Sub-task

- [HBASE-2251] - PE defaults to 1k rows - uncommon use case, and easy to hit benchmarks
- [HBASE-4624] - Remove and convert @deprecated RemoteExceptionHandler.decodeRemoteException calls
- [HBASE-4625] - Convert @deprecated HBaseTestCase tests JUnit4 style tests
- [HBASE-7612] - [JDK8] Replace use of high-scale-lib counters with intrinsic facilities
- [HBASE-7743] - Replace *SortReducers with Hadoop Secondary Sort
- [HBASE-7767] - Get rid of ZKTable, and table enable/disable state in ZK
- [HBASE-7847] - Use zookeeper multi to clear znodes
- [HBASE-7912] - HBase Backup/Restore Based on HBase Snapshot
- [HBASE-8073] - HFileOutputFormat support for offline operation
- [HBASE-8139] - Allow job names to be overridden
- [HBASE-8410] - Basic quota support for namespaces
- [HBASE-8541] - implement flush-into-stripes in stripe compactions
- [HBASE-8593] - Type support in ImportTSV tool
- [HBASE-10092] - Move up on to log4j2
- [HBASE-10378] - Divide HLog interface into User and Implementor specific interfaces
- [HBASE-10588] - Remove deprecated public facing classes/methods related to KeyValue
- [HBASE-10671] - Add missing InterfaceAudience annotations for classes in hbase-common and hbase-client modules
- [HBASE-10674] - HBCK should be updated to do replica related checks
- [HBASE-10800] - Use CellComparator instead of KVComparator
- [HBASE-10841] - Scan,Get,Put,Delete,etc setters should consistently return this
- [HBASE-10944] - Remove all kv.getBuffer() and kv.getRow() references existing in the code
- [HBASE-11059] - ZK-less region assignment
- [HBASE-11072] - Abstract WAL splitting from ZK
- [HBASE-11088] - Support Visibility Expression Deletes in Shell
- [HBASE-11160] - Undo append waiting on region edit/sequence id update
- [HBASE-11178] - Remove deprecation annotations from mapred namespace
- [HBASE-11179] - API parity between mapred and mapreduce
- [HBASE-11261] - Handle splitting/merging of regions that have region_replication greater than one
- [HBASE-11290] - Unlock RegionStates
- [HBASE-11318] - Classes in security subpackages missing @InterfaceAudience annotations.
- [HBASE-11323] - BucketCache all the time!
- [HBASE-11367] - Pluggable replication endpoint
- [HBASE-11372] - Remove SlabCache
- [HBASE-11384] - [Visibility Controller]Check for users covering authorizations for every mutation
- [HBASE-11392] - add/remove peer requests should be routed through master
- [HBASE-11393] - Replication TableCfs should be a PB object rather than a string
- [HBASE-11466] - HConnectionImplementation should not use ZK
- [HBASE-11467] - New impl of Registry interface not using ZK + new RPCs on master protocol
- [HBASE-11468] - MasterAddressTracker needs to be moved to hbase-server
- [HBASE-11469] - MetaTableLocator should be moved to hbase-server
- [HBASE-11470] - Move Server interface to hbase-server
- [HBASE-11471] - Move TableStateManager and ZkTableStateManager and Server to hbase-server
- [HBASE-11472] - Remove ZKTableStateClientSideReader class
- [HBASE-11483] - Check the rest of the book for new XML validity errors and fix
- [HBASE-11508] - Document changes to IPC config parameters from HBASE-11492
- [HBASE-11511] - Write flush events to WAL
- [HBASE-11512] - Write region open/close events to WAL
- [HBASE-11520] - Simplify offheap cache config by removing the confusing "hbase.bucketcache.percentage.in.combinedcache"
- [HBASE-11533] - AsciiDoctor POC
- [HBASE-11559] - Add dumping of DATA block usage to the BlockCache JSON report.
- [HBASE-11567] - Write bulk load COMMIT events to WAL
- [HBASE-11568] - Async WAL replication for region replicas
- [HBASE-11569] - Flush / Compaction handling from secondary region replicas
- [HBASE-11571] - Bulk load handling from secondary region replicas
- [HBASE-11572] - Add support for doing get/scans against a particular replica_id
- [HBASE-11573] - Report age on eviction
- [HBASE-11580] - Failover handling for secondary region replicas
- [HBASE-11598] - Add simple rpc throttling
- [HBASE-11607] - Document HBase metrics
- [HBASE-11610] - Enhance remote meta updates
- [HBASE-11722] - Document new shortcut commands introduced by HBASE-11649
- [HBASE-11734] - Document changed behavior of hbase.hstore.time.to.purge.deletes
- [HBASE-11736] - Document SKIP_FLUSH snapshot option
- [HBASE-11737] - Document callQueue improvements from HBASE-11355 and HBASE-11724
- [HBASE-11738] - Document improvements to LoadTestTool and PerformanceEvaluation
- [HBASE-11740] - RegionStates.getRegionAssignments() gets stuck on clone

- [HBASE-11752] - Document blockcache prefetch option
- [HBASE-11753] - Document HBASE_SHELL_OPTS environment variable
- [HBASE-11779] - Document the new requirement to set JAVA_HOME before starting HBase
- [HBASE-11781] - Document new TableMapReduceUtil scanning options
- [HBASE-11784] - Document global configuration for maxVersion
- [HBASE-11786] - Document web UI for tracking time spent in coprocessors
- [HBASE-11822] - Convert EnvironmentEdge#getCurrentTimeMillis to getCurrentTime
- [HBASE-11842] - Integration test for async wal replication to secondary regions
- [HBASE-11852] - Still see "UnsupportedOperationException: CollectionUsage threshold is not supported"
- [HBASE-11872] - Avoid usage of KeyValueUtil#ensureKeyValue from Compactor
- [HBASE-11874] - Support Cell to be passed to StoreFile.Writer rather than KeyValue
- [HBASE-11903] - Directly invoking split & merge of replica regions should be disallowed
- [HBASE-11908] - Region replicas should be added to the meta table at the time of table creation
- [HBASE-11910] - Document Premptive Call Me Maybe HBase findings in the online manual
- [HBASE-11911] - Break up tests into more fine grained categories
- [HBASE-11912] - Catch some bad practices at compile time with error-prone
- [HBASE-11917] - Deprecate / Remove HTableUtil
- [HBASE-11919] - Remove the deprecated pre/postGet CP hook
- [HBASE-11920] - Add CP hooks for ReplicationEndPoint
- [HBASE-11923] - Potential race condition in RecoverableZookeeper.checkZk()
- [HBASE-11930] - Document new permission check to roll WAL writer
- [HBASE-11934] - Support KeyValueCodec to encode non KeyValue cells.
- [HBASE-11941] - Rebuild site because of major structural changes to HTML
- [HBASE-11958] - Add documents about snapshot owner
- [HBASE-11963] - Synchronize peer cluster replication connection attempts
- [HBASE-11964] - Improve spreading replication load from failed regionservers
- [HBASE-11975] - Remove the explicit list of maven repositories in pom.xml
- [HBASE-11980] - Change sync to hsync, remove unused InfoServer, and reference our httpserver instead of hadoops
- [HBASE-11997] - CopyTable with bulkload
- [HBASE-11999] - table creations quota
- [HBASE-12012] - Improve cancellation for the scan RPCs
- [HBASE-12023] - HRegion.applyFamilyMapToMemstore creates too many iterator objects.
- [HBASE-12046] - HTD/HCD setters should be builder-style
- [HBASE-12047] - Avoid usage of KeyValueUtil#ensureKeyValue in simple cases
- [HBASE-12048] - Remove deprecated APIs from Filter
- [HBASE-12050] - Avoid KeyValueUtil#ensureKeyValue from DefaultMemStore
- [HBASE-12051] - Avoid KeyValueUtil#ensureKeyValue from DefaultMemStore
- [HBASE-12059] - Create hbase-annotations module
- [HBASE-12062] - Fix usage of Collections.toArray
- [HBASE-12069] - Finish making HFile.Writer Cell-centric; undo APIs that expect KV serializations.
- [HBASE-12075] - Preemptive Fast Fail
- [HBASE-12076] - Move InterfaceAudience imports to hbase-annotations
- [HBASE-12077] - FilterLists create many ArrayList$Itr objects per row.
- [HBASE-12079] - Deprecate KeyValueUtil#ensureKeyValue(s)
- [HBASE-12082] - Find a way to set timestamp on Cells on the server
- [HBASE-12084] - Remove deprecated APIs from Result
- [HBASE-12086] - Fix bugs in HTableMultiplexer
- [HBASE-12096] - In ZKSplitLog Coordination and AggregateImplementation replace enhaced for statements with basic for statement to avoid unnecessary object allocation
- [HBASE-12104] - Some optimization and bugfix for HTableMultiplexer
- [HBASE-12110] - Fix .arcconfig
- [HBASE-12111] - Remove deprecated APIs from Mutation(s)
- [HBASE-12112] - Avoid KeyValueUtil#ensureKeyValue some more simple cases
- [HBASE-12115] - Fix NumberFormat Exception in TableInputFormatBase.
- [HBASE-12128] - Cache configuration and RpcController selection for Table in Connection
- [HBASE-12148] - Remove TimeRangeTracker as point of contention when many threads writing a Store
- [HBASE-12189] - Fix new issues found by coverity static analysis
- [HBASE-12202] - Support DirectByteBuffer usage in HFileBlock
- [HBASE-12210] - Avoid KeyValue in Prefix Tree
- [HBASE-12254] - Document limitations related to pluggable replication endpoint feature usage in 0.98
- [HBASE-12288] - Support DirectByteBuffer usage in DataBlock Encoding area
- [HBASE-12295] - Prevent block eviction under us if reads are in progress from the BBs
- [HBASE-12296] - Filters should work with ByteBufferedCell
- [HBASE-12297] - Support DBB usage in Bloom and HFileIndex area
- [HBASE-12313] - Redo the hfile index length optimization so cell-based rather than serialized KV key
- [HBASE-12343] - Document recommended configuration for 0.98 from HBASE-11964
- [HBASE-12345] - Unsafe based ByteBuffer Comparator
- [HBASE-12349] - Add Maven build support module for a custom version of error-prone
- [HBASE-12353] - Turn down logging on some spewing unit tests
- [HBASE-12354] - Update dependencies in time for 1.0 release
- [HBASE-12355] - Update maven plugins
- [HBASE-12363] - Improve how KEEP_DELETED_CELLS works with MIN_VERSIONS

- [HBASE-12374] - Change DBEs to work with new BB based cell
- [HBASE-12379] - Try surefire 2.18-SNAPSHOT
- [HBASE-12382] - Restore incremental compilation
- [HBASE-12400] - Fix refguide so it does connection#getTable rather than new HTable everywhere: first cut!
- [HBASE-12404] - Task 5 from parent: Replace internal HTable constructor use with HConnection#getTable (0.98, 0.99)
- [HBASE-12425] - Document the phases of the split transaction
- [HBASE-12471] - Task 4. replace internal ConnectionManager#{delete,get}Connection use with #close, #createConnection (0.98, 0.99) under src/main/java
- [HBASE-12485] - Maintain SeqId monotonically increasing
- [HBASE-12511] - namespace permissions - add support from table creation privilege in a namespace 'C'
- [HBASE-12517] - Several HConstant members are assignable
- [HBASE-12518] - Task 4 polish. Remove CM#{get,delete}Connection
- [HBASE-12519] - Remove tabs used as whitespace
- [HBASE-12523] - Update checkstyle plugin rules to match our use
- [HBASE-12526] - Remove unused imports
- [HBASE-12527] - Remove padding around parens
- [HBASE-12528] - Document the newly introduced params for providing principal and keytabs.
- [HBASE-12556] - Create a golden file for testing client API source/binary compatibility
- [HBASE-12561] - Replicas of regions can be cached from different instances of the table in MetaCache
- [HBASE-12562] - Handling memory pressure for secondary region replicas
- [HBASE-12568] - Adopt Semantic Versioning and document it in the book
- [HBASE-12575] - Sanity check table coprocessor classes are loadable
- [HBASE-12593] - Tags to work with ByteBuffer
- [HBASE-12606] - Sanity check encryption configuration before opening WAL or onlining regions
- [HBASE-12621] - Explain in the book when KEEP_DELETED_CELLS is useful
- [HBASE-12648] - Document per cell TTLs
- [HBASE-12679] - Add HBaseInterfaceAudience.TOOLS and move some of the Public classes to LimitedPrivate
- [HBASE-12695] - JDK 1.8 compilation broken
- [HBASE-12704] - Add demo client which uses doAs functionality on Thrift-over-HTTPS.
- [HBASE-12708] - Document newly introduced params for using Thrift-over-HTTPS.
- [HBASE-12714] - RegionReplicaReplicationEndpoint should not set the RPC Codec
- [HBASE-12735] - Refactor TAG so it can live as unit test and as an integration test
- [HBASE-12738] - Chunk Ref Guide into file-per-chapter
- [HBASE-12748] - RegionCoprocessorHost.execOperation creates too many iterator objects
- [HBASE-12763] - Make it so there must be WALs for a server to be marked dead
- [HBASE-12776] - SpliTransaction: Log number of files to be split
- [HBASE-12779] - SplitTransaction: Add metrics
- [HBASE-12793] - [hbck] closeRegionSilentlyAndWait() should log cause of IOException and retry until hbase.hbck.close.timeout expires
- [HBASE-12802] - Remove unnecessary Table.flushCommits()
- [HBASE-12807] - Implement 0.89fb-style "roll on slow sync"
- [HBASE-12848] - Utilize Flash storage for WAL
- [HBASE-12936] - Quota support for namespace should take region merge into account
- [HBASE-12963] - Add note about jdk8 compilation to the guide
- [HBASE-12980] - Delete of a table may not clean all rows from hbase:meta
- [HBASE-13006] - Document visibility label support for groups
- [HBASE-13067] - Fix caching of stubs to allow IP address changes of restarted remote servers
- [HBASE-13095] - Document how to retrieve replication stats from HBase Shell
- [HBASE-13108] - Reduce Connection creations in TestAcidGuarantees
- [HBASE-13121] - Async wal replication for region replicas and dist log replay does not work together
- [HBASE-13130] - Add timeouts on TestMasterObserver, a frequent zombie show
- [HBASE-13164] - Update TestUsersOperationsWithSecureHadoop to use MiniKdc
- [HBASE-13169] - ModifyTable increasing the region replica count should also auto-setup RRRE
- [HBASE-13178] - Create scaffolding and feature branch for 2.0 guide
- [HBASE-13184] - Document turning off memstore for region replicas
- [HBASE-13198] - Remove HConnectionManager
- [HBASE-13201] - Remove HTablePool from thrift-server
- [HBASE-13202] - Procedure v2 - core framework
- [HBASE-13203] - Procedure v2 - master create/delete table
- [HBASE-13204] - Procedure v2 - client create/delete table sync
- [HBASE-13209] - Procedure V2 - master Add/Modify/Delete Column Family
- [HBASE-13210] - Procedure V2 - master Modify table
- [HBASE-13211] - Procedure V2 - master Enable/Disable table
- [HBASE-13212] - Procedure V2 - master Create/Modify/Delete namespace
- [HBASE-13213] - Split out locality metrics among primary and secondary region
- [HBASE-13214] - Remove deprecated and unused methods from HTable class
- [HBASE-13226] - Document enable_table_replication and disable_table_replication shell commands
- [HBASE-13244] - Test delegation token generation with kerberos enabled
- [HBASE-13248] - Make HConnectionImplementation top-level class.
- [HBASE-13252] - Get rid of managed connections and connection caching
- [HBASE-13258] - Promote TestHRegion to LargeTests
- [HBASE-13290] - Procedure v2 - client enable/disable table sync
- [HBASE-13303] - Fix size calculation of results on the region server

- [HBASE-13307] - Making methods under ScannerV2#next inlineable, faster
- [HBASE-13327] - Use Admin in ConnectionCache
- [HBASE-13332] - Fix the usage of doAs/runAs in Visibility Controller tests.
- [HBASE-13335] - Update ClientSmallScanner and ClientSmallReversedScanner
- [HBASE-13387] - Add ByteBufferedCell an extension to Cell
- [HBASE-13390] - Document the implications of installing security coprocessors with hbase.security.authorization as false
- [HBASE-13393] - Optimize memstore flushing to avoid writing tag information to hfiles when no tags are present.
- [HBASE-13395] - Remove HTableInterface
- [HBASE-13398] - Document HBase Quota
- [HBASE-13415] - Procedure V2 - Use nonces for double submits from client
- [HBASE-13421] - Reduce the number of object creations introduced by HBASE-11544 in scan RPC hot code paths
- [HBASE-13429] - Remove deprecated seek/reseek methods from HFileScanner
- [HBASE-13447] - Bypass logic in TimeRange.compare
- [HBASE-13448] - New Cell implementation with cached component offsets/lengths
- [HBASE-13450] - Purge RawBytescomparator from the writers and readers for HBASE-10800
- [HBASE-13451] - Make the HFileBlockIndex blockKeys to Cells so that it could be easy to use in the CellComparators
- [HBASE-13455] - Procedure V2 - master truncate table
- [HBASE-13464] - Remove deprecations for 2.0.0 - Part 1
- [HBASE-13466] - Document deprecations in 1.x - Part 1
- [HBASE-13470] - High level Integration test for master DDL operations
- [HBASE-13476] - Procedure V2 - Add Replay Order logic for child procedures
- [HBASE-13478] - Document the change of default master ports being used .
- [HBASE-13481] - Master should respect master (old) DNS/bind related configurations
- [HBASE-13496] - Make Bytes$LexicographicalComparerHolder$UnsafeComparer::compareTo inlineable
- [HBASE-13497] - Remove MVCC stamps from HFile when that is safe
- [HBASE-13498] - Add more docs and a basic check for storage policy handling
- [HBASE-13501] - Deprecate/Remove getComparator() in HRegionInfo.
- [HBASE-13502] - Deprecate/remove getRowComparator() in TableName
- [HBASE-13504] - Alias current AES cipher as AES-CTR
- [HBASE-13505] - Deprecate the "AES" cipher type
- [HBASE-13506] - AES-GCM cipher support where available
- [HBASE-13510] - Purge ByteBloomFilter
- [HBASE-13511] - Derive data keys with HKDF
- [HBASE-13514] - Fix test failures in TestScannerHeartbeatMessages caused by incorrect setting of hbase.rpc.timeout
- [HBASE-13515] - Handle FileNotFoundException in region replica replay for flush/compaction events
- [HBASE-13529] - Procedure v2 - WAL Improvements
- [HBASE-13536] - Cleanup the handlers that are no longer being used.
- [HBASE-13537] - Procedure V2 - Change the admin interface for async operations to return Future (incompatible with branch-1.x)
- [HBASE-13538] - Procedure v2 - client add/delete/modify column family sync (incompatible with branch-1.x)
- [HBASE-13551] - Procedure V2 - Procedure classes should not be InterfaceAudience.Public
- [HBASE-13557] - Special WAL handling for system tables
- [HBASE-13563] - Add missing table owner to AC tests.
- [HBASE-13569] - correct errors reported with mvn site
- [HBASE-13571] - Procedure v2 - client modify table sync (incompatible with branch-1.x)
- [HBASE-13572] - Procedure v2 - client truncate table sync (incompatible with branch-1.x)
- [HBASE-13579] - Avoid isCellTTLExpired() for NO-TAG cases
- [HBASE-13593] - Quota support for namespace should take snapshot restore and clone into account
- [HBASE-13614] - Avoid temp KeyOnlyKeyValue temp objects creations in read hot path
- [HBASE-13616] - Move ServerShutdownHandler to Pv2
- [HBASE-13620] - Bring back the removed VisibilityClient methods and mark them as deprecated.
- [HBASE-13631] - Migration from 0.94 to 2.0.0
- [HBASE-13636] - Remove deprecation for HBASE-4072 (Reading of zoo.cfg)
- [HBASE-13641] - Deperecate Filter#filterRowKey(byte[] buffer, int offset, int length) in favor of filterRowKey(Cell firstRowCell)
- [HBASE-13642] - Deprecate RegionObserver#postScannerFilterRow CP hook with byte[],int,int args in favor of taking Cell arg
- [HBASE-13658] - Improve the test run time for TestAccessController class
- [HBASE-13679] - Change ColumnTracker and SQM to deal with Cell instead of byte[], int, int
- [HBASE-13728] - Remove use of Hadoop's GenericOptionsParser
- [HBASE-13754] - Allow non KeyValue Cell types also to oswrite
- [HBASE-13759] - Improve procedure yielding
- [HBASE-13817] - ByteBufferOuputStream - add writeInt support
- [HBASE-13819] - Make RPC layer CellBlock buffer a DirectByteBuffer
- [HBASE-13823] - Procedure V2: unnecessaery operaions on AssignmentManager#recoverTableInDisablingState() and recoverTableInEnablingState()
- [HBASE-13827] - Delayed scanner close in KeyValueHeap and StoreScanner
- [HBASE-13832] - Procedure V2: master fail to start due to WALProcedureStore sync failures when HDFS data nodes count is low
- [HBASE-13871] - Change RegionScannerImpl to deal with Cell instead of byte[], int, int
- [HBASE-13898] - correct additional javadoc failures under java 8
- [HBASE-13899] - Jacoco instrumentation fails under jdk8
- [HBASE-13910] - add branch-1.2 to precommit branches
- [HBASE-13911] - add 1.2 to prereq tables in ref guide
- [HBASE-13916] - Create MultiByteBuffer an aggregation of ByteBuffers
- [HBASE-13920] - Exclude Java files generated from protobuf from javadoc

- [HBASE-13926] - Close the scanner only after Call#setResponse
- [HBASE-13939] - Make HFileReaderImpl.getFirstKeyInBlock() to return a Cell
- [HBASE-13950] - Add a NoopProcedureStore for testing
- [HBASE-13954] - Remove HTableInterface#getRowOrBefore related server side code
- [HBASE-13963] - avoid leaking jdk.tools
- [HBASE-13967] - add jdk profiles for jdk.tools dependency
- [HBASE-13968] - Remove deprecated methods from BufferedMutator class
- [HBASE-13973] - Update documentation for 10070 Phase 2 changes
- [HBASE-13975] - add 1.2 RM to docs
- [HBASE-13977] - Convert getKey and related APIs to Cell
- [HBASE-13983] - Doc how the oddball HTable methods getStartKey, getEndKey, etc. will be removed in 2.0.0
- [HBASE-13990] - clean up remaining errors for maven site goal
- [HBASE-13993] - WALProcedureStore fencing is not effective if new WAL rolls
- [HBASE-13998] - Remove CellComparator#compareRows(byte[] left, int loffset, int llength, byte[] right, int roffset, int rlength)
- [HBASE-14003] - work around jdk8 spec bug in WALPerfEval
- [HBASE-14013] - Retry when RegionServerNotYetRunningException rather than go ahead with assign so for sure we don't skip WAL replay
- [HBASE-14017] - Procedure v2 - MasterProcedureQueue fix concurrency issue on table queue deletion
- [HBASE-14020] - Unsafe based optimized write in ByteBufferOutputStream
- [HBASE-14051] - Undo workarounds in IntegrationTestDDLMasterFailover for client double submit
- [HBASE-14055] - Untangle region - region server dependencies
- [HBASE-14061] - Support CF-level Storage Policy
- [HBASE-14063] - Use BufferBackedCell in read path after HBASE-12213 and HBASE-12295
- [HBASE-14086] - remove unused bundled dependencies
- [HBASE-14087] - ensure correct ASF policy compliant headers on source/docs
- [HBASE-14102] - Add thank you to our thanks page for vectorportal.com
- [HBASE-14104] - Add vectorportal.com to NOTICES.txt as src of our logo
- [HBASE-14105] - Add shell tests for Snapshot
- [HBASE-14107] - Procedure V2 - Administrative Task: Provide an API to List all procedures
- [HBASE-14108] - Procedure V2 - Administrative Task: provide an API to abort a procedure
- [HBASE-14116] - Change ByteBuff.getXXXStrictlyForward to relative position based reads
- [HBASE-14120] - ByteBufferUtils#compareTo small optimization
- [HBASE-14144] - Bloomfilter path to work with Byte buffered cells
- [HBASE-14147] - REST Support for Namespaces
- [HBASE-14176] - Add missing headers to META-INF files
- [HBASE-14186] - Read mvcc vlong optimization
- [HBASE-14188] - Read path optimizations after HBASE-11425 profiling
- [HBASE-14202] - Reduce garbage we create
- [HBASE-14212] - Add IT test for procedure-v2-based namespace DDL
- [HBASE-14221] - Reduce the number of time row comparison is done in a Scan
- [HBASE-14239] - Branch-1.2 AM can get stuck when meta moves
- [HBASE-14274] - Deadlock in region metrics on shutdown: MetricsRegionSourceImpl vs MetricsRegionAggregateSourceImpl
- [HBASE-14278] - Fix NPE that is showing up since HBASE-14274 went in
- [HBASE-14322] - Master still not using more than it's priority threads
- [HBASE-14368] - New TestWALLockup broken by addendum added to parent issue
- [HBASE-14378] - Get TestAccessController* passing again on branch-1
- [HBASE-14395] - Short circuit last byte check in CellUtil#matchingXXX methods for ByteBufferedCells
- [HBASE-14398] - Create the fake keys required in the scan path to avoid copy to byte[]
- [HBASE-14401] - Stamp failed appends with sequenceid too.... Cleans up latches
- [HBASE-14413] - Procedure V2 - Snapshot V2
- [HBASE-14421] - TestFastFail* are flakey
- [HBASE-14423] - TestStochasticBalancerJmxMetrics.testJmxMetrics_PerTableMode:183 NullPointer
- [HBASE-14428] - Upgrade our surefire-plugin from 2.18 to 2.18.1
- [HBASE-14430] - TestHttpServerLifecycle#testStartedServerIsAlive times out
- [HBASE-14432] - Procedure V2 - enforce ACL on procedure admin tasks
- [HBASE-14433] - Set down the client executor core thread count from 256 in tests
- [HBASE-14435] - thrift tests don't have test-specific hbase-site.xml so 'BindException: Address already in use' because info port is not turned off
- [HBASE-14446] - Save table descriptors and region infos during incremental backup
- [HBASE-14447] - Spark tests failing: bind exception when putting up info server
- [HBASE-14464] - Removed unused fs code
- [HBASE-14472] - TestHCM and TestRegionServerNoMaster fixes
- [HBASE-14480] - Small optimization in SingleByteBuff
- [HBASE-14483] - Add max -per-cell TTL to HFile meta section
- [HBASE-14484] - Follow-on from HBASE-14421, just disable TestFastFail* until someone digs in and fixes it
- [HBASE-14487] - Procedure V2 - shell command to list all procedures
- [HBASE-14488] - Procedure V2 - shell command to abort a procedure
- [HBASE-14495] - TestHRegion#testFlushCacheWhileScanning goes zombie
- [HBASE-14507] - Disable TestDistributedLogSplitting#testWorkerAbort Its flakey with tenuous chance of success
- [HBASE-14513] - TestBucketCache runs obnoxious 1k threads in a unit test
- [HBASE-14519] - Purge TestFavoredNodeAssignmentHelper, a test for an abandoned feature that can hang
- [HBASE-14527] - Implement StoreFile Writer plugin (HBASE-14511)
- [HBASE-14528] - Implement StoreFile Writer Plugin (HBASE-14511) for Gen Compaction Policy

- [HBASE-14535] - Integration test for rpc connection concurrency / deadlock testing
- [HBASE-14539] - Slight improvement of StoreScanner.optimize
- [HBASE-14543] - Have findHangingTests.py dump more info
- [HBASE-14551] - Procedure v2 - Reimplement split
- [HBASE-14552] - Procedure V2: Reimplement DispatchMergingRegionHandler
- [HBASE-14558] - Document ChaosMonkey enhancements from HBASE-14261
- [HBASE-14559] - branch-1 test tweeks; disable assert explicit region lands post-restart and up a few handlers
- [HBASE-14561] - Disable zombie TestReplicationShell
- [HBASE-14563] - Disable zombie TestHFileOutputFormat2
- [HBASE-14567] - Tuneup hanging test TestMobCompactor and TestMobSweeper
- [HBASE-14570] - Split TestHBaseFsck in order to help with hanging tests
- [HBASE-14571] - Purge TestProcessBasedCluster; it does nothing and then fails
- [HBASE-14572] - TestImportExport#testImport94Table can't find its src data file
- [HBASE-14575] - Relax region read lock for compactions
- [HBASE-14585] - Clean up TestSnapshotCloneIndependence
- [HBASE-14589] - Looking for the surefire-killer; builds being killed...ExecutionException: java.lang.RuntimeException: The forked VM terminated without properly saying goodbye. VM crash or System.exit called?
- [HBASE-14590] - Shorten ByteBufferedCell#getXXXPositionInByteBuffer method name
- [HBASE-14595] - For Wiki contents that are also in the Ref Guide, replace content with a URL
- [HBASE-14596] - TestCellACLs failing... on1.2 builds
- [HBASE-14600] - Make #testWalRollOnLowReplication looser still
- [HBASE-14601] - Create list of Wiki contents missing from the Ref Guide
- [HBASE-14602] - Convert HBasePoweredBy Wiki page to a hbase.apache.org page
- [HBASE-14605] - Split fails due to 'No valid credentials' error when SecureBulkLoadEndpoint#start tries to access hdfs
- [HBASE-14607] - Convert SupportingProjects wiki page to a site page
- [HBASE-14614] - Procedure v2: Core Assignment Manager
- [HBASE-14615] - Procedure V2: Implement single region assignment procedure from Master-side
- [HBASE-14616] - Procedure v2: Replace the old AM with the new AM
- [HBASE-14617] - Procedure V2: Update ServerCrashProcedure to interact with assignment procedures
- [HBASE-14618] - Procedure V2: Implement move shell command to use Proc-V2 assignment
- [HBASE-14619] - Procedure V2: Implement balancer to be Procedure-based
- [HBASE-14620] - Procedure V2: Update HBCK to incorporate the Proc-V2-based assignment
- [HBASE-14622] - Purge TestZkLess* tests from branch-1
- [HBASE-14623] - Implement dedicated WAL for system tables
- [HBASE-14627] - Move Stargate docs to Ref Guide
- [HBASE-14631] - Region merge request should be audited with request user through proper scope of doAs() calls to region observer notifications
- [HBASE-14636] - Clear HFileScannerImpl#prevBlocks in between Compaction flow
- [HBASE-14637] - Loosen TestChoreService assert AND have TestDataBlockEncoders do less work (and add timeouts)
- [HBASE-14638] - Move Jython info from the Wiki to the Ref Guide
- [HBASE-14639] - Move Scala info from Wiki to Ref Guide
- [HBASE-14640] - Move Cascading info from Wiki to Ref Guide
- [HBASE-14641] - Move JDO example from Wiki to Ref Guide
- [HBASE-14646] - Move TestCellACLs from medium to large category
- [HBASE-14647] - Disable TestWALProcedureStoreOnHDFS#testWalRollOnLowReplication
- [HBASE-14648] - Reenable TestWALProcedureStoreOnHDFS#testWalRollOnLowReplication
- [HBASE-14649] - Reenable TestHCM.testClusterStatus; disabled because flakey
- [HBASE-14655] - Narrow the scope of doAs() calls to region observer notifications for compaction
- [HBASE-14656] - Move TestAssignmentManager from medium to large category
- [HBASE-14657] - Remove unneeded API from EncodedSeeker
- [HBASE-14662] - Fix NPE in HFileOutputFormat2
- [HBASE-14685] - Procedure Id is not set for MasterRpcServices#modifyTable
- [HBASE-14698] - Set category timeouts on TestScanner and TestNamespaceAuditor
- [HBASE-14702] - TestZKProcedureControllers.testZKCoordinatorControllerWithSingleMemberCohort is a flakey
- [HBASE-14709] - Parent change breaks graceful_stop.sh on a cluster
- [HBASE-14710] - Add category-based timeouts to MR tests
- [HBASE-14720] - Make TestHCM and TestMetaWithReplicas large tests rather than mediums
- [HBASE-14725] - Vet categorization of tests so they for sure go into the right small/medium/large buckets
- [HBASE-14734] - BindException when setting up MiniKdc
- [HBASE-14772] - Improve zombie detector; be more discerning
- [HBASE-14785] - Hamburger menu for mobile site
- [HBASE-14786] - TestProcedureAdmin hangs
- [HBASE-14794] - Cleanup TestAtomicOperation, TestImportExport, and TestMetaWithReplicas
- [HBASE-14798] - NPE reporting server load causes regionserver abort; causes TestAcidGuarantee to fail
- [HBASE-14819] - hbase-it tests failing with OOME; permgen
- [HBASE-14832] - Ensure write paths work with ByteBufferedCells in case of compaction
- [HBASE-14837] - Procedure V2 - Procedure Queue Improvement
- [HBASE-14841] - Allow Dictionary to work with BytebufferedCells
- [HBASE-14863] - Add missing test/resources/log4j files in hbase modules
- [HBASE-14877] - maven archetype: client application
- [HBASE-14878] - maven archetype: client application with shaded jars
- [HBASE-14884] - TestSplitTransactionOnCluster.testSSHCleanupDaugtherRegionsOfAbortedSplit is flakey

- [HBASE-14888] - ClusterSchema: Add Namespace Operations
- [HBASE-14895] - Seek only to the newly flushed file on scanner reset on flush
- [HBASE-14900] - Make global config option for ReplicationEndpoint
- [HBASE-14902] - Revert some of the stringency recently introduced by checkstyle tightening
- [HBASE-14908] - TestRowCounter flakey especially on branch-1
- [HBASE-14909] - NPE testing for RIT
- [HBASE-14910] - Create base hbase-mapred and hbase-io modules, move HTableInputFormat and HTableOutputFormat
- [HBASE-14911] - Move functionality needed to write HFiles without RegionServer dependency
- [HBASE-14912] - Move functionality needed to read WAL without RegionServer dependency
- [HBASE-14913] - Enable testing I/O without regionserver or threads.
- [HBASE-14914] - Move functionality needed to handle Snapshots without RegionServer dependency
- [HBASE-14915] - Hanging test : org.apache.hadoop.hbase.mapreduce.TestImportExport
- [HBASE-14919] - Infrastructure refactoring for In-Memory Flush
- [HBASE-14920] - Compacting Memstore
- [HBASE-14921] - Inmemory Compaction Optimizations; Segment Structure
- [HBASE-14947] - Procedure V2 - WALProcedureStore improvements
- [HBASE-14949] - Resolve name conflict when splitting if there are duplicated WAL entries
- [HBASE-14962] - TestSplitWalDataLoss fails on all branches
- [HBASE-14997] - Move compareOp and Comparators out of filter to client package
- [HBASE-14998] - Unify synchronous and asynchronous methods in Admin and cleanup
- [HBASE-15016] - StoreServices facility in Region
- [HBASE-15023] - Reenable TestShell and TestStochasticLoadBalancer
- [HBASE-15046] - Perf test doing all mutation steps under row lock
- [HBASE-15072] - Use protobuf for serialization/deserialization.
- [HBASE-15077] - Support OffheapKV write in compaction with out copying data on heap
- [HBASE-15082] - Fix merge of MVCC and SequenceID performance regression
- [HBASE-15087] - Fix hbase-common findbugs complaints
- [HBASE-15094] - Selection of WAL files eligible for incremental backup is broken
- [HBASE-15105] - Procedure V2 - Procedure Queue with Namespaces
- [HBASE-15106] - Procedure V2 - Procedure Queue pass Procedure for better debuggability
- [HBASE-15107] - Procedure V2 - Procedure Queue with Regions
- [HBASE-15113] - Procedure v2 - Speedup eviction of sys operation results
- [HBASE-15114] - NPE when IPC server ByteBuffer reservoir is turned off
- [HBASE-15115] - Fix findbugs complaints in hbase-client
- [HBASE-15118] - Fix findbugs complaint in hbase-server
- [HBASE-15142] - Procedure v2 - Basic WebUI listing the procedures
- [HBASE-15143] - Procedure v2 - Web UI displaying queues
- [HBASE-15144] - Procedure v2 - Web UI displaying Store state
- [HBASE-15157] - Add *PerformanceTest for Append, CheckAnd*
- [HBASE-15158] - Change order in which we do write pipeline operations; do all under row locks!
- [HBASE-15163] - Add sampling code and metrics for get/scan/multi/mutate count separately
- [HBASE-15171] - Avoid counting duplicate kv and generating lots of small hfiles in PutSortReducer
- [HBASE-15172] - Support setting storage policy in bulkload
- [HBASE-15174] - Client Public API should not have PB objects in 2.0
- [HBASE-15180] - Reduce garbage created while reading Cells from Codec Decoder
- [HBASE-15194] - TestStochasticLoadBalancer.testRegionReplicationOnMidClusterSameHosts flaky on trunk
- [HBASE-15202] - Reduce garbage while setting response
- [HBASE-15203] - Reduce garbage created by path.toString() during Checksum verification
- [HBASE-15204] - Try to estimate the cell count for adding into WALEdit
- [HBASE-15205] - Do not find the replication scope for every WAL#append()
- [HBASE-15210] - Undo aggressive load balancer logging at tens of lines per millisecond
- [HBASE-15215] - TestBlockEvictionFromClient is flaky in jdk1.7 build
- [HBASE-15232] - Exceptions returned over multi RPC don't automatically trigger region location reloads
- [HBASE-15238] - HFileReaderV2 prefetch overreaches; runs off the end of the data
- [HBASE-15239] - Remove unused LoadBalancer.immediateAssignment()
- [HBASE-15244] - More doc around native lib setup and check and crc
- [HBASE-15263] - TestIPv6NIOServerSocketChannel.testServerSocketFromLocalhostResolution can hang indefinetly
- [HBASE-15264] - Implement a fan out HDFS OutputStream
- [HBASE-15265] - Implement an asynchronous FSHLog
- [HBASE-15270] - Use appropriate encoding for "filter" field in TaskMonitorTmpl.jamon
- [HBASE-15272] - Add error handling for split and compact actions in table.jsp
- [HBASE-15277] - TestRegionMergeTransactionOnCluster.testWholesomeMerge fails with no connection to master
- [HBASE-15293] - Handle TableNotFound and IllegalArgument exceptions in table.jsp
- [HBASE-15305] - Fix a couple of incorrect anchors in HBase ref guide
- [HBASE-15311] - Prevent NPE in BlockCacheViewTmpl
- [HBASE-15314] - Allow more than one backing file in bucketcache
- [HBASE-15333] - [hbase-spark] Enhance dataframe filters to handle naively encoded short, integer, long, float and double
- [HBASE-15334] - Add avro support for spark hbase connector
- [HBASE-15336] - Support Dataframe writer to the spark connector
- [HBASE-15337] - Document date tiered compaction in the book
- [HBASE-15346] - add 1.3 RM to docs
- [HBASE-15351] - Fix description of hbase.bucketcache.size in hbase-default.xml

- [HBASE-15354] - Use same criteria for clearing meta cache for all operations
- [HBASE-15359] - Simplifying Segment hierarchy
- [HBASE-15365] - Do not write to '/tmp' in TestHBaseConfiguration
- [HBASE-15366] - Add doc, trace-level logging, and test around hfileblock
- [HBASE-15368] - Add pluggable window support
- [HBASE-15369] - Handle NPE in region.jsp
- [HBASE-15371] - Procedure V2 - Completed support parent-child procedure
- [HBASE-15373] - DEPRECATED_NAME_OF_NO_LIMIT_THROUGHPUT_CONTROLLER_CLASS value is wrong in CompactionThroughputControllerFactory
- [HBASE-15375] - Do not write to '/tmp' in TestRegionMover
- [HBASE-15376] - ScanNext metric is size-based while every other per-operation metric is time based
- [HBASE-15377] - Per-RS Get metric is time based, per-region metric is size-based
- [HBASE-15380] - Purge rollback support in Store etc.
- [HBASE-15384] - Avoid using '/tmp' directory in TestBulkLoad
- [HBASE-15386] - PREFETCH_BLOCKS_ON_OPEN in HColumnDescriptor is ignored
- [HBASE-15389] - Write out multiple files when compaction
- [HBASE-15390] - Unnecessary MetaCache evictions cause elevated number of requests to meta
- [HBASE-15392] - Single Cell Get reads two HFileBlocks
- [HBASE-15400] - Use DateTieredCompactor for Date Tiered Compaction
- [HBASE-15407] - Add SASL support for fan out OutputStream
- [HBASE-15412] - Add average region size metric
- [HBASE-15416] - TestHFileBackedByBucketCache is flakey since it went in
- [HBASE-15421] - Convert TestStoreScanner to junit4 from junit3 and clean up close of scanners
- [HBASE-15422] - Procedure v2 - Avoid double yield
- [HBASE-15435] - Add WAL (in bytes) written metric
- [HBASE-15460] - Fix infer issues in hbase-common
- [HBASE-15464] - Flush / Compaction metrics revisited
- [HBASE-15473] - Documentation for the usage of hbase dataframe user api (JSON, Avro, etc)
- [HBASE-15477] - Do not save 'next block header' when we cache hfileblocks
- [HBASE-15479] - No more garbage or beware of autoboxing
- [HBASE-15484] - Correct the semantic of batch and partial
- [HBASE-15488] - Add ACL for setting split merge switch
- [HBASE-15495] - Connection leak in FanOutOneBlockAsyncDFSOutputHelper
- [HBASE-15505] - ReplicationPeerConfig should be builder-style
- [HBASE-15513] - hbase.hregion.memstore.chunkpool.maxsize is 0.0 by default
- [HBASE-15518] - Add Per-Table metrics back
- [HBASE-15521] - Procedure V2 - RestoreSnapshot and CloneSnapshot
- [HBASE-15525] - OutOfMemory could occur when using BoundedByteBufferPool during RPC bursts
- [HBASE-15527] - Refactor Compactor related classes
- [HBASE-15532] - core favored nodes enhancements
- [HBASE-15533] - Add RSGroup Favored Balancer
- [HBASE-15536] - Make AsyncFSWAL as our default WAL
- [HBASE-15537] - Make multi WAL work with WALs other than FSHLog
- [HBASE-15538] - Implement secure async protobuf wal writer
- [HBASE-15539] - HBase Client region location is expensive
- [HBASE-15544] - HFileReaderImpl.readBlock allocates memory for HFileBlock on every call
- [HBASE-15545] - org.apache.hadoop.io.compress.DecompressorStream allocates too much memory
- [HBASE-15550] - Backport HBASE-12220 hedgedRead metrics to 1.2+
- [HBASE-15554] - StoreFile$Writer.appendGeneralBloomFilter generates extra KV
- [HBASE-15561] - See how G1GC works with MSLAB and chunk pool
- [HBASE-15568] - Procedure V2 - Remove CreateTableHandler in HBase Apache 2.0 release
- [HBASE-15575] - Rename table DDL *Handler methods in MasterObserver to more meaningful names
- [HBASE-15579] - Procedure V2 - Remove synchronized around nonce in Procedure submit
- [HBASE-15583] - Any HTD we give out should be immutable
- [HBASE-15628] - Implement an AsyncOutputStream which can work with any FileSystem implementation
- [HBASE-15640] - L1 cache doesn't give fair warning that it is showing partial stats only when it hits limit
- [HBASE-15648] - Reduce number of concurrent region location lookups when MetaCache entry is cleared
- [HBASE-15651] - Add report-flakies.py to use jenkins api to get failing tests
- [HBASE-15658] - RegionServerCallable / RpcRetryingCaller clear meta cache on retries
- [HBASE-15662] - Hook up JvmPauseMonitor to REST server
- [HBASE-15663] - Hook up JvmPauseMonitor to ThriftServer
- [HBASE-15665] - Support using different StoreFileComparators for different CompactionPolicies
- [HBASE-15671] - Add per-table metrics on memstore, storefile and regionsize
- [HBASE-15675] - Add more details about region on table.jsp
- [HBASE-15683] - Min latency in latency histograms are emitted as Long.MAX_VALUE
- [HBASE-15689] - Changes to hbase-personality.sh to include/exclude flaky tests
- [HBASE-15709] - Handle large edits for asynchronous WAL
- [HBASE-15721] - Optimization in cloning cells into MSLAB
- [HBASE-15728] - Add remaining per-table region / store / flush / compaction related metrics
- [HBASE-15735] - Tightening of the CP contract
- [HBASE-15740] - Replication source.shippedKBs metric is undercounting because it is in KB
- [HBASE-15743] - Add Transparent Data Encryption support for FanOutOneBlockAsyncDFSOutput

- [HBASE-15754] - Add testcase for AES encryption
- [HBASE-15762] - Consider hbase-client to be shaded by default in 2.0
- [HBASE-15763] - Isolate Wal related stuff from MasterFileSystem
- [HBASE-15776] - Replace master.am.getTableStateManager() with the direct master.getTableStateManager()
- [HBASE-15778] - replace master.am and master.sm direct access with getter calls
- [HBASE-15785] - Unnecessary lock in ByteBufferArray
- [HBASE-15786] - Create DBB backed MSLAB pool
- [HBASE-15787] - Change the flush related heuristics to work with offheap size configured
- [HBASE-15788] - Use Offheap ByteBuffers from BufferPool to read RPC requests.
- [HBASE-15789] - PB related changes to work with offheap
- [HBASE-15813] - Rename DefaultWALProvider to a more specific name and clean up unnecessary reference to it
- [HBASE-15825] - Fix the null pointer in DynamicLogicExpressionSuite
- [HBASE-15865] - Move TestTableDeleteFamilyHandler and TestTableDescriptorModification handler tests to procedure
- [HBASE-15872] - Split TestWALProcedureStore
- [HBASE-15883] - Adding WAL files and tracking offsets in HBase.
- [HBASE-15896] - Add timeout tests to flaky list from report-flakies.py
- [HBASE-15915] - Set timeouts on hanging tests
- [HBASE-15917] - Flaky tests dashboard
- [HBASE-15919] - Document @Rule vs @ClassRule. Also clarify timeout limits are on TestCase.
- [HBASE-15927] - Remove HMaster.assignRegion()
- [HBASE-15935] - Have a separate Walker task running concurrently with Generator
- [HBASE-15948] - Port "HADOOP-9956 RPC listener inefficiently assigns connections to readers"
- [HBASE-15971] - Regression: Random Read/WorkloadC slower in 1.x than 0.98
- [HBASE-15974] - Create a ReplicationQueuesClientHBaseImpl
- [HBASE-15984] - Given failure to parse a given WAL that was closed cleanly, replay the WAL.
- [HBASE-15985] - clarify promises about edits from replication in ref guide
- [HBASE-15991] - CompactingMemstore#InMemoryFlushRunnable should implement Comparable/Comparator
- [HBASE-15994] - Allow selection of RpcSchedulers
- [HBASE-15995] - Separate replication WAL reading from shipping
- [HBASE-15999] - NPE in MemstoreCompactor
- [HBASE-16013] - In-memory Compaction process can be improved for a default case
- [HBASE-16023] - Fastpath for the FIFO rpcscheduler
- [HBASE-16034] - Fix ProcedureTestingUtility#LoadCounter.setMaxProcId()
- [HBASE-16036] - Fix ReplicationTableBase initialization to make it non-blocking
- [HBASE-16038] - Ignore JVM crashes or machine shutdown failures in report-flakies
- [HBASE-16056] - Procedure v2 - fix master crash for FileNotFound
- [HBASE-16068] - Procedure v2 - use consts for conf properties in tests
- [HBASE-16080] - Fix flakey tests
- [HBASE-16082] - Procedure v2 - Move out helpers from MasterProcedureScheduler
- [HBASE-16083] - Fix table based replication related configs
- [HBASE-16092] - Procedure v2 - complete child procedure support
- [HBASE-16094] - Procedure v2 - Improve cleaning up of proc wals
- [HBASE-16101] - Procedure v2 - Perf Tool for WAL
- [HBASE-16102] - Procedure v2 - Print Procedure Graphs
- [HBASE-16119] - Procedure v2 - Reimplement merge
- [HBASE-16121] - Require only MasterServices to the ServerManager constructor
- [HBASE-16134] - Introduce Cell extension for server side.
- [HBASE-16143] - Change MemstoreScanner constructor to accept List<KeyValueScanner>
- [HBASE-16146] - Counters are expensive...
- [HBASE-16153] - Correct the config name 'hbase.memestore.inmemoryflush.threshold.factor'
- [HBASE-16155] - Compacting Memstore : Few log improvements
- [HBASE-16156] - In write heavy scenario creating in memory flushes leads to contention
- [HBASE-16162] - Compacting Memstore : unnecessary push of active segments to pipeline
- [HBASE-16163] - Compacting Memstore : CompactionPipeline#addFirst can use LinkedList#addFirst
- [HBASE-16164] - Missing close of new compacted segments in few occasions which might leak MSLAB chunks from pool
- [HBASE-16166] - Create a memstore impl that does not compact but creates pipelines and flushes all segments from pipeline
- [HBASE-16167] - Verify the sizing part of Compacting Memstore.
- [HBASE-16169] - Make RegionSizeCalculator scalable
- [HBASE-16176] - Bug fixes/improvements on HBASE-15650 Remove TimeRangeTracker as point of contention when many threads reading a StoreFile
- [HBASE-16181] - Allow snapshot of hbase:backup table
- [HBASE-16194] - Should count in MSLAB chunk allocation into heap size change when adding duplicate cells
- [HBASE-16195] - Should not add chunk into chunkQueue if not using chunk pool in HeapMemStoreLAB
- [HBASE-16205] - When Cells are not copied to MSLAB, deep clone it while adding to Memstore
- [HBASE-16208] - Make TableBasedReplicationQueuesImpl check that queue exists before attempting to remove it
- [HBASE-16214] - Add in UI description of Replication Table
- [HBASE-16217] - Identify calling user in ObserverContext
- [HBASE-16218] - Eliminate use of UGI.doAs() in AccessController testing
- [HBASE-16219] - Move meta bootstrap out of HMaster
- [HBASE-16229] - Cleaning up size and heapSize calculation
- [HBASE-16233] - Procedure V2: Support acquire/release shared table lock concurrently
- [HBASE-16236] - Typo in javadoc of InstancePending

- [HBASE-16257] - Move staging dir to be under hbase root dir
- [HBASE-16261] - MultiHFileOutputFormat Enhancement
- [HBASE-16263] - Move all to do w/ protobuf -- *.proto files and generated classes -- under hbase-protocol
- [HBASE-16264] - Figure how to deal with endpoints and shaded pb
- [HBASE-16279] - Separate and rewrite intro and quickstart
- [HBASE-16280] - Use hash based map in SequenceIdAccounting
- [HBASE-16285] - Drop RPC requests if it must be considered as timeout at client
- [HBASE-16286] - When TagRewriteCell are not copied to MSLAB, deep clone it while adding to Memstore
- [HBASE-16308] - Contain protobuf references
- [HBASE-16311] - Audit log for delete snapshot operation is missing in case of snapshot owner deleting the same
- [HBASE-16317] - revert all ESAPI changes
- [HBASE-16318] - fail build if license isn't in whitelist
- [HBASE-16321] - Ensure findbugs jsr305 jar isn't present
- [HBASE-16336] - Removing peers seems to be leaving spare queues
- [HBASE-16372] - References to previous cell in read path should be avoided
- [HBASE-16378] - Procedure v2 - Make ProcedureException extend HBaseException
- [HBASE-16398] - optimize HRegion computeHDFSBlocksDistribution
- [HBASE-16404] - Make DeleteBloomFilters work with BloomContext
- [HBASE-16405] - Change read path Bloom check to work with Cells with out any copy
- [HBASE-16407] - Handle MemstoreChunkPool size when HeapMemoryManager tunes memory
- [HBASE-16417] - In-Memory MemStore Policy for Flattening and Compactions
- [HBASE-16433] - Remove AsyncRpcChannel related stuffs
- [HBASE-16435] - Implement RpcChannel for RpcClientImpl
- [HBASE-16437] - Refactor MSLAB and Chunkpool to create ChunkIds
- [HBASE-16440] - MemstoreChunkPool might cross its maxCount of chunks to pool
- [HBASE-16445] - Refactor and reimplement RpcClient
- [HBASE-16451] - Procedure v2 - Test WAL protobuf entry size limit
- [HBASE-16452] - Procedure v2 - Make ProcedureWALPrettyPrinter extend Tool
- [HBASE-16474] - Remove dfs.support.append related code and documentation
- [HBASE-16475] - Remove SequenceFile based WAL
- [HBASE-16476] - Remove HLogKey
- [HBASE-16477] - Remove Writable interface and related code from WALEdit/WALKey
- [HBASE-16478] - Rename WALKey in PB to WALEdit
- [HBASE-16479] - Move WALEdit from hbase.regionserver.wal package to hbase.wal package
- [HBASE-16480] - Merge WALEdit and WALKey
- [HBASE-16485] - Procedure V2 - Add support to addChildProcedure() as last "step" in StateMachineProcedure
- [HBASE-16505] - Save deadline in RpcCallContext according to request's timeout
- [HBASE-16507] - Procedure v2 - Force DDL operation to always roll forward
- [HBASE-16510] - Reset RpcController before retry
- [HBASE-16513] - Documentation for new RowIndex DataBlockEncoding
- [HBASE-16516] - Revisit the implementation of PayloadCarryingRpcController
- [HBASE-16519] - Procedure v2 - Avoid sync wait on DDLs operation
- [HBASE-16522] - Procedure v2 - Cache system user and avoid IOException
- [HBASE-16524] - Procedure v2 - Compute WALs cleanup on wal modification and not on every sync
- [HBASE-16526] - Add more ipc tests
- [HBASE-16530] - Reduce DBE code duplication
- [HBASE-16531] - Move cell block related code out of IPCUtil
- [HBASE-16532] - Procedure-V2: Enforce procedure ownership at submission
- [HBASE-16533] - Procedure v2 - Extract chore from the executor
- [HBASE-16534] - Procedure v2 - Perf Tool for Scheduler
- [HBASE-16537] - Add tests to verify create/modify table region reopen with missing coprocessor
- [HBASE-16543] - Separate Create/Modify Table operations from open/reopen regions
- [HBASE-16548] - Procedure v2 - Add handling of split region transition to the new AM
- [HBASE-16549] - Procedure v2 - Add new AM metrics
- [HBASE-16550] - Procedure v2 - Add AM compatibility for 2.x Master and 1.x RSs
- [HBASE-16554] - Procedure V2 - Recover 'updated' part of WAL tracker if trailer is corrupted.
- [HBASE-16566] - Add nonce support to TableBackupProcedure
- [HBASE-16570] - Compute region locality in parallel at startup
- [HBASE-16586] - Procedure v2 - Cleanup sched wait/lock semantic
- [HBASE-16587] - Procedure v2 - Cleanup suspended proc execution
- [HBASE-16592] - Unify Delete request with AP
- [HBASE-16594] - ROW_INDEX_V2 DBE
- [HBASE-16596] - Reduce redundant interfaces in AsyncProcess
- [HBASE-16608] - Introducing the ability to merge ImmutableSegments without copy-compaction or SQM usage
- [HBASE-16618] - Procedure v2 - Add base class for table and ns procedures
- [HBASE-16626] - User customized RegionScanner from 1.X is incompatible with 2.0.0's off-heap part
- [HBASE-16642] - Procedure V2: Use DelayQueue instead of TimeoutBlockingQueue
- [HBASE-16648] - [JDK8] Use computeIfAbsent instead of get and putIfAbsent
- [HBASE-16650] - Wrong usage of BlockCache eviction stat for heap memory tuning
- [HBASE-16651] - LRUBlockCache#returnBlock should try return block to Victim Handler L2 cache.
- [HBASE-16656] - BackupID must include backup set name
- [HBASE-16673] - Enhance history command: history per backup set

- [HBASE-16695] - Procedure v2 - Support for parent holding locks
- [HBASE-16735] - Procedure v2 - Fix yield while holding locks
- [HBASE-16738] - L1 cache caching shared memory HFile block when blocks promoted from L2 to L1
- [HBASE-16741] - Amend the generate protobufs out-of-band build step to include shade, pulling in protobuf source and a hook for patching protobuf
- [HBASE-16742] - Add chapter for devs on how we do protobufs going forward
- [HBASE-16744] - Procedure V2 - Lock procedures to allow clients to acquire locks on tables/namespaces/regions
- [HBASE-16747] - Track memstore data size and heap overhead separately
- [HBASE-16758] - Bring back HBaseZeroCopyByteStringer stuff
- [HBASE-16759] - Avoid ByteString.copyFrom usage wherever possible
- [HBASE-16760] - Deprecate ByteString related methods in Bytes.java
- [HBASE-16779] - Avoid create/disable/delete for each verification in testIllegalTableDescriptor
- [HBASE-16786] - Procedure V2 - Move ZK-lock's uses to Procedure framework locks (LockProcedure)
- [HBASE-16799] - CP exposed Store should not expose unwanted APIs
- [HBASE-16802] - Procedure v2 - group procedure cleaning
- [HBASE-16813] - Procedure v2 - Move ProcedureEvent to hbase-procedure module
- [HBASE-16826] - Backup command-line tool fails if defaultFS is not set in configuration
- [HBASE-16827] - Backup.proto refactoring
- [HBASE-16828] - Make backup command-line tool interface consistent
- [HBASE-16831] - Procedure V2 - Remove org.apache.hadoop.hbase.zookeeper.lock
- [HBASE-16834] - Add AsyncConnection support for ConnectionFactory
- [HBASE-16835] - Revisit the zookeeper usage at client side
- [HBASE-16836] - Implement increment and append
- [HBASE-16837] - Implement checkAndPut and checkAndDelete
- [HBASE-16838] - Implement basic scan
- [HBASE-16839] - Procedure v2 - Move all protobuf handling to ProcedureUtil
- [HBASE-16846] - Procedure v2 - executor cleanup
- [HBASE-16859] - Use Bytebuffer pool for non java clients specifically for scans/gets
- [HBASE-16860] - BackupCopyService#Type refactoring
- [HBASE-16861] - Rename Service to Task
- [HBASE-16863] - Move Backup constants from HConstants to BackupRestoreConstants
- [HBASE-16864] - Procedure v2 - Fix StateMachineProcedure support for child procs at last step
- [HBASE-16865] - Procedure v2 - Inherit lock from root proc
- [HBASE-16867] - Procedure V2 - Check ACLs for remote HBaseLock
- [HBASE-16871] - Procedure v2 - add waiting procs back to the queue after restart
- [HBASE-16872] - Implement mutateRow and checkAndMutate
- [HBASE-16874] - Fix TestMasterFailoverWithProcedures and ensure single proc-executor for kill/restart tests
- [HBASE-16890] - Analyze the performance of AsyncWAL and fix the same
- [HBASE-16891] - Try copying to the Netty ByteBuf directly from the WALEdit
- [HBASE-16892] - Use TableName instead of String in SnapshotDescription
- [HBASE-16932] - Implement small scan
- [HBASE-16937] - Replace SnapshotType protobuf conversion when we can directly use the pojo object
- [HBASE-16940] - Address review of "Backup/Restore (HBASE-7912, HBASE-14030, HBASE-14123) mega patch" posted on RB
- [HBASE-16941] - FavoredNodes - Split/Merge code paths
- [HBASE-16942] - Add FavoredStochasticLoadBalancer and FN Candidate generators
- [HBASE-16943] - FN Interfaces for writing tools for monitoring/operations
- [HBASE-16945] - Implement AsyncRegionLocator
- [HBASE-16954] - Unify HTable#checkAndDelete with AP
- [HBASE-16956] - Refactor FavoredNodePlan to use regionNames as keys
- [HBASE-16968] - Refactor FanOutOneBlockAsyncDFSOutput
- [HBASE-16970] - Clarify misleading Scan.java comment about caching
- [HBASE-16982] - Better integrate Apache CLI in AbstractHBaseTool
- [HBASE-16984] - Implement getScanner
- [HBASE-16986] - Add note on how scanner caching has changed since 0.98 to refguid
- [HBASE-16991] - Make the initialization of AsyncConnection asynchronous
- [HBASE-17008] - Examples, Doc, and Helper Classes to make AsyncClient go down easy
- [HBASE-17012] - Handle Offheap cells in CompressedKvEncoder
- [HBASE-17017] - Remove the current per-region latency histogram metrics
- [HBASE-17021] - Use RingBuffer to reduce the contention in AsyncFSWAL
- [HBASE-17029] - Procedure v2 - A couple of tweaks to the SplitTableRegionProcedure
- [HBASE-17030] - Procedure v2 - A couple of tweaks to the SplitTableRegionProcedure
- [HBASE-17035] - Check why we roll a wal writer at 10MB when the configured roll size is 120M+ with AsyncFSWAL
- [HBASE-17036] - Unify HTable#checkAndPut with AP
- [HBASE-17045] - Unify the implementation of small scan and regular scan
- [HBASE-17048] - Calcuate suitable ByteBuf size when allocating send buffer in FanOutOneBlockAsyncDFSOutput
- [HBASE-17049] - Find out why AsyncFSWAL issues much more syncs than FSHLog
- [HBASE-17050] - Upgrade Apache CLI version from 1.2 to 1.3.1
- [HBASE-17053] - Remove LogRollerExitedChecker
- [HBASE-17066] - Procedure v2 - Add handling of merge region transition to the new AM
- [HBASE-17067] - Procedure v2 - remove tryAcquire*Lock and use wait/wake to make framework event based
- [HBASE-17068] - Procedure v2 - inherit region locks
- [HBASE-17071] - Do not initialize MemstoreChunkPool when use mslab option is turned off

- [HBASE-17073] - Increase the max number of buffers in ByteBufferPool
- [HBASE-17081] - Flush the entire CompactingMemStore content to disk
- [HBASE-17085] - AsyncFSWAL may issue unnecessary AsyncDFSOutput.sync
- [HBASE-17087] - Enable Aliasing for CodedInputStream created by ByteInputByteString#newCodedInput
- [HBASE-17089] - Add doc on experience running with hedged reads
- [HBASE-17090] - Procedure v2 - fast wake if nothing else is running
- [HBASE-17097] - Documentation for max off heap configuration
- [HBASE-17100] - Implement Chore to sync FN info from Master to RegionServers
- [HBASE-17101] - FavoredNodes should not apply to system tables
- [HBASE-17107] - FN info should be cleaned up on region/table cleanup
- [HBASE-17111] - Use Apache CLI in SnapshotInfo tool
- [HBASE-17132] - Cleanup deprecated code for WAL
- [HBASE-17139] - Remove sweep tool related configs from hbase-default.xml
- [HBASE-17141] - Introduce a more user-friendly implementation of AsyncTable
- [HBASE-17142] - Implement multi get
- [HBASE-17148] - Procedure v2 - add bulk proc submit
- [HBASE-17149] - Procedure V2 - Fix nonce submission to avoid unnecessary calling coprocessor multiple times
- [HBASE-17153] - Add FavoredNode checks to hbck -checkFavoredNodes
- [HBASE-17162] - Avoid unconditional call to getXXXArray() in write path
- [HBASE-17167] - Pass mvcc to client when scan
- [HBASE-17168] - Use a cell as the start point of a scan internally
- [HBASE-17169] - Remove Cell variants with ShareableMemory
- [HBASE-17177] - Compaction can break the region/row level atomic when scan even if we pass mvcc to client
- [HBASE-17183] - Handle ByteBufferCell while making TagRewriteCell
- [HBASE-17195] - Split/Merge - Update of FN info along with regionState change
- [HBASE-17198] - FN updates during region merge (follow up to Procedure v2 merge)
- [HBASE-17201] - Edit of HFileBlock comments and javadoc
- [HBASE-17210] - Set timeout on trying rowlock according to client's RPC timeout
- [HBASE-17223] - Make COS#newInstance(ByteOutput, int) as public API.
- [HBASE-17244] - Refactor StartcodeAgnosticServerName so it doesn't extend ServerName
- [HBASE-17251] - Add a timeout parameter when locating region
- [HBASE-17260] - Procedure v2 - Add setOwner() overload taking a User instance
- [HBASE-17262] - Refactor RpcServer so as to make it extendable and/or pluggable
- [HBASE-17263] - Netty based rpc server impl
- [HBASE-17268] - Add OffheapMemoryTuner
- [HBASE-17277] - Allow alternate BufferedMutator implementation
- [HBASE-17281] - FN should use datanode port from hdfs configuration
- [HBASE-17282] - Reduce the redundant requests to meta table
- [HBASE-17294] - External Configuration for Memory Compaction
- [HBASE-17299] - Add integration tests for FavoredNodes feature
- [HBASE-17312] - [JDK8] Use default method for Observer Coprocessors
- [HBASE-17313] - Add BufferedMutatorParams#clone method
- [HBASE-17316] - Addendum to HBASE-17294, 'External Configuration for Memory Compaction'
- [HBASE-17320] - Add inclusive/exclusive support for startRow and endRow of scan
- [HBASE-17334] - Add locate row before/after support for AsyncRegionLocator
- [HBASE-17335] - enable/disable replication peer requests should be routed through master
- [HBASE-17336] - get/update replication peer config requests should be routed through master
- [HBASE-17337] - list replication peers request should be routed through master
- [HBASE-17338] - Treat Cell data size under global memstore heap size only when that Cell can not be copied to MSLAB
- [HBASE-17345] - Implement batch
- [HBASE-17346] - Add coprocessor service support
- [HBASE-17349] - Add doc for regionserver group-based assignment
- [HBASE-17350] - Fixup of regionserver group-based assignment
- [HBASE-17355] - Create a simplifed version of flush scanner
- [HBASE-17356] - Add replica read support
- [HBASE-17358] - Unify backoff calculation
- [HBASE-17360] - Add REGION/ROW/NONE consistency level for scan
- [HBASE-17367] - Make HTable#getBufferedMutator thread safe
- [HBASE-17372] - Make AsyncTable thread safe
- [HBASE-17373] - Reverse the order of snapshot creation in the CompactingMemStore
- [HBASE-17386] - Adding FN documentation to reference guide
- [HBASE-17388] - Move ReplicationPeer and other replication related PB messages to the replication.proto
- [HBASE-17389] - Convert all internal usages from ReplicationAdmin to Admin
- [HBASE-17396] - Add first async admin impl and implement balance methods
- [HBASE-17402] - TestAsyncTableScan sometimes hangs
- [HBASE-17409] - Re-fix XSS request issue in JMXJsonServlet
- [HBASE-17410] - Use isEmpty instead of size() == 0 in hbase-client
- [HBASE-17416] - Use isEmpty instead of size() == 0 in hbase-protocol-shaded
- [HBASE-17442] - Move most of the replication related classes to hbase-server package
- [HBASE-17443] - Move listReplicated/enableTableRep/disableTableRep methods from ReplicationAdmin to Admin
- [HBASE-17470] - Remove merge region code from region server
- [HBASE-17480] - Remove split region code from Region Server

- [HBASE-17483] - Add equals/hashcode for OffheapKeyValue
- [HBASE-17484] - Add non cached version of OffheapKV for write path
- [HBASE-17491] - Remove all setters from HTable interface and introduce a TableBuilder to build Table instance
- [HBASE-17492] - Fix the compacting memstore part in hbase shell ruby script
- [HBASE-17497] - Add first async MetaTableAccessor impl and Implement tableExists method
- [HBASE-17498] - Implement listTables and listTableNames methods
- [HBASE-17500] - Implement getTable/creatTable/deleteTable/truncateTable methods
- [HBASE-17508] - Unify the implementation of small scan and regular scan for sync client
- [HBASE-17511] - Implement enable/disable table methods
- [HBASE-17520] - Implement isTableEnabled/Disabled/Available methods
- [HBASE-17526] - Procedure v2 - cleanup isSuspended from MasterProcedureScheduler#Queue
- [HBASE-17530] - Readd TestMergeTableRegionsProcedure mistakenly removed by HBASE-16786
- [HBASE-17537] - Remove Queue#isAvailable() since we have waits/wakes after HBASE-17067
- [HBASE-17554] - Figure 2.0.0 Hadoop Version Support; update refguide
- [HBASE-17561] - table status page should escape values that may contain arbitrary characters.
- [HBASE-17562] - Remove documentation for coprocessor execution times after HBASE-14205
- [HBASE-17566] - Jetty upgrade fixes
- [HBASE-17570] - rsgroup server move can get stuck if unassigning fails
- [HBASE-17571] - Add batch coprocessor service support
- [HBASE-17575] - Run critical tests with each of the Inmemory Compaction Policies enabled (Towards Making BASIC the Default In-Memory Compaction Policy)
- [HBASE-17580] - Tooling to move table out of FAILED_OPEN state
- [HBASE-17583] - Add inclusive/exclusive support for startRow and endRow of scan for sync client
- [HBASE-17584] - Expose ScanMetrics with ResultScanner rather than Scan
- [HBASE-17589] - Add doc for regionserver groups feature
- [HBASE-17595] - Add partial result support for small/limited scan
- [HBASE-17596] - Implement add/delete/modify column family methods
- [HBASE-17599] - Use mayHaveMoreCellsInRow instead of isPartial
- [HBASE-17600] - Implement get/create/modify/delete/list namespace admin operations
- [HBASE-17608] - Add suspend support for RawScanResultConsumer
- [HBASE-17615] - Use nonce and procedure v2 for add/remove replication peer
- [HBASE-17619] - Add async admin Impl which connect to RegionServer and implement close region methods.
- [HBASE-17620] - Move table to another group (add -migrateTertiary)
- [HBASE-17626] - Refactor HRegionServer to use regionNames as keys for FN
- [HBASE-17644] - Always create ByteBufferCells after copying to MSLAB
- [HBASE-17646] - Implement Async getRegion method
- [HBASE-17647] - OffheapKeyValue#heapSize() implementation is wrong
- [HBASE-17656] - Move new Address class from util to net package
- [HBASE-17662] - Disable in-memory flush when replaying from WAL
- [HBASE-17667] - Implement async flush/compact region methods
- [HBASE-17668] - Implement async assgin/offline/move/unassign methods
- [HBASE-17669] - Implement async mergeRegion/splitRegion methods.
- [HBASE-17683] - Admin API to update favored nodes in Master
- [HBASE-17684] - Tools/API to read favored nodes for region(s)
- [HBASE-17685] - Tools/Admin API to dump the replica load of server(s)
- [HBASE-17691] - Add ScanMetrics support for async scan
- [HBASE-17730] - Migration to 2.0 for coprocessors
- [HBASE-17740] - Correct the semantic of batch and partial for async client
- [HBASE-17745] - Support short circuit connection for master services
- [HBASE-17765] - Reviving the merge possibility in the CompactingMemStore
- [HBASE-17786] - Create LoadBalancer perf-tests (test balancer algorithm decoupled from workload)
- [HBASE-17787] - Drop rollback for all procedures; not useful afterall
- [HBASE-17790] - Mark ReplicationAdmin's peerAdded and listReplicationPeers as Deprecated
- [HBASE-17795] - Async ReplicationSource
- [HBASE-17805] - We should remove BoundedByteBufferPool because it is replaced by ByteBufferPool
- [HBASE-17809] - cleanup unused class
- [HBASE-17819] - Reduce the heap overhead for BucketCache
- [HBASE-17838] - Replace fixed Executor Threads with dynamic thread pool
- [HBASE-17844] - Subset of HBASE-14614, Procedure v2: Core Assignment Manager (non-critical related changes)
- [HBASE-17850] - Backup system restore /repair utility
- [HBASE-17851] - [TEST]: WAL to HFile conversion phase MUST detect and handle missing WAL files
- [HBASE-17852] - Add Fault tolerance to HBASE-14417 (Support bulk loaded files in incremental backup)
- [HBASE-17855] - Fix typo in async client implementation
- [HBASE-17857] - Remove IS annotations from IA.Public classes
- [HBASE-17858] - Update refguide about the IS annotation if necessary
- [HBASE-17864] - Implement async snapshot/cloneSnapshot/restoreSnapshot methods
- [HBASE-17865] - Implement async listSnapshot/deleteSnapshot methods.
- [HBASE-17866] - Implement async setQuota/getQuota methods.
- [HBASE-17867] - Implement async procedure RPC API(list/exec/abort/isFinished)

Brainstorming

- [HBASE-6992] - Coprocessors semantic issues: post async operations, helper methods, ...
- [HBASE-11208] - Remove the hbase.hstore.blockingStoreFiles setting
- [HBASE-12859] - New master API to track major compaction completion
- [HBASE-14869] - Better request latency and size histograms

Bug

- [HBASE-1989] - Admin (et al.) not accurate with Column vs. Column-Family usage
- [HBASE-4931] - CopyTable instructions could be improved.
- [HBASE-5401] - PerformanceEvaluation generates 10x the number of expected mappers
- [HBASE-5839] - Backup master not starting up due to Bind Exception while starting HttpServer
- [HBASE-5878] - Use getVisibleLength public api from HdfsDataInputStream from Hadoop-2.
- [HBASE-6416] - hbck dies on NPE when a region folder exists but the table does not
- [HBASE-6562] - Fake KVs are sometimes passed to filters
- [HBASE-6581] - Build with hadoop.profile=3.0
- [HBASE-6778] - Deprecate Chore; its a thread per task when we should have one thread to do all tasks
- [HBASE-6970] - hbase-deamon.sh creates/updates pid file even when that start failed.
- [HBASE-6994] - minor doc update about DEFAULT_ACCEPTABLE_FACTOR
- [HBASE-7013] - Avoid reusing a input stream that stumbles on rpc-timeout in HBaseClient
- [HBASE-7105] - RS throws NPE on forcing compaction from HBase shell on a single bulk imported file.
- [HBASE-7108] - Don't use legal family name for system folder at region level
- [HBASE-7211] - Improve hbase ref guide for the testing part.
- [HBASE-7245] - Recovery on failed snapshot restore
- [HBASE-7320] - Remove KeyValue.getBuffer()
- [HBASE-7326] - SortedCopyOnWriteSet is not thread safe due to leaked TreeSet implementations
- [HBASE-7332] - [webui] HMaster webui should display the number of regions a table has.
- [HBASE-7579] - HTableDescriptor equals method fails if results are returned in a different order
- [HBASE-7621] - REST client (RemoteHTable) doesn't support binary row keys
- [HBASE-8026] - HBase Shell docs for scan command does not reference VERSIONS
- [HBASE-8028] - Append, Increment: Adding rollback support
- [HBASE-8075] - HRegion preClose hook is getting called multiple times for single close
- [HBASE-8091] - Goraci test might rewrite data in case of map task failures, which eclipses data loss problems
- [HBASE-8473] - add note to ref guide about snapshots and ec2 reverse dns requirements.
- [HBASE-8674] - JUnit and Surefire TRUNK-HBASE-2 plugins need a new home
- [HBASE-8725] - Add total time RPC call metrics
- [HBASE-8808] - Use Jacoco to generate Unit Test coverage reports
- [HBASE-8936] - Fixing TestSplitLogWorker while running Jacoco tests.
- [HBASE-8942] - DFS errors during a read operation (get/scan), may cause write outliers
- [HBASE-9003] - TableMapReduceUtil should not rely on org.apache.hadoop.util.JarFinder#getJar
- [HBASE-9005] - Improve documentation around KEEP_DELETED_CELLS, time range scans, and delete markers
- [HBASE-9049] - Generalize ServerCallable creation to support custom callables
- [HBASE-9117] - Remove HTablePool and all HConnection pooling related APIs
- [HBASE-9393] - Hbase does not closing a closed socket resulting in many CLOSE_WAIT
- [HBASE-9417] - SecureBulkLoadEndpoint should be folded in core
- [HBASE-9431] - Set 'hbase.bulkload.retries.number' to 10 as HBASE-8450 claims
- [HBASE-9473] - Change UI to list 'system tables' rather than 'catalog tables'.
- [HBASE-9591] - [replication] getting "Current list of sinks is out of date" all the time when a source is recovered
- [HBASE-9702] - Change unittests that use "table" or "testtable" to use method names.
- [HBASE-9738] - Delete table and loadbalancer interference
- [HBASE-9745] - Append HBASE_CLASSPATH to end of Java classpath and use another env var for prefix
- [HBASE-9746] - RegionServer can't start when replication tries to replicate to an unknown host
- [HBASE-9763] - Scan javadoc doesn't fully capture semantics of start and stop row
- [HBASE-9910] - TestHFilePerformance and HFilePerformanceEvaluation should be merged in a single HFile performance test class.
- [HBASE-9942] - hbase Scanner specifications accepting wrong specifier and then after scan using correct specifier returning unexpected result
- [HBASE-10205] - ConcurrentModificationException in BucketAllocator
- [HBASE-10314] - Add Chaos Monkey that doesn't touch the master
- [HBASE-10462] - Recategorize some of the client facing Public / Private interfaces
- [HBASE-10499] - In write heavy scenario one of the regions does not get flushed causing RegionTooBusyException
- [HBASE-10528] - DefaultBalancer selects plans to move regions onto draining nodes
- [HBASE-10536] - ImportTsv should fail fast if any of the column family passed to the job is not present in the table
- [HBASE-10619] - Don't allow non super users to do DDL ops on system tables
- [HBASE-10728] - get_counter value is never used.
- [HBASE-10748] - hbase-daemon.sh fails to execute with 'sh' command
- [HBASE-10757] - Change HTable class doc so it sends people to HCM getting instances
- [HBASE-10761] - StochasticLoadBalancer still uses SimpleLoadBalancer's needBalance logic
- [HBASE-10780] - HFilePrettyPrinter#processFile should return immediately if file does not exist
- [HBASE-10844] - Coprocessor failure during batchmutation leaves the memstore datastructs in an inconsistent state
- [HBASE-10933] - hbck -fixHdfsOrphans is not working properly it throws null pointer exception
- [HBASE-11006] - Cannot create 'data' table
- [HBASE-11064] - Odd behaviors of TableName for empty namespace

- [HBASE-11099] - Two situations where we could open a region with smaller sequence number
- [HBASE-11118] - non environment variable solution for "IllegalAccessError: class com.google.protobuf.ZeroCopyLiteralByteString cannot access its superclass com.google.protobuf.LiteralByteString"
- [HBASE-11145] - UNEXPECTED!!! when HLog sync: Queue full
- [HBASE-11153] - Document that http webUI's should redirect to https when enabled
- [HBASE-11266] - Remove shaded references to logger
- [HBASE-11297] - Remove some synchros in the rpcServer responder
- [HBASE-11316] - Expand info about compactions beyond HBASE-11120
- [HBASE-11333] - Remove deprecated class MetaMigrationConvertingToPB
- [HBASE-11394] - Replication can have data loss if peer id contains hyphen "-"
- [HBASE-11399] - Improve Quickstart chapter and move Pseudo-distributed and distributed to it
- [HBASE-11405] - Multiple invocations of hbck in parallel disables balancer permanently
- [HBASE-11413] - [findbugs] RV: Negating the result of compareTo()/compare()
- [HBASE-11422] - Specification of scope is missing for certain Hadoop dependencies
- [HBASE-11423] - Visibility label and per cell ACL feature not working with HTable#mutateRow() and MultiRowMutationEndpoint
- [HBASE-11435] - Visibility labelled cells fail to getting replicated
- [HBASE-11439] - StripeCompaction may not obey the OffPeak rule to compaction
- [HBASE-11442] - ReplicationSourceManager doesn't cleanup the queues for recovered sources
- [HBASE-11445] - TestZKProcedure#testMultiCohortWithMemberTimeoutDuringPrepare is flaky
- [HBASE-11449] - IntegrationTestIngestWithACL fails to use different users after HBASE-10810
- [HBASE-11458] - NPEs if RegionServer cannot initialize
- [HBASE-11460] - Deadlock in HMaster on masterAndZKLock in HConnectionManager
- [HBASE-11463] - (findbugs) HE: Class defines equals() and uses Object.hashCode()
- [HBASE-11465] - [VisibilityController] Reserved tags check not happening for Append/Increment
- [HBASE-11475] - Distributed log replay should also replay compaction events
- [HBASE-11476] - Expand 'Conceptual View' section of Data Model chapter
- [HBASE-11477] - book.xml has Docbook validity issues (again)
- [HBASE-11481] - TableSnapshotInputFormat javadoc wrongly claims HBase "enforces security"
- [HBASE-11487] - ScanResponse carries non-zero cellblock for CloseScanRequest (ScanRequest with close_scanner = true)
- [HBASE-11488] - cancelTasks in SubprocedurePool can hang during task error
- [HBASE-11489] - ClassNotFoundException while running IT tests in trunk using 'mvn verify'
- [HBASE-11492] - Hadoop configuration overrides some ipc parameters including tcpNoDelay
- [HBASE-11493] - Autorestart option is not working because of stale znode "shutdown"
- [HBASE-11496] - HBASE-9745 broke cygwin CLASSPATH translation
- [HBASE-11499] - AsyncProcess.buildDetailedErrorMessage concatenates strings using + in a loop
- [HBASE-11500] - Possible null pointer dereference of regionLocation in ReversedScannerCallable
- [HBASE-11502] - Track down broken images in Ref Guide
- [HBASE-11505] - 'snapshot' shell command shadows 'snapshot' shell when 'help' is invoked
- [HBASE-11506] - IntegrationTestWithCellVisibilityLoadAndVerify allow User to be passed as arg
- [HBASE-11509] - Forward port HBASE-11039 to trunk and branch-1 after HBASE-11489
- [HBASE-11510] - Visibility serialization format tag gets duplicated in Append/Increment'ed cells
- [HBASE-11514] - Fix findbugs warnings in blockcache
- [HBASE-11517] - TestReplicaWithCluster turns zombie
- [HBASE-11518] - doc update for how to create non-shared HConnection
- [HBASE-11521] - Modify pom.xml to copy the images/ and css/ directories to the right location for the Ref Guide to see them correctly
- [HBASE-11522] - Move Replication information into the Ref Guide
- [HBASE-11523] - JSON serialization of PE Options is broke
- [HBASE-11525] - Region server holding in region states is out of sync with meta
- [HBASE-11527] - Cluster free memory limit check should consider L2 block cache size also when L2 cache is onheap.
- [HBASE-11529] - Images and CSS still don't work properly on both html and html-single book
- [HBASE-11530] - RegionStates adds regions to wrong servers
- [HBASE-11531] - RegionStates for regions under region-in-transition znode are not updated on startup
- [HBASE-11534] - Remove broken JAVA_HOME autodetection in hbase-config.sh
- [HBASE-11535] - ReplicationPeer map is not thread safe
- [HBASE-11536] - Puts of region location to Meta may be out of order which causes inconsistent of region location
- [HBASE-11537] - Avoid synchronization on instances of ConcurrentMap
- [HBASE-11539] - Expand info about contributing to and building documentation
- [HBASE-11540] - Document HBASE-11474
- [HBASE-11541] - Wrong result when scaning meta with startRow
- [HBASE-11542] - Unit Test KeyStoreTestUtil.java compilation failure in IBM JDK
- [HBASE-11544] - [Ergonomics] hbase.client.scanner.caching is dogged and will try to return batch even if it means OOME
- [HBASE-11545] - mapred.TableSnapshotInputFormat is missing InterfaceAudience annotation
- [HBASE-11550] - Custom value for BUCKET_CACHE_BUCKETS_KEY should be sorted
- [HBASE-11551] - BucketCache$WriterThread.run() doesn't handle exceptions correctly
- [HBASE-11554] - Remove Reusable poolmap Rpc client type.
- [HBASE-11555] - TableSnapshotRegionSplit should be public
- [HBASE-11556] - Move HTablePool to hbase-thrift module.
- [HBASE-11558] - Caching set on Scan object gets lost when using TableMapReduceUtil in 0.95+
- [HBASE-11560] - hbase.regionserver.global.memstore.size is documented twice
- [HBASE-11561] - deprecate ImmutableBytesWritable.getSize and replace with getLength
- [HBASE-11562] - CopyTable should provide an option to shuffle the mapper tasks
- [HBASE-11564] - Improve cancellation management in the rpc layer

- [HBASE-11565] - Stale connection could stay for a while
- [HBASE-11575] - Pseudo distributed mode does not work as documented
- [HBASE-11579] - CopyTable should check endtime value only if != 0
- [HBASE-11586] - HFile's HDFS op latency sampling code is not used
- [HBASE-11588] - RegionServerMetricsWrapperRunnable misused the 'period' parameter
- [HBASE-11589] - AccessControlException should be a not retriable exception
- [HBASE-11590] - use a specific ThreadPoolExecutor
- [HBASE-11591] - Scanner fails to retrieve KV from bulk loaded file with highest sequence id than the cell's mvcc in a non-bulk loaded file
- [HBASE-11593] - TestCacheConfig failing consistently in precommit builds
- [HBASE-11594] - Unhandled NoNodeException in distributed log replay mode
- [HBASE-11603] - Apply version of HADOOP-8027 to our JMXJsonServlet
- [HBASE-11609] - LoadIncrementalHFiles fails if the namespace is specified
- [HBASE-11617] - incorrect AgeOfLastAppliedOp and AgeOfLastShippedOp in replication Metrics when no new replication OP
- [HBASE-11620] - Record the class name of Writer in WAL header so that only proper Reader can open the WAL file
- [HBASE-11625] - Reading datablock throws "Invalid HFile block magic" and can not switch to hdfs checksum
- [HBASE-11627] - RegionSplitter's rollingSplit terminated with "/ by zero", and the _balancedSplit file was not deleted properly
- [HBASE-11629] - Operational concerns for Replication should call out ZooKeeper
- [HBASE-11632] - Region split needs to clear force split flag at the end of SplitRequest run
- [HBASE-11640] - Add syntax highlighting support to HBase Ref Guide programlistings
- [HBASE-11648] - Typo of config: hbase.hstore.compaction.ratio in book.xml
- [HBASE-11658] - Piped commands to hbase shell should return non-zero if shell command failed.
- [HBASE-11659] - Region state RPC call is not idempotent
- [HBASE-11661] - Quickstart chapter claims standalone mode has multiple processes
- [HBASE-11662] - Launching shell with long-form --debug fails
- [HBASE-11665] - TestRegionReplicas doesn't work for me
- [HBASE-11668] - Re-add HBASE_LIBRARY_PATH to bin/hbase
- [HBASE-11671] - TestEndToEndSplitTransaction fails on master
- [HBASE-11678] - BucketCache ramCache fills heap after running a few hours
- [HBASE-11685] - Incr/decr on the reference count of HConnectionImplementation need be atomic
- [HBASE-11687] - No need to abort on postOpenDeployTasks exception if region opening is cancelled
- [HBASE-11689] - Track meta in transition
- [HBASE-11703] - Meta region state could be corrupted
- [HBASE-11705] - callQueueSize should be decremented in a fail-fast scenario
- [HBASE-11708] - RegionSplitter incorrectly calculates splitcount
- [HBASE-11709] - TestMasterShutdown can fail sometime
- [HBASE-11711] - In some environment HBase MiniCluster fails to load because Master info port clobbering
- [HBASE-11716] - LoadTestDataGeneratorWithVisibilityLabels should handle Delete mutations
- [HBASE-11717] - Remove unused config 'hbase.offheapcache.percentage' from hbase-default.xml and book
- [HBASE-11718] - Remove some logs in RpcClient.java
- [HBASE-11719] - Remove some unused paths in AsyncClient
- [HBASE-11721] - jdiff script no longer works as usage instructions indicate
- [HBASE-11725] - Backport failover checking change to 1.0
- [HBASE-11726] - Master should fail-safe if starting with a pre 0.96 layout
- [HBASE-11727] - Assignment wait time error in case of ServerNotRunningYetException
- [HBASE-11728] - Data loss while scanning using PREFIX_TREE DATA-BLOCK-ENCODING
- [HBASE-11732] - Should not preemptively offline a region
- [HBASE-11733] - Avoid copy-paste in Master/Region CoprocessorHost
- [HBASE-11744] - RpcServer code should not use a collection from netty internal
- [HBASE-11745] - FilterAllFilter should return ReturnCode.SKIP
- [HBASE-11755] - VisibilityController returns the wrong value for preBalanceSwitch()
- [HBASE-11766] - Backdoor CoprocessorHConnection is no longer being used for local writes
- [HBASE-11770] - TestBlockCacheReporting.testBucketCache is not stable
- [HBASE-11772] - Bulk load mvcc and seqId issues with native hfiles
- [HBASE-11773] - Wrong field used for protobuf construction in RegionStates.
- [HBASE-11782] - Document that hbase.MetaMigrationConvertingToPB needs to be set to true for migrations pre 0.96
- [HBASE-11787] - TestRegionLocations is not categorized
- [HBASE-11788] - hbase is not deleting the cell when a Put with a KeyValue, KeyValue.Type.Delete is submitted
- [HBASE-11789] - LoadIncrementalHFiles is not picking up the -D option
- [HBASE-11794] - StripeStoreFlusher causes NullPointerException
- [HBASE-11797] - Create Table interface to replace HTableInterface
- [HBASE-11802] - Scan copy constructor doesn't copy reversed member variable
- [HBASE-11804] - Raise default heap size if unspecified
- [HBASE-11813] - CellScanner#advance may overflow stack
- [HBASE-11814] - TestAssignmentManager.testCloseFailed() and testOpenCloseRacing() is flaky
- [HBASE-11815] - Flush and compaction could just close the tmp writer if there is an exception
- [HBASE-11816] - Initializing custom Metrics implementation failed in Mapper or Reducer
- [HBASE-11820] - ReplicationSource : Set replication codec class as RPC codec class on a clonned Configuration
- [HBASE-11823] - Cleanup javadoc warnings.
- [HBASE-11830] - TestReplicationThrottler.testThrottling failed on virtual boxes
- [HBASE-11832] - maven release plugin overrides command line arguments
- [HBASE-11834] - TestHRegionBusyWait.testParallelAppendWithMemStoreFlush fails sporadically
- [HBASE-11835] - Wrong managenement of non expected calls in the client

- [HBASE-11836] - IntegrationTestTimeBoundedMultiGetRequestsWithRegionReplicas tests simple get by default
- [HBASE-11839] - TestRegionRebalance is flakey
- [HBASE-11844] - region_mover.rb load enters an infinite loop if region already present on target server
- [HBASE-11850] - RpcClient can get stuck when closing
- [HBASE-11851] - RpcClient can try to close a connection not ready to close
- [HBASE-11855] - HBase handbook chapter 18.9 out of date
- [HBASE-11856] - hbase-common needs a log4j.properties resource for handling unit test logging output
- [HBASE-11857] - Restore ReaderBase.initAfterCompression() and WALCellCodec.create(Configuration, CompressionContext)
- [HBASE-11859] - 'hadoop jar' references in documentation should mention hbase-server.jar, not hbase.jar
- [HBASE-11863] - WAL files are not archived and stays in the WAL directory after splitting
- [HBASE-11876] - RegionScanner.nextRaw(...) should not update metrics
- [HBASE-11878] - TestVisibilityLabelsWithDistributedLogReplay#testAddVisibilityLabelsOnRSRestart sometimes fails due to VisibilityController not yet initialized
- [HBASE-11880] - NPE in MasterStatusServlet
- [HBASE-11882] - Row level consistency may not be maintained with bulk load and compaction
- [HBASE-11886] - The creator of the table should have all permissions on the table
- [HBASE-11887] - Memory retention in branch-1; millions of instances of LiteralByteString for column qualifier and value
- [HBASE-11890] - HBase REST Client is hard coded to http protocol
- [HBASE-11892] - configs contain stale entries
- [HBASE-11893] - RowTooBigException should be in hbase-client module
- [HBASE-11894] - MetaEntries from coprocessor hooks in split and merge are not getting added to hbase:meta after HBASE-11611
- [HBASE-11896] - LoadIncrementalHFiles fails in secure mode if the namespace is specified
- [HBASE-11898] - CoprocessorHost.Environment should cache class loader instance
- [HBASE-11905] - Add orca to server UIs and update logo.
- [HBASE-11906] - Meta data loss with distributed log replay
- [HBASE-11921] - Minor fixups that come of testing branch-1
- [HBASE-11932] - Stop the html-single from building a html-single of every chapter and cluttering the docbkx directory
- [HBASE-11936] - IsolationLevel must be attribute of a Query not a Scan
- [HBASE-11947] - NoSuchElementException in balancer for master regions
- [HBASE-11949] - Setting hfile.block.cache.size=0 doesn't actually disable blockcache
- [HBASE-11972] - The "doAs user" used in the update to hbase:acl table RPC is incorrect
- [HBASE-11974] - When a disabled table is scanned, NotServingRegionException is thrown instead of TableNotEnabledException
- [HBASE-11976] - Server startcode is not checked for bulk region assignment
- [HBASE-11979] - Compaction progress reporting is wrong
- [HBASE-11982] - Bootstraping hbase:meta table creates a WAL file in region dir
- [HBASE-11983] - HRegion constructors should not create HLog
- [HBASE-11984] - TestClassFinder failing on occasion
- [HBASE-11987] - Make zk-less table states backward compatible.
- [HBASE-11988] - AC/VC system table create on postStartMaster fails too often in test
- [HBASE-11989] - IntegrationTestLoadAndVerify cannot be configured anymore on distributed mode
- [HBASE-11991] - Region states may be out of sync
- [HBASE-11994] - PutCombiner floods the M/R log with repeated log messages.
- [HBASE-11998] - Document a workflow for cherry-picking a fix to a different branch
- [HBASE-12005] - Split/merge fails if master restarts before PONR
- [HBASE-12006] - [JDK 8] KeyStoreTestUtil#generateCertificate fails due to "subject class type invalid"
- [HBASE-12007] - StochasticBalancer should avoid putting user regions on master
- [HBASE-12017] - Use Connection.createTable() instead of HTable constructors.
- [HBASE-12019] - hbase-daemon.sh overwrite HBASE_ROOT_LOGGER and HBASE_SECURITY_LOGGER variables
- [HBASE-12024] - Fix javadoc warning
- [HBASE-12025] - TestHttpServerLifecycle.testStartedServerWithRequestLog hangs frequently
- [HBASE-12028] - Abort the RegionServer, when it's handler threads die
- [HBASE-12029] - Use Table and RegionLocator in HTable.getRegionLocations()
- [HBASE-12034] - If I kill single RS in branch-1, all regions end up on Master!
- [HBASE-12038] - Replace internal uses of signatures with byte[] and String tableNames to use the TableName equivalents.
- [HBASE-12041] - AssertionError in HFilePerformanceEvaluation.UniformRandomReadBenchmark
- [HBASE-12042] - Replace internal uses of HTable(Configuration, String) with HTable(Configuration, TableName)
- [HBASE-12043] - REST server should respond with FORBIDDEN(403) code on AccessDeniedException
- [HBASE-12044] - REST delete operation should not retry disableTable for DoNotRetryIOException
- [HBASE-12045] - REST proxy users configuration in hbase-site.xml is ignored
- [HBASE-12052] - BulkLoad Failed due to no write permission on input files
- [HBASE-12053] - SecurityBulkLoadEndPoint set 777 permission on input data files
- [HBASE-12054] - bad state after NamespaceUpgrade with reserved table names
- [HBASE-12056] - RPC logging too much in DEBUG mode
- [HBASE-12064] - hbase.master.balancer.stochastic.numRegionLoadsToRemember is not used
- [HBASE-12065] - Import tool is not restoring multiple DeleteFamily markers of a row
- [HBASE-12067] - Remove deprecated metrics classes.
- [HBASE-12072] - Standardize retry handling for master operations
- [HBASE-12073] - Shell command user_permission fails on the table created by user if he is not global admin.
- [HBASE-12078] - Missing Data when scanning using PREFIX_TREE DATA-BLOCK-ENCODING
- [HBASE-12083] - Deprecate new HBaseAdmin() in favor of Connection.getAdmin()
- [HBASE-12088] - Remove un-used profiles in non-root poms
- [HBASE-12095] - SecureWALCellCodec should handle the case where encryption is disabled

- [HBASE-12098] - User granted namespace table create permissions can't create a table
- [HBASE-12099] - TestScannerModel fails if using jackson 1.9.13
- [HBASE-12102] - Duplicate keys in HBase.RegionServer metrics JSON
- [HBASE-12106] - Move test annotations to test artifact
- [HBASE-12108] - HBaseConfiguration: set classloader before loading xml files
- [HBASE-12109] - user_permission command for namespace does not return correct result
- [HBASE-12119] - Master regionserver web UI NOT_FOUND
- [HBASE-12120] - HBase shell doesn't allow deleting of a cell by user with W-only permissions to it
- [HBASE-12122] - Try not to assign user regions to master all the time
- [HBASE-12123] - Failed assertion in BucketCache after HBASE-11331
- [HBASE-12126] - Region server coprocessor endpoint
- [HBASE-12130] - HBASE-11980 calls hflush and hsync doing near double the syncing work
- [HBASE-12134] - publish_website.sh script is too optimistic
- [HBASE-12135] - Website is broken
- [HBASE-12136] - Race condition between client adding tableCF replication znode and server triggering TableCFsTracker
- [HBASE-12137] - Alter table add cf doesn't do compression test
- [HBASE-12139] - StochasticLoadBalancer doesn't work on large lightly loaded clusters
- [HBASE-12140] - Add ConnectionFactory.createConnection() to create using default HBaseConfiguration.
- [HBASE-12142] - Truncate command does not preserve ACLs table
- [HBASE-12145] - Fix javadoc and findbugs so new folks aren't freaked when they see them
- [HBASE-12146] - RegionServerTracker should escape data in log messages
- [HBASE-12149] - TestRegionPlacement is failing undeterministically
- [HBASE-12151] - Make dev scripts executable
- [HBASE-12153] - Fixing TestReplicaWithCluster
- [HBASE-12154] - TestLoadAndSwitchEncodeOnDisk is flaky on shared jenkins boxes
- [HBASE-12156] - TableName cache isn't used for one of valueOf methods.
- [HBASE-12158] - TestHttpServerLifecycle.testStartedServerWithRequestLog goes zombie on occasion
- [HBASE-12160] - Make Surefire's argLine configurable in the command line
- [HBASE-12164] - Check for presence of user Id in SecureBulkLoadEndpoint#secureBulkLoadHFiles() is inaccurate
- [HBASE-12165] - TestEndToEndSplitTransaction.testFromClientSideWhileSplitting fails
- [HBASE-12166] - TestDistributedLogSplitting.testMasterStartsUpWithLogReplayWork
- [HBASE-12167] - NPE in AssignmentManager
- [HBASE-12170] - TestReplicaWithCluster.testReplicaAndReplication timeouts
- [HBASE-12172] - Disable flakey TestRegionReplicaReplicationEndpoint and make fixing it a blocker on 1.0
- [HBASE-12181] - Some tests create a table and try to use it before regions get assigned
- [HBASE-12183] - FuzzyRowFilter doesn't support reverse scans
- [HBASE-12184] - ServerShutdownHandler throws NPE
- [HBASE-12186] - Formatting error in Table 8.2. Examples of Visibility Expressions
- [HBASE-12191] - Make TestCacheOnWrite faster.
- [HBASE-12192] - Remove EventHandlerListener
- [HBASE-12193] - Add missing docbook file to git
- [HBASE-12196] - SSH should retry in case failed to assign regions
- [HBASE-12197] - Move REST
- [HBASE-12198] - Fix the bug of not updating location cache
- [HBASE-12199] - Make TestAtomicOperation and TestEncodedSeekers faster
- [HBASE-12200] - When an RPC server handler thread dies, throw exception
- [HBASE-12206] - NPE in RSRpcServices
- [HBASE-12209] - NPE in HRegionServer#getLastSequenceId
- [HBASE-12216] - Lower closed region logging level
- [HBASE-12218] - Make HBaseCommonTestingUtil#deleteDir try harder
- [HBASE-12219] - Cache more efficiently getAll() and get() in FSTableDescriptors
- [HBASE-12226] - TestAccessController#testPermissionList failing on master
- [HBASE-12227] - Prevent unpublished HRegionServer objects referenced on other threads
- [HBASE-12229] - NullPointerException in SnapshotTestingUtils
- [HBASE-12234] - Make TestMultithreadedTableMapper a little more stable.
- [HBASE-12237] - HBaseZeroCopyByteString#wrap() should not be called in hbase-client code
- [HBASE-12238] - A few ugly exceptions on startup
- [HBASE-12240] - hbase-daemon.sh should remove pid file if process not found running
- [HBASE-12241] - The crash of regionServer when taking deadserver's replication queue breaks replication
- [HBASE-12242] - Fix new javadoc warnings in Admin, etc.
- [HBASE-12246] - Compilation with hadoop-2.3.x and 2.2.x is broken
- [HBASE-12247] - Replace setHTable() with initializeTable() in TableInputFormat.
- [HBASE-12248] - broken link in hbase shell help
- [HBASE-12252] - IntegrationTestBulkLoad fails with illegal partition error
- [HBASE-12258] - Make TestHBaseFsck less flaky
- [HBASE-12261] - Add checkstyle to HBase build process
- [HBASE-12263] - RegionServer listens on localhost in distributed cluster when DNS is unavailable
- [HBASE-12265] - HBase shell 'show_filters' points to internal Facebook URL
- [HBASE-12267] - Replace HTable constructor in mapreduce.* classes with ConnectionFactory
- [HBASE-12270] - A bug in the bucket cache, with cache blocks on write enabled
- [HBASE-12274] - Race between RegionScannerImpl#nextInternal() and RegionScannerImpl#close() may produce null pointer exception
- [HBASE-12277] - Refactor bulkLoad methods in AccessController to its own interface

- [HBASE-12278] - Race condition in TestSecureLoadIncrementalHFilesSplitRecovery
- [HBASE-12279] - Generated thrift files were generated with the wrong parameters
- [HBASE-12281] - ClonedPrefixTreeCell should implement HeapSize
- [HBASE-12283] - Clean up some checkstyle errors
- [HBASE-12284] - Make TestMasterOperationsForRegionReplicas less flaky
- [HBASE-12285] - Builds are failing, possibly because of SUREFIRE-1091
- [HBASE-12294] - Regression from HBASE-12261: Can't build the docs after the hbase-checkstyle module was added
- [HBASE-12301] - user_permission command does not show global permissions
- [HBASE-12302] - VisibilityClient getAuths does not propagate remote service exception correctly
- [HBASE-12304] - CellCounter will throw AIOBE when output directory is not specified
- [HBASE-12306] - CellCounter output's wrong value for Total Families Across all Rows in output file
- [HBASE-12307] - Remove unused Imports in hbase-client and hbase-common
- [HBASE-12308] - Fix typo in hbase-rest profile name
- [HBASE-12312] - Another couple of createTable race conditions
- [HBASE-12314] - Add chaos monkey policy to execute two actions concurrently
- [HBASE-12315] - Fix 0.98 Tests after checkstyle got parented
- [HBASE-12316] - test-patch.sh (Hadoop-QA) outputs the wrong release audit warnings URL
- [HBASE-12318] - Add license header to checkstyle xml files
- [HBASE-12322] - Add clean up command to ITBLL
- [HBASE-12326] - Document scanner timeout workarounds in troubleshooting section
- [HBASE-12327] - MetricsHBaseServerSourceFactory#createContextName has wrong conditions
- [HBASE-12329] - Table create with duplicate column family names quietly succeeds
- [HBASE-12334] - Handling of DeserializationException causes needless retry on failure
- [HBASE-12336] - RegionServer failed to shutdown for NodeFailoverWorker thread
- [HBASE-12337] - Import tool fails with NullPointerException if clusterIds is not initialized
- [HBASE-12339] - WAL performance evaluation tool doesn't roll logs
- [HBASE-12346] - Scan's default auths behavior under Visibility labels
- [HBASE-12347] - Fix the edge case where Hadoop QA's parsing of attached patches breaks the JIRA status checker in dev-support/rebase_all_git_branches.sh
- [HBASE-12348] - preModifyColumn and preDeleteColumn in AC denies user to perform its operation though it has required rights
- [HBASE-12352] - Add hbase-annotation-tests to runtime classpath so can run hbase it tests.
- [HBASE-12356] - Rpc with region replica does not propagate tracing spans
- [HBASE-12359] - MulticastPublisher should specify IPv4/v6 protocol family when creating multicast channel
- [HBASE-12366] - Add login code to HBase Canary tool.
- [HBASE-12372] - [WINDOWS] Enable log4j configuration in hbase.cmd
- [HBASE-12375] - LoadIncrementalHFiles fails to load data in table when CF name starts with '_'
- [HBASE-12377] - HBaseAdmin#deleteTable fails when META region is moved around the same timeframe
- [HBASE-12380] - TestRegionServerNoMaster#testMultipleOpen is flaky after HBASE-11760
- [HBASE-12384] - TestTags can hang on fast test hosts
- [HBASE-12386] - Replication gets stuck following a transient zookeeper error to remote peer cluster
- [HBASE-12393] - The regionserver web will throw exception if we disable block cache
- [HBASE-12399] - Master startup race between metrics and RpcServer
- [HBASE-12402] - ZKPermissionWatcher race condition in refreshing the cache leaving stale ACLs and causing AccessDenied
- [HBASE-12407] - HConnectionKey doesn't contain CUSTOM_CONTROLLER_CONF_KEY in CONNECTION_PROPERTIES
- [HBASE-12409] - Add actual tunable parameters for finding optimal # of regions per RS
- [HBASE-12412] - update the ref guide(currently Example 10.2) to show "update an existing CF" with the new API modifyFamily in master
- [HBASE-12413] - Mismatch in the equals and hashcode methods of KeyValue
- [HBASE-12414] - Move HFileLink.exists() to base class
- [HBASE-12417] - Scan copy constructor does not retain small attribute
- [HBASE-12418] - Multiple branches for MOB feature breaking git for case insensitive filesystems
- [HBASE-12419] - "Partial cell read caused by EOF" ERRORs on replication source during replication
- [HBASE-12420] - BucketCache logged startup message is egregiously large
- [HBASE-12421] - Clarify ACL concepts and best practices
- [HBASE-12422] - Use ConnectionFactory in HTable constructors
- [HBASE-12423] - Use a non-managed Table in TableOutputFormat
- [HBASE-12431] - Use of getColumnLatestCell(byte[], int, int, byte[], int, int) is Not Thread Safe
- [HBASE-12445] - hbase is removing all remaining cells immediately after the cell marked with marker = KeyValue.Type.DeleteColumn via PUT
- [HBASE-12448] - Fix rate reporting in compaction progress DEBUG logging
- [HBASE-12449] - Use the max timestamp of current or old cell's timestamp in HRegion.append()
- [HBASE-12450] - Unbalance chaos monkey might kill all region servers without starting them back
- [HBASE-12451] - IncreasingToUpperBoundRegionSplitPolicy may cause unnecessary region splits in rolling update of cluster
- [HBASE-12454] - Setting didPerformCompaction early in HRegion#compact
- [HBASE-12457] - Regions in transition for a long time when CLOSE interleaves with a slow compaction
- [HBASE-12459] - Use a non-managed Table in mapred.TableOutputFormat
- [HBASE-12460] - Moving Chore to hbase-common module.
- [HBASE-12461] - FSVisitor logging is excessive
- [HBASE-12464] - meta table region assignment stuck in the FAILED_OPEN state due to region server not fully ready to serve
- [HBASE-12465] - HBase master start fails due to incorrect file creations
- [HBASE-12467] - Master joins cluster but never completes initialization
- [HBASE-12468] - AUTHORIZATIONS should be part of Visibility Label Docs
- [HBASE-12474] - Incorrect handling of default namespace in user_permission command.

- [HBASE-12478] - HBASE-10141 and MIN_VERSIONS are not compatible
- [HBASE-12480] - Regions in FAILED_OPEN/FAILED_CLOSE should be processed on master failover
- [HBASE-12488] - Small bug in publish_hbase_website.sh script
- [HBASE-12490] - Replace uses of setAutoFlush(boolean, boolean)
- [HBASE-12491] - TableMapReduceUtil.findContainingJar() NPE
- [HBASE-12495] - Use interfaces in the shell scripts
- [HBASE-12513] - Graceful stop script does not restore the balancer state
- [HBASE-12514] - Cleanup HFileOutputFormat legacy code
- [HBASE-12520] - Add protected getters on TableInputFormatBase
- [HBASE-12532] - TestFilter failing occasionally with ExitCodeException doing chmod since HBASE-10378
- [HBASE-12533] - staging directories are not deleted after secure bulk load
- [HBASE-12535] - NPE in WALFactory close under contention for getInstance
- [HBASE-12536] - Reduce the effective scope of GLOBAL CREATE and ADMIN permission
- [HBASE-12537] - HBase should log the remote host on replication error
- [HBASE-12539] - HFileLinkCleaner logs are uselessly noisy
- [HBASE-12541] - Add misc debug logging to hanging tests in TestHCM and TestBaseLoadBalancer
- [HBASE-12542] - Delete a family of table online will crash regionserver
- [HBASE-12548] - Improve debuggability of IntegrationTestTimeBoundedRequestsWithRegionReplicas
- [HBASE-12550] - Check all storefiles are referenced before splitting
- [HBASE-12552] - listSnapshots should list only owned snapshots for non-super user
- [HBASE-12553] - request value is not consistent for restoreSnapshot in audit logs
- [HBASE-12558] - Disable TestHCM.testClusterStatus Unexpected exception, expected<org.apache.hadoop.hbase.regionserver.RegionServerStoppedException> but was<junit.framework.AssertionFailedError>
- [HBASE-12560] - [WINDOWS] Append the classpath from Hadoop to HBase classpath in bin/hbase.cmd
- [HBASE-12563] - After Starting up mini hbase cluster, Real Configuration of Cluster never set to HBaseTestingUtility
- [HBASE-12564] - consolidate the getTableDescriptors() semantic
- [HBASE-12565] - Race condition in HRegion.batchMutate() causes partial data to be written when region closes
- [HBASE-12574] - Update replication metrics to not do so many map look ups.
- [HBASE-12576] - Add metrics for rolling the HLog if there are too few DN's in the write pipeline
- [HBASE-12580] - Zookeeper instantiated even though we might not need it in the shell
- [HBASE-12581] - TestCellACLWithMultipleVersions failing since task 5 HBASE-12404 (HBASE-12404 addendum)
- [HBASE-12584] - Fix branch-1 failing since task 5 HBASE-12404 (HBASE-12404 addendum)
- [HBASE-12585] - Fix refguide so it does hbase 1.0 style API everywhere with callout on how we used to do it in pre-1.0
- [HBASE-12595] - Use Connection.getTable() in table.rb
- [HBASE-12600] - Remove REPLAY tag dependency in Distributed Replay Mode
- [HBASE-12603] - Remove javadoc warnings introduced due to removal of unused imports
- [HBASE-12607] - TestHBaseFsck#testParallelHbck fails running against hadoop 2.6.0
- [HBASE-12610] - Close connection in TableInputFormatBase
- [HBASE-12611] - Create autoCommit() method and remove clearBufferOnFail
- [HBASE-12612] - WALFactory use in upgrade path must clean up properly
- [HBASE-12614] - Potentially unclosed StoreFile(s) in DefaultCompactor#compact()
- [HBASE-12615] - Document GC conserving guidelines for contributors
- [HBASE-12616] - We lost the IntegrationTestBigLinkedList COMMANDS in recent usage refactoring
- [HBASE-12617] - Running IntegrationTestBigLinkedList against cluster getting not an instance of org.apache.hadoop.hbase.MiniHBaseCluster
- [HBASE-12618] - Add 'Namespace' to headers while displaying user permissions.
- [HBASE-12622] - user_permission should require global admin to display global and ns permissions
- [HBASE-12628] - Update instructions for running shell tests using maven.
- [HBASE-12632] - ThrottledInputStream/ExportSnapshot does not throttle
- [HBASE-12634] - Fix the AccessController#requireGlobalPermission(ns) with NS
- [HBASE-12635] - Delete acl notify znode of table after the table is deleted
- [HBASE-12637] - Compilation with Hadoop-2.4- is broken
- [HBASE-12642] - LoadIncrementalHFiles does not throw exception after hitting hbase.bulkload.retries.number setting
- [HBASE-12644] - Visibility Labels: issue with storing super users in labels table
- [HBASE-12647] - Truncate table should work with C as well
- [HBASE-12652] - Allow unmanaged connections in MetaTableAccessor
- [HBASE-12655] - WALPerformanceEvaluation miscalculates append/sync statistics for multiple regions
- [HBASE-12656] - TestVisibilityLabelsWithDeletes is flaky
- [HBASE-12661] - rat check fails for several files
- [HBASE-12662] - region_status.rb is failing with NoMethodError
- [HBASE-12663] - unify getTableDescriptors() and listTableDescriptorsByNamespace()
- [HBASE-12664] - TestDefaultLoadBalancer.testBalanceCluster fails in CachedDNSToSwitchMapping
- [HBASE-12665] - When aborting, dump metrics
- [HBASE-12674] - Add permission check to getNamespaceDescriptor()
- [HBASE-12675] - Use interface methods in shell scripts
- [HBASE-12677] - Update replication docs to clarify terminology
- [HBASE-12681] - truncate_preserve command fails with undefined method `getTable' error
- [HBASE-12682] - compaction thread throttle value is not correct in hbase-default.xml
- [HBASE-12683] - Compilation with hadoop-2.7.0-SNAPSHOT is broken
- [HBASE-12687] - Book is missing styling
- [HBASE-12688] - Update site with a bootstrap-based UI
- [HBASE-12690] - list_quotas command is failing with not able to load Java class

- [HBASE-12692] - NPE from SnapshotManager#stop
- [HBASE-12693] - [docs] nit fix in HBase and MapReduce section
- [HBASE-12694] - testTableExistsIfTheSpecifiedTableRegionIsSplitParent in TestSplitTransactionOnCluster class leaves regions in transition
- [HBASE-12696] - Possible NPE in HRegionFileSystem#splitStoreFile when skipStoreFileRangeCheck in splitPolicy return true
- [HBASE-12697] - Don't use RegionLocationFinder if localityCost == 0
- [HBASE-12699] - undefined method `setAsyncLogFlush' exception thrown when setting DEFERRED_LOG_FLUSH=>true
- [HBASE-12703] - Cleanup TestClientPushback for repeatability
- [HBASE-12711] - Fix new findbugs warnings in hbase-thrift module
- [HBASE-12715] - getLastSequenceId always returns -1
- [HBASE-12716] - A bug in RegionSplitter.UniformSplit algorithm
- [HBASE-12717] - Pre-split algorithm in HBaseAdmin.create() can not find the split point
- [HBASE-12718] - Convert TestAcidGuarantees from a unit test to an integration test
- [HBASE-12723] - Update ACL matrix to reflect reality
- [HBASE-12728] - buffered writes substantially less useful after removal of HTablePool
- [HBASE-12732] - Log messages in FileLink$FileLinkInputStream#tryOpen are reversed
- [HBASE-12734] - TestPerColumnFamilyFlush.testCompareStoreFileCount is flakey
- [HBASE-12739] - Avoid too large identifier of ZooKeeperWatcher
- [HBASE-12740] - Improve performance of TestHBaseFsck
- [HBASE-12741] - AccessController contains a javadoc issue
- [HBASE-12742] - ClusterStatusPublisher crashes with a IPv6 network interface.
- [HBASE-12743] - [ITBLL] Master fails rejoining cluster stuck splitting logs; Distributed log replay=true
- [HBASE-12747] - IntegrationTestMTTR will OOME if launched with mvn verify
- [HBASE-12749] - Tighten HFileLink api to enable non-snapshot uses
- [HBASE-12750] - getRequestsCount() in ClusterStatus returns total number of request
- [HBASE-12751] - Allow RowLock to be reader writer
- [HBASE-12767] - Fix a StoreFileScanner NPE in reverse scan flow
- [HBASE-12772] - TestPerColumnFamilyFlush failing
- [HBASE-12774] - Fix the inconsistent permission checks for bulkloading.
- [HBASE-12775] - CompressionTest ate my HFile (sigh!)
- [HBASE-12777] - Multi-page book has broken links that work in the single-page version
- [HBASE-12781] - thrift2 listen port will bind always to the passed command line address
- [HBASE-12782] - ITBLL fails for me if generator does anything but 5M per maptask
- [HBASE-12791] - HBase does not attempt to clean up an aborted split when the regionserver shutting down
- [HBASE-12798] - Map Reduce jobs should not create Tables in setConf()
- [HBASE-12801] - Failed to truncate a table while maintaing binary region boundaries
- [HBASE-12804] - ImportTsv fails to delete partition files created by it
- [HBASE-12810] - Update to htrace-incubating
- [HBASE-12811] - [AccessController] NPE while scanning a table with user not having READ permission on the namespace
- [HBASE-12816] - GC logs are lost upon Region Server restart if GCLogFileRotation is enabled
- [HBASE-12817] - Data missing while scanning using PREFIX_TREE data block encoding
- [HBASE-12819] - ExportSnapshot doesn't close FileSystem instances
- [HBASE-12824] - CompressionTest fails with org.apache.hadoop.hbase.io.hfile.AbstractHFileReader$NotSeekedException: Not seeked to a key/value
- [HBASE-12831] - Changing the set of vis labels a user has access to doesn't generate an audit log event
- [HBASE-12832] - Describe table from shell no longer shows Table's attributes, only CF attributes
- [HBASE-12833] - [shell] table.rb leaks connections
- [HBASE-12837] - ReplicationAdmin leaks zk connections
- [HBASE-12838] - After HBASE-5162 RSRpcServices accidentally applies mutations twice
- [HBASE-12844] - ServerManager.isServerReacable() should sleep between retries
- [HBASE-12845] - ByteBufferOutputStream should grow as direct buffer if the initial buffer is also direct BB
- [HBASE-12847] - TestZKLessSplitOnCluster frequently times out in 0.98 builds
- [HBASE-12849] - LoadIncrementalHFiles should use unmanaged connection in branch-1
- [HBASE-12858] - Remove unneeded files under src/main/docbkx
- [HBASE-12862] - Uppercase "wals" in RegionServer webUI
- [HBASE-12863] - Master info port on RS UI is always 0
- [HBASE-12864] - IntegrationTestTableSnapshotInputFormat fails
- [HBASE-12865] - WALs may be deleted before they are replicated to peers
- [HBASE-12867] - Shell does not support custom replication endpoint specification
- [HBASE-12871] - Document JDK versions supported by each release missing in new documentation
- [HBASE-12877] - Hbase documentation- a referenced link is not working
- [HBASE-12878] - Incorrect HFile path in TestHFilePerformance print output (fix for easier debugging)
- [HBASE-12881] - TestFastFail is not compatible with surefire.rerunFailingTestsCount
- [HBASE-12886] - Correct tag option name in PerformanceEvaluation
- [HBASE-12892] - Add a class to allow taking a snapshot from the command line
- [HBASE-12897] - Minimum memstore size is a percentage
- [HBASE-12898] - Add in used undeclared dependencies
- [HBASE-12902] - Post-asciidoc conversion fix-ups
- [HBASE-12903] - Fix configuration which enables secure bulk load
- [HBASE-12904] - Threading issues in region_mover.rb
- [HBASE-12908] - Typos in MemStoreFlusher javadocs
- [HBASE-12909] - Junit listed at compile scope instead of test
- [HBASE-12915] - Disallow small scan with batching

- [HBASE-12916] - No access control for replicating WAL entries
- [HBASE-12917] - HFilePerformanceEvaluation Scan tests fail with StackOverflowError due to recursive call in createCell function
- [HBASE-12919] - Compilation with Hadoop-2.4- is broken again
- [HBASE-12920] - hadoopqa should compile with different hadoop versions
- [HBASE-12922] - Post-asciidoc conversion fix-ups part 2
- [HBASE-12924] - HRegionServer#MovedRegionsCleaner Chore does not start
- [HBASE-12925] - Use acl cache for doing access control checks in prepare and clean phases of Bulkloading.
- [HBASE-12931] - The existing KeyValues in memstore are not removed completely after inserting cell into memStore
- [HBASE-12942] - After disabling the hfile block cache, Regionserver UI is throwing java.lang.NullPointerException
- [HBASE-12943] - Set sun.net.inetaddr.ttl in HBase
- [HBASE-12948] - Calling Increment#addColumn on the same column multiple times produces wrong result
- [HBASE-12949] - Scanner can be stuck in infinite loop if the HFile is corrupted
- [HBASE-12951] - TestHCM.testConnectionClose is flakey when using AsyncRpcClient as client implementation
- [HBASE-12953] - RegionServer is not functionally working with AysncRpcClient in secure mode
- [HBASE-12954] - Ability impaired using HBase on multihomed hosts
- [HBASE-12956] - Binding to 0.0.0.0 is broken after HBASE-10569
- [HBASE-12958] - SSH doing hbase:meta get but hbase:meta not assigned
- [HBASE-12961] - Negative values in read and write region server metrics
- [HBASE-12962] - TestHFileBlockIndex.testBlockIndex() commented out during HBASE-10531
- [HBASE-12964] - Add the ability for hbase-daemon.sh to start in the foreground
- [HBASE-12966] - NPE in HMaster while recovering tables in Enabling state
- [HBASE-12969] - Parameter Validation is not there for shell script, local-master-backup.sh and local-regionservers.sh
- [HBASE-12971] - Replication stuck due to large default value for replication.source.maxretriesmultiplier
- [HBASE-12976] - Set default value for hbase.client.scanner.max.result.size
- [HBASE-12978] - Region goes permanently offline (WAS: hbase:meta has a row missing hregioninfo and it causes my long-running job to fail)
- [HBASE-12983] - HBase book mentions hadoop.ssl.enabled when it should be hbase.ssl.enabled
- [HBASE-12984] - SSL cannot be used by the InfoPort after removing deprecated code in HBASE-10336
- [HBASE-12985] - Javadoc warning and findbugs fixes to get us green again
- [HBASE-12989] - region_mover.rb unloadRegions method uses ArrayList concurrently resulting in errors
- [HBASE-12991] - Use HBase 1.0 interfaces in hbase-rest
- [HBASE-12993] - Use HBase 1.0 interfaces in hbase-thrift
- [HBASE-12996] - Reversed field on Filter should be transient
- [HBASE-12998] - Compilation with Hdfs-2.7.0-SNAPSHOT is broken after HDFS-7647
- [HBASE-12999] - Make foreground_start return the correct exit code
- [HBASE-13001] - NullPointer in master logs for table.jsp
- [HBASE-13003] - Get tests in TestHFileBlockIndex back
- [HBASE-13004] - Make possible to explain why HBaseTestingUtility.waitFor fails
- [HBASE-13007] - Fix the test timeouts being caused by ChoreService
- [HBASE-13009] - HBase REST UI inaccessible
- [HBASE-13010] - HFileOutputFormat2 partitioner's path is hard-coded as '/tmp'
- [HBASE-13011] - TestLoadIncrementalHFiles is flakey when using AsyncRpcClient as client implementation
- [HBASE-13023] - Document multiWAL
- [HBASE-13026] - Wrong error message in case incorrect snapshot name OR Incorrect table name
- [HBASE-13027] - mapreduce.TableInputFormatBase should create its own Connection if needed
- [HBASE-13028] - Cleanup mapreduce API changes
- [HBASE-13029] - Table state should be deleted from META as a last operation in DeleteTableHandler
- [HBASE-13030] - [1.0.0 polish] Make ScanMetrics public again and align Put 'add' with Get, Delete, etc., addColumn
- [HBASE-13032] - Migration of states should be performed once META is assigned and onlined.
- [HBASE-13036] - Meta scanner should use its own threadpool
- [HBASE-13037] - LoadIncrementalHFile should try to verify the content of unmatched families
- [HBASE-13038] - Fix the java doc warning continuously reported by Hadoop QA
- [HBASE-13039] - Add patchprocess/* to .gitignore to fix builds of branches
- [HBASE-13040] - Possible failure of TestHMasterRPCException
- [HBASE-13041] - TestEnableTableHandler should not call AssignmentManager#assign concurrently with master
- [HBASE-13047] - Add "HBase Configuration" link missing on the table details pages
- [HBASE-13048] - Use hbase.crypto.wal.algorithm in SecureProtobufLogReader while decrypting the data
- [HBASE-13049] - wal_roll ruby command doesn't work.
- [HBASE-13050] - Hbase shell create_namespace command throws ArrayIndexOutOfBoundException for (invalid) empty text input.
- [HBASE-13052] - Explain each region split policy
- [HBASE-13055] - HRegion FIXED_OVERHEAD missed one boolean
- [HBASE-13058] - Hbase shell command 'scan' for non existent table shows unnecessary info for one unrelated existent table.
- [HBASE-13061] - RegionStates can remove wrong region from server holdings
- [HBASE-13062] - Add documentation coverage for configuring dns server with thrift and rest gateways
- [HBASE-13065] - Increasing -Xmx when running TestDistributedLogSplitting
- [HBASE-13066] - Fix typo in AsyncRpcChannel
- [HBASE-13069] - Thrift Http Server returns an error code of 500 instead of 401 when authentication fails
- [HBASE-13070] - Fix possibly zero length family and qualifier is TestCacheOnWrite
- [HBASE-13072] - BucketCache.evictBlock returns true if block does not exist
- [HBASE-13075] - TableInputFormatBase spuriously warning about multiple initializeTable calls
- [HBASE-13076] - Table can be forcibly enabled in AssignmentManager during table disabling.
- [HBASE-13077] - BoundedCompletionService doesn't pass trace info to server

- [HBASE-13081] - Branch precommit builds are not updating to branch head before patch application
- [HBASE-13082] - Coarsen StoreScanner locks to RegionScanner
- [HBASE-13083] - Master can be dead-locked while assigning META.
- [HBASE-13084] - Add labels to VisibilityLabelsCache asynchronously causes TestShell flakey
- [HBASE-13085] - Security issue in the implementation of Rest gataway 'doAs' proxy user support
- [HBASE-13091] - Split ZK Quorum on Master WebUI
- [HBASE-13093] - Local mode HBase instance doesn't shut down.
- [HBASE-13097] - Use same EventLoopGroup for different AsyncRpcClients if possible
- [HBASE-13102] - Fix Pseudo-distributed Mode which was broken in 1.0.0
- [HBASE-13111] - truncate_preserve command is failing with undefined method error
- [HBASE-13112] - quota.rb, security.rb and visibility_labels.rb leak connection
- [HBASE-13114] - [UNITTEST] TestEnableTableHandler.testDeleteForSureClearsAllTableRowsFromMeta
- [HBASE-13115] - Fix the usage of remote user in thrift doAs implementation.
- [HBASE-13119] - FileLink should implement equals
- [HBASE-13123] - Minor bug in ROW bloom filter
- [HBASE-13131] - ReplicationAdmin leaks connections if there's an error in the constructor
- [HBASE-13133] - NPE when running TestSplitLogManager
- [HBASE-13134] - mutateRow and checkAndMutate apis don't throw region level exceptions
- [HBASE-13135] - Move replication ops mgmt stuff from Javadoc to Ref Guide
- [HBASE-13136] - TestSplitLogManager.testGetPreviousRecoveryMode is flakey
- [HBASE-13139] - Clean up missing JAVA_HOME message in bin/hbase-config.sh
- [HBASE-13141] - IntegrationTestAcidGuarantees returns incorrect values for getColumnFamilies
- [HBASE-13143] - TestCacheOnWrite is flaky and needs a diet
- [HBASE-13145] - TestNamespaceAuditor.testRegionMerge is flaky
- [HBASE-13146] - Race Condition in ScheduledChore and ChoreService
- [HBASE-13147] - Load actual META table descriptor, don't use statically defined one.
- [HBASE-13149] - HBase MR is broken on Hadoop 2.5+ Yarn
- [HBASE-13150] - TestMasterObserver failing disable table at end of test
- [HBASE-13155] - Fix TestPrefixTree
- [HBASE-13156] - Fix minor rat violation recently introduced (asciidoctor.css).
- [HBASE-13163] - Add HBase version to header and footer of HTML and PDF docs
- [HBASE-13165] - Fix docs and scripts for default max heaps size after HBASE-11804
- [HBASE-13167] - The check for balancerCutoffTime is buggy
- [HBASE-13174] - Apply HBASE-11804 to Windows scripts
- [HBASE-13176] - Flakey TestZooKeeper test.
- [HBASE-13181] - TestHRegionReplayEvents.testReplayBulkLoadEvent fails frequently.
- [HBASE-13186] - HBase build error due to checkstyle
- [HBASE-13188] - java.lang.ArithmeticException issue in BoundedByteBufferPool.putBuffer
- [HBASE-13191] - mvn site fails on jenkins due to permgen
- [HBASE-13193] - RegionScannerImpl filters should not be reset if a partial Result is returned
- [HBASE-13194] - TableNamespaceManager not ready cause MasterQuotaManager initialization fail
- [HBASE-13196] - Add info about default number of versions when using the export tool
- [HBASE-13200] - Improper configuration can leads to endless lease recovery during failover
- [HBASE-13206] - Fix TableLock tableName log format
- [HBASE-13208] - Patch build should match the patch filename and not the whole relative URL in findBranchNameFromPatchName
- [HBASE-13217] - Procedure fails due to ZK issue
- [HBASE-13218] - Correct the syntax shown for using ExportSnapshot tool in the book
- [HBASE-13220] - set_quota should fail for non-existing table and namespace
- [HBASE-13221] - HDFS Transparent Encryption breaks WAL writing in Hadoop 2.6.0
- [HBASE-13224] - Minor formatting issue when logging a namespace scope in AuthResult#toContextString
- [HBASE-13227] - LoadIncrementalHFile should skip non-files inside a possible family-dir
- [HBASE-13229] - Specify bash for local-regionservers.sh and local-master-backup.sh
- [HBASE-13232] - ConnectionManger : Batch pool threads and metaLookup pool threads should use different name pattern
- [HBASE-13239] - HBase grant at specific column level does not work for Groups
- [HBASE-13242] - TestPerColumnFamilyFlush.testFlushingWhenLogRolling hung
- [HBASE-13246] - Correct the assertion for namespace permissions in tearDown method of TestAccessController
- [HBASE-13250] - chown of ExportSnapshot does not cover all path and files
- [HBASE-13253] - LoadIncrementalHFiles unify hfiles discovery
- [HBASE-13254] - EnableTableHandler#prepare would not throw TableNotFoundException during recovery
- [HBASE-13260] - Bootstrap Tables for fun and profit
- [HBASE-13262] - ResultScanner doesn't return all rows in Scan
- [HBASE-13265] - Make thrift2 usable from c++
- [HBASE-13273] - Make Result.EMPTY_RESULT read-only; currently it can be modified
- [HBASE-13274] - Fix misplaced deprecation in Delete#addXYZ
- [HBASE-13275] - Setting hbase.security.authorization to false does not disable authorization
- [HBASE-13279] - Add src/main/asciidoc/asciidoctor.css to RAT exclusion list in POM
- [HBASE-13281] - 'hbase.bucketcache.size' description in hbase book is not correct
- [HBASE-13282] - Fix the minor issues of running Canary on kerberized environment
- [HBASE-13285] - Fix flaky getRegions() in TestAccessController.setUp()
- [HBASE-13289] - typo in splitSuccessCount metric
- [HBASE-13294] - Fix the critical ancient loopholes in security testing infrastructure.
- [HBASE-13295] - TestInfoServers hang

- [HBASE-13296] - Fix the deletion of acl notify nodes for namespace.
- [HBASE-13298] - Clarify if Table.{set|get}WriteBufferSize() is deprecated or not
- [HBASE-13299] - Add setReturnResults() to Increment, like Append has
- [HBASE-13301] - Possible memory leak in BucketCache
- [HBASE-13305] - Get(Get get) is not copying the row key
- [HBASE-13308] - Fix flaky TestEndToEndSplitTransaction
- [HBASE-13309] - Some tests do not reset EnvironmentEdgeManager
- [HBASE-13311] - TestQuotaThrottle flaky on slow machine
- [HBASE-13312] - SmallScannerCallable does not increment scan metrics
- [HBASE-13314] - Fix NPE in HMaster.getClusterStatus()
- [HBASE-13315] - BufferedMutator should be @InterfaceAudience.Public
- [HBASE-13317] - Region server reportForDuty stuck looping if there is a master change
- [HBASE-13318] - RpcServer.getListenerAddress should handle when the accept channel is closed
- [HBASE-13320] - 'hbase.bucketcache.size' configuration value is not correct in hbase-default.xml
- [HBASE-13321] - Fix flaky TestHBaseFsck
- [HBASE-13324] - o.a.h.h.Coprocessor should be LimitedPrivate("Coprocessor")
- [HBASE-13325] - Protocol Buffers 2.5 no longer available for download on code.google.com
- [HBASE-13328] - LoadIncrementalHFile.doBulkLoad(Path,HTable) should handle managed connections
- [HBASE-13329] - ArrayIndexOutOfBoundsException in CellComparator#getMinimumMidpointArray
- [HBASE-13331] - Exceptions from DFS client can cause CatalogJanitor to delete referenced files
- [HBASE-13333] - Renew Scanner Lease without advancing the RegionScanner
- [HBASE-13337] - Table regions are not assigning back, after restarting all regionservers at once.
- [HBASE-13339] - Update default Hadoop version to latest for master
- [HBASE-13346] - Clean up Filter package for post 1.0
- [HBASE-13352] - Add hbase.import.version to Import usage.
- [HBASE-13354] - Add documentation and tests for external block cache.
- [HBASE-13355] - QA bot reports checking javac twice
- [HBASE-13357] - If maxTables/maxRegions exceeds quota in a namespace, throw QuotaExceededException
- [HBASE-13359] - Update ACL matrix to include table owner.
- [HBASE-13364] - Make using the default javac on by default
- [HBASE-13368] - Hash.java is declared as public Interface - but it should be Private
- [HBASE-13371] - Fix typo in TestAsyncIPC
- [HBASE-13374] - Small scanners (with particular configurations) do not return all rows
- [HBASE-13377] - Canary may generate false alarm on the first region when there are many delete markers
- [HBASE-13382] - IntegrationTestBigLinkedList should use SecureRandom
- [HBASE-13383] - TestRegionServerObserver.testCoprocessorHooksInRegionsMerge zombie after HBASE-12975
- [HBASE-13384] - Fix Javadoc warnings introduced by HBASE-12972
- [HBASE-13385] - TestGenerateDelegationToken is broken with hadoop 2.8.0
- [HBASE-13388] - Handling NullPointer in ZKProcedureMemberRpcs while getting ZNode data
- [HBASE-13394] - Failed to recreate a table when quota is enabled
- [HBASE-13396] - Cleanup unclosed writers in later writer rolling
- [HBASE-13397] - Purge duplicate rpc request thread local
- [HBASE-13406] - TestAccessController is flaky when create is slow
- [HBASE-13409] - Add categories to uncategorized tests
- [HBASE-13410] - Bug in KeyValueUtil.oswrite() for non Keyvalue cases
- [HBASE-13411] - Misleading error message when request size quota limit exceeds
- [HBASE-13414] - TestHCM no longer needs to test for JRE 6.
- [HBASE-13417] - batchCoprocessorService() does not handle NULL keys
- [HBASE-13423] - Remove duplicate entry for hbase.regionserver.regionSplitLimit in hbase-default.xml
- [HBASE-13430] - HFiles that are in use by a table cloned from a snapshot may be deleted when that snapshot is deleted
- [HBASE-13437] - ThriftServer leaks ZooKeeper connections
- [HBASE-13452] - HRegion warning about memstore size miscalculation is not actionable
- [HBASE-13457] - SnapshotExistsException doesn't honor the DoNotRetry
- [HBASE-13471] - Fix a possible infinite loop in doMiniBatchMutation
- [HBASE-13473] - deleted cells come back alive after the stripe compaction
- [HBASE-13475] - Small spelling mistake in region_mover#isSuccessfulScan causes NoMethodError
- [HBASE-13477] - Create metrics on failed requests
- [HBASE-13480] - ShortCircuitConnection doesn't short-circuit all calls as expected
- [HBASE-13482] - Phoenix is failing to scan tables on secure environments.
- [HBASE-13486] - region_status.rb broken with NameError: uninitialized constant IOException
- [HBASE-13490] - foreground daemon start re-executes ulimit output
- [HBASE-13491] - Issue in FuzzyRowFilter#getNextForFuzzyRule
- [HBASE-13499] - AsyncRpcClient test cases failure in powerpc
- [HBASE-13517] - Publish a client artifact with shaded dependencies
- [HBASE-13520] - NullPointerException in TagRewriteCell
- [HBASE-13523] - API Doumentation formatting is broken
- [HBASE-13524] - TestReplicationAdmin fails on JDK 1.8
- [HBASE-13526] - TestRegionServerReportForDuty can be flaky: hang or timeout
- [HBASE-13527] - The default value for hbase.client.scanner.max.result.size is never actually set on Scans
- [HBASE-13528] - A bug on selecting compaction pool
- [HBASE-13533] - section on configuring ~/.m2/settings.xml has no anchor
- [HBASE-13546] - NPE on region server status page if all masters are down

- [HBASE-13555] - StackServlet produces 500 error
- [HBASE-13556] - In assignment, treat system tables as 'special'; assign after hbase:meta and before user-space tables
- [HBASE-13560] - Large compaction queue should steal from small compaction queue when idle
- [HBASE-13561] - ITBLL.Verify doesn't actually evaluate counters after job completes
- [HBASE-13564] - Master MBeans are not published
- [HBASE-13575] - TestChoreService has to make sure that the opened ChoreService is closed for each unit test
- [HBASE-13576] - HBCK enhancement: Failure in checking one region should not fail the entire HBCK operation.
- [HBASE-13577] - Documentation is pointing to wrong port for Master Web UI
- [HBASE-13580] - region_mover.rb broken with TypeError: no public constructors for Java::OrgApacheHadoopHbaseClient::HTable
- [HBASE-13585] - HRegionFileSystem#splitStoreFile() finishes without closing the file handle in some situation
- [HBASE-13589] - [WINDOWS] hbase.cmd script is broken
- [HBASE-13594] - MultiRowRangeFilter shouldn't call HBaseZeroCopyByteString.wrap() directly
- [HBASE-13595] - Fix Javadoc warn induced in Bytes.java
- [HBASE-13596] - src assembly does not build
- [HBASE-13599] - The Example Provided in Section 69: Examples of the Documentation Does Not Compile
- [HBASE-13600] - check_compatibility.sh should ignore shaded jars
- [HBASE-13601] - Connection leak during log splitting
- [HBASE-13604] - bin/hbase mapredcp does not include yammer-metrics jar
- [HBASE-13605] - RegionStates should not keep its list of dead servers
- [HBASE-13606] - AssignmentManager.assign() is not sync in both path
- [HBASE-13607] - TestSplitLogManager.testGetPreviousRecoveryMode consistently failing
- [HBASE-13608] - 413 Error with Stargate through Knox, using AD, SPNEGO, and Pre-Auth
- [HBASE-13611] - update clover to work for current versions
- [HBASE-13612] - TestRegionFavoredNodes doesn't guard against setup failure
- [HBASE-13617] - TestReplicaWithCluster.testChangeTable timeout
- [HBASE-13618] - ReplicationSource is too eager to remove sinks
- [HBASE-13625] - Use HDFS for HFileOutputFormat2 partitioner's path
- [HBASE-13630] - Remove dead code in BufferedDataEncoder
- [HBASE-13633] - draining_servers.rb broken with NoMethodError: undefined method 'getServerInfo'
- [HBASE-13634] - Avoid unsafe reference equality checks to EMPTY byte[]
- [HBASE-13635] - Regions stuck in transition because master is incorrectly assumed dead
- [HBASE-13638] - Put copy constructor is shallow
- [HBASE-13646] - HRegion#execService should not try to build incomplete messages
- [HBASE-13647] - Default value for hbase.client.operation.timeout is too high
- [HBASE-13648] - test-patch.sh should ignore 'protobuf.generated'
- [HBASE-13649] - CellComparator.compareTimestamps javadoc inconsistent and wrong
- [HBASE-13651] - Handle StoreFileScanner FileNotFoundException
- [HBASE-13652] - Case-insensitivity of file system affects table creation
- [HBASE-13653] - Uninitialized HRegionServer#walFactory may result in NullPointerException at region server startup
- [HBASE-13661] - Correct binary compatibility issues discovered in 1.1.0RC0
- [HBASE-13662] - RSRpcService.scan() throws an OutOfOrderScannerNext if the scan has a retriable failure
- [HBASE-13663] - HMaster fails to restart 'HMaster: Failed to become active master'
- [HBASE-13668] - TestFlushRegionEntry is flaky
- [HBASE-13686] - Fail to limit rate in RateLimiter
- [HBASE-13694] - CallQueueSize is incorrectly decremented until the response is sent
- [HBASE-13699] - Expand information about HBase quotas
- [HBASE-13700] - Allow Thrift2 HSHA server to have configurable threads
- [HBASE-13703] - ReplicateContext should not be a member of ReplicationSource
- [HBASE-13704] - Hbase throws OutOfOrderScannerNextException when MultiRowRangeFilter is used
- [HBASE-13706] - CoprocessorClassLoader should not exempt Hive classes
- [HBASE-13708] - PE - Add option to specify the range
- [HBASE-13709] - Updates to meta table server columns may be eclipsed
- [HBASE-13711] - Provide an API to set min and max versions in HColumnDescriptor
- [HBASE-13717] - TestBoundedRegionGroupingProvider#setMembershipDedups need to set HDFS diretory for WAL
- [HBASE-13719] - Asynchronous scanner -- cache size-in-bytes bug fix
- [HBASE-13721] - Improve shell scan performances when using LIMIT
- [HBASE-13722] - Avoid non static method from BloomFilterUtil
- [HBASE-13723] - In table.rb scanners are never closed.
- [HBASE-13729] - Old hbase.regionserver.global.memstore.upperLimit and lowerLimit properties are ignored if present
- [HBASE-13731] - TestReplicationAdmin should clean up MiniZKCluster resource
- [HBASE-13732] - TestHBaseFsck#testParallelWithRetriesHbck fails intermittently
- [HBASE-13733] - Failed MiniZooKeeperCluster startup did not shutdown ZK servers
- [HBASE-13734] - Improper timestamp checking with VisibilityScanDeleteTracker
- [HBASE-13741] - Disable TestRegionObserverInterface#testRecovery and testLegacyRecovery
- [HBASE-13744] - TestCorruptedRegionStoreFile is flaky
- [HBASE-13746] - list_replicated_tables command is not listing table in hbase shell.
- [HBASE-13760] - Cleanup Findbugs keySet iterator warnings
- [HBASE-13767] - Allow ZKAclReset to set and not just clear ZK ACLs
- [HBASE-13768] - ZooKeeper znodes are bootstrapped with insecure ACLs in a secure configuration
- [HBASE-13770] - Programmatic JAAS configuration option for secure zookeeper may be broken
- [HBASE-13772] - Replication endpoints should restrict access to a limited set of principals
- [HBASE-13776] - Setting illegal versions for HColumnDescriptor does not throw IllegalArgumentException

- [HBASE-13777] - Table fragmentation display triggers NPE on master status page
- [HBASE-13778] - BoundedByteBufferPool incorrectly increasing runningAverage buffer length
- [HBASE-13779] - Calling table.exists() before table.get() end up with an empty Result
- [HBASE-13789] - ForeignException should not be sent to the client
- [HBASE-13792] - Regionserver unable to report to master when master is restarted
- [HBASE-13795] - Offline regions hard to find, provide highlighting/state info
- [HBASE-13796] - ZKUtil doesn't clean quorum setting properly
- [HBASE-13797] - Fix resource leak in HBaseFsck
- [HBASE-13800] - TestStore#testDeleteExpiredStoreFiles should create unique data/log directory for each call
- [HBASE-13801] - Hadoop src checksum is shown instead of HBase src checksum in master / RS UI
- [HBASE-13802] - Procedure V2: Master fails to come up due to rollback of create namespace table
- [HBASE-13809] - TestRowTooBig should use HDFS directory for its region directory
- [HBASE-13811] - Splitting WALs, we are filtering out too many edits -> DATALOSS
- [HBASE-13812] - Deleting of last Column Family of a table should not be allowed
- [HBASE-13813] - Fix Javadoc warnings in Procedure.java
- [HBASE-13820] - Zookeeper is failing to start
- [HBASE-13821] - WARN if hbase.bucketcache.percentage.in.combinedcache is set
- [HBASE-13824] - TestGenerateDelegationToken: Master fails to start in Windows environment
- [HBASE-13825] - Use ProtobufUtil#mergeFrom and ProtobufUtil#mergeDelimitedFrom in place of builder methods of same name
- [HBASE-13826] - Unable to create table when group acls are appropriately set.
- [HBASE-13831] - TestHBaseFsck#testParallelHbck is flaky against hadoop 2.6+
- [HBASE-13833] - LoadIncrementalHFile.doBulkLoad(Path,HTable) doesn't handle unmanaged connections when using SecureBulkLoad
- [HBASE-13834] - Evict count not properly passed to HeapMemoryTuner.
- [HBASE-13835] - KeyValueHeap.current might be in heap when exception happens in pollRealKV
- [HBASE-13838] - Fix shared TaskStatusTmpl.jamon issues (coloring, content, etc.)
- [HBASE-13839] - Fix AssgnmentManagerTmpl.jamon issues (coloring, content etc.)
- [HBASE-13840] - Server UIs should rename column labels from KVs to Cell
- [HBASE-13841] - Master UI: Region server table compactions percentage less useful over time
- [HBASE-13843] - Fix internal constant text in ReplicationManager.java
- [HBASE-13844] - Move static helper methods from KeyValue into CellUtils
- [HBASE-13845] - Expire of one region server carrying meta can bring down the master
- [HBASE-13847] - getWriteRequestCount function in HRegionServer uses int variable to return the count.
- [HBASE-13849] - Remove restore and clone snapshot from the WebUI
- [HBASE-13851] - RpcClientImpl.close() can hang with cancelled replica RPCs
- [HBASE-13853] - ITBLL improvements after HBASE-13811
- [HBASE-13857] - Slow WAL Append count in ServerMetricsTmpl.jamon is hardcoded to zero
- [HBASE-13858] - RS/MasterDumpServlet dumps threads before its "Stacks" header
- [HBASE-13860] - Remove units from ServerMetricsTmpl.jamon since values are formatted human readable
- [HBASE-13861] - BucketCacheTmpl.jamon has wrong bucket free and used labels
- [HBASE-13863] - Multi-wal feature breaks reported number and size of HLogs
- [HBASE-13864] - HColumnDescriptor should parse the output from master and from describe for TTL
- [HBASE-13865] - Increase the default value for hbase.hregion.memstore.block.multipler from 2 to 4 (part 2)
- [HBASE-13866] - Add endpoint coprocessor to the section hbase.coprocessor.region.classes in HBase book
- [HBASE-13873] - LoadTestTool addAuthInfoToConf throws UnsupportedOperationException
- [HBASE-13875] - Clock skew between master and region server may render restored region without server address
- [HBASE-13877] - Interrupt to flush from TableFlushProcedure causes dataloss in ITBLL
- [HBASE-13878] - Set hbase.fs.tmp.dir config in HBaseTestingUtility.java for Phoenix UT to use
- [HBASE-13882] - Fix RegionSplitPolicy section in HBase book
- [HBASE-13883] - Fix Memstore Flush section in HBase book
- [HBASE-13885] - ZK watches leaks during snapshots
- [HBASE-13887] - Document 0.98 release build differences
- [HBASE-13888] - Fix refill bug from HBASE-13686
- [HBASE-13889] - Fix hbase-shaded-client artifact so it works on hbase-downstreamer
- [HBASE-13892] - Scanner with all results filtered out results in NPE
- [HBASE-13893] - Replace HTable with Table in client tests
- [HBASE-13895] - DATALOSS: Region assigned before WAL replay when abort
- [HBASE-13897] - OOM may occur when Import imports a row with too many KeyValues
- [HBASE-13901] - Error while calling watcher on creating and deleting an HBase table
- [HBASE-13905] - TestRecoveredEdits.testReplayWorksThoughLotsOfFlushing failing consistently on branch-1.1
- [HBASE-13907] - Document how to deploy a coprocessor
- [HBASE-13913] - RAT exclusion list missing asciidoctor support files
- [HBASE-13918] - Fix hbase:namespace description in webUI
- [HBASE-13923] - Loaded region coprocessors are not reported in shell status command
- [HBASE-13924] - Description for hbase.dynamic.jars.dir is wrong
- [HBASE-13930] - Exclude Findbugs packages from shaded jars
- [HBASE-13933] - DBE's seekBefore with tags corrupts the tag's offset information thus leading to incorrect results
- [HBASE-13938] - Deletes done during the region merge transaction may get eclipsed
- [HBASE-13944] - Prefix_Tree seeks to null if the seeked Cell is greater than the last key in the file
- [HBASE-13945] - Prefix_Tree seekBefore() does not work correctly
- [HBASE-13958] - RESTApiClusterManager calls kill() instead of suspend() and resume()
- [HBASE-13959] - Region splitting uses a single thread in most common cases
- [HBASE-13966] - Limit column width in table.jsp

- [HBASE-13969] - AuthenticationTokenSecretManager is never stopped in RPCServer
- [HBASE-13970] - NPE during compaction in trunk
- [HBASE-13971] - Flushes stuck since 6 hours on a regionserver.
- [HBASE-13974] - TestRateLimiter#testFixedIntervalResourceAvailability may fail
- [HBASE-13976] - release manager list in ref guide is missing 0.94 line
- [HBASE-13978] - Variable never assigned in SimpleTotalOrderPartitioner.getPartition()
- [HBASE-13981] - Fix ImportTsv spelling and usage issues
- [HBASE-13982] - Add info for visibility labels/cell TTLs to ImportTsv
- [HBASE-13988] - Add exception handler for lease thread
- [HBASE-13989] - Threshold for combined MemStore and BlockCache percentages is not checked
- [HBASE-13995] - ServerName is not fully case insensitive
- [HBASE-13997] - ScannerCallableWithReplicas cause Infinitely blocking
- [HBASE-14000] - Region server failed to report to Master and was stuck in reportForDuty retry loop
- [HBASE-14005] - Set permission to .top hfile in LoadIncrementalHFiles
- [HBASE-14008] - REST - Throw an appropriate error during schema POST
- [HBASE-14010] - TestRegionRebalancing.testRebalanceOnRegionServerNumberChange fails; cluster not balanced
- [HBASE-14011] - MultiByteBuffer position based reads does not work correctly
- [HBASE-14012] - Double Assignment and Dataloss when ServerCrashProcedure runs during Master failover
- [HBASE-14021] - Quota table has a wrong description on the UI
- [HBASE-14024] - ImportTsv is not loading hbase-default.xml
- [HBASE-14029] - getting started for standalone still references hadoop-version-specific binary artifacts
- [HBASE-14037] - Deletion of a table from backup set results int RTE during next backup
- [HBASE-14038] - Incremental backup list set is ignored during backup
- [HBASE-14041] - Client MetaCache is cleared if a ThrottlingException is thrown
- [HBASE-14042] - Fix FATAL level logging in FSHLog where logged for non fatal exceptions
- [HBASE-14049] - SnapshotHFileCleaner should optionally clean up after failed snapshots
- [HBASE-14050] - NPE in org.apache.hadoop.hbase.ipc.RpcServer$Connection.readAndProcess
- [HBASE-14054] - Acknowledged writes may get lost if regionserver clock is set backwards
- [HBASE-14065] - ref guide section on release candidate generation refers to old doc files
- [HBASE-14073] - TestRemoteTable.testDelete failed in the latest trunk code
- [HBASE-14076] - ResultSerialization and MutationSerialization can throw InvalidProtocolBufferException when serializing a cell larger than 64MB
- [HBASE-14077] - Add package to hbase-protocol protobuf files.
- [HBASE-14088] - Close Connection in LoadTestTool#applyColumnFamilyOptions
- [HBASE-14089] - Remove unnecessary draw of system entropy from RecoverableZooKeeper
- [HBASE-14092] - hbck should run without locks by default and only disable the balancer when necessary
- [HBASE-14094] - Procedure.proto can't be compiled to C++
- [HBASE-14098] - Allow dropping caches behind compactions
- [HBASE-14100] - Fix high priority findbugs warnings
- [HBASE-14106] - TestProcedureRecovery is flaky
- [HBASE-14115] - Fix resource leak in HMasterCommandLine
- [HBASE-14119] - Show meaningful error messages instead of stack traces in hbase shell commands. Fixing few commands in this jira.
- [HBASE-14124] - Failed backup is not handled properly in incremental mode
- [HBASE-14129] - If any regionserver gets shutdown uncleanly during full cluster restart, locality looks to be lost
- [HBASE-14145] - Allow the Canary in regionserver mode to try all regions on the server, not just one
- [HBASE-14146] - Once replication sees an error it slows down forever
- [HBASE-14153] - Typo in ProcedureManagerHost.MASTER_PROCEUDRE_CONF_KEY
- [HBASE-14155] - StackOverflowError in reverse scan
- [HBASE-14156] - Fix test failure in TestOpenTableInCoprocessor
- [HBASE-14157] - Interfaces implemented by subclasses should be checked when registering CoprocessorService
- [HBASE-14162] - Fixing maven target for regenerating thrift classes fails against 0.9.2
- [HBASE-14166] - Per-Region metrics can be stale
- [HBASE-14168] - Avoid useless retry for DoNotRetryIOException in TableRecordReaderImpl
- [HBASE-14170] - [HBase Rest] RESTServer is not shutting down if "hbase.rest.port" Address already in use.
- [HBASE-14171] - [HBase Thrift] ThriftServer is not shutting down if "hbase.regionserver.thrift.port" Address already in use.
- [HBASE-14173] - includeMVCCReadpoint parameter in DefaultCompactor#createTmpWriter() represents no-op
- [HBASE-14178] - regionserver blocks because of waiting for offsetLock
- [HBASE-14183] - [Shell] Scanning hbase meta table is failing in master branch
- [HBASE-14185] - Incorrect region names logged by MemStoreFlusher
- [HBASE-14192] - Fix REST Cluster constructor with String List
- [HBASE-14196] - Thrift server idle connection timeout issue
- [HBASE-14201] - hbck should not take a lock unless fixing errors
- [HBASE-14205] - RegionCoprocessorHost System.nanoTime() performance bottleneck
- [HBASE-14206] - MultiRowRangeFilter returns records whose rowKeys are out of allowed ranges
- [HBASE-14208] - Remove yarn dependencies on -common and -client
- [HBASE-14209] - TestShell visibility tests failing
- [HBASE-14211] - Add more rigorous integration tests of splits
- [HBASE-14214] - list_labels shouldn't raise ArgumentError if no labels are defined
- [HBASE-14219] - src tgz no longer builds after HBASE-14085
- [HBASE-14223] - Meta WALs are not cleared if meta region was closed and RS aborts
- [HBASE-14224] - Fix coprocessor handling of duplicate classes
- [HBASE-14228] - Close BufferedMutator and connection in MultiTableOutputFormat

- [HBASE-14229] - Flushing canceled by coprocessor still leads to memstoreSize set down
- [HBASE-14234] - Procedure-V2: Exception encountered in WALProcedureStore#rollWriter() should be properly handled
- [HBASE-14241] - Fix deadlock during cluster shutdown due to concurrent connection close
- [HBASE-14243] - Incorrect NOTICE file in hbase-it test-jar
- [HBASE-14249] - shaded jar modules create spurious source and test jars with incorrect LICENSE/NOTICE info
- [HBASE-14250] - branch-1.1 hbase-server test-jar has incorrect LICENSE
- [HBASE-14251] - javadoc jars use LICENSE/NOTICE from primary artifact
- [HBASE-14252] - RegionServers fail to start when setting hbase.ipc.server.callqueue.scan.ratio to 0
- [HBASE-14256] - Flush task message may be confusing when region is recovered
- [HBASE-14257] - Periodic flusher only handles hbase:meta, not other system tables
- [HBASE-14258] - Make region_mover.rb script case insensitive with regard to hostname
- [HBASE-14263] - ExploringCompactionPolicy logic around file selection is broken
- [HBASE-14269] - FuzzyRowFilter omits certain rows when multiple fuzzy keys exist
- [HBASE-14272] - Enforce major compaction on stores with TTL or time.to.purge.deletes enabled
- [HBASE-14273] - Rename MVCC to MVCC: From MultiVersionConsistencyControl to MultiVersionConcurrencyControl
- [HBASE-14280] - Bulk Upload from HA cluster to remote HA hbase cluster fails
- [HBASE-14283] - Reverse scan doesn't work with HFile inline index/bloom blocks
- [HBASE-14291] - NPE On StochasticLoadBalancer Balance Involving RS With No Regions
- [HBASE-14292] - Call Me Maybe HBase links haved moved
- [HBASE-14302] - TableSnapshotInputFormat should not create back references when restoring snapshot
- [HBASE-14307] - Incorrect use of positional read api in HFileBlock
- [HBASE-14313] - After a Connection sees ConnectionClosingException it never recovers
- [HBASE-14315] - Save one call to KeyValueHeap.peek per row
- [HBASE-14317] - Stuck FSHLog: bad disk (HDFS-8960) and can't roll WAL
- [HBASE-14326] - HBase book: fix definition of max min size to compact
- [HBASE-14327] - TestIOFencing#testFencingAroundCompactionAfterWALSync is flaky
- [HBASE-14329] - Report region in transition only ever operates on one region
- [HBASE-14337] - build error on master
- [HBASE-14338] - License notification misspells 'Asciidoctor'
- [HBASE-14343] - Fix debug message in SimpleRegionNormalizer for small regions
- [HBASE-14346] - Typo in FamilyFilter
- [HBASE-14347] - Add a switch to DynamicClassLoader to disable it
- [HBASE-14349] - pre-commit zombie finder is overly broad
- [HBASE-14354] - Minor improvements for usage of the mlock agent
- [HBASE-14359] - HTable#close will hang forever if unchecked error/exception thrown in AsyncProcess#sendMultiAction
- [HBASE-14362] - org.apache.hadoop.hbase.master.procedure.TestWALProcedureStoreOnHDFS is super duper flaky
- [HBASE-14366] - NPE in case visibility expression is not present in labels table during importtsv run
- [HBASE-14367] - Add normalization support to shell
- [HBASE-14370] - Use separate thread for calling ZKPermissionWatcher#refreshNodes()
- [HBASE-14377] - JavaHBaseContextSuite not being run
- [HBASE-14380] - Correct data gets skipped along with bad data in importTsv bulk load thru TsvImporterTextMapper
- [HBASE-14382] - TestInterfaceAudienceAnnotations should hadoop-compt module resources
- [HBASE-14384] - Trying to run canary locally with -regionserver option causes exception
- [HBASE-14385] - Close the sockets that is missing in connection closure.
- [HBASE-14386] - Reset MutableHistogram's min/max/sum after snapshot
- [HBASE-14391] - Empty regionserver WAL will never be deleted although the coresponding regionserver has been stale
- [HBASE-14392] - [tests] TestLogRollingNoCluster fails on master from time to time
- [HBASE-14393] - Have TestHFileEncryption clean up after itself so it don't go all zombie on us
- [HBASE-14394] - Properly close the connection after reading records from table.
- [HBASE-14400] - Fix HBase RPC protection documentation
- [HBASE-14406] - The dataframe datasource filter is wrong, and will result in data loss or unexpected behavior
- [HBASE-14411] - Fix unit test failures when using multiwal as default WAL provider
- [HBASE-14425] - In Secure Zookeeper cluster superuser will not have sufficient permission if multiple values are configured in "hbase.superuser"
- [HBASE-14427] - Fix 'should' assertions in TestFastFail
- [HBASE-14429] - Checkstyle report is broken
- [HBASE-14431] - AsyncRpcClient#removeConnection() never removes connection from connections pool if server fails
- [HBASE-14437] - ArithmeticException in ReplicationInterClusterEndpoint
- [HBASE-14445] - ExportSnapshot does not honor -chmod option
- [HBASE-14449] - Rewrite deadlock prevention for concurrent connection close
- [HBASE-14458] - AsyncRpcClient#createRpcChannel() should check and remove dead channel before creating new one to same server
- [HBASE-14460] - [Perf Regression] Merge of MVCC and SequenceId (HBASE-8763) slowed Increments, CheckAndPuts, batch operations
- [HBASE-14462] - rolling_restart.sh --master-only throws "line 142: test: 0: unary operator expected"
- [HBASE-14463] - Severe performance downgrade when parallel reading a single key from BucketCache
- [HBASE-14469] - Fix some comment, validation and logging around memstore lower limit configuration
- [HBASE-14471] - Thrift - HTTP Error 413 full HEAD if using kerberos authentication
- [HBASE-14473] - Compute region locality in parallel
- [HBASE-14474] - DeadLock in RpcClientImpl.Connection.close()
- [HBASE-14475] - Region split requests are always audited with "hbase" user rather than request user
- [HBASE-14485] - ConnectionImplementation leaks on construction failure
- [HBASE-14486] - Disable TestRegionPlacement, a flakey test for an unfinished feature
- [HBASE-14489] - postScannerFilterRow consumes a lot of CPU

- [HBASE-14492] - Increase REST server header buffer size from 8k to 64k
- [HBASE-14494] - Wrong usage messages on shell commands
- [HBASE-14497] - Reverse Scan threw StackOverflow caused by readPt checking
- [HBASE-14498] - Master stuck in infinite loop when all Zookeeper servers are unreachable
- [HBASE-14499] - Master coprocessors shutdown will not happen on master abort
- [HBASE-14500] - Remove load of deprecated MOB ruby scripts after HBASE-14227
- [HBASE-14501] - NPE in replication when HDFS transparent encryption is enabled.
- [HBASE-14506] - Reenable TestDistributedLogSplitting#testWorkerAbort
- [HBASE-14510] - Can not set coprocessor from Shell after HBASE-14224
- [HBASE-14512] - Cache UGI groups
- [HBASE-14518] - Give TestScanEarlyTermination the same treatment as 'HBASE-14378 Get TestAccessController* passing again...' -- up priority handlers
- [HBASE-14521] - Unify the semantic of hbase.client.retries.number
- [HBASE-14523] - rolling-restart.sh --graceful will start regionserver process on master node
- [HBASE-14525] - Append and increment operation throws NullPointerException on non-existing column families.
- [HBASE-14531] - graceful_stop.sh "if ["$local"]" condition unexpected behaviour
- [HBASE-14532] - [book] dfs.client.read.shortcircuit is referenced as hbase-site.xml config and not described in section 7
- [HBASE-14541] - TestHFileOutputFormat.testMRIncrementalLoadWithSplit failed due to too many splits and few retries
- [HBASE-14544] - Allow HConnectionImpl to not refresh the dns on errors
- [HBASE-14545] - TestMasterFailover often times out
- [HBASE-14554] - Investigate the server side alternative to enable dynamic jar for security purpose
- [HBASE-14555] - Deadlock in MVCC branch-1.2 toString()
- [HBASE-14557] - MapReduce WALPlayer issue with NoTagsKeyValue
- [HBASE-14577] - HBase shell help for scan and returning a column family has a typo
- [HBASE-14578] - URISyntaxException during snapshot restore for table with user defined namespace
- [HBASE-14579] - Users authenticated with KERBEROS are recorded as being authenticated with SIMPLE
- [HBASE-14581] - Znode cleanup throws auth exception in secure mode
- [HBASE-14591] - Region with reference hfile may split after a forced split in IncreasingToUpperBoundRegionSplitPolicy
- [HBASE-14592] - BatchRestartRsAction always restarts 0 RS when running SlowDeterministicMonkey
- [HBASE-14594] - Use new DNS API introduced in HADOOP-12437
- [HBASE-14597] - Fix Groups cache in multi-threaded env
- [HBASE-14598] - ByteBufferOutputStream grows its HeapByteBuffer beyond JVM limitations
- [HBASE-14599] - Modify site config to use protocol-relative URLs for CSS/JS
- [HBASE-14603] - Lots of work on the POM to enhance Javadocs, Xrefs
- [HBASE-14604] - Improve MoveCostFunction in StochasticLoadBalancer
- [HBASE-14606] - TestSecureLoadIncrementalHFiles tests timed out in trunk build on apache
- [HBASE-14608] - testWalRollOnLowReplication has some risk to assert failed after HBASE-14600
- [HBASE-14610] - IntegrationTestRpcClient from HBASE-14535 is failing with Async RPC client
- [HBASE-14621] - ReplicationLogCleaner gets stuck when a regionserver crashes
- [HBASE-14624] - BucketCache.freeBlock is too expensive
- [HBASE-14625] - Chaos Monkey should shut down faster
- [HBASE-14632] - Region server aborts due to unguarded dereference of Reader
- [HBASE-14633] - Try fluid width UI
- [HBASE-14634] - Disable flakey TestSnapshotCloneIndependence.testOnlineSnapshotDeleteIndependent
- [HBASE-14644] - Region in transition metric is broken
- [HBASE-14650] - Reenable TestNamespaceAuditor
- [HBASE-14654] - Reenable TestMultiParallel#testActiveThreadsCount
- [HBASE-14658] - Allow loading a MonkeyFactory by class name
- [HBASE-14660] - AssertionError found when using offheap BucketCache with assertion enabled
- [HBASE-14661] - RegionServer link is not opening, in HBase Table page.
- [HBASE-14663] - HStore::close does not honor config hbase.rs.evictblocksonclose
- [HBASE-14664] - Master failover issue: Backup master is unable to start if active master is killed and started in short time interval
- [HBASE-14667] - HBaseFsck constructors have diverged
- [HBASE-14676] - HBaseTestCase clean out: Purge Incommon Interface and Table and Region implementations
- [HBASE-14680] - Two configs for snapshot timeout and better defaults
- [HBASE-14681] - Upgrade Checkstyle plugin to 2.16
- [HBASE-14682] - CM restore functionality for regionservers is broken
- [HBASE-14689] - Addendum and unit test for HBASE-13471
- [HBASE-14690] - Fix css so there's no left/right scroll bar
- [HBASE-14694] - Scan copy constructor doesn't handle allowPartialResults
- [HBASE-14695] - Fix some easy HTML warnings
- [HBASE-14701] - Fix flakey Failed tests: TestMobFlushSnapshotFromClient>TestFlushSnapshotFromClient.testSkipFlushTableSnapshot:199 null
- [HBASE-14705] - Javadoc for KeyValue constructor is not correct.
- [HBASE-14706] - RegionLocationFinder should return multiple servernames by top host
- [HBASE-14711] - Remove or annotated deprecated methods in HRegionInfo
- [HBASE-14712] - MasterProcWALs never clean up
- [HBASE-14717] - enable_table_replication command should only create specified table for a peer cluster
- [HBASE-14723] - Fix IT tests split too many times
- [HBASE-14729] - SplitLogManager does not clean files from WALs folder in case of master failover
- [HBASE-14733] - Minor typo in alter_namespace.rb
- [HBASE-14737] - Clear cachedMaxVersions when HColumnDescriptor#setValue(VERSIONS, value) is called

- [HBASE-14739] - Fix broken link to Javadoc that is suppressed because it is generated code
- [HBASE-14742] - TestHeapMemoryManager is flakey
- [HBASE-14745] - Shade the last few dependencies in hbase-shaded-client
- [HBASE-14751] - Book seems to be broken
- [HBASE-14753] - TestShell is not invoked anymore
- [HBASE-14754] - TestFastFailWithoutTestUtil failing on trunk now in #testPreemptiveFastFailException50Times
- [HBASE-14755] - Fix some broken links and HTML problems
- [HBASE-14759] - Avoid using Math.abs when selecting SyncRunner in FSHLog
- [HBASE-14761] - Deletes with and without visibility expression do not delete the matching mutation
- [HBASE-14763] - Remove usages of deprecated HConnection
- [HBASE-14767] - Remove deprecated functions from HBaseAdmin
- [HBASE-14768] - bin/graceful_stop.sh logs nothing as a balancer state to be stored
- [HBASE-14769] - Remove unused functions and duplicate javadocs from HBaseAdmin
- [HBASE-14770] - RowCounter argument input parse error
- [HBASE-14771] - RpcServer#getRemoteAddress always returns null
- [HBASE-14773] - Fix HBase shell tests are skipped when skipping server tests.
- [HBASE-14774] - Raise the font size on high-DPI small-screen devices like iphone 6+
- [HBASE-14777] - Fix Inter Cluster Replication Future ordering issues
- [HBASE-14778] - Make block cache hit percentages not integer in the metrics system
- [HBASE-14781] - Turn per cf flushing on for ITBLL by default
- [HBASE-14782] - FuzzyRowFilter skips valid rows
- [HBASE-14784] - Port conflict is not resolved in HBaseTestingUtility.randomFreePort()
- [HBASE-14787] - Remove obsolete ConnectionImplementation.refCount
- [HBASE-14788] - Splitting a region does not support the hbase.rs.evictblocksonclose config when closing source region
- [HBASE-14793] - Allow limiting size of block into L1 block cache.
- [HBASE-14797] - Last round of CSS fix-ups
- [HBASE-14799] - Commons-collections object deserialization remote command execution vulnerability
- [HBASE-14802] - Replaying server crash recovery procedure after a failover causes incorrect handling of deadservers
- [HBASE-14803] - Add some debug logs to StoreFileScanner
- [HBASE-14804] - HBase shell's create table command ignores 'NORMALIZATION_ENABLED' attribute
- [HBASE-14806] - Missing sources.jar for several modules when building HBase
- [HBASE-14807] - TestWALLockup is flakey
- [HBASE-14809] - Grant / revoke Namespace admin permission to group
- [HBASE-14810] - Update Hadoop support description to explain "not tested" vs "not supported"
- [HBASE-14812] - Fix ResultBoundedCompletionService deadlock
- [HBASE-14815] - TestMobExportSnapshot.testExportFailure timeout occasionally
- [HBASE-14818] - user_permission does not list namespace permissions
- [HBASE-14822] - Renewing leases of scanners doesn't work
- [HBASE-14823] - HBase Ref Guide Refactoring
- [HBASE-14824] - HBaseAdmin.mergeRegions should recognize both full region names and encoded region names
- [HBASE-14825] - HBase Ref Guide corrections of typos/misspellings
- [HBASE-14838] - Clarify that SimpleRegionNormalizer does not merge empty (<1MB) regions
- [HBASE-14840] - Sink cluster reports data replication request as success though the data is not replicated
- [HBASE-14843] - TestWALProcedureStore.testLoad is flakey
- [HBASE-14845] - hbase-server leaks jdk.tools dependency to mapreduce consumers
- [HBASE-14861] - HBASE_ZNODE_FILE on master server is overwritten by regionserver process in case of master-rs collocation
- [HBASE-14867] - SimpleRegionNormalizer needs to have better heuristics to trigger merge operation
- [HBASE-14872] - Scan different timeRange per column family doesn't percolate down to the memstore
- [HBASE-14885] - NullPointerException in HMaster#normalizeRegions() due to missing TableDescriptor
- [HBASE-14890] - Fix javadoc checkstyle errors
- [HBASE-14893] - Race between mutation on region and region closing operation leads to NotServingRegionException
- [HBASE-14894] - Fix misspellings of threshold in log4j.properties files for tests
- [HBASE-14896] - Resolve Javadoc warnings in WALKey and RegionMover
- [HBASE-14897] - TestTableLockManager.testReapAllTableLocks is flakey
- [HBASE-14898] - Correct Bloom filter documentation in the book
- [HBASE-14901] - There is duplicated code to create/manage encryption keys
- [HBASE-14904] - Mark Base[En|De]coder LimitedPrivate and fix binary compat issue
- [HBASE-14905] - VerifyReplication does not honour versions option
- [HBASE-14907] - NPE of MobUtils.hasMobColumns in Build failed in Jenkins: HBase-Trunk_matrix » latest1.8,Hadoop #513
- [HBASE-14917] - Log in console if individual tests in test-patch.sh fail or pass
- [HBASE-14922] - Delayed flush doesn't work causing flush storms.
- [HBASE-14923] - VerifyReplication should not mask the exception during result comparison
- [HBASE-14926] - Hung ThriftServer; no timeout on read from client; if client crashes, worker thread gets stuck reading
- [HBASE-14928] - Start row should be set for query through HBase REST gateway involving globbing option
- [HBASE-14929] - There is a space missing from Table "foo" is not currently available.
- [HBASE-14930] - check_compatibility.sh needs smarter exit codes
- [HBASE-14935] - ReverseStoreScanner can check for scanner reset before seekToPreviousRow and backwardSeek.
- [HBASE-14936] - CombinedBlockCache should overwrite CacheStats#rollMetricsPeriod()
- [HBASE-14940] - Make our unsafe based ops more safe
- [HBASE-14941] - locate_region shell command
- [HBASE-14942] - Allow turning off BoundedByteBufferPool
- [HBASE-14952] - hbase-assembly source artifact has some incorrect modules

- [HBASE-14953] - HBaseInterClusterReplicationEndpoint: Do not retry the whole batch of edits in case of RejectedExecutionException
- [HBASE-14954] - IllegalArgumentException was thrown when doing online configuration change in CompactSplitThread
- [HBASE-14960] - Fallback to using default RPCControllerFactory if class cannot be loaded
- [HBASE-14968] - ConcurrentModificationException in region close resulting in the region staying in closing state
- [HBASE-14974] - Total number of Regions in Transition number on UI incorrect
- [HBASE-14975] - Don't color the total RIT line yellow if it's zero
- [HBASE-14977] - ChoreService.shutdown may result in ConcurrentModificationException
- [HBASE-14987] - Compaction marker whose region name doesn't match current region's needs to be handled
- [HBASE-14990] - Tests in BaseTestHBaseFsck are run by its subclasses redundantly
- [HBASE-14991] - Fix the feature warning in scala code
- [HBASE-14999] - Remove ref to org.mortbay.log.Log
- [HBASE-15000] - Fix javadoc warn in LoadIncrementalHFiles
- [HBASE-15001] - Thread Safety issues in ReplicationSinkManager and HBaseInterClusterReplicationEndpoint
- [HBASE-15011] - turn off the jdk8 javadoc linter. :(
- [HBASE-15014] - Fix filterCellByStore in WALsplitter is awful for performance
- [HBASE-15015] - Checktyle plugin shouldn't check Jamon-generated Java classes
- [HBASE-15018] - Inconsistent way of handling TimeoutException in the rpc client implementations
- [HBASE-15019] - Replication stuck when HDFS is restarted
- [HBASE-15021] - hadoopqa doing false positives
- [HBASE-15022] - undefined method `getZooKeeperClusterKey' for Java::OrgApacheHadoopHbaseZookeeper::ZKUtil:Class
- [HBASE-15026] - The default value of "hbase.regions.slop" in hbase-default.xml is obsolete
- [HBASE-15027] - Refactor the way the CompactedHFileDischarger threads are created
- [HBASE-15028] - Minor fix on RegionGroupingProvider
- [HBASE-15030] - Deadlock in master TableNamespaceManager while running IntegrationTestDDLMasterFailover
- [HBASE-15032] - hbase shell scan filter string assumes UTF-8 encoding
- [HBASE-15034] - IntegrationTestDDLMasterFailover does not clean created namespaces
- [HBASE-15035] - bulkloading hfiles with tags that require splits do not preserve tags
- [HBASE-15039] - HMaster and RegionServers should try to refresh token keys from zk when facing InvalidToken
- [HBASE-15043] - region_status.rb broken with TypeError: no public constructors for Java::OrgApacheHadoopHbaseClient::HBaseAdmin
- [HBASE-15050] - Block Ref counting does not work in Region Split cases.
- [HBASE-15052] - Use EnvironmentEdgeManager in ReplicationSource
- [HBASE-15057] - local-master-backup.sh doesn't start HMaster correctly
- [HBASE-15063] - Bug in MultiByteBuf#toBytes
- [HBASE-15064] - BufferUnderflowException after last Cell fetched from an HFile Block served from L2 offheap cache
- [HBASE-15065] - SimpleRegionNormalizer should return multiple normalization plans in one run
- [HBASE-15069] - Unify HFile Writer and Reader creation patterns
- [HBASE-15070] - DistributedHBaseCluster#restoreRegionServers() starts new RS process on master server
- [HBASE-15074] - Zombie maker to test zombie detector
- [HBASE-15079] - TestMultiParallel.validateLoadedData AssertionError: null
- [HBASE-15083] - Gets from Multiactions are not counted in metrics for gets.
- [HBASE-15085] - IllegalStateException was thrown when scanning on bulkloaded HFiles
- [HBASE-15093] - Replication can report incorrect size of log queue for the global source when multiwal is enabled
- [HBASE-15098] - Normalizer switch in configuration is not used
- [HBASE-15100] - Master WALProcs still never clean up
- [HBASE-15101] - Leaked References to StoreFile.Reader after HBASE-13082
- [HBASE-15102] - HeapMemoryTuner can "overtune" memstore size and suddenly drop it into blocking zone
- [HBASE-15104] - Occasional failures due to NotServingRegionException in IT tests
- [HBASE-15109] - HM/RS failed to start when "fs.hdfs.impl.disable.cache" is set to true
- [HBASE-15117] - Resolve ICAST findbugs warnings in current codes
- [HBASE-15121] - ConnectionImplementation#locateRegionInMeta() issue when master is restarted
- [HBASE-15122] - Servlets generate XSS_REQUEST_PARAMETER_TO_SERVLET_WRITER findbugs warnings
- [HBASE-15125] - HBaseFsck's adoptHdfsOrphan function creates region with wrong end key boundary
- [HBASE-15126] - HBaseFsck's checkRegionBoundaries function sets incorrect 'storesFirstKey'
- [HBASE-15127] - NPE in RpcServer$Call.wrapWithSasl()
- [HBASE-15128] - Disable region splits and merges switch in master
- [HBASE-15132] - Master region merge RPC should authorize user request
- [HBASE-15133] - Data loss after compaction when a row has more than Integer.MAX_VALUE columns
- [HBASE-15137] - CallTimeoutException and CallQueueTooBigException should trigger PFFE
- [HBASE-15139] - Connection manager doesn't pass client metrics to RpcClient
- [HBASE-15145] - HBCK and Replication should authenticate to zookepeer using server principal
- [HBASE-15146] - Don't block on Reader threads queueing to a scheduler queue
- [HBASE-15147] - Shell should use Admin.listTableNames() instead of Admin.listTables()
- [HBASE-15148] - Resolve IS2_INCONSISTENT_SYNC findbugs warning in AuthenticationTokenSecretManager
- [HBASE-15149] - hadoopcheck precommit check should only run when compile is needed
- [HBASE-15152] - Automatically include prefix-tree module in MR jobs if present
- [HBASE-15164] - Fix broken links found via LinkLint
- [HBASE-15173] - Execute mergeRegions RPC call as the request user
- [HBASE-15184] - SparkSQL Scan operation doesn't work on kerberos cluster
- [HBASE-15186] - HBASE-15158 Preamble 1 of 2: fix findbugs, add javadoc, change Region#getReadpoint to #getReadPoint, and some util
- [HBASE-15187] - Integrate CSRF prevention filter to REST gateway
- [HBASE-15190] - Monkey dies when running on shared cluster (gives up when can't kill the other fellows processes)
- [HBASE-15193] - Rename ByteBufferInputStream in master

- [HBASE-15195] - Don't run findbugs on hbase-it; it has nothing in src/main/java
- [HBASE-15196] - HBASE-15158 Preamble 2 of 2:Add Increment tests
- [HBASE-15198] - RPC client not using Codec and CellBlock for puts by default
- [HBASE-15200] - ZooKeeper znode ACL checks should only compare the shortname
- [HBASE-15206] - Flakey testSplitDaughtersNotInMeta test
- [HBASE-15209] - disable table in HBaseTestingUtility.truncateTable
- [HBASE-15214] - Valid mutate Ops fail with RPC Codec in use and region moves across
- [HBASE-15216] - Canary does not accept config params from command line
- [HBASE-15218] - On RS crash and replay of WAL, loosing all Tags in Cells
- [HBASE-15221] - HTableMultiplexer improvements (stale region locations and resource leaks)
- [HBASE-15231] - Make TableState.State private
- [HBASE-15236] - Inconsistent cell reads over multiple bulk-loaded HFiles
- [HBASE-15247] - InclusiveStopFilter does not respect reverse Filter property
- [HBASE-15250] - Fix links that are currently redirected from old URLs
- [HBASE-15251] - During a cluster restart, Hmaster thinks it is a failover by mistake
- [HBASE-15252] - Data loss when replaying wal if HDFS timeout
- [HBASE-15253] - Small bug in CellUtil.matchingRow(Cell, byte[])
- [HBASE-15259] - WALEdits under replay will also be replicated
- [HBASE-15271] - Spark Bulk Load: Need to write HFiles to tmp location then rename to protect from Spark Executor Failures
- [HBASE-15276] - TestFlushSnapshotFromClient hung
- [HBASE-15278] - AsyncRPCClient hangs if Connection closes before RPC call response
- [HBASE-15279] - OrderedBytes.isEncodedValue does not check for int8 and int16 types
- [HBASE-15285] - Forward-port respect for isReturnResult from HBASE-15095
- [HBASE-15287] - mapreduce.RowCounter returns incorrect result with binary row key inputs
- [HBASE-15289] - Add details about how to get usage instructions for Import and Export utilities
- [HBASE-15290] - Hbase Rest CheckAndAPI should save other cells along with compared cell
- [HBASE-15291] - FileSystem not closed in secure bulkLoad
- [HBASE-15292] - Refined ZooKeeperWatcher to prevent ZooKeeper's callback while construction
- [HBASE-15295] - MutateTableAccess.multiMutate() does not get high priority causing a deadlock
- [HBASE-15297] - error message is wrong when a wrong namspace is specified in grant in hbase shell
- [HBASE-15298] - Fix missing or wrong asciidoc anchors in the reference guide
- [HBASE-15302] - Reenable the other tests disabled by HBASE-14678
- [HBASE-15310] - hbase-spark module has compilation failures with clover profile
- [HBASE-15319] - clearJmxCache does not take effect actually
- [HBASE-15322] - Operations using Unsafe path broken for platforms not having sun.misc.Unsafe
- [HBASE-15323] - Hbase Rest CheckAndDeleteAPi should be able to delete more cells
- [HBASE-15324] - Jitter may cause desiredMaxFileSize overflow in ConstantSizeRegionSplitPolicy and trigger unexpected split
- [HBASE-15325] - ResultScanner allowing partial result will miss the rest of the row if the region is moved between two rpc requests
- [HBASE-15327] - Canary will always invoke admin.balancer() in each sniffing period when writeSniffing is enabled
- [HBASE-15328] - Unvalidated Redirect in HMaster
- [HBASE-15329] - Cross-Site Scripting: Reflected in table.jsp
- [HBASE-15332] - Document how to take advantage of HDFS-6133 in HBase
- [HBASE-15348] - Fix tests broken by recent metrics re-work
- [HBASE-15357] - TableInputFormatBase getSplitKey does not handle signed bytes correctly
- [HBASE-15358] - canEnforceTimeLimitFromScope should use timeScope instead of sizeScope
- [HBASE-15360] - Fix flaky TestSimpleRpcScheduler
- [HBASE-15364] - Fix unescaped < characters in Javadoc
- [HBASE-15378] - Scanner cannot handle heartbeat message with no results
- [HBASE-15379] - Fake cells created in read path not implementing SettableSequenceId
- [HBASE-15388] - Add ACL for some master methods
- [HBASE-15393] - Enable table replication command will fail when parent znode is not default in peer cluster
- [HBASE-15397] - Create bulk load replication znode(hfile-refs) in ZK replication queue by default
- [HBASE-15405] - Synchronize final results logging single thread in PE, fix wrong defaults in help message
- [HBASE-15406] - Split / merge switch left disabled after early termination of hbck
- [HBASE-15424] - Add bulk load hfile-refs for replication in ZK after the event is appended in the WAL
- [HBASE-15425] - Failing to write bulk load event marker in the WAL is ignored
- [HBASE-15430] - Failed taking snapshot - Manifest proto-message too large
- [HBASE-15433] - SnapshotManager#restoreSnapshot not update table and region count quota correctly when encountering exception
- [HBASE-15437] - Response size calculated in RPCServer for warning tooLarge responses does NOT count CellScanner payload
- [HBASE-15439] - getMaximumAllowedTimeBetweenRuns in ScheduledChore ignores the TimeUnit
- [HBASE-15441] - Fix WAL splitting when region has moved multiple times
- [HBASE-15442] - HBase Backup Phase 2: Potential data loss and or data duplication in incremental backup
- [HBASE-15443] - HBase Backup Phase 2: Multiple backup destinations support (data model)
- [HBASE-15461] - ref guide has bad links to blogs originally posted on cloudera website
- [HBASE-15463] - Region normalizer should check whether split/merge is enabled
- [HBASE-15465] - userPermission returned by getUserPermission() for the selected namespace does not have namespace set
- [HBASE-15467] - Remove 1.x/2.0 TableDescriptor incompatibility
- [HBASE-15485] - Filter.reset() should not be called between batches
- [HBASE-15504] - Fix Balancer in 1.3 not moving regions off overloaded regionserver
- [HBASE-15515] - Improve LocalityBasedCandidateGenerator in Balancer
- [HBASE-15520] - Fix broken TestAsyncIPC
- [HBASE-15528] - Clean up outdated entries in hbase-default.xml

- [HBASE-15548] - SyncTable: sourceHashDir is supposed to be optional but won't work without
- [HBASE-15559] - BaseMasterAndRegionObserver doesn't implement all the methods
- [HBASE-15563] - 'counter' may overflow in BoundedGroupingStrategy
- [HBASE-15566] - Add timeouts on TestMobFlushSnapshotFromClient and TestRegionMergeTransactionOnCluster
- [HBASE-15567] - TestReplicationShell broken by recent replication changes
- [HBASE-15574] - Minor typo on HRegionServerCommandLine.java
- [HBASE-15578] - Handle HBASE-15234 for ReplicationHFileCleaner
- [HBASE-15582] - SnapshotManifestV1 too verbose when there are no regions
- [HBASE-15587] - FSTableDescriptors.getDescriptor() logs stack trace erronously
- [HBASE-15591] - ServerCrashProcedure not yielding
- [HBASE-15593] - Time limit of scanning should be offered by client
- [HBASE-15597] - Clean up configuration keys used in hbase-spark module
- [HBASE-15613] - TestNamespaceCommand times out
- [HBASE-15617] - Canary in regionserver mode might not enumerate all regionservers
- [HBASE-15621] - Suppress Hbase SnapshotHFile cleaner error messages when a snaphot is going on
- [HBASE-15622] - Superusers does not consider the keytab credentials
- [HBASE-15623] - Update refguide to change hadoop <= 2.3.x from NT to X for hbase-1.2.x
- [HBASE-15624] - Move master branch/hbase-2.0.0 to jdk-8 only
- [HBASE-15627] - Miss space and closing quote in AccessController#checkSystemOrSuperUser
- [HBASE-15634] - TestDateTieredCompactionPolicy#negativeForMajor is flaky
- [HBASE-15635] - Mean age of Blocks in cache (seconds) on webUI should be greater than zero
- [HBASE-15636] - hard coded wait time out value in HBaseTestingUtility#waitUntilAllRegionsAssigned might cause test failure
- [HBASE-15637] - TSHA Thrift-2 server should allow limiting call queue size
- [HBASE-15638] - Shade protobuf
- [HBASE-15639] - Unguarded access to stackIndexes in Procedure#toStringDetails()
- [HBASE-15645] - hbase.rpc.timeout is not used in operations of HTable
- [HBASE-15650] - Remove TimeRangeTracker as point of contention when many threads reading a StoreFile
- [HBASE-15664] - Use Long.MAX_VALUE instead of HConstants.FOREVER in CompactionPolicy
- [HBASE-15668] - HFileReplicator$Copier fails to replicate other hfiles in the request when a hfile in not found in FS anywhere
- [HBASE-15669] - HFile size is not considered correctly in a replication request
- [HBASE-15670] - Add missing Snapshot.proto to the maven profile for compiling protobuf
- [HBASE-15672] - hadoop.hbase.security.visibility.TestVisibilityLabelsWithDeletes fails
- [HBASE-15673] - [PE tool] Fix latency metrics for multiGet
- [HBASE-15674] - HRegionLocator#getAllRegionLocations should put the results in cache
- [HBASE-15676] - FuzzyRowFilter fails and matches all the rows in the table if the mask consists of all 0s
- [HBASE-15684] - Fix the broken log file size accounting
- [HBASE-15685] - Typo in REST documentation
- [HBASE-15693] - Reconsider the ImportOrder rule of checkstyle
- [HBASE-15697] - Excessive TestHRegion running time on branch-1
- [HBASE-15698] - Increment TimeRange not serialized to server
- [HBASE-15699] - Can not sync AsyncFSWAL if no edit is appended
- [HBASE-15707] - ImportTSV bulk output does not support tags with hfile.format.version=3
- [HBASE-15708] - Docker for dev-support scripts
- [HBASE-15710] - Include issue servers information in RetriesExhaustedWithDetailsException message
- [HBASE-15711] - Add client side property to allow logging details for batch errors
- [HBASE-15714] - We are calling checkRow() twice in doMiniBatchMutation()
- [HBASE-15725] - make_patch.sh should add the branch name when -b is passed.
- [HBASE-15732] - hbase-rsgroups should be in the assembly
- [HBASE-15738] - Ensure artifacts in project dist area include required md5 file
- [HBASE-15742] - Reduce allocation of objects in metrics
- [HBASE-15746] - Remove extra RegionCoprocessor preClose() in RSRpcServices#closeRegion
- [HBASE-15752] - ClassNotFoundException is encountered when custom WAL codec is not found in WALPlayer job
- [HBASE-15755] - SnapshotDescriptionUtils and SnapshotTestingUtils do not have any Interface audience marked
- [HBASE-15769] - Perform validation on cluster key for add_peer
- [HBASE-15781] - Remove unused TableEventHandler and TotesHRegionInfo
- [HBASE-15782] - TestShell fails due to some moved types
- [HBASE-15783] - AccessControlConstants#OP_ATTRIBUTE_ACL_STRATEGY_CELL_FIRST not used any more.
- [HBASE-15784] - Misuse core/maxPoolSize of LinkedBlockingQueue in ThreadPoolExecutor
- [HBASE-15796] - TestMetaCache fails after HBASE-15745
- [HBASE-15797] - TestIPCUtil fails after HBASE-15795
- [HBASE-15799] - Two Shell 'close_region' Example Syntaxes Don't Work
- [HBASE-15801] - Upgrade checkstyle for all branches
- [HBASE-15803] - ZooKeeperWatcher's constructor can leak a ZooKeeper instance with throwing ZooKeeperConnectionException when canCreateBaseZNode is true
- [HBASE-15807] - Update report-flakies.py to look for "FAILED" status in test report
- [HBASE-15812] - HttpServer fails to come up against hadoop trunk
- [HBASE-15824] - LocalHBaseCluster gets bind exception in master info port
- [HBASE-15828] - fix extant findbug
- [HBASE-15830] - Sasl encryption doesn't work with AsyncRpcChannelImpl
- [HBASE-15834] - Correct Bloom filter documentation in section 96.4 of Reference Guide
- [HBASE-15835] - HBaseTestingUtility#startMiniCluster throws "HMasterAddress already in use" RuntimeException when a local instance of HBase is running

- [HBASE-15840] - WAL.proto compilation broken for cpp
- [HBASE-15841] - Performance Evaluation tool total rows may not be set correctly
- [HBASE-15844] - We should respect hfile.block.index.cacheonwrite when write intermediate index Block
- [HBASE-15845] - Shell Cleanup : move formatter to commands.rb; move one of the two hbase.rb to hbase_constants.rb
- [HBASE-15848] - Fix possible null point dereference in RSGroupBasedLoadBalancer#getMisplacedRegions()
- [HBASE-15850] - Localize the configuration change in testCheckTableLocks to reduce flakiness of TestHBaseFsck test suite
- [HBASE-15853] - HBase backups fail if there is no /user/hbase directory on HDFS
- [HBASE-15856] - Cached Connection instances can wind up with addresses never resolved
- [HBASE-15858] - Some region server group shell commands don't work
- [HBASE-15863] - Typo in Put.java class documentation
- [HBASE-15866] - Split hbase.rpc.timeout into *.read.timeout and *.write.timeout
- [HBASE-15871] - Memstore flush doesn't finish because of backwardseek() in memstore scanner.
- [HBASE-15875] - Remove HTable references and HTableInterface
- [HBASE-15876] - Remove doBulkLoad(Path hfofDir, final HTable table) though it has not been through a full deprecation cycle
- [HBASE-15884] - NPE in StoreFileScanner#skipKVsNewerThanReadpoint during reverse scan
- [HBASE-15886] - Master shutdown after ~3 min when using Native libraries
- [HBASE-15889] - String case conversions are locale-sensitive, used without locale
- [HBASE-15891] - Closeable resources potentially not getting closed if exception is thrown
- [HBASE-15897] - Fix a wrong comment about QOS order
- [HBASE-15898] - Document G1GC Recommendations
- [HBASE-15907] - Missing documentation of create table split options
- [HBASE-15909] - Use Yetus' patch naming rules in submit-patch.py
- [HBASE-15912] - REST module has 2 extant results in findbugs
- [HBASE-15918] - Cleanup excludes/includes file after use in hbase-personality.sh to avoid asf license error.
- [HBASE-15925] - compat-module maven variable not evaluated
- [HBASE-15929] - There are two classes with name TestRegionServerMetrics
- [HBASE-15932] - Shell test fails due to uninitialized constant
- [HBASE-15933] - NullPointerException may be thrown from SimpleRegionNormalizer#getRegionSize()
- [HBASE-15938] - submit-patch.py: Don't crash if there are tests with same name. Refactor: Split out html template to separate file.
- [HBASE-15944] - Spark test flooding mvn output. Redirect test logs to file.
- [HBASE-15946] - Eliminate possible security concerns in RS web UI's store file metrics
- [HBASE-15950] - Fix memstore size estimates to be more tighter
- [HBASE-15952] - Bulk load data replication is not working when RS user does not have permission on hfile-refs node
- [HBASE-15954] - REST server should log requests with TRACE instead of DEBUG
- [HBASE-15955] - Disable action in CatalogJanitor#setEnabled should wait for active cleanup scan to finish
- [HBASE-15957] - RpcClientImpl.close never ends in some circumstances
- [HBASE-15959] - Fix flaky test TestRegionServerMetrics.testMobMetrics
- [HBASE-15965] - Shell test changes. Use @shell.command instead directly calling functions in admin.rb and other libraries.
- [HBASE-15975] - logic in TestHTableDescriptor#testAddCoprocessorWithSpecStr is wrong
- [HBASE-15976] - RegionServerMetricsWrapperRunnable will be failure when disable blockcache.
- [HBASE-15977] - Failed variable substitution on home page
- [HBASE-15982] - Interface ReplicationEndpoint extends Guava's Service
- [HBASE-15983] - Replication improperly discards data from end-of-wal in some cases.
- [HBASE-15990] - The priority value of subsequent coprocessors in the Coprocessor.Priority.SYSTEM list are not incremented by one
- [HBASE-15993] - Regex support in table names
- [HBASE-16000] - Table#checkAndPut() docs are too vague
- [HBASE-16007] - Job's Configuration should be passed to TableMapReduceUtil#addDependencyJars() in WALPlayer
- [HBASE-16012] - Major compaction can't work due to obsolete scanner read point in RegionServer
- [HBASE-16014] - Get and Put constructor argument lists are divergent
- [HBASE-16016] - AssignmentManager#waitForAssignment could have unexpected negative deadline
- [HBASE-16017] - HBase TableOutputFormat has connection leak in getRecordWriter
- [HBASE-16021] - graceful_stop.sh: Wrap variables in double quote to avoid "[: too many arguments" error
- [HBASE-16031] - Documents about "hbase.replication" default value seems wrong
- [HBASE-16032] - Possible memory leak in StoreScanner
- [HBASE-16035] - Nested AutoCloseables might not all get closed
- [HBASE-16040] - Remove configuration "hbase.replication"
- [HBASE-16044] - Fix 'hbase shell' output parsing in graceful_stop.sh
- [HBASE-16045] - endtime argument for VerifyReplication was incorrectly specified in usage
- [HBASE-16047] - TestFastFail is broken again
- [HBASE-16053] - Master code is not setting the table in ENABLING state in create table
- [HBASE-16054] - OutOfMemory exception when using AsyncRpcClient with encryption
- [HBASE-16055] - PutSortReducer loses any Visibility/acl attribute set on the Puts
- [HBASE-16058] - TestHRegion fails on 1.4 builds
- [HBASE-16059] - Region normalizer fails to trigger merge action where one of the regions is empty
- [HBASE-16060] - 1.x clients cannot access table state talking to 2.0 cluster
- [HBASE-16061] - Allow logging to a buffered console
- [HBASE-16062] - Improper error handling in WAL Reader/Writer creation
- [HBASE-16066] - Resolve RpC_REPEATED_CONDITIONAL_TEST findbugs warnings in HMaster
- [HBASE-16069] - Typo "trapsparently" in item 3 of chapter 87.2 of Reference Guide
- [HBASE-16070] - Mapreduce Serialization classes do not have Interface audience
- [HBASE-16071] - The VisibilityLabelFilter and AccessControlFilter should not count the "delete cell"
- [HBASE-16074] - ITBLL fails, reports lost big or tiny families

- [HBASE-16076] - Cannot configure split policy in HBase shell
- [HBASE-16081] - Replication remove_peer gets stuck and blocks WAL rolling
- [HBASE-16084] - Clean up the stale references in javadoc
- [HBASE-16090] - ResultScanner is not closed in SyncTable#finishRemainingHashRanges()
- [HBASE-16091] - Canary takes lot more time when there are delete markers in the table
- [HBASE-16095] - Add priority to TableDescriptor and priority region open thread pool
- [HBASE-16096] - Replication keeps accumulating znodes
- [HBASE-16103] - Procedure v2 - TestCloneSnapshotProcedure relies on execution order
- [HBASE-16109] - Add Interface audience annotation to a few classes
- [HBASE-16110] - AsyncFS WAL doesn't work with Hadoop 2.8+
- [HBASE-16111] - Truncate preserve shell command is broken
- [HBASE-16117] - Fix Connection leak in mapred.TableOutputFormat
- [HBASE-16122] - PerformanceEvaluation should provide user friendly hint when client threads argument is missing
- [HBASE-16125] - RegionMover uses hardcoded, Unix-style tmp folder - breaks Windows
- [HBASE-16129] - check_compatibility.sh is broken when using Java API Compliance Checker v1.7
- [HBASE-16132] - Scan does not return all the result when regionserver is busy
- [HBASE-16133] - RSGroupBasedLoadBalancer.retainAssignment() might miss a region
- [HBASE-16135] - PeerClusterZnode under rs of removed peer may never be deleted
- [HBASE-16144] - Replication queue's lock will live forever if RS acquiring the lock has died prematurely
- [HBASE-16150] - Remove ConcurrentIndex
- [HBASE-16157] - The incorrect block cache count and size are caused by removing duplicate block key in the LruBlockCache
- [HBASE-16159] - OutOfMemory exception when using AsyncRpcClient with encryption to read rpc response
- [HBASE-16160] - Get the UnsupportedOperationException when using delegation token with encryption
- [HBASE-16165] - Decrease RpcServer.callQueueSize before writeResponse causes OOM
- [HBASE-16171] - Fix the potential problems in TestHCM.testConnectionCloseAllowsInterrupt
- [HBASE-16172] - Unify the retry logic in ScannerCallableWithReplicas and RpcRetryingCallerWithReadReplicas
- [HBASE-16177] - In dev mode thrift server can't be run
- [HBASE-16179] - Fix compilation errors when building hbase-spark against Spark 2.0
- [HBASE-16182] - Increase IntegrationTestRpcClient timeout
- [HBASE-16183] - Correct errors in example programs of coprocessor in Ref Guide
- [HBASE-16184] - Shell test fails due to rLoadSink being nil
- [HBASE-16186] - Fix AssignmentManager MBean name
- [HBASE-16187] - Fix typo in blog post for metrics2
- [HBASE-16190] - IntegrationTestDDLMasterFailover failed with IllegalArgumentException: n must be positive
- [HBASE-16192] - Fix the potential problems in TestAcidGuarantees
- [HBASE-16196] - Update jruby to a newer version.
- [HBASE-16201] - NPE in RpcServer causing intermittent UT failure of TestMasterReplication#testHFileCyclicReplication
- [HBASE-16207] - can't restore snapshot without "Admin" permission
- [HBASE-16209] - Provide an ExponentialBackOffPolicy sleep between failed region open requests
- [HBASE-16211] - JMXCacheBuster restarting the metrics system might cause tests to hang
- [HBASE-16221] - Thrift server drops connection on long scans
- [HBASE-16227] - [Shell] Column value formatter not working in scans
- [HBASE-16234] - Expect and handle nulls when assigning replicas
- [HBASE-16235] - TestSnapshotFromMaster#testSnapshotHFileArchiving will fail if there are too many hfiles
- [HBASE-16239] - Better logging for RPC related exceptions
- [HBASE-16244] - LocalHBaseCluster start timeout should be configurable
- [HBASE-16246] - Ensure avro version in hbase-spark matches that shipped in our default hadoop profile
- [HBASE-16247] - SparkSQL Avro serialization doesn't handle enums correctly
- [HBASE-16267] - Remove commons-httpclient dependency from hbase-rest module
- [HBASE-16270] - Handle duplicate clearing of snapshot in region replicas
- [HBASE-16271] - Fix logging and re-run the test in IntegrationTestBulkLoad
- [HBASE-16272] - Overflow in ServerName's compareTo method
- [HBASE-16281] - TestMasterReplication is flaky
- [HBASE-16283] - Batch Append/Increment will always fail if set ReturnResults to false
- [HBASE-16284] - Unauthorized client can shutdown the cluster
- [HBASE-16288] - HFile intermediate block level indexes might recurse forever creating multi TB files
- [HBASE-16289] - AsyncProcess stuck messages need to print region/server
- [HBASE-16292] - Can't start a local instance
- [HBASE-16293] - TestSnapshotFromMaster#testSnapshotHFileArchiving flakey
- [HBASE-16294] - hbck reporting "No HDFS region dir found" for replicas
- [HBASE-16296] - Reverse scan performance degrades when using filter lists
- [HBASE-16300] - LruBlockCache.CACHE_FIXED_OVERHEAD should calculate LruBlockCache size correctly
- [HBASE-16301] - Trigger flush without waiting when compaction is disabled on a table
- [HBASE-16303] - FilterList with MUST_PASS_ONE optimization
- [HBASE-16304] - HRegion#RegionScannerImpl#handleFileNotFoundException may lead to deadlock when trying to obtain write lock on updatesLock
- [HBASE-16306] - Add specific imports to avoid namespace clash in defaultSource.scala
- [HBASE-16309] - TestDefaultCompactSelection.testCompactionRatio is flaky
- [HBASE-16310] - Revisit the logic of filterRowKey for Filters
- [HBASE-16315] - RegionSizeCalculator prints region names as binary without escapes
- [HBASE-16319] - Fix TestCacheOnWrite after HBASE-16288
- [HBASE-16326] - CellModel / RowModel should override 'equals', 'hashCode' and 'toString'

- [HBASE-16341] - Missing bit on "Regression: Random Read/WorkloadC slower in 1.x than 0.98"
- [HBASE-16345] - RpcRetryingCallerWithReadReplicas#call() should catch some RegionServer Exceptions
- [HBASE-16347] - Unevaluated expressions in book
- [HBASE-16350] - Undo server abort from HBASE-14968
- [HBASE-16353] - Deprecate / Remove Get.isClosestRowBefore()
- [HBASE-16355] - hbase-client dependency on hbase-common test-jar should be test scope
- [HBASE-16359] - NullPointerException in RSRpcServices.openRegion()
- [HBASE-16360] - TableMapReduceUtil addHBaseDependencyJars has the wrong class name for PrefixTreeCodec
- [HBASE-16361] - Revert of HBASE-16317, "revert all ESAPI..." broke TestLogLevel
- [HBASE-16362] - Mob compaction does not set cacheBlocks to false when creating StoreScanner
- [HBASE-16363] - Correct javadoc for qualifier length and value length in Cell interface
- [HBASE-16367] - Race between master and region server initialization may lead to premature server abort
- [HBASE-16368] - test*WhenRegionMove in TestPartialResultsFromClientSide is flaky
- [HBASE-16375] - Mapreduce mini cluster using HBaseTestingUtility not setting correct resourcemanager and jobhistory webapp address of MapReduceTestingShim
- [HBASE-16384] - Update report-flakies.py script to allow specifying a list of build ids to be excluded
- [HBASE-16386] - Fix findbug RV_RETURN_VALUE_IGNORED: Method ignores return value In HRegionServer
- [HBASE-16389] - Thread leak in CoprocessorHost#getTable(TableName) API
- [HBASE-16409] - Row key for bad row should be properly delimited in VerifyReplication
- [HBASE-16429] - FSHLog: deadlock if rollWriter called when ring buffer filled with appends
- [HBASE-16430] - Fix RegionServer Group's bug when moving multiple tables
- [HBASE-16444] - CellUtil#estimatedSerializedSizeOfKey() should consider KEY_INFRASTRUCTURE_SIZE
- [HBASE-16446] - append_peer_tableCFs failed when there already have this table's partial cfs in the peer
- [HBASE-16454] - Compactor's shipping logic decision should be based on the current store's block size
- [HBASE-16456] - Fix findbugs warnings in hbase-rsgroup module
- [HBASE-16460] - Can't rebuild the BucketAllocator's data structures when BucketCache uses FileIOEngine
- [HBASE-16464] - archive folder grows bigger and bigger due to corrupt snapshot under tmp dir
- [HBASE-16471] - Region Server metrics context will be wrong when machine hostname contain "master" word
- [HBASE-16490] - Fix race condition between SnapshotManager and SnapshotCleaner
- [HBASE-16491] - A few org.apache.hadoop.hbase.rsgroup classes missing @InterfaceAudience annotation
- [HBASE-16495] - When accessed via Thrift, all column families have timeToLive equal to -1
- [HBASE-16515] - AsyncProcess has incorrent count of tasks if the backoff policy is enabled
- [HBASE-16525] - [2.0] Cell timestamps can be assigned out of order with sequenceId
- [HBASE-16527] - IOExceptions from DFS client still can cause CatalogJanitor to delete referenced files
- [HBASE-16528] - Procedure-V2: ServerCrashProcedure misses owner information
- [HBASE-16535] - Use regex to exclude generated classes for findbugs
- [HBASE-16538] - Version mismatch in HBaseConfiguration.checkDefaultsVersion
- [HBASE-16540] - Scan should do additional validation on start and stop row
- [HBASE-16544] - Remove or Clarify 'Using Amazon S3 Storage' section in the reference guide
- [HBASE-16547] - hbase-archetype-builder shell scripts assume bash is installed in /bin
- [HBASE-16551] - Cleanup SplitLogManager and CatalogJanitor
- [HBASE-16552] - MiniHBaseCluster#getServerWith() does not ignore stopped RSs
- [HBASE-16556] - The read/write timeout are not used in HTable.delete(List), HTable.get(List), and HTable.existsAll(List)
- [HBASE-16572] - Sync method in RecoverableZooKeeper failed to pass callback function in
- [HBASE-16573] - Backup restore into disabled table support
- [HBASE-16576] - Shell add_peer doesn't allow setting cluster_key for custom endpoints
- [HBASE-16578] - Mob data loss after mob compaction and normal compaction
- [HBASE-16589] - Adjust log level for FATAL messages from HBaseReplicationEndpoint that are not fatal
- [HBASE-16604] - Scanner retries on IOException can cause the scans to miss data
- [HBASE-16609] - Fake cells EmptyByteBufferedCell created in read path not implementing SettableSequenceId
- [HBASE-16611] - Flakey org.apache.hadoop.hbase.client.TestReplicasClient.testCancelOfMultiGet
- [HBASE-16612] - Use array to cache Types for KeyValue.Type.codeToType
- [HBASE-16614] - Use daemon thread for netty event loop
- [HBASE-16615] - Fix flaky TestScannerHeartbeatMessages
- [HBASE-16621] - HBCK should have -fixHFileLinks
- [HBASE-16622] - Fix some issues with the HBase reference guide
- [HBASE-16624] - MVCC DeSerialization bug in the HFileScannerImpl
- [HBASE-16630] - Fragmentation in long running Bucket Cache
- [HBASE-16635] - RpcClient under heavy load leaks some netty bytebuf
- [HBASE-16638] - Reduce the number of Connection's created in classes of hbase-spark module
- [HBASE-16643] - Reverse scanner heap creation may not allow MSLAB closure due to improper ref counting of segments
- [HBASE-16644] - Errors when reading legit HFile Trailer of old (v2.0) format file
- [HBASE-16645] - Wrong range of Cells is caused by CellFlatMap#tailMap, headMap, and SubMap
- [HBASE-16647] - hbck should do offline reference repair before online repair
- [HBASE-16649] - Truncate table with splits preserved can cause both data loss and truncated data appeared again
- [HBASE-16654] - Better handle channelInactive and close for netty rpc client
- [HBASE-16660] - ArrayIndexOutOfBounds during the majorCompactionCheck in DateTieredCompaction
- [HBASE-16662] - Fix open POODLE vulnerabilities
- [HBASE-16663] - JMX ConnectorServer stopped when unauthorized user try to stop HM/RS/cluster
- [HBASE-16664] - Timeout logic in AsyncProcess is broken
- [HBASE-16665] - Check whether KeyValueUtil.createXXX could be replaced by CellUtil without copy
- [HBASE-16668] - Admin class should have a synchronous Admin#mergeRegions* method

- [HBASE-16669] - fix flaky TestAdmin#testmergeRegions
- [HBASE-16670] - Make RpcServer#processRequest logic more robust
- [HBASE-16675] - Average region size may be incorrect when there is region whose RegionLoad cannot be retrieved
- [HBASE-16678] - MapReduce jobs do not update counters from ScanMetrics
- [HBASE-16679] - Flush throughput controller: Minor perf change and fix flaky TestFlushWithThroughputController
- [HBASE-16681] - Fix flaky TestReplicationSourceManagerZkImpl
- [HBASE-16682] - Fix Shell tests failure. NoClassDefFoundError for MiniKdc
- [HBASE-16688] - Split TestMasterFailoverWithProcedures
- [HBASE-16693] - The commit of HBASE-16604 creates a unrelated folder
- [HBASE-16696] - After HBASE-16604 - does not release blocks in case of scanner exception
- [HBASE-16697] - bump TestRegionServerMetrics to LargeTests
- [HBASE-16699] - Overflows in AverageIntervalRateLimiter's refill() and getWaitInterval()
- [HBASE-16701] - TestHRegion and TestHRegionWithInMemoryFlush timing out
- [HBASE-16704] - Scan will be broken while working with DBE and KeyValueCodecWithTags
- [HBASE-16711] - Fix hadoop-3.0 profile compile
- [HBASE-16712] - fix hadoop-3.0 profile mvn install
- [HBASE-16716] - OfflineMetaRepair leaves empty directory inside /hbase/WALs which remains forever
- [HBASE-16718] - TestMobFlushSnapshotFromClient,TestFlushSnapshotFromClient, TestRestoreFlushSnapshotFromClient are failing in QA builds
- [HBASE-16721] - Concurrency issue in WAL unflushed seqId tracking
- [HBASE-16723] - RMI registry is not destroyed after stopping JMX Connector Server
- [HBASE-16724] - Snapshot owner can't clone
- [HBASE-16731] - Inconsistent results from the Get/Scan if we use the empty FilterList
- [HBASE-16732] - Avoid possible NPE in MetaTableLocator
- [HBASE-16733] - add hadoop 3.0.0-alpha1 to precommit checks
- [HBASE-16739] - Timed out exception message should include encoded region name
- [HBASE-16746] - The log of "region close" should differ from "region move"
- [HBASE-16750] - hbase compilation failed on power system
- [HBASE-16752] - Upgrading from 1.2 to 1.3 can lead to replication failures due to difference in RPC size limit
- [HBASE-16753] - There is a mismatch between suggested Java version in hbase-env.sh
- [HBASE-16754] - Regions failing compaction due to referencing non-existent store file
- [HBASE-16763] - Remove unintentional dependency on net.sf.ehcache.search.Results
- [HBASE-16764] - hbase-protocol-shaded generate-shaded-classes profile unpacks shaded java files into wrong location
- [HBASE-16765] - New SteppingRegionSplitPolicy, avoid too aggressive spread of regions for small tables.
- [HBASE-16766] - Do not rely on InputStream.available()
- [HBASE-16767] - Mob compaction needs to clean up files in /hbase/mobdir/.tmp and /hbase/mobdir/.tmp/.bulkload when running into IO exceptions
- [HBASE-16768] - Inconsistent results from the Append/Increment
- [HBASE-16769] - Deprecate/remove PB references from MasterObserver and RegionServerObserver
- [HBASE-16771] - VerifyReplication should increase GOODROWS counter if re-comparison passes
- [HBASE-16780] - Since move to protobuf3.1, Cells are limited to 64MB where previous they had no limit
- [HBASE-16785] - We are not running all tests
- [HBASE-16788] - Race in compacted file deletion between HStore close() and closeAndArchiveCompactedFiles()
- [HBASE-16793] - Exclude shaded protobuf files from rat check
- [HBASE-16801] - The Append/Increment may return the data from future
- [HBASE-16804] - JavaHBaseContext.streamBulkGet is void but should be JavaDStream
- [HBASE-16807] - RegionServer will fail to report new active Hmaster until HMaster/RegionServer failover
- [HBASE-16808] - Included the generated, shaded java files from "HBASE-15638 Shade protobuf" in our src assembly
- [HBASE-16810] - HBase Balancer throws ArrayIndexOutOfBoundsException when regionservers are in /hbase/draining znode and unloaded
- [HBASE-16815] - Low scan ratio in RPC queue tuning triggers divide by zero exception
- [HBASE-16824] - Writer.flush() can be called on already closed streams in WAL roll
- [HBASE-16829] - DemoClient should detect secure mode
- [HBASE-16841] - Data loss in MOB files after cloning a snapshot and deleting that snapshot
- [HBASE-16853] - Regions are assigned to Region Servers in /hbase/draining after HBase Master failover
- [HBASE-16855] - Avoid NPE in MetricsConnection's construction
- [HBASE-16856] - Exception message in SyncRunner.run() should print currentSequence
- [HBASE-16858] - TestFuzzyRowFilterEndToEnd fails in QA builds
- [HBASE-16866] - Avoid NPE in AsyncRequestFutureImpl#updateStats
- [HBASE-16870] - Add the metrics of replication sources which were transformed from other dead rs to ReplicationLoad
- [HBASE-16880] - Correct the javadoc/behaviour of the APIs in ByteBufferUtils
- [HBASE-16884] - Add HBase-2.0.x to the hadoop version support matrix in our documentation
- [HBASE-16886] - hbase-client: scanner with reversed=true and small=true gets no result
- [HBASE-16887] - Allow setting different hadoopcheck versions in precommit for different branches
- [HBASE-16889] - Proc-V2: verifyTables in the IntegrationTestDDLMasterFailover test after each table DDL is incorrect
- [HBASE-16909] - Fix TestHRegion and TestHRegionWithInMemoryFlush timing out (second iteration)
- [HBASE-16910] - Avoid NPE when starting StochasticLoadBalancer
- [HBASE-16929] - Move default method of shipped to Shipper interface
- [HBASE-16930] - AssignmentManager#checkWals() function can recur infinitely
- [HBASE-16931] - Setting cell's seqId to zero in compaction flow might cause RS down.
- [HBASE-16938] - TableCFsUpdater maybe failed due to no write permission on peerNode
- [HBASE-16939] - ExportSnapshot: set owner and permission on right directory

- [HBASE-16948] - Fix inconsistency between HRegion and Region javadoc on getRowLock
- [HBASE-16949] - Fix RAT License complaint about the hbase-protocol-shaded/src/main/patches content
- [HBASE-16960] - RegionServer hang when aborting
- [HBASE-16962] - Add readPoint to preCompactScannerOpen() and preFlushScannerOpen() API
- [HBASE-16964] - Successfully archived files are not cleared from compacted store file list if archiving of any file fails
- [HBASE-16966] - Re-enable TestSimpleRpcScheduler#testCoDelScheduling in master branch
- [HBASE-16971] - The passed durability of Append/Increment isn't used in wal sync
- [HBASE-16974] - Update os-maven-plugin to 1.4.1.final+ for building shade file on RHEL/CentOS
- [HBASE-16976] - hbase-protocol-shaded module generates classes to wrong directory
- [HBASE-16980] - TestRowProcessorEndpoint failing consistently
- [HBASE-16983] - TestMultiTableSnapshotInputFormat failing with Unable to create region directory: /tmp/...
- [HBASE-16985] - TestClusterId failed due to wrong hbase rootdir
- [HBASE-16989] - RowProcess#postBatchMutate doesn't be executed before the mvcc transaction completion
- [HBASE-16992] - The usage of mutation from CP is weird.
- [HBASE-16993] - BucketCache throw java.io.IOException: Invalid HFile block magic when DATA_BLOCK_ENCODING set to DIFF
- [HBASE-17010] - Serial replication should handle daughter regions being assigned to another RS
- [HBASE-17020] - keylen in midkey() dont computed correctly
- [HBASE-17032] - CallQueueTooBigException and CallDroppedException should not be triggering PFFE
- [HBASE-17033] - LogRoller makes a lot of allocations unnecessarily
- [HBASE-17039] - SimpleLoadBalancer schedules large amount of invalid region moves
- [HBASE-17042] - Remove 'public' keyword from MasterObserver interface
- [HBASE-17044] - Fix merge failed before creating merged region leaves meta inconsistent
- [HBASE-17052] - compile-protobuf profile does not compile protobufs in some modules anymore
- [HBASE-17054] - Compactor#preCreateCoprocScanner should be passed user
- [HBASE-17056] - Remove checked in PB generated files
- [HBASE-17058] - Lower epsilon used for jitter verification from HBASE-15324
- [HBASE-17062] - RegionSplitter throws ClassCastException
- [HBASE-17069] - RegionServer writes invalid META entries for split daughters in some circumstances
- [HBASE-17072] - CPU usage starts to climb up to 90-100% when using G1GC; purge ThreadLocal usage
- [HBASE-17074] - PreCommit job always fails because of OOM
- [HBASE-17078] - hadoop.profile=3.0 profile build fails because hadoop-three-compat.xml does not exist
- [HBASE-17079] - HBase build fails on windows, hbase-archetype-builder is reason for failure
- [HBASE-17082] - ForeignExceptionUtil isn't packaged when building shaded protocol with -Pcompile-protobuf
- [HBASE-17091] - IntegrationTestZKAndFSPermissions failed with 'KeeperException$NoNodeException'
- [HBASE-17092] - Both LoadIncrementalHFiles#doBulkLoad() methods should set return value
- [HBASE-17095] - The ClientSimpleScanner keeps retrying if the hfile is corrupt or cannot found
- [HBASE-17104] - Improve cryptic error message "Memstore size is" on region close
- [HBASE-17105] - Annotate RegionServerObserver
- [HBASE-17112] - Prevent setting timestamp of delta operations the same as previous value's
- [HBASE-17116] - [PerformanceEvaluation] Add option to configure block size
- [HBASE-17118] - StoreScanner leaked in KeyValueHeap
- [HBASE-17125] - Inconsistent result when use filter to read data
- [HBASE-17127] - Locate region should fail fast if underlying Connection already closed
- [HBASE-17131] - Avoid livelock caused by HRegion#processRowsWithLocks
- [HBASE-17133] - Backup documentation update
- [HBASE-17144] - Possible offheap read ByteBuffers leak
- [HBASE-17158] - Avoid deadlock caused by HRegion#doDelta
- [HBASE-17160] - Undo unnecessary inter-module dependency; spark to hbase-it and hbase-it to shell
- [HBASE-17166] - ITBLL fails on master unable to find hbase-protocol-shaded content
- [HBASE-17170] - HBase is also retrying DoNotRetryIOException because of class loader differences.
- [HBASE-17171] - IntegrationTestTimeBoundedRequestsWithRegionReplicas fails with obtuse error when readers have no time to run
- [HBASE-17186] - MasterProcedureTestingUtility#testRecoveryAndDoubleExecution displays stale procedure state info
- [HBASE-17187] - DoNotRetryExceptions from coprocessors should bubble up to the application
- [HBASE-17192] - remove use of scala-tools.org from pom
- [HBASE-17197] - hfile does not work in 2.0
- [HBASE-17206] - FSHLog may roll a new writer successfully with unflushed entries
- [HBASE-17224] - There are lots of spelling errors in the HBase logging and exception messages
- [HBASE-17231] - Region#getCellCompartor sp?
- [HBASE-17237] - Override the correct compact method in HMobStore
- [HBASE-17240] - ImportTsv encounters ClassNotFoundException for MasterProtos$MasterService$BlockingInterface
- [HBASE-17252] - Wrong arguments for ValueAndTagRewriteCell in CellUtil
- [HBASE-17256] - Rpc handler monitoring will be removed when the task queue is full
- [HBASE-17271] - hbase-thrift QA tests only run one test
- [HBASE-17285] - Misconfiguration of JVM GC options in HADOOP_CLIENT_OPTS may break `bin/hbase`
- [HBASE-17286] - LICENSE.txt in binary tarball contains only ASL text
- [HBASE-17287] - Master becomes a zombie if filesystem object closes
- [HBASE-17290] - Potential loss of data for replication of bulk loaded hfiles
- [HBASE-17297] - Single Filter in parenthesis cannot be parsed correctly
- [HBASE-17302] - The region flush request disappeared from flushQueue
- [HBASE-17309] - Fix connection leaks in TestAcidGuarantees
- [HBASE-17326] - Fix findbugs warning in BufferedMutatorParams
- [HBASE-17328] - Properly dispose of looped replication peers

- [HBASE-17330] - SnapshotFileCache will always refresh the file cache
- [HBASE-17333] - HBASE-17294 always ensures CompactingMemstore is default
- [HBASE-17341] - Add a timeout during replication endpoint termination
- [HBASE-17343] - Make Compacting Memstore default in 2.0 with BASIC as the default type
- [HBASE-17344] - The regionserver web UIs miss the coprocessors of RegionServerCoprocessorHost.
- [HBASE-17347] - ExportSnapshot may write snapshot info file to wrong directory when specifying target name
- [HBASE-17351] - Unable to generate tar ball for master branch
- [HBASE-17352] - Fix hbase-assembly build with bash 4
- [HBASE-17357] - PerformanceEvaluation parameters parsing triggers NPE.
- [HBASE-17366] - Run TestHFile#testReaderWithoutBlockCache failes
- [HBASE-17374] - ZKPermissionWatcher crashed when grant after region close
- [HBASE-17375] - PrefixTreeArrayReversibleScanner#previousRowInternal doesn't work correctly
- [HBASE-17376] - ClientAsyncPrefetchScanner may fail due to too many rows
- [HBASE-17381] - ReplicationSourceWorkerThread can die due to unhandled exceptions
- [HBASE-17385] - Change usage documentation from bin/hbase to hbase in various tools
- [HBASE-17387] - Reduce the overhead of exception report in RegionActionResult for multi()
- [HBASE-17390] - Online update of configuration for all servers leaves out masters
- [HBASE-17403] - ClientAsyncPrefetchScanner doesn't load any data if the MaxResultSize is too small
- [HBASE-17407] - Correct update of maxFlushedSeqId in HRegion
- [HBASE-17421] - Update refguide w.r.t. MOB Sweeper
- [HBASE-17424] - Protect REST client against malicious XML responses.
- [HBASE-17426] - Inconsistent environment variable names for enabling JMX
- [HBASE-17429] - HBase bulkload cannot support HDFS viewFs
- [HBASE-17430] - dead links in ref guide to class javadocs that moved out of user APIs.
- [HBASE-17434] - New Synchronization Scheme for Compaction Pipeline
- [HBASE-17435] - Call to preCommitStoreFile() hook encounters SaslException in secure deployment
- [HBASE-17441] - precommit test "hadoopcheck" not properly testing Hadoop 3 profile
- [HBASE-17445] - Count size of serialized exceptions in checking max result size quota
- [HBASE-17450] - TablePermission#equals throws NPE after namespace support was added
- [HBASE-17452] - Failed taking snapshot - region Manifest proto-message too large
- [HBASE-17460] - enable_table_replication can not perform cyclic replication of a table
- [HBASE-17464] - Fix HBaseTestingUtility.getNewDataTestDirOnTestFS to always return a unique path
- [HBASE-17469] - Properly handle empty TableName in TablePermission#readFields and #write
- [HBASE-17475] - Stack overflow in AsyncProcess if retry too much
- [HBASE-17482] - mvcc mechanism fails when using mvccPreAssign
- [HBASE-17486] - Tighten the contract for batch client methods
- [HBASE-17489] - ClientScanner may send a next request to a RegionScanner which has been exhausted
- [HBASE-17496] - RSGroup shell commands:get_server_rsgroup don't work and commands display an incorrect result size
- [HBASE-17501] - NullPointerException after Datanodes Decommissioned and Terminated
- [HBASE-17513] - Thrift Server 1 uses different QOP settings than RPC and Thrift Server 2 and can easily be misconfigured so there is no encryption when the operator expects it.
- [HBASE-17518] - HBase Reference Guide has a syntax error
- [HBASE-17522] - RuntimeExceptions from MemoryMXBean should not take down server process
- [HBASE-17536] - User documentation for coprocessor metrics
- [HBASE-17538] - HDFS.setStoragePolicy() logs errors on local fs
- [HBASE-17540] - Change SASL server GSSAPI callback log line from DEBUG to TRACE in RegionServer to reduce log volumes in DEBUG mode
- [HBASE-17545] - 'mvn test' does not run all the tests in hbase-endpoint
- [HBASE-17547] - HBase-Spark Module : TableCatelog doesn't support multiple columns from Single Column family
- [HBASE-17558] - ZK dumping jsp should escape html
- [HBASE-17565] - StochasticLoadBalancer may incorrectly skip balancing due to skewed multiplier sum
- [HBASE-17574] - Clean up how to run tests under hbase-spark module
- [HBASE-17578] - Thrift per-method metrics should still update in the case of exceptions
- [HBASE-17581] - mvn clean test -PskipXXXTests does not work properly for some modules
- [HBASE-17582] - Drop page cache hint is broken
- [HBASE-17587] - Do not Rethrow DoNotRetryIOException as UnknownScannerException
- [HBASE-17590] - Drop cache hint should work for StoreFile write path
- [HBASE-17593] - Fix build with hadoop 3 profile
- [HBASE-17601] - close() in TableRecordReaderImpl assumes the split has started
- [HBASE-17603] - REST API for scan should return 404 when table does not exist
- [HBASE-17606] - Fix failing TestRpcControllerFactory introduced by HBASE-17508
- [HBASE-17607] - Rest api for scan should return 404 when table not exists
- [HBASE-17611] - Thrift 2 per-call latency metrics are capped at ~ 2 seconds
- [HBASE-17616] - Incorrect actions performed by CM
- [HBASE-17622] - Add hbase-metrics package to TableMapReduceUtil
- [HBASE-17624] - Address late review of HBASE-6721, rsgroups feature
- [HBASE-17638] - Remove duplicated initialization of CacheConfig in HRegionServer
- [HBASE-17639] - Do not stop server if ReplicationSourceManager's waitUntilCanBePushed throws InterruptedException
- [HBASE-17640] - Unittest error in TestMobCompactor with different timezone
- [HBASE-17648] - HBase Table-level synchronization fails between two secured(kerberized) clusters
- [HBASE-17649] - REST API for scan should return 410 when table is disabled
- [HBASE-17653] - HBASE-17624 rsgroup synchronizations will (distributed) deadlock

- [HBASE-17658] - Bookkeeping issue in BaseLoadBalancer for Table Skew
- [HBASE-17660] - HFileSplitter is not being applied during full table restore
- [HBASE-17661] - fix the queue length passed to FastPathBalancedQueueRpcExecutor
- [HBASE-17670] - LruBlockCache with VictimHandler should evict from bucket cache also when eviction by filename happens
- [HBASE-17673] - Monitored RPC Handler not shown in the WebUI
- [HBASE-17674] - Major compaction may be cancelled in CompactionChecker
- [HBASE-17675] - ReplicationEndpoint should choose new sinks if a SaslException occurs
- [HBASE-17677] - ServerName parsing from directory name should be more robust to errors from guava's HostAndPort
- [HBASE-17682] - Region stuck in merging_new state indefinitely
- [HBASE-17688] - MultiRowRangeFilter not working correctly if given same start and stop RowKey
- [HBASE-17698] - ReplicationEndpoint choosing sinks
- [HBASE-17699] - Fix TestLockProcedure
- [HBASE-17705] - Procedure execution must fail fast if procedure is not registered
- [HBASE-17706] - TableSkewCostFunction improperly computes max skew
- [HBASE-17710] - HBase in standalone mode creates directories with 777 permission
- [HBASE-17712] - Remove/Simplify the logic of RegionScannerImpl.handleFileNotFound
- [HBASE-17716] - Formalize Scan Metric names
- [HBASE-17717] - Incorrect ZK ACL set for HBase superuser
- [HBASE-17718] - Difference between RS's servername and its ephemeral node cause SSH stop working
- [HBASE-17722] - Metrics subsystem stop/start messages add a lot of useless bulk to operational logging
- [HBASE-17723] - ClientAsyncPrefetchScanner may end prematurely when the size of the cache is one
- [HBASE-17729] - Missing shortcuts for some useful HCD options
- [HBASE-17736] - Some options can't be configured by the shell
- [HBASE-17746] - TestSimpleRpcScheduler.testCoDelScheduling is broken
- [HBASE-17759] - TestComparators.testCellFieldsCompare fails on ppc64le
- [HBASE-17760] - HDFS Balancer doc is misleading
- [HBASE-17761] - Test TestRemoveRegionMetrics.testMoveRegion fails intermittently because of race condition
- [HBASE-17763] - IPCUtil.wrapException will wrap DoNotRetryIOException with IOException
- [HBASE-17766] - Generate Javadoc for hbase-spark module
- [HBASE-17772] - IntegrationTestRSGroup won't run
- [HBASE-17773] - VerifyReplication tool wrongly emits warning "ERROR: Invalid argument '--recomparesleep=xx'"
- [HBASE-17779] - disable_table_replication returns misleading message and does not turn off replication
- [HBASE-17780] - BoundedByteBufferPool "At capacity" messages are not actionable
- [HBASE-17781] - TestAcidGuarantees is broken
- [HBASE-17785] - RSGroupBasedLoadBalancer fails to assign new table regions when cloning snapshot
- [HBASE-17792] - Use a shared thread pool for AtomicityWriter, AtomicGetReader, AtomicScanReader's connections in TestAcidGuarantees
- [HBASE-17798] - RpcServer.Listener.Reader can abort due to CancelledKeyException
- [HBASE-17803] - PE always re-creates table when we specify the split policy
- [HBASE-17807] - correct the value of zookeeper.session.timeout in hbase doc
- [HBASE-17810] - TestFuzzyRowFilter and IntegrationTest* tests on "branch-1" are broken
- [HBASE-17811] - TestThriftHttpServer.testRunThriftServerWithHeaderBufferLength is broken in "branch-1"
- [HBASE-17812] - Remove RpcConnection from pool in AbstractRpcClient.cancelConnections
- [HBASE-17821] - The CompoundConfiguration#toString is wrong
- [HBASE-17849] - PE tool randomness is not totally random
- [HBASE-17859] - ByteBufferUtils#compareTo is wrong

Improvement

- [HBASE-2217] - VM OPTS for shell only
- [HBASE-2609] - Harmonize the Get and Delete operations
- [HBASE-3135] - Make our MR jobs implement Tool and use ToolRunner so can do -D trickery, etc.
- [HBASE-3270] - When we create the .version file, we should create it in a tmp location and then move it into place
- [HBASE-3462] - Fix table.jsp in regards to splitting a region/table with an optional splitkey
- [HBASE-4495] - CatalogTracker has an identity crisis; needs to be cut-back in scope
- [HBASE-4955] - Use the official versions of surefire & junit
- [HBASE-5291] - Add Kerberos HTTP SPNEGO authentication support to HBase web consoles
- [HBASE-5617] - Provide coprocessor hooks in put flow while rollbackMemstore.
- [HBASE-5696] - Use Hadoop's DataOutputOutputStream instead of have a copy local
- [HBASE-5699] - Run with > 1 WAL in HRegionServer
- [HBASE-6290] - Add a function a mark a server as dead and start the recovery the process
- [HBASE-6617] - ReplicationSourceManager should be able to track multiple WAL paths
- [HBASE-6626] - Add a chapter on HDFS in the troubleshooting section of the HBase reference guide.
- [HBASE-6919] - Remove unnecessary throws IOException from Bytes.readVLong
- [HBASE-7115] - [shell] Provide a way to register custom filters with the Filter Language Parser
- [HBASE-7171] - Initial web UI for region/memstore/storefiles details
- [HBASE-7541] - Convert all tests that use HBaseTestingUtility.createMultiRegions to HBA.createTable
- [HBASE-7782] - HBaseTestingUtility.truncateTable() not acting like CLI
- [HBASE-7910] - Dont use reflection for security
- [HBASE-7972] - Add a configuration for the TCP backlog in the Thrift server
- [HBASE-8298] - In shell, provide alias of 'desc' for 'describe'
- [HBASE-8309] - TableLockManager: allow lock timeout to be set at the individual lock level

- [HBASE-8329] - Limit compaction speed
- [HBASE-8361] - Bulk load and other utilities should not create tables for user
- [HBASE-8386] - deprecate TableMapReduce.addDependencyJars(Configuration, class<?> ...)
- [HBASE-8533] - HBaseAdmin does not ride over cluster restart
- [HBASE-8572] - Enhance delete_snapshot.rb to call snapshot deletion API with regex
- [HBASE-8642] - [Snapshot] List and delete snapshot by table
- [HBASE-8963] - Add configuration option to skip HFile archiving
- [HBASE-9899] - for idempotent operation dups, return the result instead of throwing conflict exception
- [HBASE-9969] - Improve KeyValueHeap using loser tree
- [HBASE-10052] - use HDFS advisory caching to avoid caching HFiles that are not going to be read again (because they are being compacted)
- [HBASE-10082] - Describe 'table' output is all on one line, could use better formatting
- [HBASE-10147] - Canary additions
- [HBASE-10153] - improve VerifyReplication to compute BADROWS more accurately
- [HBASE-10154] - Add a unit test for Canary tool
- [HBASE-10201] - Port 'Make flush decisions per column family' to trunk
- [HBASE-10202] - Documentation is lacking information about rolling-restart.sh script.
- [HBASE-10240] - Remove 0.94->0.96 migration code
- [HBASE-10390] - expose checkAndPut/Delete custom comparators in HTable
- [HBASE-10403] - Simplify offheap cache configuration
- [HBASE-10411] - [Book] Add a kerberos 'request is a replay (34)' issue at troubleshooting section
- [HBASE-10414] - Distributed replay should re-encode WAL entries with its own RPC codec
- [HBASE-10483] - Provide API for retrieving info port when hbase.master.info.port is set to 0
- [HBASE-10699] - Optimize some code; set capacity on arraylist when possible; use isEmpty; reduce allocations
- [HBASE-10885] - Support visibility expressions on Deletes
- [HBASE-10974] - Improve DBEs read performance by avoiding byte array deep copies for key[] and value[]
- [HBASE-11068] - Update code to use Admin factory method instead of constructor
- [HBASE-11084] - Handle deletions and column tracking using internal filters rather than using DeleteTrackers and ColumnTrackers
- [HBASE-11136] - Add permission check to roll WAL writer
- [HBASE-11144] - Filter to support scanning multiple row key ranges
- [HBASE-11195] - Potentially improve block locality during major compaction for old regions
- [HBASE-11240] - Print hdfs pipeline when hlog's sync is slow
- [HBASE-11315] - Keeping MVCC for configurable longer time
- [HBASE-11331] - [blockcache] lazy block decompression
- [HBASE-11344] - Hide row keys and such from the web UIs
- [HBASE-11349] - [Thrift] support authentication/impersonation
- [HBASE-11400] - Edit, consolidate, and update Compression and data encoding docs
- [HBASE-11412] - Minimize a number of hbase-client transitive dependencies
- [HBASE-11437] - Modify cell tag handling code to treat the length as unsigned
- [HBASE-11438] - [Visibility Controller] Support UTF8 character as Visibility Labels
- [HBASE-11440] - Make KeyValueCodecWithTags as the default codec for replication in trunk
- [HBASE-11444] - Remove use of reflection for User#getShortName
- [HBASE-11450] - Improve file size info in SnapshotInfo tool
- [HBASE-11452] - add getUserPermission feature in AccessControlClient as client API
- [HBASE-11462] - MetaTableAccessor shouldn't use ZooKeeeper
- [HBASE-11473] - Add BaseWALObserver class
- [HBASE-11474] - [Thrift2] support authentication/impersonation
- [HBASE-11491] - Add an option to sleep randomly during the tests with the PE tool
- [HBASE-11497] - Expose RpcScheduling implementations as LimitedPrivate interfaces
- [HBASE-11513] - Combine SingleMultiple Queue RpcExecutor into a single class
- [HBASE-11515] - Rewrite HBase Ref Guide for HBase 2.0
- [HBASE-11516] - Track time spent in executing coprocessors in each region.
- [HBASE-11548] - [PE] Add 'cycling' test N times and unit tests for size/zipf/valueSize calculations
- [HBASE-11553] - Abstract visibility label related services into an interface
- [HBASE-11566] - make ExportSnapshot extendable by removing 'final'
- [HBASE-11583] - Refactoring out the configuration changes for enabling VisibilityLabels in the unit tests.
- [HBASE-11585] - PE: Allows warm-up
- [HBASE-11611] - Clean up ZK-based region assignment
- [HBASE-11623] - mutateRowsWithLocks might require updatesLock.readLock with waitTime=0
- [HBASE-11630] - Refactor TestAdmin to use Admin interface instead of HBaseAdmin
- [HBASE-11631] - Wait a little till server is online in assigning meta
- [HBASE-11639] - [Visibility controller] Replicate the visibility of Cells as strings
- [HBASE-11649] - Add shortcut commands to bin/hbase for test tools
- [HBASE-11650] - Write hbase.id to a temporary location and move into place
- [HBASE-11657] - Put HTable region methods in an interface
- [HBASE-11664] - Build broken - TestVisibilityWithCheckAuths
- [HBASE-11667] - Comment ClientScanner logic for NSREs.
- [HBASE-11674] - LoadIncrementalHFiles should be more verbose after unrecoverable error
- [HBASE-11679] - Replace "HTable" with "HTableInterface" where backwards-compatible
- [HBASE-11696] - Make CombinedBlockCache resizable.
- [HBASE-11697] - Improve the 'Too many blocks' message on UI blockcache status page
- [HBASE-11701] - Start and end of memstore flush log should be on the same level

- [HBASE-11702] - Better introspection of long running compactions
- [HBASE-11706] - Set versions for VerifyReplication
- [HBASE-11707] - Using Map instead of list in FailedServers of RpcClient
- [HBASE-11731] - Add option to only run a subset of the shell tests
- [HBASE-11748] - Cleanup and add pool usage tracing to Compression
- [HBASE-11749] - Better error logging when coprocessors loading has failed.
- [HBASE-11754] - [Shell] Record table property SPLITS_FILE in descriptor
- [HBASE-11757] - Provide a common base abstract class for both RegionObserver and MasterObserver
- [HBASE-11760] - Tighten up region state transition
- [HBASE-11768] - Register region server in zookeeper by ip address
- [HBASE-11774] - Avoid allocating unnecessary tag iterators
- [HBASE-11777] - Find a way to set sequenceId on Cells on the server
- [HBASE-11790] - Bulk load should use HFileOutputFormat2 in all cases
- [HBASE-11792] - Organize PerformanceEvaluation usage output
- [HBASE-11796] - Add client support for atomic checkAndMutate
- [HBASE-11805] - KeyValue to Cell Convert in WALEdit APIs
- [HBASE-11810] - Access SSL Passwords through Credential Provider API
- [HBASE-11821] - [ImportTSV] Abstract labels tags creation into pluggable Interface
- [HBASE-11825] - Create Connection and ConnectionManager
- [HBASE-11826] - Split each tableOrRegionName admin methods into two targetted methods
- [HBASE-11827] - Encryption support for bulkloading data into table with encryption configured for hfile format 3
- [HBASE-11828] - callers of SeverName.valueOf should use equals and not ==
- [HBASE-11843] - MapReduce classes shouldn't be in hbase-server
- [HBASE-11845] - HFile tool should implement Tool, disable blockcache by default
- [HBASE-11846] - HStore#assertBulkLoadHFileOk should log if a full HFile verification will be performed during a bulkload
- [HBASE-11847] - HFile tool should be able to print block headers
- [HBASE-11860] - Restore UpgradeTo in order to upgrade a HBase cluster to the latest release
- [HBASE-11862] - Get rid of Writables in HTableDescriptor, HColumnDescriptor
- [HBASE-11864] - Enhance HLogPrettyPrinter to print information from WAL Header
- [HBASE-11865] - Result implements CellScannable; rather it should BE a CellScanner
- [HBASE-11869] - Support snapshot owner
- [HBASE-11870] - Optimization : Avoid copy of key and value for tags addition in AC and VC
- [HBASE-11873] - Hbase Version CLI enhancement
- [HBASE-11877] - Make TableSplit more readable
- [HBASE-11879] - Change TableInputFormatBase to take interface arguments
- [HBASE-11891] - Introduce HBaseInterfaceAudience level to denote class names that appear in configs.
- [HBASE-11897] - Add append and remove peer table-cfs cmds for replication
- [HBASE-11900] - Optimization for incremental load reducer
- [HBASE-11907] - Use the joni byte[] regex engine in place of j.u.regex in RegexStringComparator
- [HBASE-11927] - Use Native Hadoop Library for HFile checksum (And flip default from CRC32 to CRC32C)
- [HBASE-11939] - Document compressed blockcache
- [HBASE-11948] - graceful_stop.sh should use hbase-daemon.sh when executed on the decomissioned node
- [HBASE-11993] - Expose the set of tables available in TableStateManager
- [HBASE-12003] - Fix SecureBulkLoadEndpoint class javadoc formatting
- [HBASE-12010] - Use TableName.META_TABLE_NAME instead of indirectly from HTableDescriptor
- [HBASE-12011] - Add namespace column during display of user tables
- [HBASE-12013] - Make region_mover.rb support multiple regionservers per host
- [HBASE-12016] - Reduce number of versions in Meta table. Make it configurable
- [HBASE-12021] - Hbase shell does not respect the HBASE_OPTS set by the user in console
- [HBASE-12032] - Script to stop regionservers via RPC
- [HBASE-12035] - Keep table state in META
- [HBASE-12049] - Help for alter command is a bit confusing
- [HBASE-12071] - Separate out thread pool for Master <-> RegionServer communication
- [HBASE-12090] - Bytes: more Unsafe, more Faster
- [HBASE-12116] - Hot contention spots; writing
- [HBASE-12118] - Explain how to grant permission to a namespace in grant command usage
- [HBASE-12121] - maven release plugin does not allow for customized goals
- [HBASE-12161] - Add support for grant/revoke on namespaces in AccessControlClient
- [HBASE-12176] - WALCellCodec Encoders support for non-KeyValue Cells
- [HBASE-12188] - Use AES-GCM as the preferred cipher when encrypting HFiles
- [HBASE-12195] - Fix dev-support/findHangingTests
- [HBASE-12203] - Remove Master from table status query path.
- [HBASE-12207] - A script to help keep your Git repo fresh
- [HBASE-12212] - HBaseTestingUtility#waitUntilAllRegionsAssigned should wait for RegionStates
- [HBASE-12220] - Add hedgedReads and hedgedReadWins metrics
- [HBASE-12223] - MultiTableInputFormatBase.getSplits is too slow
- [HBASE-12243] - HBaseFsck should auto set ignorePreCheckPermission to true if no fix option is set.
- [HBASE-12249] - Script to help you adhere to the patch-naming guidelines
- [HBASE-12251] - [book] Hadoop compat matrix 0.94 section needs cleaned up
- [HBASE-12256] - Update patch submission guidelines to call out binary file support
- [HBASE-12264] - ImportTsv should fail fast if output is not specified and table does not exist
- [HBASE-12271] - Add counters for files skipped during snapshot export

- [HBASE-12272] - Generate Thrift code through maven
- [HBASE-12328] - Need to separate JvmMetrics for Master and RegionServer
- [HBASE-12373] - Provide a command to list visibility labels
- [HBASE-12389] - Reduce the number of versions configured for the ACL table
- [HBASE-12390] - Change revision style from svn to git
- [HBASE-12405] - WAL accounting by Store
- [HBASE-12411] - Optionally enable p-reads and private readers for compactions
- [HBASE-12415] - Add add(byte[][] arrays) to Bytes.
- [HBASE-12416] - RegionServerCallable should report what host it was communicating with
- [HBASE-12424] - Finer grained logging and metrics for split transactions
- [HBASE-12429] - Add port to ClusterManager's actions.
- [HBASE-12432] - RpcRetryingCaller should log after fixed number of retries like AsyncProcess
- [HBASE-12434] - Add a command to compact all the regions in a regionserver
- [HBASE-12447] - Add support for setTimeRange for RowCounter and CellCounter
- [HBASE-12455] - Add 'description' to bean and attribute output when you do /jmx?description=true
- [HBASE-12529] - Use ThreadLocalRandom for RandomQueueBalancer
- [HBASE-12559] - Provide LoadBalancer with online configuration capability
- [HBASE-12569] - Control MaxDirectMemorySize in the same manner as heap size
- [HBASE-12583] - Allow creating reference files even the split row not lies in the storefile range if required
- [HBASE-12590] - A solution for data skew in HBase-Mapreduce Job
- [HBASE-12596] - bulkload needs to follow locality
- [HBASE-12597] - Add RpcClient interface and enable changing of RpcClient implementation
- [HBASE-12601] - Explain how to grant/revoke permission to a group/namespace in grant/revoke command usage
- [HBASE-12608] - region_mover.rb does not log moving region count correctly when loading regions
- [HBASE-12620] - Add HBASE-11639 related items to Ref Guide
- [HBASE-12627] - Add back snapshot batching facility from HBASE-11360 dropped by HBASE-11742
- [HBASE-12629] - Remove hbase.regionsizecalculator.enable from RegionSizeCalculator
- [HBASE-12630] - Provide capability for dropping malfunctioning ConfigurationObserver automatically
- [HBASE-12636] - Avoid too many write operations on zookeeper in replication
- [HBASE-12640] - Add Thrift-over-HTTPS and doAs support for Thrift Server
- [HBASE-12641] - Grant all permissions of hbase zookeeper node to hbase superuser in a secure cluster
- [HBASE-12650] - Move ServerName to hbase-common module
- [HBASE-12653] - Move TestRegionServerOnlineConfigChange & TestConfigurationManager to Junit4 tests
- [HBASE-12659] - Replace the method calls to grant and revoke in shell scripts with AccessControlClient
- [HBASE-12668] - Adapt PayloadCarryingRpcController so it can also be used in async way
- [HBASE-12676] - Fix the misleading ASCII art in IntegrationTestBigLinkedList
- [HBASE-12678] - HBCK should print command line arguments
- [HBASE-12680] - Refactor base ClusterManager in HBase to not have the notion of sending a signal.
- [HBASE-12684] - Add new AsyncRpcClient
- [HBASE-12706] - Support multiple port numbers in ZK quorum string
- [HBASE-12719] - Add test WAL provider to quantify FSHLog overhead in the absence of HDFS.
- [HBASE-12720] - Make InternalScan LimitedPrivate
- [HBASE-12736] - Let MetaScanner recycle a given Connection
- [HBASE-12745] - Visibility Labels: support visibility labels for user groups.
- [HBASE-12761] - On region jump ClientScanners should get next row start key instead of a skip.
- [HBASE-12762] - Region with no hfiles will have the highest locality cost in LocalityCostFunction
- [HBASE-12768] - Support enable cache_data_on_write in Shell while creating table
- [HBASE-12769] - Replication fails to delete all corresponding zk nodes when peer is removed
- [HBASE-12770] - Don't transfer all the queued hlogs of a dead server to the same alive server
- [HBASE-12773] - Add warning message when user is trying to bulkload a large HFile.
- [HBASE-12796] - Clean up HTable and HBaseAdmin deprecated constructor usage
- [HBASE-12808] - Use Java API Compliance Checker for binary/source compatibility
- [HBASE-12812] - Update Netty dependency to latest release
- [HBASE-12822] - Option for Unloading regions through region_mover.rb without Acknowledging
- [HBASE-12823] - Visibility label security at limited localized level
- [HBASE-12825] - CallRunner exception messages should include destination host:port
- [HBASE-12839] - Remove synchronization in ServerStatisticsTracker
- [HBASE-12840] - Improve unit test coverage of the client pushback mechanism
- [HBASE-12887] - Cleanup many checkstyle errors in o.a.h.h.client
- [HBASE-12888] - Display number of regions on the table jsp page.
- [HBASE-12891] - Parallel execution for Hbck checkRegionConsistency
- [HBASE-12893] - IntegrationTestBigLinkedListWithVisibility should use buffered writes
- [HBASE-12894] - Upgrade Jetty to 9.2.6
- [HBASE-12895] - Introduce BufferedTable
- [HBASE-12896] - checkstyle report diff tool
- [HBASE-12899] - HBase should prefix htrace configuration keys with "hbase.htrace" rather than just "hbase."
- [HBASE-12929] - TableMapReduceUtil.initTableMapperJob unnecessarily limits the types of outputKeyClass and outputValueClass
- [HBASE-12930] - Check single row size not exceed configured max row size across families for Get/Scan
- [HBASE-12940] - Expose listPeerConfigs and getPeerConfig to the HBase shell
- [HBASE-12957] - region_mover#isSuccessfulScan may be extremely slow on region with lots of expired data
- [HBASE-12973] - RegionCoprocessorEnvironment should provide HRegionInfo directly
- [HBASE-12975] - Supportable SplitTransaction and RegionMergeTransaction interfaces

- [HBASE-12979] - Use setters instead of return values for handing back statistics from HRegion methods
- [HBASE-12982] - Adding timeouts to TestChoreService
- [HBASE-12986] - Compaction pressure based client pushback
- [HBASE-12987] - HBCK should print status while scanning over many regions
- [HBASE-12988] - [Replication]Parallel apply edits across regions
- [HBASE-12990] - MetaScanner should be replaced by MetaTableAccessor
- [HBASE-12997] - FSHLog should print pipeline on low replication
- [HBASE-13002] - Make encryption cipher configurable
- [HBASE-13008] - Better default for hbase.regionserver.regionSplitLimit parameter.
- [HBASE-13014] - Java Tool For Region Moving
- [HBASE-13016] - Clean up remnants of table states stored in table descriptors
- [HBASE-13018] - WALSplitter should not try to get table states while splitting META
- [HBASE-13044] - Configuration option for disabling coprocessor loading
- [HBASE-13054] - Provide more tracing information for locking/latching events.
- [HBASE-13056] - Refactor table.jsp code to remove repeated code and make it easier to add new checks
- [HBASE-13059] - Set executable bit for scripts in dev-support
- [HBASE-13080] - Hbase shell message containing extra quote at the end of error message.
- [HBASE-13086] - Show ZK root node on Master WebUI
- [HBASE-13100] - Shell command to retrieve table splits
- [HBASE-13103] - [ergonomics] add region size balancing as a feature of master
- [HBASE-13109] - Make better SEEK vs SKIP decisions during scanning
- [HBASE-13118] - [PE] Add being able to write many columns
- [HBASE-13120] - Allow disabling hadoop classpath and native library lookup
- [HBASE-13122] - Improve efficiency for return codes of some filters
- [HBASE-13127] - Add timeouts on all tests so less zombie sightings
- [HBASE-13128] - Make HBCK's lock file retry creation and deletion
- [HBASE-13129] - Add troubleshooting hints around WAL retention from replication
- [HBASE-13132] - Improve RemoveColumn action debug message
- [HBASE-13138] - Clean up TestMasterObserver (debug, trying to figure why fails)
- [HBASE-13142] - [PERF] Reuse the IPCUtil#buildCellBlock buffer
- [HBASE-13158] - When client supports CellBlock, return the result Cells as controller payload for get(Get) API also
- [HBASE-13160] - SplitLogWorker does not pick up the task immediately
- [HBASE-13162] - Add capability for cleaning hbase acls to hbase cleanup script.
- [HBASE-13171] - Change AccessControlClient methods to accept connection object to reduce setup time.
- [HBASE-13183] - Make ZK tickTime configurable in standalone HBase
- [HBASE-13185] - Document hbase.regionserver.thrift.framed.max_frame_size_in_mb more clearly
- [HBASE-13189] - PrefixTreecell should implement HeapSize
- [HBASE-13197] - Connection API cleanup
- [HBASE-13199] - Some small improvements on canary tool
- [HBASE-13216] - Add version info in RPC connection header
- [HBASE-13222] - Provide means of non-destructive balancer inspection
- [HBASE-13223] - Add testMoveMeta to IntegrationTestMTTR
- [HBASE-13235] - Revisit the security auditing semantics.
- [HBASE-13236] - Clean up m2e-related warnings/errors from poms
- [HBASE-13240] - add an exemption to test-patch for build-only changes.
- [HBASE-13241] - Add tests for group level grants
- [HBASE-13247] - Change BufferedMutatorExample to use addColumn() since add() is deprecated
- [HBASE-13251] - Correct 'HBase, MapReduce, and the CLASSPATH' section in HBase Ref Guide
- [HBASE-13255] - Bad grammar in RegionServer status page
- [HBASE-13256] - HBaseConfiguration#checkDefaultsVersion(Configuration) has spelling error
- [HBASE-13270] - Setter for Result#getStats is #addResults; confusing!
- [HBASE-13271] - Table#puts(List<Put>) operation is indeterminate; needs fixing
- [HBASE-13286] - Minimum timeout for a rpc call could be 1 ms instead of 2 seconds
- [HBASE-13316] - Reduce the downtime on planned moves of regions
- [HBASE-13319] - Support 64-bits total row number in PerformanceEvaluation
- [HBASE-13322] - Replace explicit HBaseAdmin creation with connection#getAdmin()
- [HBASE-13334] - FindBugs should create precise report for new bugs introduced
- [HBASE-13340] - Include LimitedPrivate interfaces in the API compatibility report
- [HBASE-13341] - Add option to disable filtering on interface annotations for the API compatibility report
- [HBASE-13342] - Fix incorrect interface annotations
- [HBASE-13343] - Use a custom maven Enforcer rule to ban Hadoop annotations
- [HBASE-13344] - Add enforcer rule that matches our JDK support statement
- [HBASE-13345] - Fix LocalHBaseCluster so that different region server impl can be used for different slaves
- [HBASE-13347] - Deprecate FirstKeyValueMatchingQualifiersFilter
- [HBASE-13348] - Separate the thread number configs for meta server and server operations
- [HBASE-13350] - Add a debug-warn if we fail HTD checks even if table.sanity.checks is false
- [HBASE-13351] - Annotate internal MasterRpcServices methods with admin priority
- [HBASE-13358] - Upgrade VisibilityClient API to accept Connection object.
- [HBASE-13362] - Set max result size from client only (like scanner caching).
- [HBASE-13366] - Throw DoNotRetryIOException instead of read only IOException
- [HBASE-13369] - Expose scanNext stats to region server level
- [HBASE-13370] - PE tool could give option for using Explicit Column Tracker which leads to seeks

- [HBASE-13375] - Provide HBase superuser higher priority over other users in the RPC handling
- [HBASE-13376] - Improvements to Stochastic load balancer
- [HBASE-13381] - Expand TestSizeFailures to include small scans
- [HBASE-13419] - Thrift gateway should propagate text from exception causes.
- [HBASE-13420] - RegionEnvironment.offerExecutionLatency Blocks Threads under Heavy Load
- [HBASE-13425] - Documentation nit in REST Gateway impersonation section
- [HBASE-13431] - Allow to skip store file range check based on column family while creating reference files in HRegionFileSystem#splitStoreFile
- [HBASE-13436] - Include user name in ADE for scans
- [HBASE-13453] - Master should not bind to region server ports
- [HBASE-13456] - Improve HFilePrettyPrinter first hbase:meta region processing
- [HBASE-13500] - Deprecate KVComparator and move to CellComparator
- [HBASE-13516] - Increase PermSize to 128MB
- [HBASE-13518] - Typo in hbase.hconnection.meta.lookup.threads.core parameter
- [HBASE-13525] - Update test-patch to leverage Apache Yetus
- [HBASE-13530] - Add param for bulkload wait duration in HRegion.
- [HBASE-13532] - Make UnknownScannerException logging less scary
- [HBASE-13534] - Change HBase master WebUI to explicitly mention if it is a backup master
- [HBASE-13550] - [Shell] Support unset of a list of table attributes
- [HBASE-13552] - ChoreService shutdown message could be more informative
- [HBASE-13578] - Remove Arrays.asList().subList() from FSHLog.offer()
- [HBASE-13581] - Improve usability for storefile stats in web status pages
- [HBASE-13598] - Make hbase assembly 'attach' to the project
- [HBASE-13602] - Add an option to fail wal recovery when lease recovery fails
- [HBASE-13622] - document upgrade rollback
- [HBASE-13640] - metrics for table constraints
- [HBASE-13645] - Rename *column methods in MasterObserver to *columnFamily
- [HBASE-13655] - Deprecate duplicate getCompression methods in HColumnDescriptor
- [HBASE-13656] - Rename getDeadServers to getDeadServersSize in Admin
- [HBASE-13671] - More classes to add to the invoking repository of org.apache.hadoop.hbase.mapreduce.driver
- [HBASE-13673] - WALProcedureStore procedure is chatty
- [HBASE-13675] - ProcedureExecutor completion report should be at DEBUG log level
- [HBASE-13677] - RecoverableZookeeper WARNs on expected events
- [HBASE-13684] - Allow mlockagent to be used when not starting as root
- [HBASE-13701] - Consolidate SecureBulkLoadEndpoint into HBase core as default for bulk load
- [HBASE-13710] - Remove use of Hadoop's ReflectionUtil in favor of our own.
- [HBASE-13718] - Add a pretty printed table description to the table detail page of HBase's master
- [HBASE-13725] - [documentation] Pseudo-Distributed Local Install can link to hadoop instructions
- [HBASE-13742] - buildbot should run link checker over book
- [HBASE-13745] - Say why a flush was requested in log message
- [HBASE-13755] - Provide single super user check implementation
- [HBASE-13761] - Optimize FuzzyRowFilter
- [HBASE-13780] - Default to 700 for HDFS root dir permissions for secure deployments
- [HBASE-13816] - Build shaded modules only in release profile
- [HBASE-13828] - Add group permissions testing coverage to AC.
- [HBASE-13829] - Add more ThrottleType
- [HBASE-13846] - Run MiniCluster on top of other MiniDfsCluster
- [HBASE-13848] - Access InfoServer SSL passwords through Credential Provder API
- [HBASE-13876] - Improving performance of HeapMemoryManager
- [HBASE-13894] - Avoid visitor alloc each call of ByteBufferArray get/putMultiple()
- [HBASE-13900] - duplicate methods between ProtobufMagic and ProtobufUtil
- [HBASE-13902] - Remove Sync RpcClientImpl
- [HBASE-13903] - Speedup IdLock
- [HBASE-13914] - Minor improvements to dev-support/publish_hbase_website.sh
- [HBASE-13917] - Remove string comparison to identify request priority
- [HBASE-13921] - move "converter" functions from ProtobufUtil into a helper class
- [HBASE-13925] - Use zookeeper multi to clear znodes in ZKProcedureUtil
- [HBASE-13927] - Allow hbase-daemon.sh to conditionally redirect the log or not
- [HBASE-13931] - Move Unsafe based operations to UnsafeAccess
- [HBASE-13943] - Get rid of KeyValue#heapSizeWithoutTags
- [HBASE-13952] - Expand IT jenkins builds to include IntegrationTestBulkLoad
- [HBASE-13953] - Expand IT jenkins builds to include IntegrationTestIngest
- [HBASE-13965] - Stochastic Load Balancer JMX Metrics
- [HBASE-13979] - Move out the lowReplication roll form FSHLog to be reusable
- [HBASE-13980] - Distinguish blockedFlushCount vs unblockedFlushCount when tuning heap memory
- [HBASE-13985] - Add configuration to skip validating HFile format when bulk loading
- [HBASE-13996] - Add write sniffing in canary
- [HBASE-14001] - Optimize write(OutputStream out, boolean withTags) for SizeCachedNoTagsKeyValue
- [HBASE-14002] - Add --noReplicationSetup option to IntegrationTestReplication
- [HBASE-14007] - Writing to table through MR should fail upfront if table does not exist/is disabled
- [HBASE-14015] - Allow setting a richer state value when toString a pv2
- [HBASE-14027] - Clean up netty dependencies

- [HBASE-14039] - BackupHandler.deleteSnapshot MUST use HBase Snapshot API
- [HBASE-14040] - Small refactoring in BackupHandler
- [HBASE-14045] - Bumping thrift version to 0.9.2.
- [HBASE-14047] - Cleanup deprecated APIs from Cell class
- [HBASE-14058] - Stabilizing default heap memory tuner
- [HBASE-14067] - bundle ruby files for hbase shell into a jar.
- [HBASE-14068] - How to Release docs should include pointers for making signed tags
- [HBASE-14078] - improve error message when HMaster can't bind to port
- [HBASE-14082] - Add replica id to JMX metrics names
- [HBASE-14093] - deduplicate copies of bootstrap files
- [HBASE-14097] - Log link to client scan troubleshooting section when scanner exceptions happen.
- [HBASE-14099] - StoreFile.passesKeyRangeFilter need not create Cells from the Scan's start and stop Row
- [HBASE-14110] - Add CostFunction for balancing primary region replicas
- [HBASE-14122] - Client API for determining if server side supports cell level security
- [HBASE-14148] - Web UI Framable Page
- [HBASE-14151] - Remove the unnecessary file ProtobufUtil.java.rej which is brought in by merging hbase-11339
- [HBASE-14152] - Fix the warnings in Checkstyle and FindBugs brought in by merging hbase-11339
- [HBASE-14158] - Add documentation for Initial Release for HBase-Spark Module integration
- [HBASE-14159] - Resolve warning introduced by HBase-Spark module
- [HBASE-14164] - Display primary region replicas distribution on table.jsp
- [HBASE-14165] - The initial size of RWQueueRpcExecutor.queues should be (numWriteQueues + numReadQueues + numScanQueues)
- [HBASE-14167] - hbase-spark integration tests do not respect -DskipIntegrationTests
- [HBASE-14172] - Upgrade existing thrift binding using thrift 0.9.3 compiler.
- [HBASE-14187] - Add Thrift 1 RPC to batch gets in a single call
- [HBASE-14193] - Remove support for direct upgrade from pre-0.96 versions
- [HBASE-14194] - Undeprecate methods in ThriftServerRunner.HBaseHandler
- [HBASE-14203] - remove duplicate code getTableDescriptor in HTable
- [HBASE-14216] - Consolidate MR and Spark BulkLoad shared functions and string consts
- [HBASE-14230] - replace reflection in FSHlog with HdfsDataOutputStream#getCurrentBlockReplication()
- [HBASE-14247] - Separate the old WALs into different regionserver directories
- [HBASE-14255] - Simplify Cell creation post 1.0
- [HBASE-14260] - don't build javadocs for hbase-protocol module
- [HBASE-14261] - Enhance Chaos Monkey framework by adding zookeeper and datanode fault injections.
- [HBASE-14266] - RegionServers have a lock contention of Configuration.getProps
- [HBASE-14268] - Improve KeyLocker
- [HBASE-14294] - Add new attribute to Scan to limit the return size of records
- [HBASE-14306] - Refine RegionGroupingProvider: fix issues and make it more scalable
- [HBASE-14309] - Allow load balancer to operate when there is region in transition by adding force flag
- [HBASE-14314] - Metrics for block cache should take region replicas into account
- [HBASE-14325] - Add snapshotinfo command to hbase script
- [HBASE-14332] - Show the table state when we encounter exception while disabling / enabling table
- [HBASE-14334] - Move Memcached block cache in to it's own optional module.
- [HBASE-14345] - Consolidate printUsage in IntegrationTestLoadAndVerify
- [HBASE-14383] - Compaction improvements
- [HBASE-14387] - Compaction improvements: Maximum off-peak compaction size
- [HBASE-14388] - Compaction improvements: Avoid flush storms by jittering flush interval and max log files
- [HBASE-14389] - Compaction improvements: ExploringCompactionPolicy selection evaluation algorithm
- [HBASE-14397] - PrefixFilter doesn't filter all remaining rows if the prefix is longer than rowkey being compared
- [HBASE-14436] - HTableDescriptor#addCoprocessor will always make RegionCoprocessorHost create new Configuration
- [HBASE-14448] - Refine RegionGroupingProvider Phase-2: remove provider nesting and formalize wal group name
- [HBASE-14455] - Try to get rid of unused HConnection instance
- [HBASE-14461] - Cleanup IncreasingToUpperBoundRegionSplitPolicy
- [HBASE-14467] - Compaction improvements: DefaultCompactor should not compact TTL-expired files
- [HBASE-14468] - Compaction improvements: FIFO compaction policy
- [HBASE-14478] - A ThreadPoolExecutor with a LinkedBlockingQueue cannot execute tasks concurrently
- [HBASE-14490] - [RpcServer] reuse request read buffer
- [HBASE-14515] - Allow spark module unit tests to be skipped with a profile
- [HBASE-14517] - Show regionserver's version in master status page
- [HBASE-14520] - Optimize the number of calls for tags creation in bulk load
- [HBASE-14524] - Short-circuit comparison of rows in CellComparator
- [HBASE-14547] - Add more debug/trace to zk-procedure
- [HBASE-14548] - Expand how table coprocessor jar and dependency path can be specified
- [HBASE-14565] - Make ZK connection timeout configurable in MiniZooKeeperCluster
- [HBASE-14573] - Edit on the ByteBufferedCell javadoc
- [HBASE-14574] - TableOutputFormat#getRecordWriter javadoc misleads
- [HBASE-14580] - Make the HBaseMiniCluster compliant with Kerberos
- [HBASE-14582] - Regionserver status webpage bucketcache list can become huge
- [HBASE-14586] - Use a maven profile to run Jacoco analysis
- [HBASE-14587] - Attach a test-sources.jar for hbase-server
- [HBASE-14588] - Stop accessing test resources from within src folder
- [HBASE-14643] - Avoid Splits from once again opening a closed reader for fetching the first and last key
- [HBASE-14665] - Remove deprecated HBaseTestingUtility#createTable methods

- [HBASE-14666] - Remove deprecated HBaseTestingUtility#deleteTable methods
- [HBASE-14668] - Remove deprecated HBaseTestCase dependency from TestHFile
- [HBASE-14669] - remove unused import and fix javadoc
- [HBASE-14670] - Remove deprecated HBaseTestCase from TestBlocksRead
- [HBASE-14671] - Remove deprecated HBaseTestCase/Put/Delete apis from TestGetClosestAtOrBefore
- [HBASE-14672] - Exorcise deprecated Delete#delete* apis
- [HBASE-14675] - Exorcise deprecated Put#add(...) and replace with Put#addColumn(...)
- [HBASE-14683] - Batching in buffered mutator is awful when adding lists of mutations.
- [HBASE-14684] - Try to remove all MiniMapReduceCluster in unit tests
- [HBASE-14687] - Un-synchronize BufferedMutator
- [HBASE-14693] - Add client-side metrics for received pushback signals
- [HBASE-14696] - Support setting allowPartialResults in mapreduce Mappers
- [HBASE-14700] - Support a "permissive" mode for secure clusters to allow "simple" auth clients
- [HBASE-14703] - HTable.mutateRow does not collect stats
- [HBASE-14708] - Use copy on write Map for region location cache
- [HBASE-14714] - some cleanup to snapshot code
- [HBASE-14715] - Add javadocs to DelegatingRetryingCallable
- [HBASE-14719] - Add metric for number of MasterProcWALs
- [HBASE-14721] - Memstore add cells - Avoid many garbage
- [HBASE-14731] - Add -DuseMob option to ITBLL
- [HBASE-14743] - Add metrics around HeapMemoryManager
- [HBASE-14749] - Make changes to region_mover.rb to use RegionMover Java tool
- [HBASE-14752] - Add example of using the HBase client in a multi-threaded environment
- [HBASE-14756] - Break out ClientBackoffPolicy factors into configurable and stackable components
- [HBASE-14757] - Reduce allocation pressure imposed by HFile block processing
- [HBASE-14765] - Remove snappy profile
- [HBASE-14766] - In WALEntryFilter, cell.getFamily() needs to be replaced with the new low-cost implementation
- [HBASE-14780] - Integration Tests that run with ChaosMonkey need to specify CFs
- [HBASE-14789] - Enhance the current spark-hbase connector
- [HBASE-14795] - Enhance the spark-hbase scan operations
- [HBASE-14796] - Enhance the Gets in the connector
- [HBASE-14800] - Expose checkAndMutate via Thrift2
- [HBASE-14805] - status should show the master in shell
- [HBASE-14821] - CopyTable should allow overriding more config properties for peer cluster
- [HBASE-14826] - Small improvement in KVHeap seek() API
- [HBASE-14829] - Add more checkstyles
- [HBASE-14834] - Add some interesting integration test parameter examples to the Reference Guild
- [HBASE-14859] - Better checkstyle reporting
- [HBASE-14860] - Improve BoundedByteBufferPool; make lockless
- [HBASE-14862] - Add support for reporting p90 for histogram metrics
- [HBASE-14865] - Support passing multiple QOPs to SaslClient/Server via hbase.rpc.protection
- [HBASE-14866] - VerifyReplication should use peer configuration in peer connection
- [HBASE-14871] - Allow specifying the base branch for make_patch
- [HBASE-14881] - Provide a Put API that uses the provided row without coping
- [HBASE-14882] - Provide a Put API that adds the provided family, qualifier, value without copying
- [HBASE-14891] - Add log for uncaught exception in RegionServerMetricsWrapperRunnable
- [HBASE-14906] - Improvements on FlushLargeStoresPolicy
- [HBASE-14937] - Make rpc call timeout for replication adaptive
- [HBASE-14938] - Limit the number of znodes for ZK in bulk loaded hfile replication
- [HBASE-14946] - Don't allow multi's to over run the max result size.
- [HBASE-14951] - Make hbase.regionserver.maxlogs obsolete
- [HBASE-14963] - Remove use of Guava Stopwatch from HBase client code
- [HBASE-14969] - Add throughput controller for flush
- [HBASE-14976] - Add RPC call queues to the web ui
- [HBASE-14978] - Don't allow Multi to retain too many blocks
- [HBASE-14983] - Create metrics for per block type hit/miss ratios
- [HBASE-14984] - Allow memcached block cache to set optimze to false
- [HBASE-14985] - TimeRange constructors should set allTime when appropriate
- [HBASE-14996] - Some more API cleanup for 2.0
- [HBASE-15038] - ExportSnapshot should support separate configurations for source and destination clusters
- [HBASE-15044] - Region normalization should be allowed when underlying namespace has quota
- [HBASE-15060] - Cull TestHFileWriterV2 and HFileWriterFactory
- [HBASE-15061] - Refactor StoreFileScanner creation to builder pattern
- [HBASE-15062] - IntegrationTestMTTR conditionally run some tests
- [HBASE-15066] - Small improvements to Canary tool
- [HBASE-15068] - Add metrics for region normalization plans
- [HBASE-15075] - Allow region split request to carry identification information
- [HBASE-15076] - Add getScanner(Scan scan, List<KeyValueScanner> additionalScanners) API into Region interface
- [HBASE-15111] - "hbase version" should write to stdout
- [HBASE-15119] - Include git SHA in check_compatibility reports
- [HBASE-15123] - Remove duplicate code in LocalHBaseCluster and minor formatting
- [HBASE-15129] - Set default value for hbase.fs.tmp.dir rather than fully depend on hbase-default.xml

- [HBASE-15177] - Reduce garbage created under high load
- [HBASE-15191] - CopyTable and VerifyReplication - Option to specify batch size, versions
- [HBASE-15197] - Expose filtered read requests metric to metrics framework and Web UI
- [HBASE-15201] - Add hbase-spark to hbase assembly
- [HBASE-15211] - Don't run the CatalogJanitor if there are regions in transition
- [HBASE-15212] - RRCServer should enforce max request size
- [HBASE-15219] - Canary tool does not return non-zero exit code when one of regions is in stuck state
- [HBASE-15222] - Use less contended classes for metrics
- [HBASE-15223] - Make convertScanToString public for Spark
- [HBASE-15229] - Canary Tools should not call System.Exit on error
- [HBASE-15243] - Utilize the lowest seek value when all Filters in MUST_PASS_ONE FilterList return SEEK_NEXT_USING_HINT
- [HBASE-15282] - Bump hbase-spark to use Spark 1.6.0
- [HBASE-15284] - Make TimeRange constructors IA.Private and remove unused TimeRange constructors
- [HBASE-15296] - Break out writer and reader from StoreFile
- [HBASE-15300] - Upgrade to zookeeper 3.4.8
- [HBASE-15301] - Remove the never-thrown NamingException from TableInputFormatBase#reverseDNS method signature
- [HBASE-15306] - Make RPC call queue length dynamically configurable
- [HBASE-15312] - Update the dependences of pom for mini cluster in HBase Book
- [HBASE-15315] - Remove always set super user call as high priority
- [HBASE-15331] - HBase Backup/Restore Phase 2: Optimized Restore operation
- [HBASE-15338] - Add a option to disable the data block cache for testing the performance of underlying file system
- [HBASE-15339] - Improve DateTieredCompactionPolicy
- [HBASE-15349] - Update surefire version to 2.19.1
- [HBASE-15353] - Add metric for number of CallQueueTooBigException's
- [HBASE-15356] - Remove unused Imports
- [HBASE-15383] - Load distribute across secondary read replicas for meta
- [HBASE-15387] - Make HalfStoreFileReader configurable in LoadIncrementalHFiles
- [HBASE-15391] - Avoid too large "deleted from META" info log
- [HBASE-15396] - Enhance mapreduce.TableSplit to add encoded region name
- [HBASE-15413] - Procedure-V2: print out ProcedureInfo during trace
- [HBASE-15415] - Improve Master WebUI snapshot information
- [HBASE-15429] - Add a split policy for busy regions
- [HBASE-15434] - [findbugs] Exclude scala generated source and protobuf generated code in hbase-spark module
- [HBASE-15447] - Improve javadocs description for Delete methods
- [HBASE-15451] - Remove unnecessary wait in MVCC
- [HBASE-15456] - CreateTableProcedure/ModifyTableProcedure needs to fail when there is no family in table descriptor
- [HBASE-15470] - Add a setting for Priority queue length
- [HBASE-15471] - Add num calls in priority and general queue to RS UI
- [HBASE-15475] - Allow TimestampsFilter to provide a seek hint
- [HBASE-15478] - add comments to FSHLog explaining why syncRunnerIndex won't overflow
- [HBASE-15486] - Avoid multiple disable/enable balancer calls while running rolling-restart.sh --graceful
- [HBASE-15491] - Reuse byte buffers in AsyncRpcClient
- [HBASE-15492] - Memory usage optimizations
- [HBASE-15493] - Default ArrayList size may not be optimal for Mutation
- [HBASE-15496] - Throw RowTooBigException only for user scan/get
- [HBASE-15501] - MultiAction.add creates unnecessary temporary objects
- [HBASE-15507] - Online modification of enabled ReplicationPeerConfig
- [HBASE-15508] - Add command for exporting snapshot in hbase command script
- [HBASE-15510] - Reuse buffer inside RpcServer$Connection.readAndProcess
- [HBASE-15526] - Make SnapshotManager accessible through MasterServices
- [HBASE-15529] - Override needBalance in StochasticLoadBalancer
- [HBASE-15542] - Minimize garbage memory allocations during compaction
- [HBASE-15547] - Balancer should take into account number of PENDING_OPEN regions
- [HBASE-15569] - Make Bytes.toStringBinary faster
- [HBASE-15571] - Make MasterProcedureManagerHost accessible through MasterServices
- [HBASE-15580] - Tag coprocessor limitedprivate scope to StoreFile.Reader
- [HBASE-15586] - Unify human readable numbers in the web UI
- [HBASE-15600] - Add provision for adding mutations to memstore or able to write to same region in batchMutate coprocessor hooks
- [HBASE-15605] - Remove PB references from HCD and HTD for 2.0
- [HBASE-15606] - Limit creating zk connection in HBaseAdmin#getCompactionState() only to case when 'hbase:meta' is checked.
- [HBASE-15607] - Remove PB references from Admin for 2.0
- [HBASE-15608] - Remove PB references from SnapShot related Exceptions
- [HBASE-15609] - Remove PB references from Result, DoubleColumnInterpreter and any such public facing class for 2.0
- [HBASE-15610] - Remove deprecated HConnection for 2.0 thus removing all PB references for 2.0
- [HBASE-15611] - add examples to shell docs
- [HBASE-15612] - Minor improvements to CellCounter and RowCounter documentation
- [HBASE-15614] - Report metrics from JvmPauseMonitor
- [HBASE-15632] - Undo the checking of lastStoreFlushTimeMap.isEmpty() introduced in HBASE-13145
- [HBASE-15641] - Shell "alter" should do a single modifyTable operation
- [HBASE-15667] - Add more clarity to Reference Guide related to importing Eclipse Formatter
- [HBASE-15680] - Examples in shell help message for TIMERANGE scanner specifications should use milliseconds instead of seconds
- [HBASE-15686] - Add override mechanism for the exempt classes when dynamically loading table coprocessor

- [HBASE-15688] - Use MasterServices directly instead of casting to HMaster when possible
- [HBASE-15702] - Improve PerClientRandomNonceGenerator
- [HBASE-15706] - HFilePrettyPrinter should print out nicely formatted tags
- [HBASE-15720] - Print row locks at the debug dump page
- [HBASE-15727] - Canary Tool for Zookeeper
- [HBASE-15744] - Port over small format/text improvements from HBASE-13784
- [HBASE-15745] - Refactor RPC classes to better accept async changes.
- [HBASE-15751] - Fixed HBase compilation failure with Zookeeper 3.5 and bumped HBase to use zookeeper 3.5
- [HBASE-15756] - Pluggable RpcServer
- [HBASE-15759] - RegionObserver.preStoreScannerOpen() doesn't have acces to current readpoint
- [HBASE-15767] - Upgrade httpclient dependency
- [HBASE-15768] - fix capitalization of ZooKeeper usage
- [HBASE-15779] - Examples should use programmatic keytab auth
- [HBASE-15791] - Improve javadoc in ScheduledChore
- [HBASE-15793] - Port over AsyncCall improvements
- [HBASE-15794] - Fix Findbugs instanceof always true issue in MultiServerCallable
- [HBASE-15795] - Cleanup all classes in package org.apache.hadoop.hbase.ipc for code style
- [HBASE-15802] - ConnectionUtils should use ThreadLocalRandom instead of Random
- [HBASE-15808] - Reduce potential bulk load intermediate space usage and waste
- [HBASE-15837] - Memstore size accounting is wrong if postBatchMutate() throws exception
- [HBASE-15842] - SnapshotInfo should display ownership information
- [HBASE-15843] - Replace RegionState.getRegionInTransition() Map with a Set
- [HBASE-15849] - Shell Cleanup: Simplify handling of commands' runtime
- [HBASE-15854] - Log the cause of SASL connection failures
- [HBASE-15864] - Reuse the testing helper to wait regions in transition
- [HBASE-15870] - Specify columns in REST multi gets
- [HBASE-15882] - Upgrade to yetus precommit 0.3.0
- [HBASE-15890] - Allow thrift to set/unset "cacheBlocks" for Scans
- [HBASE-15910] - Update hbase ref guide to explain submit-patch.py
- [HBASE-15921] - Add first AsyncTable impl and create TableImpl based on it
- [HBASE-15924] - Enhance hbase services autorestart capability to hbase-daemon.sh
- [HBASE-15930] - Make IntegrationTestReplication's waitForReplication() smarter
- [HBASE-15931] - Add log for long-running tasks in AsyncProcess
- [HBASE-15941] - HBCK repair should not unsplit healthy splitted region
- [HBASE-15949] - Cleanup TestRegionServerMetrics
- [HBASE-15981] - Stripe and Date-tiered compactions inaccurately suggest disabling table in docs
- [HBASE-16004] - Update to Netty 4.1.1
- [HBASE-16008] - A robust way deal with early termination of HBCK
- [HBASE-16010] - Put draining function through Admin API
- [HBASE-16018] - Better documentation of ReplicationPeers
- [HBASE-16025] - Cache table state to reduce load on META
- [HBASE-16030] - All Regions are flushed at about same time when MEMSTORE_PERIODIC_FLUSH is on, causing flush spike
- [HBASE-16033] - Add more details in logging of responseTooSlow/TooLarge
- [HBASE-16042] - Add support in PE tool for InMemory Compaction
- [HBASE-16048] - Tag InternalScanner with LimitedPrivate(HBaseInterfaceAudience.COPROC)
- [HBASE-16052] - Improve HBaseFsck Scalability
- [HBASE-16085] - Add on metric for failed compactions
- [HBASE-16086] - TableCfWALEntryFilter and ScopeWALEntryFilter should not redundantly iterate over cells.
- [HBASE-16087] - Replication shouldn't start on a master if if only hosts system tables
- [HBASE-16089] - Add on FastPath for CoDel
- [HBASE-16108] - RowCounter should support multiple key ranges
- [HBASE-16114] - Get regionLocation of required regions only for MR jobs
- [HBASE-16124] - Make check_compatibility.sh less verbose when building HBase
- [HBASE-16130] - Add comments to ProcedureStoreTracker
- [HBASE-16139] - Use CellUtil instead of KeyValueUtil in Import
- [HBASE-16140] - bump owasp.esapi from 2.1.0 to 2.1.0.1
- [HBASE-16141] - Unwind use of UserGroupInformation.doAs() to convey requester identity in coprocessor upcalls
- [HBASE-16147] - Add ruby wrapper for getting compaction state
- [HBASE-16149] - Log the underlying RPC exception in RpcRetryingCallerImpl
- [HBASE-16188] - Add EventCounter information to log4j properties file
- [HBASE-16191] - Add stop_regionserver and stop_master to shell
- [HBASE-16220] - Demote log level for "HRegionFileSystem - No StoreFiles for" messages to TRACE
- [HBASE-16224] - Reduce the number of RPCs for the large PUTs
- [HBASE-16225] - Refactor ScanQueryMatcher
- [HBASE-16231] - Integration tests should support client keytab login for secure clusters
- [HBASE-16241] - Allow specification of annotations to use when running check_compatibility.sh
- [HBASE-16256] - Purpose of EnvironmentEdge, EnvironmentEdgeManager
- [HBASE-16266] - Do not throw ScannerTimeoutException when catch UnknownScannerException
- [HBASE-16275] - Change ServerManager#onlineServers from ConcurrentHashMap to ConcurrentSkipListMap
- [HBASE-16287] - LruBlockCache size should not exceed acceptableSize too many
- [HBASE-16299] - Update REST API scanner with ability to do reverse scan
- [HBASE-16302] - age of last shipped op and age of last applied op should be histograms

- [HBASE-16312] - update jquery version
- [HBASE-16313] - Docs on hbase-spark connector need to include examples of actually submitting jobs
- [HBASE-16328] - Reimplement web UI fixes without license problems
- [HBASE-16348] - update jcoding and joni versions
- [HBASE-16351] - do dependency license check via enforcer plugin
- [HBASE-16379] - [replication] Minor improvement to replication/copy_tables_desc.rb
- [HBASE-16381] - Shell deleteall command should support row key prefixes
- [HBASE-16385] - Have hbase-rest pull hbase.rest.port from Constants.java
- [HBASE-16399] - Provide an API to get list of failed regions and servername in Canary
- [HBASE-16401] - Enable HeapMemoryManager by default in 2.0
- [HBASE-16414] - Improve performance for RPC encryption with Apache Common Crypto
- [HBASE-16419] - check REPLICATION_SCOPE's value more stringently
- [HBASE-16422] - Tighten our guarantees on compatibility across patch versions
- [HBASE-16423] - Add re-compare option to VerifyReplication to avoid occasional inconsistent rows
- [HBASE-16434] - Improve flaky dashboard
- [HBASE-16448] - Custom metrics for custom replication endpoints
- [HBASE-16450] - Shell tool to dump replication queues
- [HBASE-16455] - Provide API for obtaining all the WAL files
- [HBASE-16469] - Several log refactoring/improvement suggestions
- [HBASE-16486] - Unify system table creation using the same createSystemTable API.
- [HBASE-16500] - Do not add any store file on scanner reset that has a seq id greater than current read pt
- [HBASE-16501] - seekToPrevoiusRow() can be optimized
- [HBASE-16502] - Reduce garbage in BufferedDataBlockEncoder
- [HBASE-16506] - Use subprocedure of Proc V2 for snapshot in BackupProcedure
- [HBASE-16508] - Move UnexpectedStateException to common
- [HBASE-16509] - Add option to LoadIncrementalHFiles which allows skipping unmatched column families
- [HBASE-16541] - Avoid unnecessary cell copy in Result#compareResults
- [HBASE-16561] - Add metrics about read/write/scan queue length and active read/write/scan handler count
- [HBASE-16574] - Add backup / restore feature to refguide
- [HBASE-16585] - Rewrite the delegation token tests with Parameterized pattern
- [HBASE-16598] - Enable zookeeper useMulti always and clean up in HBase code
- [HBASE-16616] - Rpc handlers stuck on ThreadLocalMap.expungeStaleEntry
- [HBASE-16640] - TimeoutBlockingQueue#remove() should return whether the entry is removed
- [HBASE-16646] - Enhance LoadIncrementalHFiles API to accept store file paths as input
- [HBASE-16657] - Expose per-region last major compaction timestamp in RegionServer UI
- [HBASE-16658] - Optimize UTF8 string/byte conversions
- [HBASE-16659] - Use CellUtil.createFirstOnRow instead of KeyValueUtil.createFirstOnRow in some places.
- [HBASE-16661] - Add last major compaction age to per-region metrics
- [HBASE-16666] - Add append and remove peer namespaces cmds for replication
- [HBASE-16667] - Building with JDK 8: ignoring option MaxPermSize=256m
- [HBASE-16672] - Add option for bulk load to always copy hfile(s) instead of renaming
- [HBASE-16680] - Reduce garbage in BufferChain
- [HBASE-16690] - Move znode path configs to a separated class
- [HBASE-16691] - Optimize KeyOnlyFilter by utilizing KeyOnlyCell
- [HBASE-16692] - Make ByteBufferUtils#equals safer and correct
- [HBASE-16694] - Reduce garbage for onDiskChecksum in HFileBlock
- [HBASE-16698] - Performance issue: handlers stuck waiting for CountDownLatch inside WALKey#getWriteEntry under high writing workload
- [HBASE-16700] - Allow for coprocessor whitelisting
- [HBASE-16705] - Eliminate long to Long auto boxing in LongComparator
- [HBASE-16706] - Allow users to have Custom tags on Cells
- [HBASE-16708] - Expose endpoint Coprocessor name in "responseTooSlow" log messages
- [HBASE-16714] - Procedure V2 - use base class to remove duplicate set up test code in table DDL procedures
- [HBASE-16720] - Sort build ids in flaky dashboard
- [HBASE-16730] - Exclude junit as a transitive dependency from hadoop-common
- [HBASE-16734] - add hadoop 3.0.0-alpha1 to post commit checks
- [HBASE-16772] - Add verbose option to VerifyReplication for logging good rows
- [HBASE-16773] - AccessController should access local region if possible
- [HBASE-16774] - [shell] Add coverage to TestShell when ZooKeeper is not reachable
- [HBASE-16782] - Create compaction specific writer that are of type ShipperListener
- [HBASE-16783] - Use ByteBufferPool for the header and message during Rpc response
- [HBASE-16784] - Make use of ExtendedCell#write(OutputStream os) for the default HFileWriter#append()
- [HBASE-16792] - Reuse KeyValue.KeyOnlyKeyValue in BufferedDataBlockEncoder.SeekerState
- [HBASE-16809] - Save one cell length calculation in HeapMemStoreLAB#copyCellInto
- [HBASE-16818] - Avoid multiple copies of binary data during the conversion from Result to Row
- [HBASE-16821] - Enhance LoadIncrementalHFiles API to convey missing hfiles if any
- [HBASE-16823] - Add examples in HBase Spark module
- [HBASE-16840] - Reuse cell's timestamp and type in ScanQueryMatcher
- [HBASE-16844] - Procedure V2: DispatchMergingRegionsProcedure to use base class StateMachineProcedure for abort and rollback
- [HBASE-16854] - Refactor the org.apache.hadoop.hbase.client.Action
- [HBASE-16888] - Avoid unnecessary tags copy in Append
- [HBASE-16946] - Provide Raw scan as an option in VerifyReplication

- [HBASE-16947] - Some improvements for DumpReplicationQueues tool
- [HBASE-16950] - Print raw stats in the end of procedure performance tools for parsing results from scripts
- [HBASE-16969] - RegionCoprocessorServiceExec should override the toString() for debugging
- [HBASE-16972] - Log more details for Scan#next request when responseTooSlow
- [HBASE-16977] - VerifyReplication should log a printable representation of the row keys
- [HBASE-17004] - Refactor IntegrationTestManyRegions to use @ClassRule for timing out
- [HBASE-17005] - Improve log message in MobFileCache
- [HBASE-17006] - Add names to threads for better debugability of thread dumps
- [HBASE-17013] - Add constructor to RowMutations for initializing the capacity of internal list
- [HBASE-17014] - Add clearly marked starting and shutdown log messages for all services.
- [HBASE-17026] - VerifyReplication log should distinguish whether good row key is result of revalidation
- [HBASE-17034] - avoid unnecessary Get copy in HTable#exist
- [HBASE-17037] - Enhance LoadIncrementalHFiles API to convey loaded files
- [HBASE-17047] - Add an API to get HBase connection cache statistics
- [HBASE-17063] - Cleanup TestHRegion : remove duplicate variables for method name and two unused params in initRegion
- [HBASE-17077] - Don't copy the replication queue belonging to the peer which has been deleted
- [HBASE-17083] - Enable hedged reads by default in hbase-2.0.0
- [HBASE-17086] - Add comments to explain why Cell#getTagsLength() returns an int, rather than a short
- [HBASE-17088] - Refactor RWQueueRpcExecutor/BalancedQueueRpcExecutor/RpcExecutor
- [HBASE-17110] - Improve SimpleLoadBalancer to always take server-level balance into account
- [HBASE-17123] - Add postBulkLoadHFile variant that notifies the final paths for the hfiles
- [HBASE-17126] - Expose KeyValue#checkParameters() and checkForTagsLength() to be used by other Cell implementations
- [HBASE-17129] - Remove public from methods in DataType interface
- [HBASE-17157] - Increase the default mergeable threshold for mob compaction
- [HBASE-17161] - MOB : Make ref cell creation more efficient
- [HBASE-17165] - Add retry to LoadIncrementalHFiles tool
- [HBASE-17172] - Optimize mob compaction with _del files
- [HBASE-17176] - Reuse the builder in RequestConverter
- [HBASE-17178] - Add region balance throttling
- [HBASE-17184] - Code cleanup of LruBlockCache
- [HBASE-17185] - Purge the seek of the next block reading HFileBlocks
- [HBASE-17191] - Make use of UnsafeByteOperations#unsafeWrap(ByteBuffer buffer) in PBUtil#toCell(Cell cell)
- [HBASE-17193] - Add Metrics for offheap memstore flushes
- [HBASE-17194] - Assign the new region to the idle server after splitting
- [HBASE-17204] - Make L2 off heap cache default ON
- [HBASE-17205] - Add a metric for the duration of region in transition
- [HBASE-17207] - Arrays.asList() with too few arguments
- [HBASE-17211] - Add more details in log when UnknownScannerException thrown in ScannerCallable
- [HBASE-17212] - Should add null checker on table name in HTable constructor and RegionServerCallable
- [HBASE-17214] - Add metrics on responseQueue length and size
- [HBASE-17215] - Separate small/large file delete threads in HFileCleaner to accelerate archived hfile cleanup speed
- [HBASE-17216] - A Few Fields Can Be Safely Made Static
- [HBASE-17221] - Abstract out an interface for RpcServer.Call
- [HBASE-17232] - Replace HashSet with ArrayList to accumulate delayed scanners in KVHeap and StoreScanner.
- [HBASE-17235] - Improvement in creation of CIS for onheap buffer cases
- [HBASE-17239] - Add UnsafeByteOperations#wrap(ByteInput, int offset, int len) API
- [HBASE-17241] - Avoid compacting already compacted mob files with _del files
- [HBASE-17243] - Reuse CompactionPartitionId and avoid creating MobFileName in PartitionedMobCompactor to avoid unnecessary new objects
- [HBASE-17245] - Replace HTableDescriptor#htd.getColumnFamilies().length with a low-cost implementation
- [HBASE-17249] - Get/Scan's setTimeRange/setColumnFamilyTimeRange can take the TimeRange reference as the parameter instead of creating a new setColumnFamilyTimeRange instance
- [HBASE-17276] - Reduce log spam from WrongRegionException in large multi()'s
- [HBASE-17280] - Add mechanism to control hbase cleaner behavior
- [HBASE-17291] - Remove ImmutableSegment#getKeyValueScanner
- [HBASE-17292] - Add observer notification before bulk loaded hfile is moved to region directory
- [HBASE-17296] - Provide per peer throttling for replication
- [HBASE-17298] - remove unused code in HRegion#doMiniBatchMutation
- [HBASE-17314] - Limit total buffered size for all replication sources
- [HBASE-17318] - Increment does not add new column if the increment amount is zero at first time writing
- [HBASE-17331] - Avoid busy waiting in ThrottledInputStream
- [HBASE-17332] - Replace HashMap to Array for DataBlockEncoding.idToEncoding
- [HBASE-17348] - Remove the unused hbase.replication from javadoc/comment/book completely
- [HBASE-17353] - Cache famLen in OffheapKeyValue
- [HBASE-17380] - Allow wait timeout and number of RS's to be configurable in RSGroups tests.
- [HBASE-17383] - Improve log msg when offheap memstore breaches higher water mark
- [HBASE-17404] - Replace explicit type with diamond operator in hbase-annotations
- [HBASE-17408] - Introduce per request limit by number of mutations
- [HBASE-17432] - Use less threads to read WAL in replication
- [HBASE-17437] - Support specifying a WAL directory outside of the root directory
- [HBASE-17453] - add Ping into HBase server for deprecated GetProtocolVersion
- [HBASE-17462] - Use sliding window for read/write request costs in StochasticLoadBalancer

- [HBASE-17472] - Correct the semantic of permission grant
- [HBASE-17488] - WALEdit should be lazily instantiated
- [HBASE-17505] - Do not issue close scanner request if RS tells us there is no more results for this region
- [HBASE-17515] - Reduce memory footprint of RegionLoads kept by StochasticLoadBalancer
- [HBASE-17532] - Replace explicit type with diamond operator
- [HBASE-17543] - Create additional ReplicationEndpoint WALEntryFilters by configuration
- [HBASE-17549] - HBase-Spark Module : Incorrect log at println and unwanted comment code
- [HBASE-17552] - Update developer section in hbase book
- [HBASE-17555] - Change calls to deprecated getHBaseAdmin to getAdmin
- [HBASE-17563] - Foreach and switch in RootDocProcessor and StabilityOptions
- [HBASE-17569] - HBase-Procedure module need to support mvn clean test -PskipProcedureTests to skip unit test
- [HBASE-17588] - Remove unused imports brought in by HBASE-17437
- [HBASE-17592] - Fix typo in IPCUtil and RpcConnection
- [HBASE-17605] - Refactor procedure framework code
- [HBASE-17613] - avoid copy of family when initializing the FSWALEntry
- [HBASE-17623] - Reuse the bytes array when building the hfile block
- [HBASE-17627] - Active workers metric for thrift
- [HBASE-17633] - Update unflushed sequence id in SequenceIdAccounting after flush with the minimum sequence id in memstore
- [HBASE-17634] - Clean up the usage of Result.isPartial
- [HBASE-17637] - Update progress more frequently in IntegrationTestBigLinkedList.Generator.persist
- [HBASE-17645] - Improve the connection usage in PE tool
- [HBASE-17654] - RSGroup code refactoring
- [HBASE-17676] - Get class name once for all in AbstractFSWAL
- [HBASE-17689] - Add support for table.existsAll in thrift2 THBaseservice
- [HBASE-17690] - Clean up MOB code
- [HBASE-17731] - Fractional latency reporting in MultiThreadedAction
- [HBASE-17734] - Guard against possibly copying the qualifier in the ScanDeleteTracker
- [HBASE-17747] - Support both weak and soft object pool
- [HBASE-17778] - Remove the testing code in the AsyncRequestFutureImpl
- [HBASE-17788] - Procedure V2 performance improvements
- [HBASE-17796] - Minor improvements on the javadoc and naming for rpc client implementation
- [HBASE-17815] - Remove the unused field in PrefixTreeSeeker
- [HBASE-17822] - Set maxBadRows and outputDirectory option for VerifyReplication
- [HBASE-17823] - Migrate to Apache Yetus Audience Annotations
- [HBASE-17825] - Backup: further optimizations
- [HBASE-17826] - Backup: submitting M/R job to a particular Yarn queue
- [HBASE-17831] - Support small scan in thrift2
- [HBASE-17835] - Spelling mistakes in the Java source
- [HBASE-17836] - CellUtil#estimatedSerializedSizeOf is slow when input is ByteBufferCell

New Feature

- [HBASE-3727] - MultiHFileOutputFormat
- [HBASE-5162] - Basic client pushback mechanism
- [HBASE-5238] - Add a log4j category for all edits to META/ROOT
- [HBASE-5980] - Scanner responses from RS should include metrics on rows/KVs filtered
- [HBASE-6618] - Implement FuzzyRowFilter with ranges support
- [HBASE-6721] - RegionServer Group based Assignment
- [HBASE-7218] - Rename Snapshot
- [HBASE-8707] - Add LongComparator for filter
- [HBASE-9465] - Push entries to peer clusters serially
- [HBASE-9531] - a command line (hbase shell) interface to retreive the replication metrics and show replication lag
- [HBASE-9774] - HBase native metrics and metric collection for coprocessors
- [HBASE-10070] - HBase read high-availability using timeline-consistent region replicas
- [HBASE-10358] - Shell changes for setting consistency per request
- [HBASE-10560] - Per cell TTLs
- [HBASE-10919] - [VisibilityController] ScanLabelGenerator using LDAP
- [HBASE-11124] - Pluggable major compaction strategy
- [HBASE-11148] - Provide a distributed procedure to globally roll logs
- [HBASE-11262] - Avoid empty columns while doing bulk-load
- [HBASE-11699] - Region servers exclusion list to HMaster.
- [HBASE-11724] - Add to RWQueueRpcExecutor the ability to split get and scan handlers
- [HBASE-11885] - Provide a Dockerfile to easily build and run HBase from source
- [HBASE-11909] - Region count listed by HMaster UI and hbck are different
- [HBASE-11990] - Make setting the start and stop row for a specific prefix easier
- [HBASE-11995] - Use Connection and ConnectionFactory where possible
- [HBASE-11996] - Add "Table Creator" to the HTD
- [HBASE-12031] - Parallel Scanners inside Region
- [HBASE-12127] - Move the core Connection creation functionality into ConnectionFactory
- [HBASE-12133] - Add FastLongHistogram for metric computation
- [HBASE-12143] - Minor fix for Table code

- [HBASE-12208] - Integerating Jacoco code coverage report into the hadoop qa bot
- [HBASE-12217] - System load average based client pushback
- [HBASE-12268] - Add support for Scan.setRowPrefixFilter to shell
- [HBASE-12269] - Add support for Scan.setRowPrefixFilter to thrift
- [HBASE-12286] - [shell] Add server/cluster online load of configuration changes
- [HBASE-12333] - Add Integration Test Runner which is more friendly
- [HBASE-12361] - Show data locality of region in table page
- [HBASE-12439] - Procedure V2
- [HBASE-12462] - Support deleting all columns of the specified family of a row in hbase shell
- [HBASE-12496] - A blockedRequestsCount metric
- [HBASE-12709] - [mvn] Add unit test excludes command line flag to the build.
- [HBASE-12721] - Create Docker container cluster infrastructure to enable better testing
- [HBASE-12731] - Heap occupancy based client pushback
- [HBASE-12869] - Add a REST API implementation of the ClusterManager interface
- [HBASE-12911] - Client-side metrics
- [HBASE-12944] - Support patches to branches in precommit jenkins build
- [HBASE-12972] - Region, a supportable public/evolving subset of HRegion
- [HBASE-13057] - Provide client utility to easily enable and disable table replication
- [HBASE-13063] - Allow to turn off memstore replication for region replicas
- [HBASE-13071] - Hbase Streaming Scan Feature
- [HBASE-13090] - Progress heartbeats for long running scanners
- [HBASE-13153] - Bulk Loaded HFile Replication
- [HBASE-13170] - Allow block cache to be external
- [HBASE-13259] - mmap() based BucketCache IOEngine
- [HBASE-13356] - HBase should provide an InputFormat supporting multiple scans in mapreduce jobs over snapshots
- [HBASE-13412] - Region split decisions should have jitter
- [HBASE-13553] - ChaosMonkey should inject lease recovery failures
- [HBASE-13639] - SyncTable - rsync for HBase tables
- [HBASE-13698] - Add RegionLocator methods to Thrift2 proxy.
- [HBASE-13702] - ImportTsv: Add dry-run functionality and log bad rows
- [HBASE-13992] - Integrate SparkOnHBase into HBase
- [HBASE-14125] - HBase Backup/Restore Phase 2: Cancel backup
- [HBASE-14130] - HBase Backup/Restore Phase 2: Delete backup image
- [HBASE-14131] - HBase Backup/Restore Phase 2: Describe backup image
- [HBASE-14132] - HBase Backup/Restore Phase 2: History of backups
- [HBASE-14133] - HBase Backup/Restore Phase 2: Status (and progress) of backup request
- [HBASE-14134] - HBase Backup/Restore Phase 2: Backup sets management
- [HBASE-14137] - HBase Backup/Restore Phase 2: Backup throttling
- [HBASE-14141] - HBase Backup/Restore Phase 3: Filter WALs on backup to include only edits from backup tables
- [HBASE-14150] - Add BulkLoad functionality to HBase-Spark Module
- [HBASE-14154] - DFS Replication should be configurable at column family level
- [HBASE-14181] - Add Spark DataFrame DataSource to HBase-Spark Module
- [HBASE-14340] - Add second bulk load option to Spark Bulk Load to send puts as the value
- [HBASE-14355] - Scan different TimeRange for each column family
- [HBASE-14414] - HBase Backup/Restore Phase 3
- [HBASE-14417] - Incremental backup and bulk loading
- [HBASE-14441] - HBase Backup/Restore Phase 2: Multiple RS per host support
- [HBASE-14456] - Implement a namespace-based region grouping strategy for RegionGroupingProvider
- [HBASE-14459] - Add request and response sizes metrics
- [HBASE-14477] - Compaction improvements: Date tiered compaction policy
- [HBASE-14529] - Respond to SIGHUP to reload config
- [HBASE-14849] - Add option to set block cache to false on SparkSQL executions
- [HBASE-14899] - Create custom Streaming ReplicationEndpoint
- [HBASE-14980] - Project Astro
- [HBASE-15036] - Update HBase Spark documentation to include bulk load with thin records
- [HBASE-15131] - Turn on multi-WAL by default
- [HBASE-15134] - Add visibility into Flush and Compaction queues
- [HBASE-15135] - Add metrics for storefile age
- [HBASE-15136] - Explore different queuing behaviors while busy
- [HBASE-15181] - A simple implementation of date based tiered compaction
- [HBASE-15228] - Add the methods to RegionObserver to trigger start/complete restoring WALs
- [HBASE-15281] - Allow the FileSystem inside HFileSystem to be wrapped
- [HBASE-15320] - HBase connector for Kafka Connect
- [HBASE-15321] - Ability to open a HRegion from hdfs snapshot.
- [HBASE-15432] - TableInputFormat - support multi column family scan
- [HBASE-15454] - Freeze date tiered store files older than max age
- [HBASE-15481] - Add pre/post roll to WALObserver
- [HBASE-15572] - Adding optional timestamp semantics to HBase-Spark
- [HBASE-15592] - Print Procedure WAL content
- [HBASE-15780] - Expose AuthUtil as IA.Public
- [HBASE-15798] - Add Async RpcChannels to all RpcClients
- [HBASE-15806] - An endpoint-based export tool

- [HBASE-15809] - Basic Replication WebUI
- [HBASE-15847] - VerifyReplication prefix filtering
- [HBASE-15881] - Allow BZIP2 compression
- [HBASE-15892] - submit-patch.py: Single command line to make patch, upload it to jira, and update review board
- [HBASE-15943] - Add page displaying JVM process metrics
- [HBASE-16213] - A new HFileBlock structure for fast random get
- [HBASE-16388] - Prevent client threads being blocked by only one slow region server
- [HBASE-16447] - Replication by namespaces config in peer
- [HBASE-16463] - Improve transparent table/CF encryption with Commons Crypto
- [HBASE-16677] - Add table size (total store file size) to table page
- [HBASE-16713] - Bring back connection caching as a client API
- [HBASE-16751] - Add tuning information to HBase Book
- [HBASE-16981] - Expand Mob Compaction Partition policy from daily to weekly, monthly
- [HBASE-17076] - implement getAndPut() and getAndDelete()
- [HBASE-17106] - Wrap arguments to Coprocessor method invocations in Context objects
- [HBASE-17151] - New API to create HFile.Reader without instantiating block cache
- [HBASE-17174] - Refactor the AsyncProcess, BufferedMutatorImpl, and HTable
- [HBASE-17181] - Let HBase thrift2 support TThreadedSelectorServer
- [HBASE-17267] - Add OffheapMemoryTuner
- [HBASE-17641] - Provide shaded hbase-testing-util
- [HBASE-17707] - New More Accurate Table Skew cost function/generator
- [HBASE-17737] - Thrift2 proxy should support scan timeRange per column family
- [HBASE-17758] - [RSGROUP] Add shell command to move servers and tables at the same time

Task

- [HBASE-4368] - Expose processlist in shell (per regionserver and perhaps by cluster)
- [HBASE-4593] - Design and document the official procedure for posting patches, commits, commit messages, etc. to smooth process and make integration with tools easier
- [HBASE-4920] - We need a mascot, a totem
- [HBASE-7126] - Update website with info on how to report security bugs
- [HBASE-7386] - Investigate providing some supervisor support for znode deletion
- [HBASE-9004] - Fix Documentation around Minor compaction and ttl
- [HBASE-9604] - Add metric on short-circuit reads
- [HBASE-9875] - NamespaceJanitor chore is not used
- [HBASE-10184] - [Online Schema Change]: Add additional tests for online schema change
- [HBASE-10200] - Better error message when HttpServer fails to start due to java.net.BindException
- [HBASE-10398] - HBase book updates for Replication after HBASE-10322
- [HBASE-10504] - Define Replication Interface
- [HBASE-10870] - Deprecate and replace HCD methods that have a 'should' prefix with a 'get' instead
- [HBASE-11045] - Replace deprecated method FileSystem#createNonRecursive
- [HBASE-11230] - Remove getRowOrBefore from HTableInterface and HTable
- [HBASE-11276] - Add back support for running ChaosMonkey as standalone tool
- [HBASE-11317] - Expand unit testing to cover Mockito and MRUnit and give more examples
- [HBASE-11459] - Add more doc on compression codecs, how to hook up native lib, lz4, etc.
- [HBASE-11600] - DataInputputStream and DoubleOutputStream are no longer being used
- [HBASE-11606] - Enable ZK-less region assignment by default
- [HBASE-11619] - Remove unused test class from TestHLogSplit
- [HBASE-11621] - Make MiniDFSCluster run faster
- [HBASE-11666] - Enforce JDK7 javac for builds on branch-1 and master
- [HBASE-11670] - Build PDF of Ref Guide
- [HBASE-11677] - Make Logger instance modifiers consistent
- [HBASE-11682] - Explain hotspotting
- [HBASE-11692] - Document how and why to do a manual region split
- [HBASE-11720] - Set up jenkins job to build site documentation
- [HBASE-11723] - Document all options of bin/hbase command
- [HBASE-11729] - Document HFile v3
- [HBASE-11730] - Document release managers for non-deprecated branches
- [HBASE-11735] - Document Configurable Bucket Sizes in bucketCache
- [HBASE-11741] - Document the how users can use the Cell Visibility and authorizations with special characters
- [HBASE-11746] - Document that checkHBaseAvailable always overrides {hbase.client.retries.number} to 1
- [HBASE-11761] - Add a FAQ item for updating a maven-managed application from 0.94 -> 0.96+
- [HBASE-11762] - Record the class name of Codec in WAL header
- [HBASE-11791] - Update docs on visibility tags and ACLs, transparent encryption, secure bulk upload
- [HBASE-11800] - Coprocessor service methods in HTableInterface should be annotated public
- [HBASE-11849] - Clean up orphaned private audience classes
- [HBASE-11858] - Audit regionserver classes that are missing InterfaceAudience
- [HBASE-11960] - Provide a sample to show how to use Thrift client authentication
- [HBASE-11961] - Document region state transitions
- [HBASE-11981] - Document how to find the units of measure for a given HBase metric
- [HBASE-11985] - Document sizing rules of thumb

- [HBASE-12168] - Document Rest gateway SPNEGO-based authentication for client
- [HBASE-12180] - Fix and reenable TestRegionReplicaReplicationEndpoint
- [HBASE-12239] - Document hedged reads
- [HBASE-12250] - Adding an endpoint for updating the regionserver config
- [HBASE-12344] - Split up TestAdmin
- [HBASE-12362] - Interim documentation of important master and regionserver metrics
- [HBASE-12381] - Add maven enforcer rules for build assumptions
- [HBASE-12388] - Document that WALObservers don't get empty edits.
- [HBASE-12438] - Add -Dsurefire.rerunFailingTestsCount=2 to patch build runs so flakies get rerun
- [HBASE-12456] - Update surefire from 2.18-SNAPSHOT to 2.18
- [HBASE-12466] - Document visibility scan label generator usage and behavior
- [HBASE-12493] - User class should provide a way to re-use existing token
- [HBASE-12515] - update test-patch to use git
- [HBASE-12516] - Clean up master so QA Bot is in known good state
- [HBASE-12586] - Task 6 & 7 from HBASE-9117, delete all public HTable constructors and delete ConnectionManager# {delete,get}Connection
- [HBASE-12589] - Forward-port fix for TestFromClientSideWithCoprocessor.testMaxKeyValueSize
- [HBASE-12623] - Remove pre-0.96 to 0.96 upgrade code
- [HBASE-12624] - Remove rename_snapshot.rb from code as there is no equivalent renameSnapshot api in Admin class
- [HBASE-12701] - Document how to set the split policy on a given table
- [HBASE-12724] - Upgrade the interface audience of RegionScanner from Private to LimitedPrivate
- [HBASE-12783] - Create efficient RegionLocator implementation
- [HBASE-12785] - Use FutureTask to timeout the attempt to get the lock for hbck
- [HBASE-12788] - Promote Abortable to LimitedPrivate
- [HBASE-12834] - Promote ScanType to LimitedPrivate
- [HBASE-12995] - Document that HConnection#getTable methods do not check table existence since 0.98.1
- [HBASE-13079] - Add an admonition to Scans example that the results scanner should be closed
- [HBASE-13089] - Fix test compilation error on building against htrace-3.2.0-incubating
- [HBASE-13126] - Move HBaseTestingUtility and associated support classes into hbase-testing-utility module
- [HBASE-13187] - Add ITBLL that exercises per CF flush
- [HBASE-13233] - add hbase-11339 branch to the patch testing script
- [HBASE-13234] - Improve the obviousness of the download link on hbase.apache.org
- [HBASE-13237] - Improve trademark marks on the hbase.apache.org homepage
- [HBASE-13257] - Show coverage report on jenkins
- [HBASE-13310] - Fix high priority findbugs warnings
- [HBASE-13361] - Remove or undeprecate {get|set}ScannerCaching in HTable
- [HBASE-13373] - Squash HFileReaderV3 together with HFileReaderV2 and AbstractHFileReader; ditto for Scanners and BlockReader, etc.
- [HBASE-13446] - Add docs warning about missing data for downstream on versions prior to HBASE-13262
- [HBASE-13487] - Doc KEEP_DELETED_CELLS
- [HBASE-13554] - Update book clarifying API stability guarantees
- [HBASE-13582] - Update docs for HTrace
- [HBASE-13586] - Update book on Hadoop and Java supported versions for 1.1.x
- [HBASE-13660] - Add link to cloud bigtable schema modeling guide into our refguide
- [HBASE-13666] - book.pdf is not renamed during site build
- [HBASE-13713] - See about dropping ClassLoaderBase#getClassLoadingLock
- [HBASE-13716] - Stop using Hadoop's FSConstants
- [HBASE-13726] - stop using Hadoop's IOUtils
- [HBASE-13775] - Add a section to the HBase website where we track our issued CVEs
- [HBASE-13799] - javadoc how Scan gets polluted when used; if you set attributes or ask for scan metrics
- [HBASE-13852] - Replace master-slave terminology in book, site, and javadoc with a more modern vocabulary
- [HBASE-13867] - Add endpoint coprocessor guide to HBase book
- [HBASE-13869] - Fix typo in HBase book
- [HBASE-13915] - Remove EOL HBase versions from java and hadoop prereq tables
- [HBASE-13928] - Correct doc bug introduced in HBASE-11735
- [HBASE-13929] - make_rc.sh publishes empty shaded artifacts
- [HBASE-13948] - Expand hadoop2 versions built on the pre-commit
- [HBASE-13949] - Expand hadoop2 versions built on the pre-commit
- [HBASE-13956] - Add myself as 1.1 release manager
- [HBASE-13964] - Skip region normalization for tables under namespace quota
- [HBASE-14026] - Clarify "Web API" in version and compatibility docs
- [HBASE-14031] - HBase Backup/Restore Phase 1: Abstract DistCp in incremental backup
- [HBASE-14033] - HBase Backup/Restore Phase1: Abstract WALPlayer (incremental restore)
- [HBASE-14034] - HBase Backup/Restore Phase 1: Abstract Coordination manager (Zk) operations
- [HBASE-14035] - HBase Backup/Restore Phase 1: hbase:backup - backup system table
- [HBASE-14036] - HBase Backup/Restore Phase 1: Custom WAL archive cleaner
- [HBASE-14052] - Mark a few methods in CellUtil audience private since only make sense internally to hbase
- [HBASE-14053] - Disable DLR in branch-1+
- [HBASE-14057] - HBase shell user_permission should list super users defined on hbase-site.xml
- [HBASE-14071] - Document troubleshooting unexpected filesystem usage by snapshots and WALs
- [HBASE-14081] - (outdated) references to SVN/trunk in documentation
- [HBASE-14085] - Correct LICENSE and NOTICE files in artifacts
- [HBASE-14091] - Update site documentation with code of conduct and project policy for transgressions

- [HBASE-14161] - Add hbase-spark integration tests to IT jenkins job
- [HBASE-14175] - Adopt releasedocmaker for better generated release notes
- [HBASE-14220] - test-patch.sh should verify src tgz generates and builds correctly
- [HBASE-14227] - Fold special cased MOB APIs into existing APIs
- [HBASE-14235] - HBase Backup/Restore Phase 2: Async backup procedure
- [HBASE-14253] - update docs + build for maven 3.0.4+
- [HBASE-14271] - Improve Nexus staging instructions
- [HBASE-14288] - Upgrade asciidoctor plugin to v1.5.2.1
- [HBASE-14290] - Spin up less threads in tests
- [HBASE-14308] - HTableDescriptor WARN is not actionable
- [HBASE-14318] - make_rc.sh should purge/re-resolve dependencies from local repository
- [HBASE-14348] - Update download mirror link
- [HBASE-14350] - Procedure V2 Phase 2: Assignment Manager
- [HBASE-14361] - ReplicationSink should create Connection instances lazily
- [HBASE-14375] - Define public API for spark integration module
- [HBASE-14424] - Document that DisabledRegionSplitPolicy blocks manual splits
- [HBASE-14470] - Reduce memory pressure generated by client
- [HBASE-14481] - Decommission HBase wiki
- [HBASE-14482] - Add hadoop 2.6.1 to the test-patch build list
- [HBASE-14493] - Upgrade the jamon-runtime dependency
- [HBASE-14502] - Purge use of jmock and remove as dependency
- [HBASE-14516] - categorize hadoop-compat tests
- [HBASE-14526] - Remove delayed rpc
- [HBASE-14534] - Bump yammer/coda/dropwizard metrics dependency version
- [HBASE-14583] - Enabled client-side metrics by default
- [HBASE-14635] - Fix flaky test TestSnapshotCloneIndependence
- [HBASE-14652] - Improve / update publish-website script in dev-support
- [HBASE-14678] - Experiment: Temporarily disable balancer and a few others to see if root of crashed/timedout JVMs
- [HBASE-14713] - Remove simple deprecated-since-1.0 code in hbase-server from hbase 2.0
- [HBASE-14732] - Update HBase website skin and CSS
- [HBASE-14762] - Update docs about publishing website to show gitsubpub method instead of svnsubpub
- [HBASE-14764] - Stop using post-site target
- [HBASE-14847] - Add FIFO compaction section to HBase book
- [HBASE-14851] - Add test showing how to use TTL from thrift
- [HBASE-14994] - Clean up some broken links and references to old APIs
- [HBASE-15003] - Remove BoundedConcurrentLinkedQueue and associated test
- [HBASE-15007] - update Hadoop support matrix to list 2.6.1+ as supported
- [HBASE-15017] - Close out GitHub pull requests that aren't likely to update into a usable patch
- [HBASE-15042] - refactor so that site materials are in the Standard Maven Place
- [HBASE-15099] - Move RegionStateListener class out of quotas package
- [HBASE-15124] - Document the new 'normalization' feature in refguid
- [HBASE-15199] - Move jruby jar so only on hbase-shell module classpath; currently globally available
- [HBASE-15220] - Change two logs in SimpleRegionNormalizer to INFO level
- [HBASE-15227] - HBase Backup Phase 3: Fault tolerance (client/server) support
- [HBASE-15494] - Close obviated PRs on github
- [HBASE-15502] - Skeleton unit test to copy/paste
- [HBASE-15522] - Document how to set up a Kerberos enabled Thrift proxy
- [HBASE-15644] - Add maven-scala-plugin for scaladoc
- [HBASE-15646] - Add some docs about exporting and importing snapshots using S3
- [HBASE-15656] - Fix unused protobuf warning in Admin.proto
- [HBASE-15729] - Remove old JDiff wrapper scripts in dev-support
- [HBASE-15888] - Extend HBASE-12769 for bulk load data replication
- [HBASE-15895] - remove unmaintained jenkins build analysis tool.
- [HBASE-15989] - Remove hbase.online.schema.update.enable
- [HBASE-16046] - [UMBRELLA] Make our default rpc scheduler the adaptive LIFO+CoDel added in HBASE-15136
- [HBASE-16073] - update compatibility_checker for jacc dropping comma sep args
- [HBASE-16100] - Procedure V2 - Tools
- [HBASE-16260] - Audit dependencies for Category-X
- [HBASE-16330] - update Guice to 4.1+
- [HBASE-16332] - update LMAX disruptor to latest
- [HBASE-16333] - update commons-* to latest
- [HBASE-16335] - update to latest apache parent pom
- [HBASE-16338] - update jackson to 2.y
- [HBASE-16339] - update version of tomcat jasper
- [HBASE-16340] - ensure no Xerces jars included
- [HBASE-16354] - Clean up defunct GitHub PRs
- [HBASE-16369] - Clean up dependency management
- [HBASE-16376] - Document implicit side-effects on partial results when calling Scan#setBatch(int)
- [HBASE-16413] - Add apache-hbase.slack.com #users channel to ref guide
- [HBASE-16426] - Remove company affiliations from committer list
- [HBASE-16467] - Move AbstractHBaseTool to hbase-common
- [HBASE-16518] - Remove old .arcconfig file

- [HBASE-16567] - Upgrade to protobuf-3.1.x
- [HBASE-16591] - Add a docker file only contains java 8 for running pre commit on master
- [HBASE-16710] - Add ZStandard Codec to Compression.java
- [HBASE-16728] - Add hadoop.profile=3.0 pass to precommit checks.
- [HBASE-16811] - Remove mob sweep job
- [HBASE-16812] - Clean up the locks in MOB
- [HBASE-16869] - Typo in "Disabling Blockcache" doc
- [HBASE-16952] - Replace hadoop-maven-plugins with protobuf-maven-plugin for building protos
- [HBASE-16955] - Fixup precommit protoc check to do new distributed protos and pb 3.1.0 build
- [HBASE-17009] - Revisiting the removement of managed connection and connection caching
- [HBASE-17016] - Reimplement per-region latency histogram metrics
- [HBASE-17046] - Add 1.1 doc to hbase.apache.org
- [HBASE-17109] - LoadTestTool needs differentiation and help/usage/options/cleanup and examples; else lets drop it: we have enough loading options already
- [HBASE-17121] - Undo the building of xref as part of site build
- [HBASE-17272] - Doc how to run Standalone HBase over an HDFS instance; all daemons in one JVM but persisting to an HDFS instance
- [HBASE-17354] - Improve and optimize flush/compaction process
- [HBASE-17397] - AggregationClient cleanup
- [HBASE-17401] - Remove unnecessary semicolons in hbase-annotations
- [HBASE-17502] - Document hadoop pre-2.6.1 and Java 1.8 Kerberos problem in our hadoop support matrix
- [HBASE-17528] - Remove the Scan.ReadType flag introduced in HBASE-17045
- [HBASE-17553] - Make a 2.0.0 Release
- [HBASE-17559] - Verify service threads are using the UncaughtExceptionHandler
- [HBASE-17609] - Allow for region merging in the UI
- [HBASE-17618] - Refactor the implementation of modify table and delete column in MOB
- [HBASE-17762] - Add logging to HBaseAdmin for user initiated tasks
- [HBASE-17782] - Extend IdReadWriteLock to support using both weak and soft reference
- [HBASE-17802] - Add note that minor versions can add methods to Interfaces
- [HBASE-17828] - Revisit the IS annotation and the documentation
- [HBASE-17834] - close stale github PRs
- [HBASE-17847] - update documentation to include positions on recent Hadoop releases

Test

- [HBASE-4744] - Remove @Ignore for testLogRollAfterSplitStart
- [HBASE-7781] - Update security unit tests to use a KDC if available
- [HBASE-11057] - Improve TestShell coverage of grant and revoke comamnds
- [HBASE-11461] - Compilation errors are not posted back to JIRA during QA run
- [HBASE-11615] - TestZKLessAMOnCluster.testForceAssignWhileClosing failed on Jenkins
- [HBASE-11616] - TestNamespaceUpgrade fails in trunk
- [HBASE-11673] - TestIOFencing#testFencingAroundCompactionAfterWALSync fails
- [HBASE-11713] - Adding hbase shell unit test coverage for visibility labels.
- [HBASE-11798] - TestBucketWriterThread may hang due to WriterThread stopping prematurely
- [HBASE-11819] - Unit test for CoprocessorHConnection
- [HBASE-11838] - Enable PREFIX_TREE in integration tests
- [HBASE-11866] - TestDistributedLogSplitting is flaky
- [HBASE-11867] - TestSplitLogManager.testUnassignedTimeout is flaky
- [HBASE-11918] - TestVisibilityLabelsWithDistributedLogReplay#testAddVisibilityLabelsOnRSRestart sometimes fails due to VisibilityController initialization not being recognized
- [HBASE-11942] - Fix TestHRegionBusyWait
- [HBASE-11966] - Minor error in TestHRegion.testCheckAndMutate_WithCorrectValue()
- [HBASE-12008] - Remove IntegrationTestImportTsv#testRunFromOutputCommitter
- [HBASE-12055] - TestBucketWriterThread hangs flakily based on timing
- [HBASE-12317] - Run IntegrationTestRegionReplicaPerf w.o mapred
- [HBASE-12335] - IntegrationTestRegionReplicaPerf is flaky
- [HBASE-12367] - Integration tests should not restore the cluster if the CM is not destructive
- [HBASE-12378] - Add a test to verify that the read-replica is able to read after a compaction
- [HBASE-12401] - Add some timestamp signposts in IntegrationTestMTTR
- [HBASE-12403] - IntegrationTestMTTR flaky due to aggressive RS restart timeout
- [HBASE-12472] - Improve debuggability of IntegrationTestBulkLoad
- [HBASE-12549] - Fix TestAssignmentManagerOnCluster#testAssignRacingWithSSH() flaky test
- [HBASE-12554] - TestBaseLoadBalancer may timeout due to lengthy rack lookup
- [HBASE-12645] - HBaseTestingUtility is using ${$HOME} for rootDir
- [HBASE-12685] - TestSplitLogManager#testLogFilesAreArchived sometimes times out due to race condition
- [HBASE-12764] - TestPerColumnFamilyFlush#testCompareStoreFileCount may fail due to new table not available
- [HBASE-12799] - ITAG fails with java.lang.RuntimeException if table does not exist
- [HBASE-12885] - Unit test for RAW / VERSIONS scanner specifications
- [HBASE-12992] - TestChoreService doesn't close services, that can break test on slow virtual hosts.
- [HBASE-13106] - Ensure endpoint-only table coprocessors can be dynamically loaded
- [HBASE-13179] - TestMasterObserver deleteTable is flaky
- [HBASE-13182] - Test NamespaceAuditor/AccessController create/delete table is flaky

- [HBASE-13280] - TestSecureRPC failed
- [HBASE-13372] - Unit tests for SplitTransaction and RegionMergeTransaction listeners
- [HBASE-13413] - Create an integration test for Replication
- [HBASE-13458] - Create/expand unit test to exercise htrace instrumentation
- [HBASE-13587] - TestSnapshotCloneIndependence.testOnlineSnapshotDeleteIndependent is flakey
- [HBASE-13591] - TestHBaseFsck is flakey
- [HBASE-13603] - Write test asserting desired priority of RS->Master RPCs
- [HBASE-13609] - TestFastFail is still failing
- [HBASE-13940] - IntegrationTestBulkLoad needs option to specify output folders used by test
- [HBASE-14197] - TestRegionServerHostname#testInvalidRegionServerHostnameAbortsServer fails in Jenkins
- [HBASE-14200] - Separate RegionReplica subtests of TestStochasticLoadBalancer into TestStochasticLoadBalancer2
- [HBASE-14210] - Create test for cell level ACLs involving user group
- [HBASE-14277] - TestRegionServerHostname.testRegionServerHostname may fail at host with a case sensitive name
- [HBASE-14293] - TestStochasticBalancerJmxMetrics intermittently fails due to port conflict
- [HBASE-14310] - test-patch.sh should handle spurious non-zero exit code from maven
- [HBASE-14344] - Add timeouts to TestHttpServerLifecycle
- [HBASE-14466] - Remove duplicated code from MOB snapshot tests
- [HBASE-14584] - TestNamespacesInstanceModel fails on jdk8
- [HBASE-14688] - Cleanup MOB tests
- [HBASE-14728] - TestRowCounter is broken in master
- [HBASE-14758] - Add UT case for unchecked error/exception thrown in AsyncProcess#sendMultiAction
- [HBASE-15192] - TestRegionMergeTransactionOnCluster#testCleanMergeReference is flaky
- [HBASE-15420] - TestCacheConfig failed after HBASE-15338
- [HBASE-15679] - Assertion on wrong variable in TestReplicationThrottler#testThrottling
- [HBASE-15760] - TestBlockEvictionFromClient#testParallelGetsAndScanWithWrappedRegionScanner fails in master branch
- [HBASE-15923] - Shell rows counter test fails
- [HBASE-15939] - Two shell test failures on master
- [HBASE-16049] - TestRowProcessorEndpoint is failing on Apache Builds
- [HBASE-16051] - TestScannerHeartbeatMessages fails on some machines
- [HBASE-16185] - TestReplicationSmallTests fails in master branch
- [HBASE-16274] - Add more peer tests to replication_admin_test
- [HBASE-16349] - TestClusterId may hang during cluster shutdown
- [HBASE-16418] - Reduce duration of sleep waiting for region reopen in IntegrationTestBulkLoad#installSlowingCoproc()
- [HBASE-16634] - Speedup TestExportSnapshot
- [HBASE-16639] - TestProcedureInMemoryChore#testChoreAddAndRemove occasionally fails
- [HBASE-16671] - Split TestExportSnapshot
- [HBASE-16725] - Don't let flushThread hang in TestHRegion
- [HBASE-16776] - Remove duplicated versions of countRow() in tests
- [HBASE-16777] - Fix flaky TestMasterProcedureEvents
- [HBASE-16778] - Move testIllegalTableDescriptor out from TestFromClientSide
- [HBASE-16781] - Fix flaky TestMasterProcedureWalLease
- [HBASE-16791] - Fix TestDispatchMergingRegionsProcedure
- [HBASE-16794] - TestDispatchMergingRegionsProcedure#testMergeRegionsConcurrently is flaky
- [HBASE-16975] - Disable two subtests of TestSerialReplication
- [HBASE-17080] - rest.TestTableResource fails in master branch
- [HBASE-17120] - TestAssignmentListener#testAssignmentListener fails
- [HBASE-17189] - TestMasterObserver#wasModifyTableActionCalled uses wrong variables
- [HBASE-17246] - TestSerialReplication#testRegionMerge fails in master branch
- [HBASE-17371] - Enhance 'HBaseContextSuite @ distributedScan to test HBase client' with filter
- [HBASE-17474] - Reduce frequency of NoSuchMethodException when calling setStoragePolicy()
- [HBASE-17628] - Local mode of mini cluster shouldn't use hdfs
- [HBASE-17657] - TestZKAsyncRegistry is flaky
- [HBASE-17672] - "Grant should set access rights appropriately" test fails
- [HBASE-17703] - TestThriftServerCmdLine is flaky in master branch
- [HBASE-17806] - TestRSGroups#testMoveServersAndTables is flaky in master branch
- [HBASE-17824] - Add test for multiple RS per host support

Umbrella

- [HBASE-10909] - Abstract out ZooKeeper usage in HBase - phase 1
- [HBASE-11339] - HBase MOB
- [HBASE-11425] - Cell/DBB end-to-end on the read-path
- [HBASE-11464] - Abstract hbase-client from ZooKeeper
- [HBASE-11871] - Avoid usage of KeyValueUtil#ensureKeyValue
- [HBASE-12341] - Overhaul logging; log4j2, machine-readable, etc.
- [HBASE-13428] - Migration to hbase-2.0.0
- [HBASE-13503] - Encryption improvements
- [HBASE-13740] - Stop using Hadoop private interfaces
- [HBASE-13747] - Promote Java 8 to "yes" in support matrix
- [HBASE-14123] - HBase Backup/Restore Phase 2
- [HBASE-14379] - Replication V2

- [HBASE-14420] - Zombie Stomping Session
- [HBASE-14457] - Umbrella: Improve Multiple WAL for production usage
- [HBASE-14887] - Use Orientated Abstractions
- [HBASE-15041] - Clean up javadoc errors and reenable jdk8 linter
- [HBASE-15179] - Cell/DBB end-to-end on the write-path
- [HBASE-15531] - Favored Nodes Enhancements
- [HBASE-16432] - Revisit the asynchronous ipc implementation
- [HBASE-16473] - Cleanup WALKey / WALEdit / Entry
- [HBASE-16617] - Procedure V2 - Improvements
- [HBASE-16833] - Implement asynchronous hbase client based on HBASE-15921
- [HBASE-17143] - Scan improvement
- [HBASE-17359] - Implement async admin
- [HBASE-17721] - Provide streaming APIs with SSL/TLS

Wish

- [HBASE-14184] - Fix indention and typo in JavaHBaseContext
- [HBASE-16145] - MultiRowRangeFilter constructor shouldn't throw IOException
- [HBASE-16729] - Define the behavior of (default) empty FilterList

Edit/Copy Release Notes

The text area below allows the project release notes to be edited and copied to another document.

```
        Release Notes - HBase - Version 2.0.0

<h2>        Sub-task
</h2>
<ul>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-2251'>HBASE-2251</a>] -        PE defaults to 1k rows - uncommon use case, and
easy to hit benchmarks
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-4624'>HBASE-4624</a>] -        Remove and convert @deprecated
RemoteExceptionHandler.decodeRemoteException calls
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-4625'>HBASE-4625</a>] -        Convert @deprecated HBaseTestCase tests
JUnit4 style tests
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-7612'>HBASE-7612</a>] -        [JDK8] Replace use of high-scale-lib counters
with intrinsic facilities
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-7743'>HBASE-7743</a>] -        Replace *SortReducers with Hadoop Secondary
Sort
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-7767'>HBASE-7767</a>] -        Get rid of ZKTable, and table enable/disable state
in ZK
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-7847'>HBASE-7847</a>] -        Use zookeeper multi to clear znodes
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-7912'>HBASE-7912</a>] -        HBase Backup/Restore Based on HBase Snapshot
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-8073'>HBASE-8073</a>] -        HFileOutputFormat support for offline operation
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-8139'>HBASE-8139</a>] -        Allow job names to be overridden
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-8410'>HBASE-8410</a>] -        Basic quota support for namespaces
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-8541'>HBASE-8541</a>] -        implement flush-into-stripes in stripe
compactions
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-8593'>HBASE-8593</a>] -        Type support in ImportTSV tool
</li>
<li>[<a href='https://issues.apache.org/jira/browse/HBASE-10092'>HBASE-10092</a>] -        Move up on to log4j2
```