

Chukwa Test Plan

Unit Test

- Chunk Implementation Test
- Chunk Builder Test
- HDFS Usage Plugin Test
- Test Log Rotate
- Test File Tailing Adaptor
- Test File Expiration Policy
- Test File Tailing Adaptor Big Record
- Test UTF8 File Tailing Adaptor
- Test Exec Adaptor
- Chukwa Test Adaptor
- Test Client Acknowledgement
- Test Failed Collector
- Test Retry List Of Collectors
- Collector Test
- Test Chart Object
- Test Database Insertion Speed
- Test Database Query Speed
- Test Trapazoid calculator
- Test Database Driver Manager
- Test XSS Filter
- Test Demux
- Test PS Demux Output
- Test Hadoop Log Demux Output

Automated Integration Tests

- Agent To Collector
 - HTTP POST to unknown server
- Collector To Data Processors
 - HDFS file sink to unknown server
- Data Processors To Database
 - Database Loader with unknown sequence file
 - Database Loader with unknown hdfs namenode address
- Database To HICC
 - Database query for 1 hour data in the past 3 months.
 - Database query for the past 3 hours.
 - Database query for cross partition union.
- Check HICC graphs
 - Cluster System Metrics
 - CPU idle percentage
 - CPU nice percentage
 - CPU system percentage
 - CPU user percentage
 - CPU hardware interrupt percentage
 - CPU software interrupt percentage
 - Iowait percentage
 - Memory buffer percentage
 - Memory used percentage
 - Network card 1 busy percentage
 - Network card 2 busy percentage
 - Disk 1 busy percentage
 - Disk 2 busy percentage
 - Disk 3 busy percentage
 - Disk 4 busy percentage
 - Swap used percentage
 - Number of reporting hosts
 - System load 15 minutes average
 - System load 5 minutes average
 - System load 1 minutes average
 - Task total
 - Task running
 - Task sleep
 - Task stopped
 - Task zombie
 - Memory total
 - Memory buffers
 - Memory cached
 - Memory free
 - Network card 1 received error per second
 - Network card 1 received bytes per second
 - Network card 1 received dropped per second
 - Network card 1 received packets per second
 - Network card 2 received error per second
 - Network card 2 received bytes per second

- Network card 2 received dropped per second
 - Network card 2 received packets per second
 - Disk 1 read kilobytes per second
 - Disk 1 read kilobytes per second
 - Disk 2 read kilobytes per second
 - Disk 2 read kilobytes per second
 - Disk 3 read kilobytes per second
 - Disk 3 read kilobytes per second
 - Disk 4 read kilobytes per second
 - Disk 4 read kilobytes per second
- System Metrics
 - CPU idle percentage
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 - System load 15 minutes average
 - System load 5 minutes average
 - System load 1 minutes average
 - Task total
 - Task running
 - Task sleep
 - Task stopped
 - Task zombie
 - Memory total
 - Memory buffers
 - Memory cached
 - Memory free
 - Network card 1 received error per second
 - Network card 1 received bytes per second
 - Network card 1 received dropped per second
 - Network card 1 received packets per second
 - Network card 2 received error per second
 - Network card 2 received bytes per second
 - Network card 2 received dropped per second
 - Network card 2 received packets per second
 - Disk 1 read kilobytes per second
 - Disk 1 read kilobytes per second
 - Disk 2 read kilobytes per second
 - Disk 2 read kilobytes per second
 - Disk 3 read kilobytes per second
 - Disk 3 read kilobytes per second
 - Disk 4 read kilobytes per second
 - Disk 4 read kilobytes per second
- HDFS FS Name System Metrics
 - Blocks total
 - Capacity remaining gigabytes
 - Capacity used gigabytes
 - Files total
 - Pending replication blocks
 - Scheduled replication blocks
 - Total load
 - Under replication blocks
- HDFS Throughput Metrics
 - Reporting hosts
 - Number of operation for block reports per minute
 - Block verification failures
 - Blocks read per minute
 - Blocks removed per minute
 - Blocks replicated per minute
 - Blocks verified per minute
 - Blocks written per minute
 - Bytes read per minute
 - Bytes written per minute
 - Number of copy block operation per minute
 - Number of heartbeat operation
 - Number of read block operation

- Number of read meta data operation
 - Number of reads from local client
 - Number of reads from remote client
 - Number of replace block operation
 - Number of write block operation
 - Writes from local client
 - Writes from remote client
 - Block reports average time
 - Copy block operation average time
 - Heart beats average time
 - Read block operation average time
 - Read meta data operation average time
 - Replace block operation average time
 - Write block operation average time
- HDFS Name Node Metrics
 - Number of add block operation
 - Number of create file operation
 - Number of delete file operation
 - Files created
 - Files renamed
 - Files deleted
 - Get block locations
 - Get listing operation
 - Number of syncs operation
 - Number of transactions
 - Number of block report
 - Blocks corrupted
 - Safe mode time
 - Syncs average time
 - Transaction average time
 - Block report average time
 - File system image load time
- HDFS Data Node Metrics
 - Number of operation for block reports
 - Number of block verification failures
 - Blocks read
 - Blocks removed
 - Blocks replicated
 - Blocks verified
 - Blocks written
 - Bytes read
 - Bytes written
 - Number of copy block operation
 - Number of heart beats
 - Number of read block operation
 - Number of read meta data operations
 - Reads from local client
 - Reads from remote client
 - Number of replace block operation
 - Number of write block operation
 - Writes from local client
 - Writes from remote client
- Map Reduce Job Metrics
 - Jobs completed
 - Jobs submitted
 - Maps completed
 - Maps launched
 - Reduce completed
 - Reduce launched
- JVM Metrics
 - [NameNode](#)
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable
 - threads terminated
 - threads timed waiting
 - threads waiting
 - [DataNode](#)
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable

- threads terminated
 - threads timed waiting
 - threads waiting
- Job Tracker
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable
 - threads terminated
 - threads timed waiting
 - threads waiting
- Task Tracker
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable
 - threads terminated
 - threads timed waiting
 - threads waiting
- Map
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable
 - threads terminated
 - threads timed waiting
 - threads waiting
- Shuffle
 - Memory heap committed
 - Memory heap used
 - Memory non heap committed
 - Memory non heap used
 - threads blocked
 - threads new
 - threads runnable
 - threads terminated
 - threads timed waiting
 - threads waiting
- Usage Report
 - HDFS usage by queue
 - Map reduce slot hour by queue
 - HDFS usage by user
 - Map reduce slot hour by user

Manual Test

- Upgrade, service restart during upgrade
- Restart HDFS cluster
- Restart Map/Reduce cluster
- Restart Database