIST: Failover/quorum processing can deadlock system.
- [\[FLUENCY-7402\]](#) - DIST: Multi-node failures can cause permanent deadlocks.
- [\[FLUENCY-7407\]](#) - RT: deadlocks can lead to system hang
- [\[FLUENCY-7408\]](#) - KDM: lock order inconsistency between kdm::NodeImpl & kdm::DomainDataImpl
- [\[FLUENCY-7428\]](#) - SNAPSHOT: fails if no configuration path
- [\[FLUENCY-7435\]](#) - HA: VERIFY_PARTITIONING typo
- [\[FLUENCY-7442\]](#) - SNAPSHOT: ssh infinite recursion
- [\[FLUENCY-7444\]](#) - Doc Impact of FLUENCY-3737 STATISTICS: cleanup businesstransaction references in runtimestatistics integration
- [\[FLUENCY-7450\]](#) - ASTPERF: perfnode.ksh using "switch"
- [\[FLUENCY-7474\]](#) - Doc Impact of FLUENCY-7435 HA: VERIFY_PARTITIONING typo
- [\[FLUENCY-7488\]](#) - STATISTICS: snapshot statistics serialize option broken
- [\[FLUENCY-7490\]](#) - UPGRADE: allocation failed after upgrade
- [\[FLUENCY-7495\]](#) - DIST: slot by slot copying of mismatched types loses null indicators.
- [\[FLUENCY-7500\]](#) - MANAGEMENT: com.kabira.test.management.Client leaking fds
- [\[FLUENCY-7508\]](#) - UPGRADE: partition properties reset after node upgrade
- [\[FLUENCY-7515\]](#) - DIST: Type mismatch processing ignores deadlock due to connection failures.
- [\[FLUENCY-7519\]](#) - DIST: Type exchange of CRC's isn't thread safe.
- [\[FLUENCY-7528\]](#) - DIST: Slot mismatches of object references results in a TypeMismatch exception.
- [\[FLUENCY-7529\]](#) - DIST: CDR stream gets out of sync when TypeMismatch exception are detected.
- [\[FLUENCY-7532\]](#) - SNAPSHOT: can miss JVMs that need a java stack trace
- [\[FLUENCY-7546\]](#) - DISCOVERY: distribution and discovery configuration in the same transaction can hang in undetected deadlock
- [\[FLUENCY-7548\]](#) - DISCOVERY: discovery restart removes all existing service records.
- [\[FLUENCY-7549\]](#) - RUNTIME: process start can hang in DEVELOPMENT mode
- [\[FLUENCY-7550\]](#) - DISCOVERY: Distribution can hang after a node restart.
- [\[FLUENCY-7556\]](#) - KDM: start node fails if discovery is disabled
- [\[FLUENCY-7557\]](#) - Doc Impact of FLUENCY-7546 DISCOVERY: distribution and discovery configuration in the same transaction can hang in undetected deadlock

Documentation

- [\[FLUENCY-7051\]](#) - DEVGUIDE: describe error handling for enable partition types
- [\[FLUENCY-7076\]](#) - ADMINGUIDE: clarify Node Installation Path description
- [\[FLUENCY-7223\]](#) - ADMINGUIDE: broadcastHostName configuration description incorrect
- [\[FLUENCY-7312\]](#) - ADMINGUIDE: number of concurrent allocators default behavior

- [\[FLUENCY-7318\]](#) - ADMINGUIDE: missing default values for memory throttling configuration
- [\[FLUENCY-7320\]](#) - DEVGUIDE: add warning about catching deadlock exception
- [\[FLUENCY-7323\]](#) - DOCS: Update copyright year
- [\[FLUENCY-7345\]](#) - TUNINGGUIDE: add section on Flight Recorder
- [\[FLUENCY-7456\]](#) - SNAPSHOT: create snapshot now generates zip files
- [\[FLUENCY-7460\]](#) - SNIPPET: NodeStateChange improvement
- [\[FLUENCY-7513\]](#) - DEVGUIDE: Clarify KeyQuery<T>.getOrCreateSingleResult constructor execution behavior
- [\[FLUENCY-7522\]](#) - TUNINGGUIDE: Node Processes Report section appears twice

Improvement

- [\[FLUENCY-492\]](#) - KDM: should provide a way to register the node to mdns in case where previous registration has been lost
- [\[FLUENCY-585\]](#) - ASTA: Strange service name published to service discovery
- [\[FLUENCY-2217\]](#) - ADMINISTRATION: modeled plugins cannot see the display command delimiter
- [\[FLUENCY-4014\]](#) - SNAPSHOT: add option to exclude classpaths directory from snapshot file
- [\[FLUENCY-4135\]](#) - STATISTICS: add deadlock count to transaction class report
- [\[FLUENCY-4136\]](#) - STATISTICS: transaction lock stack backtraces
- [\[FLUENCY-4164\]](#) - STATISTICS: commit processing cost
- [\[FLUENCY-4758\]](#) - KDM: decode network interface in display service detailed output
- [\[FLUENCY-4760\]](#) - KDM: add support for adding nodes to a domain with out MDNS running
- [\[FLUENCY-5044\]](#) - KSD: register/unregister the node service record outside of a transaction.
- [\[FLUENCY-5144\]](#) - RT: Support stack trace for lock promotions
- [\[FLUENCY-5419\]](#) - ADMINISTRATION: remove all ksh usage from the shipped product
- [\[FLUENCY-5973\]](#) - DIST: Add testing of IPv6 to distribution tests
- [\[FLUENCY-6067\]](#) - KSD: remove mDNS support from the product
- [\[FLUENCY-6326\]](#) - DEPLOY: add support for pausing engines
- [\[FLUENCY-6433\]](#) - 3RDPARTY: JGoodies Looks Pro version upgrade
- [\[FLUENCY-6970\]](#) - RUNTIME: Improve Java String creation performance by directly encoding the char array.
- [\[FLUENCY-6980\]](#) - ASTA: disable Apache Track/Trace request
- [\[FLUENCY-6990\]](#) - RUNTIME: Add support for a "binary" idlOS type.
- [\[FLUENCY-7017\]](#) - STATISTICS: Maintain CRUD partition stats on all nodes.
- [\[FLUENCY-7028\]](#) - DIST: use failed node when reporting failover deadlock exception in method dispatch
- [\[FLUENCY-7036\]](#) - DIST: Improve trace message when duplicate abort of a global transaction is detected.
- [\[FLUENCY-7040\]](#) - RT: improve detection of OSProxyObject lock ordering issues
- [\[FLUENCY-7092\]](#) - JBA: Restrict Java exposed interfaces to one interface.

- [\[FLUENCY-7093\]](#) - CLASSLOADER: ManagedObject javadoc exposes public internal natives.
- [\[FLUENCY-7104\]](#) - DEVGUIDE: getOrCreateSingleResult() can throw ObjectNotUniqueError for inherited classes.
- [\[FLUENCY-7127\]](#) - STORE: do not call record notifier when query notifier modifies an object
- [\[FLUENCY-7128\]](#) - STORE: minor updates to generics in API
- [\[FLUENCY-7145\]](#) - STORE: ObjectNotUniqueError exceptions cannot be caught in-line
- [\[FLUENCY-7150\]](#) - QUERY: Decode KeyComparisonOperators in toString
- [\[FLUENCY-7152\]](#) - STORE: make notifier method public to support generic chaining
- [\[FLUENCY-7154\]](#) - DIST: Include node lists in NodeMismatch exception.
- [\[FLUENCY-7171\]](#) - STORE: remove details on when notifiers are called from javadoc
- [\[FLUENCY-7200\]](#) - Doc Impact of FLUENCY-6067 KSD: remove mDNS support from the product
- [\[FLUENCY-7205\]](#) - Doc Impact of FLUENCY-4758 KDM: decode network interface in display service detailed output
- [\[FLUENCY-7206\]](#) - Doc Impact of FLUENCY-4760 KDM: add support for adding nodes to a domain with out MDNS running
- [\[FLUENCY-7208\]](#) - Doc Impact of FLUENCY-585 ASTA: Strange service name published to service discovery
- [\[FLUENCY-7235\]](#) - ADMINGUIDE: document product network ports
- [\[FLUENCY-7236\]](#) - RT: Refactor and clean up typedescriptor.TypeDescriptor API.
- [\[FLUENCY-7243\]](#) - DISCOVERY: add application name to service record when node installed
- [\[FLUENCY-7252\]](#) - DIST: replace location discovery with service discovery
- [\[FLUENCY-7260\]](#) - DIST: Improve keepalive timeout traces.
- [\[FLUENCY-7263\]](#) - STATISTICS: add statistics for cluster queries
- [\[FLUENCY-7276\]](#) - PERFORMANCE: improve scaling of string copyin/copy-out
- [\[FLUENCY-7324\]](#) - Doc Impact of FLUENCY-4136 STATISTICS: transaction lock stack backtraces
- [\[FLUENCY-7325\]](#) - STATISTICS: implement default filter=java for transactioncontention statistic
- [\[FLUENCY-7329\]](#) - STATISTICS: remove C++ stack frame index numbers from transactioncontention report
- [\[FLUENCY-7341\]](#) - Doc Impact of FLUENCY-7263 STATISTICS: add statistics for cluster queries
- [\[FLUENCY-7344\]](#) - Doc Impact of FLUENCY-7325 STATISTICS: implement default filter=java for transactioncontention statistic
- [\[FLUENCY-7357\]](#) - Doc Impact of FLUENCY-4164 STATISTICS: commit processing cost
- [\[FLUENCY-7374\]](#) - SECURITY: disable EXPORT ciphers
- [\[FLUENCY-7377\]](#) - Doc Impact of FLUENCY-4135 STATISTICS: add deadlock count to transaction class report
- [\[FLUENCY-7391\]](#) - TUNINGGUIDE: add addition suggestions for how to avoid promotion locking
- [\[FLUENCY-7392\]](#) - STATISTICS: add filter to supported statistics output

- [\[FLUENCY-7394\]](#) - STATISTICS: add start time to active and blocked transactions reports
- [\[FLUENCY-7396\]](#) - Doc Impact of FLUENCY-5144 RT: Support stack trace for lock promotions
- [\[FLUENCY-7418\]](#) - STATISTICS: transaction lock report does not contain promotions column
- [\[FLUENCY-7419\]](#) - Doc Impact of FLUENCY-7418 STATISTICS: transaction lock report does not contain promotions column
- [\[FLUENCY-7463\]](#) - DEVGUIDE: Clarify that @ByReference cannot be HA'd.
- [\[FLUENCY-7485\]](#) - UPGRADE: Allow upgrades of non-partitioned types
- [\[FLUENCY-7487\]](#) - Doc Impact of FLUENCY-7485 UPGRADE: Allow upgrades of non-partitioned types
- [\[FLUENCY-7493\]](#) - Doc Impact of FLUENCY-4014 SNAPSHOT: add option to exclude classpaths directory from snapshot file
- [\[FLUENCY-7523\]](#) - TUNINGGUIDE: add description of mutex statistics as being mostly for runtime developers.
- [\[FLUENCY-7545\]](#) - Doc Impact of FLUENCY-7252 DIST: replace location discovery with service discovery
- [\[FLUENCY-7559\]](#) - DISTRIBUTION: add discovery configuration audit

New Feature

- [\[FLUENCY-6414\]](#) - UPGRADE: support product version upgrades
- [\[FLUENCY-6895\]](#) - STATISTICS: add specific statistic for timers
- [\[FLUENCY-6912\]](#) - STORE: add support for secondary stores
- [\[FLUENCY-7098\]](#) - Doc Impact of FLUENCY-6912 RT: add support for secondary stores
- [\[FLUENCY-7213\]](#) - DEPLOY: same machine testing optimizations
- [\[FLUENCY-7219\]](#) - RT: Provide ability to remove type descriptors in java.
- [\[FLUENCY-7231\]](#) - Doc Impact of FLUENCY-7213 DEPLOY: same machine testing optimizations
- [\[FLUENCY-7238\]](#) - Doc Impact of FLUENCY-6414 UPGRADE: support product version upgrades
- [\[FLUENCY-7307\]](#) - STATISTICS: add navigation statistics for iteration result sets
- [\[FLUENCY-7332\]](#) - Doc Impact of FLUENCY-7307 STATISTICS: add navigation statistics for iteration result sets
- [\[FLUENCY-7350\]](#) - Doc Impact of FLUENCY-6895 STATISTICS: add specific statistic for timers
- [\[FLUENCY-7363\]](#) - STATISTICS: add high availability column to the timer report
- [\[FLUENCY-7364\]](#) - Doc Impact of FLUENCY-7363 STATISTICS: add high availability column to the timer report
- [\[FLUENCY-7370\]](#) - STATISTICS: discover available statistics
- [\[FLUENCY-7382\]](#) - Doc Impact of FLUENCY-7370 STATISTICS: discover available statistics
- [\[FLUENCY-7432\]](#) - Doc Impact of FLUENCY-7425 DIST: Add support for a deferred partition mapper install.

- [\[FLUENCY-7464\]](#) - DISCOVERY: add support for atomically creating a service with properties
- [\[FLUENCY-7466\]](#) - DISCOVERY: add discovery port option to swsrv -c start

Task

- [\[FLUENCY-5095\]](#) - TEST: update switchadmin/generic/clienttest/javatest.ksh to remove hard-coded JRE/JDK paths
- [\[FLUENCY-6281\]](#) - HISTORY: Convert to modeled plugin
- [\[FLUENCY-6622\]](#) - 3RDPARTY: upgrade internal builds to use JDK 7
- [\[FLUENCY-6821\]](#) - WINDOWS: ssh access to windows regression machine
- [\[FLUENCY-6909\]](#) - 3RDPARTY: upgrade OpenSSL to at least 1.0.1j
- [\[FLUENCY-6929\]](#) - WINDOWS: implement SWSocket::getStatistics() on Windows
- [\[FLUENCY-6949\]](#) - 3RDPARTY: upgrade to TIBCO Universal installer 3.3.0 V3
- [\[FLUENCY-7012\]](#) - DATAGRID: remove direct support from product
- [\[FLUENCY-7030\]](#) - RT: prevent recursion in secondary store notifiers
- [\[FLUENCY-7033\]](#) - DOCTOOLS: update Two-Second Advantage tag line on title page
- [\[FLUENCY-7078\]](#) - 3RDPARTY: upgrade Apache to at least 2.2.29
- [\[FLUENCY-7079\]](#) - 3RDPARTY: upgrade PHP to at least 5.5.18
- [\[FLUENCY-7080\]](#) - 3RDPARTY: upgrade OpenLDAP to at least 2.4.40
- [\[FLUENCY-7081\]](#) - Doc Impact of FLUENCY-7012 DATAGRID: remove direct support from product
- [\[FLUENCY-7084\]](#) - 3RDPARTY: disable SSL3 protocol for Apache httpd (POODLE)
- [\[FLUENCY-7085\]](#) - 3RDPARTY: disable SSL3 socket support (POODLE)
- [\[FLUENCY-7088\]](#) - Doc Impact of FLUENCY-7085 3RDPARTY: disable SSL3 socket support (POODLE)
- [\[FLUENCY-7107\]](#) - 3RDPARTY: upgrade to JDK8
- [\[FLUENCY-7119\]](#) - AST: deprecate UpdateTrigger
- [\[FLUENCY-7120\]](#) - 3RDPARTY: deprecate RedHat 5
- [\[FLUENCY-7166\]](#) - COMPONENT: deprecate Notifier.getResource()
- [\[FLUENCY-7177\]](#) - DIST: clean up test nodes on failure
- [\[FLUENCY-7198\]](#) - ADMINISTRATION: cleanup hardwired knowledge of node description and application registry key names
- [\[FLUENCY-7201\]](#) - ASTA: update TIBCO logo
- [\[FLUENCY-7209\]](#) - 3RDPARTY: Upgrade OpenSSL to at least 1.0.11
- [\[FLUENCY-7222\]](#) - 3RDPARTY: Upgrade to ASM 5.0.3
- [\[FLUENCY-7234\]](#) - SYSADMIN: locale settings on kbuilder are not consistent
- [\[FLUENCY-7254\]](#) - Doc Impact of FLUENCY-7107 3RDPARTY: upgrade to JDK8
- [\[FLUENCY-7258\]](#) - PERFORMANCE: add G1 garbage collector recommendation to performance docs.
- [\[FLUENCY-7266\]](#) - PERFORMANCE: why is test engine virtual space so large?
- [\[FLUENCY-7333\]](#) - STATISTICS: collapse OSTypeDescriptor statistics counter entry points
- [\[FLUENCY-7349\]](#) - RUNTIME: remove model debugger
- [\[FLUENCY-7355\]](#) - SCHEDULER: remove scheduler component
- [\[FLUENCY-7376\]](#) - 3RDPARTY: Upgrade PHP to at least 5.5.22

- [\[FLUENCY-7436\]](#) - ADMINISTRATION: remove deprecated switch target support
- [\[FLUENCY-7437\]](#) - ADMINISTRATION: remove deprecated runtimestatistics target support
- [\[FLUENCY-7445\]](#) - Doc Impact of FLUENCY-7436 ADMINISTRATION: remove deprecated switch target support
- [\[FLUENCY-7449\]](#) - ASTPERF: datagrid removal
- [\[FLUENCY-7477\]](#) - 3RDPARTY: certify AST/BE-X on RedHat 6.6.
- [\[FLUENCY-7521\]](#) - Doc Impact of FLUENCY-7477 3RDPARTY: certify AST/BE-X on RedHat 6.6.

Known Issues

A summary of the known issues in this release is below.

For each issue the following is provided:

- Description of issue
- Workaround (if any)
- Plans for resolution

Key	Summary	Public Issue Description
FLUENCY-7440	NODE: start node doesn't start the node when coordinator not running	<p>Starting a node after the coordinator has been terminated only restarts the coordinator, it does not restart the other node processes. This is incorrect, it should be starting all other node processes. For example:</p> <pre> administrator servicename=Stinson-Beach.local terminate node administrator start node installpath=Stinson-Beach.local // // Node should be running at this point // administrator servicename=Stinson-Beach.local display node Node cannot perform administration commands. Reason: node not started. // // Another start is required - it shouldn't be // administrator servicename=Stinson-Beach.local start node </pre> <p>The work around is to issue another start node.</p> <p>This issue will be resolved in a future release.</p>

FLUENCY-4569	ASTA: The BE-X administrator is not rebranded	<p>The BE-X Administrator was not rebranded. It still references ActiveSpaces Transactions.</p> <p>This will be corrected in a future release.</p>
FLUENCY-3956	ASTA: reset/delete buttons handled incorrectly following drag & drop	<p>Changing the order of items in dialog boxes that support drag & drop does not managed the reset and delete button states correctly. The reset button is not enabled, and in some cases the delete button is incorrectly enabled.</p> <p>The work-around is to close and re-open the dialog.</p> <p>This issue will be resolved in a future release.</p>
FLUENCY-3757	ASTA: Channel.Security.Error or starting monitors	<p>The performance monitors in the administrator report a Channel.Security.Error when accessed by a client in a different domain than the node is running.</p> <p>There is no work-around for this issue.</p> <p>This will be resolved in a future release.</p>
FLUENCY-3408	ASTA: numeric and data columns in tables not sorted correctly	<p>Tables displaying numeric and date data are not sorted correctly. They are currently sorted in character sort order.</p> <p>There is no work around for this issue.</p> <p>This will be resolved in a future release.</p>
FLUENCY-3382	ASTA: support multi-master merge	<p>There is no support for resolving a multi-master scenario from ActiveSpaces® Transactions Administrator.</p> <p>The work-around is to use the administrator command line.</p> <p>This issue will be resolved in a future release.</p>
FLUENCY-619	ASTA: domain manager node running ASTA can be stopped/removed	<p>It is possible to stop/remove the Domain Manager node that runs the ActiveSpaces® Transactions Administrator. If this happens the web client becomes non-responsive. The Domain Manager node should not be stopped using ActiveSpaces® Transactions Administrator.</p> <p>The workaround is to restart the Domain Manager</p>

		node if this happens.
		Stopping the Domain Manager node using ActiveSpaces® Transactions Administrator will be prevented in a future release.
FLUENCY-287	ASTA: Browser refresh logs you out	Using ActiveSpaces® Transactions Administrator with any browser, when you reload the current page by any means (for example, clicking on the browser's "Reload" button, or pressing ctrl-R), ActiveSpaces® Transactions Administrator logs you out of all nodes and returns you to the original login screen.
		This issue will be fixed in a future release.
		Stopping a domain manager node using switchadmin remove switch does not stop the Apache server processes.
FLUENCY-271	ASTA: apache processes not stopped when remove switch used	The work-around is to use switchadmin stop switch before switchadmin remove switch , or to manually kill the Apache server processes.
		This will be resolved in a future release.
FLUENCY-7232	CLASSLOADER: object field null when passed to enumeration method	
		Using an anonymous class as a parameter to a distributed method call will fail with an exception like this:
FLUENCY-6273	CLASSLOADER: DataError with anonymous class implementation as distributed POJO method param.	<pre> A] com.kabira.platform.DataError: Error packing serialized data. [A] at com.kabira.platform.Any.serializeObject (Any. java:231) [A] at com.kabira.platform.AnyBuffer.writeSerializa bleStream (AnyBuffer.java:381) [A] at com.kabira.platform.AnyBuffer.writeObject (An yBuffer.java:319) [A] at com.kabira.platform.AnyBuffer.writeJavaObjec t (AnyBuffer.java:337) [A] at anontest.AnonTest\$Target.invokeCommand (AnonT est.java) [A] at </pre>

```

anontest.AnonTest$2.run (AnonTest.java:69)
[A]    at
com.kabira.platform.Transaction.execute (Tran
saction.java:457)
[A]    at
com.kabira.platform.Transaction.execute (Tran
saction.java:510)
[A]    at
anontest.AnonTest.runTest (AnonTest.java:58)
[A]    at
anontest.AnonTest.main (AnonTest.java:26)
[A]    at
sun.reflect.NativeMethodAccessorImpl.invoke0
(Native Method)
[A]    at
sun.reflect.NativeMethodAccessorImpl.invoke (
Unknown Source)
[A]    at
sun.reflect.DelegatingMethodAccessorImpl.inv
oke (Unknown Source)
[A]    at
java.lang.reflect.Method.invoke (Unknown
Source)
[A]    at
com.kabira.platform.MainWrapper.invokeMain (M
ainWrapper.java:65)
[A] Caused by:
java.io.NotSerializableException:
anontest.AnonTest$2
[A]    at
java.io.ObjectOutputStream.writeObject0 (Unkn
own Source)
[A]    at
java.io.ObjectOutputStream.defaultWriteField
s (Unknown Source)
[A]    at
java.io.ObjectOutputStream.writeSerialData (U
nknown Source)
[A]    at
java.io.ObjectOutputStream.writeOrdinaryObje
ct (Unknown Source)
[A]    at
java.io.ObjectOutputStream.writeObject0 (Unkn
own Source)
[A]    at
java.io.ObjectOutputStream.writeObject (Unkno
wn Source)
[A]    at
com.kabira.platform.Any.serializeObject (Any.
java:227)

```

The work-around for this issue is to use a concrete class instead.

This will be corrected in a future release.

FLUENCY-5593	CLASSLOADER: methods inherited from non-managed base classes not distributed	<p>Methods inherited from non-managed types are not correctly invoked on remote nodes if it is a distributed object.</p> <p>The work-around is to override all of the parent types methods and just invoke them via super in the child type.</p> <p>This may be resolved in a future release.</p>
FLUENCY-4537	CLASSLOADER: autoboxing and valueOf ClassCastException	<p>Using valueOf to update an item in an array of Long in a Managed Object fails with a ClassCastException. For example, this snippet fails with:</p> <pre>java.lang.ClassCastException: [J cannot be cast to [Ljava.lang.Long;</pre> <pre>import com.kabira.platform.Transaction; import com.kabira.platform.annotation.Managed; public class Bug { public static void main(String[] args) { new Transaction() { public void run() { Unhappy clown = new Unhappy(); System.out.println(clown.longs[0]); } }.execute(); } @Managed static class Unhappy { Long longs[] = new Long[1]; Unhappy() { longs[0] = Long.valueOf(42); } } }</pre> <p>There is no work-around for this issue.</p> <p>This will be resolved in a future release.</p>
FLUENCY-1129	CLASSLOADER: inherited fields used	<p>An inherited field used in a Java key will not be audited for "final"-ness.</p>

in keys are not audited for "final"

For instance, the following should not be legal:

```
public class A {
    int i;
}
@Managed
@Key(name="test", fields = {"i"})
public class B extends A { }
```

Arrays of enums stored in a ManagedObject store a null as the first value in the enum declaration.

For example, the following assert will fail.

```
enum Relic { BELL, BOOK, CANDLE };
class Holder extends ManagedObject
{
    Relic[] m_relic;
    void foo()
    {
        m_relic = new Relic[10];
        assert( m_relic[0] == null );
        // m_relic[0] is actually set to
        BELL
    }
}
```

This problem will be corrected in a future release.

Arrays of strings in a ManagedObject store a null as an empty string.

For example, the following assert will fail.

```
public class StringHolder extends
ManagedObject
{
    String[] m_string;
    void foo()
    {
        m_string = new String[10];
        assert( m_string[0] == null );
        //
        // m_string[0] will return a valid
        string of length 0
        //
    }
}
```

This problem will be corrected in a future release.

FLUENCY-544

CLASSLOADER:
can't store a null
reference in a Java
enum array

FLUENCY-542

CLASSLOADER:
can't store a null
reference in a Java
String array

FLUENCY-6524	CONFIGURATION: export configuration does not decode array of managed objects	<p>If a configuration class contains a field that is an array of managed objects then the configuration file exported using export configuration contains object references for the array elements instead of the fully decoded elements.</p> <p>There is no work-around for this issue.</p> <p>This will be corrected in a future release.</p>
FLUENCY-6409	CONFIGURATION: Auto-loading of configuration should ignore files with unknown suffixes	<p>During node startup, auto-loading of configuration files occurs, which loads all configuration files in the node auto-load configuration directories. Currently this process attempts to load all files as configuration files, regardless of their suffix. This can cause node startup failures.</p> <p>The work-around is to ensure that only kcs files are in the configuration auto-load directories.</p> <p>This issue will be resolved in a future release.</p>
FLUENCY-6942	DEPLOY: shared memory allocation failure with large JAR files	<p>Attempting to deploy very large target archives in attached mode will cause shared memory allocation failures on the node.</p> <p>The work-around is to use detached mode when deploying very large target archives.</p> <p>This issue will be resolved in a future release.</p>
FLUENCY-6760	DEPLOY: spaces in jvmname causes deployment failure	<p>Spaces in the jvmname deployment tool parameter cause the deployment to fail with a message like this:</p> <pre>INFO: [sandbox.lifecycle.Jvm] started on JVM [Very Important]. Listening for transport dt_socket at address: 28238 Java main class sandbox.lifecycle.Jvm.main exited with an exception. java.lang.RuntimeException: class sandbox.lifecycle.Jvm not found at com.kabira.platform.MainWrapper.getMainMethodFromClass(MainWrapper.java:319) at com.kabira.platform.MainWrapper.getMainMethod(MainWrapper.java:251) at com.kabira.platform.MainWrapper.invokeMain(MainWrapper.java:53) INFO: JVM [sandbox.lifecycle.Jvm] exited</pre>

FLUENCY-6599

[DEPLOY: using a symbolic link to rename an EAR target causes assertion](#)

with status [-1].

The work-around is to not use spaces when specifying a JVM name.

This issue will be resolved or audited against in a future release.

Attempting to deploy an application archive that uses a symbolic link to rename the archive fails with this exception:

```
Muir-Beach >> java -jar deploy.jar
reset=false Stress.ear descriptor=Stress.cdd
INFO: Deployment Tool (deploy.jar) version:
[TIBCO BusinessEvents(R) Extreme 1.2.0
(build 140322)] starting at [Fri Mar 28
12:36:21 PDT 2014]
INFO: JVM remote debugger agent running on
[kabira-server.local:23886] ...
INFO: Node version: [TIBCO BusinessEvents(R)
Extreme 1.2.0 (build 140322)]
INFO: Starting [Stress.ear] ...
INFO: [Stress.ear] started on JVM
[Stress_ear14].
Listening for transport dt_socket at
address: 23886
FATAL: Remote request thread failed for JVM
[Stress_ear14]: RequestThread unexpected
parseResponse: <error>
    <code>49</code>
    <message>A
[DSEBuiltin::ExceptionResourceUnavailable:
'java.lang.AssertionError
    at
com.kabira.platform.ktvmnotifier.RequestWait
er$CompletionNotifier.$getDirectoryImpl(Requ
estWaiter.java:97)
    at
com.kabira.platform.ktvmnotifier.RequestWait
er$CompletionNotifier.getDirectory(RequestWa
iter.java)
    at
com.kabira.platform.ktvmnotifier.RequestWait
er$CompletionNotifier.$getPathImpl(RequestWa
iter.java:88)
    at
com.kabira.platform.ktvmnotifier.RequestWait
er$CompletionNotifier.getPath(RequestWaiter.
java)
    at
com.kabira.platform.ktvmnotifier.RequestWait
er$CompletionNotifier.$requestCompleteImpl(R
equestWaiter.java:55)
    at
```

		<pre>com.kabira.platform.ktvmnotifier.RequestWait er\$CompletionNotifier.requestComplete (Reques tWaiter.java)</pre> <p>Here is what Stress.ear looks like:</p> <pre>ls -l Stress.ear Stress.ear@ -> archives/Stress-original.ear</pre> <p>The work-around is to not use symbolic links to rename archives.</p> <p>This will be resolved in a future release.</p>
<p>FLUENCY-4714</p>	<p>DEPLOY: Error when overriding global variable on the command-line.</p>	<p>There is currently no documented support for overriding global variables on the command line.</p> <p>The work-around is to use a properties file to set the global variable, and specify the properties file on the deployment command-line like so:</p> <pre>java -jar deploy.jar servicename=abc P.ear descriptor=P.cdd -p <properties file></pre> <p>Support for this feature will be added in a future release. The final support may change the command syntax used in the work-around described above.,</p>
<p>FLUENCY-6882</p>	<p>DIST: JOIN_CLUSTER_PURGE deletes instances even if local node is active node in partition.</p>	<p>Enabling a partition with JOIN_CLUSTER_PURGE with the local node as the active node for both the old and new partition definitions will delete all instances in the partition on the local node, leaving the partition empty. This is usually not what is desired.</p> <p>The work-around is to ensure that JOIN_CLUSTER_PURGE is not used when enabling partitions on the active node.</p> <p>Future releases may raise an exception when this is attempted, or raise a log message and not remove the objects from the partition.</p>
<p>FLUENCY-6847</p>	<p>HA: leave cluster with asynchronous partitions causes warnings</p>	<p>Leaving a cluster on a node that hosts an asynchronous replica partition may generate spurious warnings in the log files while the leave is executing. For example:</p> <pre>DST WARN 7518 csmarshal.cpp(2004) Cannot</pre>

		<p>access unknown partition 'Leave Cluster (v541980012961857)' for object type sandbox.highavailability.LeaveCluster\$X on node C.</p> <p>or</p> <p>2014-07-03 16:34:59.445105 DST WARN 49121 csmarshal.cpp(1125) Invalid object reference '1340264:3534776:489635240020741:64' for type sandbox.highavailability.LeaveCluster\$X, operation destroy, event discarded</p> <p>These warnings can be safely ignored - they do not affect the outcome of the leave cluster command.</p> <p>This issue will be resolved in a future release.</p>
FLUENCY-5400	HA: timer started in notifier constructor not replicated	<p>HA timers started in the constructor of a partitioned class which extends com.kabira.platform.swtimer.TimerNotifier, is not properly replicated, and becomes lost upon fail over.</p> <p>The work-around is to create the timer notifiers outside of a constructor.</p> <p>This will be resolved in a future release.</p>
FLUENCY-6937	DEVGUIDE: Incorrect hot deployment description	<p>The instructions in deploying the EAR for hot deployment in Chapter 24 Hot Deployment of the Application Developer's Guide are incorrect. In the Deploy the EAR File that was generated by Web Studio section it states that the newly generated EAR should replace the EAR in the <code><node_name>/deploy/resources/deploy<timestamp>_</code> directory. This is incorrect. The EAR should be placed into the <code><node_name>/classpath/<jvm_name></code> directory.</p> <p>This documentation error will be correct in a future release.</p>
FLUENCY-5701	JAVASERVICE: shutting down at debugger breakpoint causes engine to fail with an error	<p>Stopping a JVM with a breakpoint set in the debugger will cause the JVM to exit with an error that requires the node to be removed and re-installed.</p> <p>The work-around is to ensure that no break-points are</p>

FLUENCY-5688

[JAVASERVICE:
jniutils.cpp:138:
failed C++ assertion
'env->ExceptionCheck\(\)
== JNI_FALSE'](#)

set in a debugger when shutting down a JVM.

This issue will be resolved in a future release.

A fatal exception like the following can be seen when using the debugger to examine fields in a managed object following an exception.

```
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
WARNING in native method: JNI call made with
exception pending
jniutils.cpp:138: failed C++ assertion 'env-
>ExceptionCheck() == JNI_FALSE'
utl_dump_stack: Start of stack trace for pid
9742, tid 9832
#0
/opt/kabira/kis/distrib/kabira/devlib/libuti
ls_g.so:utl_dump_stack
#1
/opt/kabira/kis/distrib/kabira/devlib/libsys
srv_g.so:dse_bomb(char const*, char const*,
int, DSEBombType)
#2
/opt/kabira/kis/distrib/kabira/devlib/libjav
aservice_g.so:JNIUtil::attachProxyObject(JNI
Env_*, _jobject*, _jfieldID*)
#3
/opt/kabira/kis/distrib/kabira/devlib/libjav
aservice_g.so:JNIUtil::getSlotData(JNIEnv_*,
_jobject*, _jfieldID*)
#4
/opt/kabira/kis/distrib/kabira/devlib/libjav
aservice_g.so:KTVM_GetByteField
#5
/opt/kabira/distrib/kis/3rdparty/linux/tibco
jre/1.7.0_09_x86_64/lib/amd64/libjdw.so
[0x7f7018ae2739]
```

[FLUENCY-5447](#)

[JAVASERVICE:
Crash when using
"ragged" multi-
dimensional arrays.](#)

```
#6
/opt/kabira/distrib/kis/3rdparty/linux/tibco
jre/1.7.0_09_x86_64/lib/amd64/libjdw.so
[0x7f7018abe0ab]
#7
/opt/kabira/distrib/kis/3rdparty/linux/tibco
jre/1.7.0_09_x86_64/lib/amd64/libjdw.so
[0x7f7018ac9806]
#8
/opt/kabira/distrib/kis/3rdparty/linux/tibco
jre/1.7.0_09_x86_64/lib/amd64/libjdw.so
[0x7f7018adc3c1]
#9
/opt/kabira/kis/3rdparty/linux/tibcojre/1.7.
0_09_x86_64/lib/amd64/server/libjvm.so
[0x7f7042849ae7]
#10
/opt/kabira/kis/3rdparty/linux/tibcojre/1.7.
0_09_x86_64/lib/amd64/server/libjvm.so
[0x7f7042a880c8]
#11
/opt/kabira/kis/3rdparty/linux/tibcojre/1.7.
0_09_x86_64/lib/amd64/server/libjvm.so
[0x7f7042a88218]
#12
/opt/kabira/kis/3rdparty/linux/tibcojre/1.7.
0_09_x86_64/lib/amd64/server/libjvm.so
[0x7f7042969c00]
#13 /lib/libpthread.so.0 [0x7f70452693f7]
#14 /lib/libc.so.6:clone
WARNING in native method: JNI call made with
exception pending
```

This is caused by a limitation in the debugger integration with JNI.

There is no workaround to this issue.

This issue may be resolved in a future release.

Java supports multi-dimensional arrays where each dimension has different sized arrays:

```
raggedArray = new byte[2][];
raggedArray[0] = new byte[2];
raggedArray[1] = new byte[8];
```

However, this will fail at runtime with an exception like this:

```
FATAL ERROR in native method: Non-array
passed to JNI array operations
```

```

        at
com.kabira.platform.ManagedObject.setReferen
ce(Native Method)
        at MyArray.$_init_Impl(Demo.java:14)
        at MyArray.<init>(Demo.java:13)
        at Demo$1.run(Demo.java:67)
        at
com.kabira.platform.Transaction.execute(Tran
saction.java:457)
        at
com.kabira.platform.Transaction.execute(Tran
saction.java:510)
        at Demo.main(Demo.java:63)
        at
sun.reflect.NativeMethodAccessorImpl.invoke0
(Native Method)
        at
sun.reflect.NativeMethodAccessorImpl.invoke(
Unknown Source)
        at
sun.reflect.DelegatingMethodAccessorImpl.inv
oke(Unknown Source)
        at
java.lang.reflect.Method.invoke(Unknown
Source)
        at
com.kabira.platform.MainWrapper.invokeMain(M
ainWrapper.java:65)
Node vash failed: Engine x::x with process
exit status (6) triggered
abort of node. Node must be reinstalled.

```

The work-around is to only use multi-dimensional arrays with the same dimensions.

This will be resolved in a future release.

Setting a field in a managed object without an active transaction in a Java debugger causes errors.

For example, if **mo** is managed object, doing the following in a debugger:

```
set mo.m_id = 456
```

causes these errors to be reported.

```

main[1] com.sun.jdi.InternalException:
Unexpected JDWP Error: 115
  mo.m_id = 456 = null
main[1] WARNING in native method: JNI call
made with exception pending

```

[JDWP: Setting a field in a Managed object without an active transaction results in 'Unexpected JDWP Error: 115'](#)

FLUENCY-4813

		<p>WARNING in native method: JNI call made with exception pending WARNING in native method: JNI call made with exception pending ... There is no work-around for this issue. This may be resolved in a future release.</p>
FLUENCY-2509	JAVASERVICE: JVM fails to start if given the -showversion JVM option	<p>The -showversion JVM option will cause the Fluency JVM to fail during startup. There is no work-around for this issue. This will be corrected in a future release.</p>
FLUENCY-2446	JDWP: can hang during stepping in debugger	<p>A Java debugger can hang if the <i>wrong</i> transaction is chosen by the JDWP library when changing threads while single stepping through a method in a transaction. When the wrong transaction is selected, the debugger will hang on the next single step. The work-around is to not switch threads while single stepping through a method in a transaction. This will be resolved in a future release.</p>
FLUENCY-1925	JAVASERVICE: invalid JVM options causes node to crash	<p>Invalid JVM options causes the node to crash. For example (note duplicate -Xms options):</p> <pre> 2010-01-21 13:21:08.162242 KVM INFO 31637 ktvmngr.cpp(1655) Creating a JVM VM options: - Dcom.kabira.application.class.path=/opt/kabira/run/fluency/nodes/primary/classpaths/snippets_jar3 -Xms256m -Xms512m agentlib:jdwp=transport=dt_socket,address=63315,server=y,suspend=n -Dcom.kabira.application.detach=true - Djava.system.class.loader=com.kabira.platform.classloader.ClassLoader - Dcom.kabira.platform.buildType=DEVELOPMENT - Dcom.kabira.platform.management.port=2001 ''' 2010-01-21 13:21:08.199367 KVM INFO 31637 notifiers.cpp(130) installNotifiers </pre>

		<p>called with VMID 31621 2010-01-21 13:21:08.236792 USR FATAL 31637 engine.cpp(74) An illegal call to exit() was detected in process 31621 with active engine instances. You must use the stop() method in swbuiltin to terminate engines.</p> <p>This will be handled more gracefully in future releases.</p>
<p>FLUENCY-1922</p>	<p>JAVASERVICE: iterative JVM start/stop memory leak</p>	<p>There is a shared memory leak of approximately 200 kilobytes, seen when JVMs are launched, stopped and then left stopped. Some of this leak also remains even after the JVM is removed.</p> <p>This is only an issue in the development process where many JVMs are deployed (one for each launch of the application from the deploy tool).</p> <p>This will be resolved in a future release.</p> <p>An invalid value to a system property when starting jconsole, for example:</p> <p>Error: Invalid com.sun.management.jmxremote.port number: 192.168.71.128:9876</p> <p>Brings down the Fluency node with this message:</p>
<p>FLUENCY-84</p>	<p>JAVASERVICE: Invalid com.sun.management.jmxremote.port number crashes node</p>	<p>2008-10-09 14:36:49.629085 KVM INFO 10069 ktvmmgr.cpp(1241) Creating a JVM VM options: - Dcom.sun.management.jmxremote.port=192.168.71.128:9876 - Dcom.sun.management.jmxremote.authenticate=false - agentlib:jdwp=transport=dt_socket,address=16106,server=y,suspend=n - Djava.system.class.loader=com.kabira.platform.classloader.ClassLoader -Dkabira.engine.buildType=PRODUCTION Class path: /opt/kabira/kis/distrib/kabira/component/ktvm/java/ktvm.jar /opt/kabira/kis/3rdparty/generic/bcel/5.2/bc</p>

		<pre> el-5.2.jar /opt/kabira/run/fluency- dev/nodes/primary/classpaths/scratch_Main5 java/swbuiltin.jar java/kis.jar java/appstats.jar java/event.jar java/scheduler.jar java/switchadmin.jar java/logger.jar java/diskmonitor.jar java/ktvmadmin.jar java/netchannel.jar java/ha.jar java/kdds.jar java/ktvmnotifier.jar Initial load classes: com.kabira.platform.ktvmnotifier.RequestWait er 2008-10-09 14:36:49.642968 KVM INFO 10069 notifiers.cpp(43) installNotifiers called with VMID 10069 2008-10-09 14:36:50.526578 USR FATAL 10088 engine.cpp(7 3) An illegal call to exit() was detected in process 10069 with active engine instances. You must use the stop() method in swbuiltin to terminate engines. This error will be handled without bringing the node down in a future release. </pre>
FLUENCY-3073	KDM: configuration restore: incorrect date conversion when timezone offsets of -00xx	<p>The Domain Manager's configuration cache incorrectly converts negative timezone offsets in a node's installation time to a positive offset. For example a node installation timezone offset of -0030 is converted to 0030. This may cause configuration restore to incorrectly restore, or not, configuration to a node.</p> <p>There is no work-around for this issue.</p> <p>This will be corrected in a future release.</p>
FLUENCY-2855	KDM: cannot remove switch using domain manager	<p>It is not possible to remove a node using the domain manager. Attempt to do so will fail with the following error message:</p> <pre> switchadmin servicename=domainmanager domainnode=replica stop switch guest@kabira-server:~\$ switchadmin servicename=domainmanager domainnode=replica stop remove </pre>

	<p>Invalid response data stream received from remote node.</p> <p>The work around is to execute the remove directly to the target node without the domain manager.</p> <p>This will be resolved in a future release.</p>
	<p>Attempting to start a node through KDM will fail. For example, executing this command:</p> <pre>switchadmin hostname=kabira-server adminport=2000 domainnode=replica username=guest password=guest start switch</pre> <p>will fail with:</p> <p>Invalid response data stream received from remote node.</p> <p>The work around is to send the command directly to the node being started, by passing KDM. For example:</p> <pre>switchadmin hostname=kabira-server adminport=2003 username=guest password=guest start switch Waiting for application to start Components started Loading configurations Auditing security configuration Host: kabira-server Administration Port: 2003 Service Name: "replica" Node Name: "replica"</pre> <p>This will be resolved in a future release.</p>
FLUENCY-2426	<p>KDM: cannot start node through KDM</p>
FLUENCY-6969	<p>MONITOR: field name tool tips not displayed</p> <p>The tooltips on fields in the monitor are not displayed correctly.</p> <p>There is no work-around for this issue.</p> <p>This will be corrected in a future release.</p>
FLUENCY-6694	<p>MONITOR: offset values not decoded</p> <p>When monitor decoding is in system or primitive, offset fields are not decoded.</p> <p>There is no work-around for this issue.</p> <p>This will be resolved in a future release.</p>

FLUENCY-4489

MONITOR: Cannot display multi-dimensional arrays.

The shared memory monitor does not handle java arrays with multiple dimensions, i.e. running the following example:

```
import com.kabira.platform.Transaction;
import
com.kabira.platform.annotation.Managed;
@Managed
class Foo
{
    public char[][] m_char;
    Foo()
    {
        m_char = new char[5][5];
        char val = 'a';
        for (int i = 0; i < 5; i++)
        {
            for (int j = 0; j < 5; j++)
            {
                m_char[i][j] = val;
                val++;
            }
        }
    }
}

public class Demo
{
    public static void main(String[] args)
    {
        new Transaction("Create")
        {
            public void run()
            {
                new Foo();
            }
        }.execute();
        System.out.println("Main: done");
    }
}
```

Then running the monitor and navigating to the foo instance will result in a *Address out of bounds* error displayed for **m_char**.

A workaround is to use **swdiag** to display the object data.

This will be corrected in a future release.

FLUENCY-3859

STATISTICS: object update latency does not include partitioned objects

The object update latency reported for distributed and partitioned objects does not include the network latency.

<p>FLUENCY-6704</p>	<p>RT: Type verification message can contain bogus fields.</p>	<p>There is no work-around for this issue.</p> <p>This will be corrected in a future release.</p> <p>Incorrect type mismatch log messages can be reported for a child of a parent that has added or removed fields. For example:</p> <pre>2014-05-07 14:58:52.208925 DST WARN 30572 csnode.cpp(3220) Type mismatch detected for type com.tibco.policyframework.userdata.UserProfi le from node MCPCRFl, remote version '- 568284671649893289', local version '-568284671649893289', mismatch processing will happen on local node, mismatch reason = 'Mismatch detected for type com.tibco.policyframework.userdata.UserProfi le, version '- 568284671649893289'. Changed values: Field policy3uk.managed.concepts.userdata.UserProf ile::products was added: Field policy3uk.managed.concepts.userdata.UserProf ile::defaultProfile was added.</pre> <p>These messages can be safely ignored.</p> <p>This will be corrected in a future release.</p>
<p>FLUENCY-6685</p>	<p>UPGRADE: fails attempting to upgrade model containing custom catalog functions</p>	<p>There is no support for hot-deployment of models that contain custom catalog functions. When attempting to upgrade a model containing custom catalog functions, it will generate an exception like this:</p> <pre>opt/kabira/users/leon/BEX_1.1.2/RUN/A/classsp aths/TestDecisionTable_ear0/TestDecisionTabl e.ear failed!!! java.lang.reflect.InvocationTargetException at sun.reflect.NativeMethodAccessorImpl.invoke0 (Native Method) at sun.reflect.NativeMethodAccessorImpl.invoke(Unknown Source) at sun.reflect.DelegatingMethodAccessorImpl.inv oke(Unknown Source) at java.lang.reflect.Method.invoke(Unknown Source) at com.tibco.cep.runtime.service.loader.ClassMa nager.redefineClasses(ClassManager.java:410)</pre>

```
        at
com.tibco.cep.runtime.service.loader.ClassManager.commitChanges (ClassManager.java:322)
        at
com.tibco.cep.runtime.service.loader.BEClassLoader.update (BEClassLoader.java:311)
        at
com.tibco.cep.runtime.service.loader.BEClassLoader.lockAndUpdate (BEClassLoader.java:275)
        at
com.tibco.cep.runtime.service.loader.BEClassLoader.lockAndUpdate (BEClassLoader.java:281)
        at
com.tibco.cep.runtime.service.loader.BEClassLoader.lockAndUpdate (BEClassLoader.java:270)
        at
com.tibco.cep.runtime.session.impl.RuleServiceProviderImpl.notify (RuleServiceProviderImpl.java:1530)
        at
com.tibco.cep.repo.hotdeploy.DirectoryDeployer.poll (DirectoryDeployer.java:88)
        at
com.tibco.cep.repo.hotdeploy.DirectoryDeployer.run (DirectoryDeployer.java:48)
        at java.lang.Thread.run (Unknown Source)
Caused by:
java.lang.UnsupportedOperationException:
class redefinition failed: attempted to
delete a method
        at
sun.instrument.InstrumentationImpl.redefineClasses0 (Native Method)
        at
sun.instrument.InstrumentationImpl.redefineClasses (Unknown Source)
        ... 14 more
```

There is no work-around for this issue.

This may be resolved in a future release.