

ICL Pathway Riposte 6 Message Server Configuration for Counters Ref: TD/SPE/010
Version: 0.5
Date: 08/12/2000
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Document Title: Riposte 6 Message Server Configuration for Counters

Document Type: Configuration Definition

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Abstract: This document defines the configuration to be used for the
Riposte message server on the counters.

This version includes Riposte 6.0.3 configuration information.

Document Status: Draft

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0.4 Associated Documents

Tag	Reference	Version	Date	Title	Source
[AUTO]	TD/DES/032	1.0	22/9/97	Auto-Configuration for Release 2	
[CTRCFG]	SD/DES/010	1.1	2/7/98	Physical Design for Counter PCs	
[OLD]	AD/DES/033	1.3	8/9/00	Riposte Message Server Configuration for Counters	

0.5 Abbreviations/Definitions

Abbreviation	Definition
CS	Correspondence Server

0.6 Changes in this Version

Version	Changes																																										
0.1	None.																																										
0.2	<p>Include the new configuration items introduced by Riposte 6.0.3.</p> <p>Descriptions of configuration parameters has been added.</p> <p>Details of Neighbour relationships added.</p> <p>Changes are highlighted as in this section.</p> <p>The following table summarises the actual changes to configuration parameters from CI4.</p> <table border="1"> <thead> <tr> <th>Item</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>DisableNetworkCompression</td> <td>0</td> <td>1</td> </tr> <tr> <td>HeartbeatsPerDay</td> <td>1</td> <td>0</td> </tr> <tr> <td>LogRecoveryModeConnections</td> <td>0</td> <td>1</td> </tr> <tr> <td>MaximumWorkingSetSize</td> <td>0</td> <td>12582912</td> </tr> <tr> <td>MinimumWorkingSetSize</td> <td>0</td> <td>8388608</td> </tr> <tr> <td>UnconnectedBroadcastInterval</td> <td>1800000</td> <td>7200000</td> </tr> <tr> <td>UnconnectedBroadcastRetryAttempts</td> <td>0</td> <td>2</td> </tr> <tr> <td>UnconnectedBroadcastRetryInterval</td> <td>60000</td> <td>900000</td> </tr> <tr> <td>TraceIndexBuild</td> <td>1</td> <td>0</td> </tr> </tbody> </table> <p>There are also changes to the Riposte Mirror Service as follows :-</p> <table border="1"> <thead> <tr> <th>Item</th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>LogRecoveryModeConnections</td> <td>0</td> <td>1</td> </tr> <tr> <td>ReplicatedTransactionChunkSize</td> <td>500</td> <td>60</td> </tr> <tr> <td>TraceIndexBuild</td> <td>1</td> <td>0</td> </tr> </tbody> </table> <p>NB: Currently for RiposteMirror services HeartbeatsPerDay is set to 1 even though not specified in this document. This must now be set to 0.</p> <p>No configuration changes are explicitly required for the RiposteTraining Service. NB I believe that TraceIndexBuild is currently set to 1 for the RiposteTraining Service even though not specified in this document. This should now be set to 0.</p>	Item	From	To	DisableNetworkCompression	0	1	HeartbeatsPerDay	1	0	LogRecoveryModeConnections	0	1	MaximumWorkingSetSize	0	12582912	MinimumWorkingSetSize	0	8388608	UnconnectedBroadcastInterval	1800000	7200000	UnconnectedBroadcastRetryAttempts	0	2	UnconnectedBroadcastRetryInterval	60000	900000	TraceIndexBuild	1	0	Item	From	To	LogRecoveryModeConnections	0	1	ReplicatedTransactionChunkSize	500	60	TraceIndexBuild	1	0
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0.3	Minor corrections. All changes are marked as from version 0.1.
0.4	Minor corrections. All changes are marked as from version 0.3.
0.5	Change to value of TimeSynchDriftLimit. All changes are marked as from version 0.4.

0.7 Changes Expected

Changes
Completion of information in the "Dynamic" column in the table in section 3.1.
Outstanding questions on the Descriptions of configuration parameters (highlighted like this) will be answered.

1. Introduction

This document defines the configuration to be used for the Riposte message server on the counters.

It covers the following areas:

- a) Settings of Riposte configuration parameters.
- b) Indexes
- c) Node Identifiers
- d) Message Volumes

Changes from the current Build scripts are highlighted.

2. Scope

This document defines the configuration to be used for the Riposte message server on the counters. It will be used together with other information (e.g. platform design) to produce the build scripts for the counters.

3. Configuration Parameters

This section defines the configuration parameters for the Riposte message server. For each parameter the following are defined:

- a) The default value set by Riposte Message server (v6.0.3.13)
- b) The current valued used in the build scripts (if explicitly defined).

Note: The configuration parameters for a system can be found by either looking at the Riposte settings in the NT Registry or by using the "RiposteConfig" command.

3.1 Main Riposte Service

Parameter	Default Value	Live Build Script	Dyn-amic	Notes	Description / Comment
ArchiveEndTime	4	1	Y		End time of the archive (in hours).
ArchiveExpiredPercent	0		Y		% Of messages that have to expired in order to force run to be archived. 0 means that the run will be archived anyway.
ArchiveMaxDaysUnarchived	7				This has two uses :- 1. It is used to control the order in which message runs are archived (all those greater than this value are treated as being top priority, and then those between this value and ArchiveMinDaysUnarchived are archived in priority order 2. It is also used to control the values used for automatic archiving that is invoked whenever Riposte is restarted, in that the archive run takes a value of ArchiveMaxDaysUnarchived + 1 In particular having a value close to ArchiveMinDaysUnarchived is dangerous since when Riposte is restarted when a number of archive slots have been missed (not uncommon), then it is liable to initiate archiving immediately which will cause performance problems.
ArchiveMinDaysUnarchived	0				The minimum time (in days) between attempting to archive a message run.
ArchiveShutdownWait	5000				This is the amount of time in milliseconds that the Riposte shutdown will wait before abandoning the archive threads.
ArchiveStartTime	0	22	Y		Start time of the archive (in hours).
ArchiveThreads	1				Number of Archive threads per volume.

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AttachmentFragmentSize	1024				Maximum size of a Fragment before it is Uuencoded in a "BLOBed" message
BlockCacheSize	64	128	N		Number of message blocks (16K each) allocated to the cache. 128 blocks = 2048 Kbytes
BuildIndexCheckpointInterval	5000				The frequency with which index maintenance message ports will be checkpointed (in messages) during index rebuilding
BuildIndexCheckpointMinTime	30000				The minimum between the index maintenance message ports taking checkpoints (in milliseconds) during index rebuilding
BuildIndexMessagePortSize	32				The size of a message port for indexes (in messages) during index rebuilding
CacheFreeListWaitTimeou	60000			9	Timeout (in milliseconds) for the cache free list
CacheLockTimeout	10000			9	Timeout (in milliseconds) for the cache lock
ClientConnectionsDuringRecovery	0				Ignored if not a correspondence server.
ClientConnectionStartupDelay	0				Ignored if not a correspondence server.
ClusterCacheSize	40	35	N	1	Number of cluster blocks (64K each) allocated to the cache 35 clusters = 2.25 Mbytes A minimum of IndexBuildMergeFactor+1 clusters must be available in the cluster cache for each index build operation that is taking place.
ConcurrentIOThreads	8				Number of Concurrent IO threads to be requested from NT. This should exceed the number of available processors.
ConnectedBroadcastInterval	1000	2000	Y		The marker interval for non-permanent connections in the connected state (ms).
ConnectionTimeout	10000		Y		The timeout period for all connections (ms).
CountryIdentifier	0	44			The country ID of the installation. Was used by BES at the counter.
CriticalSectionSpinCount	400		N	10	The number of cycles to spin on a lock before waiting on that lock
DefaultMessageExpiry	90	36	Y		The default message expiry which will be applied to any messages which are created without explicit specification of the message expiry (in days).
DefaultObjectVersionExpiry	0	1	Y		The default message expiry which will be applied to persistent object version messages
DeletedObjectVersionExpiry	100	40000	Y		The minimum expiry period for current deleted persistent object versions.
DirtyUnitAgeLimit	5000		Y		The length of time a modified disk unit which is not explicitly committed will sit in the cache before the cache manager will flush it to disk

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DirtyUnitFlushInterval	500				The sleep period (in milliseconds) between checks on flushing dirty units.
DisableArchiving	0		N		A Boolean flag, which specifies whether archiving is disabled or not.
DisableCorruptStorageUnitShutdown	0			9	A boolean flag which can be used to manage corrupt storage unit detection behavior. If this is set to 0, the Message Server will treat a corrupt storage unit as a fatal I/O error causing an immediate Message Server shutdown to avoid the potential for creating secondary errors as a result of the corrupt storage unit. Setting this to 1 will disable this behavior.
DisableDeletedUserCheck	0		Y		A Boolean flag which allows disabling the check for re-use of deleted usernames when a new user account is created
DisableIntegrityCheck	0	0	Y		A Boolean flag which allows operational integrity checking to be disabled.
DisableIOWaitTimeoutShutdown	0			9	A boolean flag which can be used to manage I/O wait timeout behavior. If this is set to 0, the Message Server will treat an I/O wait timeout condition as a fatal I/O error causing an immediate Message Server shutdown to avoid the potential for creating any secondary errors as a result of the I/O wait timeout. Setting this to 1 will disable this behavior.
DisableNetwork	0		Y		A Boolean flag, which allows all peer-to-peer message server communications to be disabled.
DisableNetworkCompression	0	1		12	If this is set to 1, then Network Compression will be disabled even if a dictionary is present.
DisableNetworkCompressionVerification	0				If this is set to 1, then verification that a compressed message can be decompressed to match the original is suppressed.
DisableNTSecurityUpdates	0		Y		If this is set to 1, then synchronisation of Riposte User updates with the NT users is suppressed.
DisableRemoteRpcCalls	0		Y		If this parameter is set to 1, then Riposte will not support remote RPC calls.
DisableServerNeighborCheck	0		N		A Boolean flag which allows disables the checking for a neighbour that is a correspondence server

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DisableStartupUnconnectedBroadcasts	0				If this is set to 0 a Riposte Message Server will (as in earlier versions of the message server) attempt to contact non-permanent neighbours in order to obtain a neighbour marker for a particular group. Setting this value to 1 will cause the Message Server to set the Neighbour marker for a particular group equal to the current local marker for that group. For example, this would prevent a Correspondence Server attempting to connect to all Clients on start-up and similarly prevent a Client on start-up attempting to connect to a CS.
DisableUnconnectedBroadcasts	0				If this is set to 0, a Riposte Message Server behaves as in earlier versions with respect to the Unconnected Broadcast Interval expiring. Setting this to 1 prevents any Unconnected Broadcasts.
DisconnectedSendThreshold	2				This specifies the number of missing markers that need to be detected before considering a neighbour to be disconnected.
EnableMessageImport	0		Y		A Boolean flag which determines whether messages may be imported or not.
ExternalLogon	0		Y		This controls the way in which Riposte logons relate to NT security.
HeartbeatsPerDay	0	0	Y	2, 12	The number of heartbeats that will be generated in each twenty-four hour period.
HeartbeatTime	12	7	Y		The time of day (in hours) at which heartbeats will be generated. NB the value of this is irrelevant if HeartbeatsPerDay is zero.
IndexBuildMergeFactor	2				Specifies the merge factor that is used during the merge sort.
IndexCheckpointInterval	1000		N		The frequency with which index maintenance message ports will be checkpointed (in messages)
IndexCheckpointMinTime	10000				The minimum between the index maintenance message ports taking checkpoints (in milliseconds)
IndexFlushTimeout	1000		Y		The amount of time to wait for index flushing to complete before timing out an access operation on a persistent object (ms)
IndexMessagePortSize	1024		N		The size of a message port for indexes (in messages)
IOWaitTimeout	20000			9	This is the timeout period for disk IOs.
LargeVolumeGrowthPercent	10		Y		The percentage by which a 'large' Message Store volume will be dynamically grown by Riposte.
LargeVolumeSize	262144		Y		The threshold size for a 'large' Message Store volume in pages.

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LimitForwardBroadcasts	0	7			<p>If this item is set to 0, forward broadcasts are not suppressed in any way, however if it is non-zero, then forward broadcasts will be suppressed to neighbours whose most recently received marker is "behind" the current marker by an amount greater than or equal to the value of LimitForwardBroadcasts.</p> <p>Thus if LimitForwardBroadcasts were 100, once the neighbour marker was within 100 messages of the current marker, forward broadcasts would be enabled. Note that this value should be probably larger than the maximum transaction size, which would typically be used. Currently this behaviour applies to all neighbour connections and the transition between having forward broadcasts enabled or disabled can occur once only in a single connection. Therefore, once Forward Broadcasts are enabled for a connection then they remain enabled for the remainder of that connection. It should be noted that this behaviour applies to both messages forwarded by the node and messages originated at the node.</p>
LocalBroadcastInterval	5000		Y		Specifies the marker interval for local permanent neighbours. (ms)
LocalTimeAttribute	0		Y		If this is set to 1, then all Riposte messages will contain the Local Time as well as the Universal Time.
LockCache	0			9	<p>This is a Boolean flag. When set to 1 this will cause the Message Server to lock its caches in memory to prevent them from being paged.</p> <p>CAUTION: This should be used with extreme caution and is only appropriate when there is sufficient physical memory to permanently dedicate a portion of it to the Message Server caches.</p>

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LockEventCacheSize	100				This determines the number of events which are pre-allocated for use by locks when events are required. Increasing this parameter will simply increase the resource utilisation (i.e. memory and handles) but should not have a negative impact on performance (all operations on the lock event cache are constant time irrespective of the size of the cache). The benefit of the cache is simply to avoid creating and destroying events too frequently. If the number of Lock Events is frequently rising well above LockEventCacheSize and then falling back near zero (i.e. where the typical fluctuation is substantially larger than LockEventCacheSize), then it may improve performance to increase it. Note that the sustained value of Lock Events isn't really relevant, rather it is the size of the fluctuations that matters (if more events are needed than are in the cache, they will be created on demand, and conversely, when locks are destroyed, any associated events will be put in the cache until it is full after which they will be freed).
LogArchiveActivity	0				A Boolean flag, which specifies whether archive logging, is disabled or not. Logging of archiving hits performance
LogDiscards	1		Y		Determines whether an error will be logged if a packet is discarded.
LogNetworkCompressionWarnings	0				If this is set to 1, then warnings are generated for problems during Network Compression.
LogRecoveryModeConnections	0	1		4, 12	This is a Boolean flag. When set to 1 it will cause the Message Server to log all neighbor connections that are established while the Message Server is in recovery mode, including the message that initiated the connection (which will typically be a marker). Note that this only applies to Message Servers that are not configured as Correspondence Servers.

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MaxArchiveIndexRebuilds	2				Specifies the maximum number of index runs per volume that may be rebuilt by the archiver during a single archive session. Setting this configuration item to a lower value places a limit on the amount of index rebuild activity that can take place during a single archive session NB there is currently a bug such that a maximum of MaxArchiveIndexRebuilds + 1 index runs may be rebuilt.
MaxClientConnections	1024				This is ignored on Counters
MaxDefinedGroupRanges	256				Specifies the maximum number of group ranges that may be defined. It can be increased to as high as 256000. (Note that a higher value uses slightly more memory.)
MaxDirtyUnits	8	20			This specifies the maximum number of cache items that can be being updated concurrently without being flushed to disk. In general there should be at least one for every concurrently connected outlet that is replicating data to the CS.
MaxFreeRuns	8		N		The number of free runs in the Message Store.
MaxGroupVolumeTransitionThreads	4				Specifies the maximum number of group-volume transitions that can be taking place simultaneously.
MaximumWorkingSetSize	0	12582912	Y	9, 12	This, together with MinimumWorkingSetSize, allows control over the working set of the Message Server. Note that the working set can never be decreased via this configuration item, only increased; if the current value of the maximum working set size is greater than this, no changes will be made. 12582912 is 12Mb
MaxIndexArchiveDays	30				Specifies the maximum number of days that may pass before an index run will be rebuilt by the archiver. Note that this configuration item must be set to a value greater than or equal to MinIndexArchiveDays.
MaxIndexBuildThreads	1				This configuration item is obsolete and is no longer used.
MaxIndexThreads	2				This is set explicitly on the Live systems, since it in the past it was explicitly set to 3. It should not be included in Build Scripts.
MaxInsertionThreads	2				The maximum number of threads to be used to insert new messages. is this "per volume"?

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MaxMarkerBurst	3				Maximum number of markers sent per minimum sleep interval (7.5ms).
MaxMessageExpiry	-1	37	Y		Specifies the maximum message expiry that may be specified when a message is created. 37 is one day longer than the default to catch coding errors
MaxMessagePortRecoveryQueueSize	15				When the queue of items on a message port exceeds the Message port's defined queue size plus this value, then the message port will go into recovery mode. Having this value greater than MaxMessagePortRecoveryQueueSize prevents hysteresis when switching into and out of recovery mode. Does this only apply to checkpointed message ports or does it also apply to when the queue overflows on a non-checkpointed message port?
MaxMessagePorts	256		Y		Sets maximum number of Message Ports.
MaxPendingQueueItems	32				This defines the number of "out of order" messages that are cached awaiting earlier messages from the run arriving.
MaxPendingRequests	7		Y	11	The maximum number of pending requests that can be stored.
MaxQueries	32		N		The maximum number of query threads that can simultaneously exist.
MaxRealTimeMessagePortSize	16	1024			The maximum size for the queue on a real-time message port
MaxReanimation	90	36	N		The maximum period of time that may pass with the message server not running.
MaxRetrievalThreads	2				The maximum number of threads to be used to retrieve messages. Is this "per volume"?
MaxSelectExpressions	64		Y		The maximum number of boolean expressions which may occur in a single selection expression
MediumVolumeGrowthPercent	25		Y		The percentage by which a 'medium' Message Store volume will be dynamically grown by Riposte
MessageCacheSize	32		N		The number of messages to wait before checkpointing.
MessagePortRecoveryThreads	1				This configuration item specifies the number of threads that will be scanning messages while the Message Port is in recovery mode.
MessageQueueItems	64				This defines the number of items that can be buffered up by NT before Riposte deals with them.
MessageStoreCompression	0	0	Y		Enables message store compression.

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MinAvailableMessageQueueItems	8				If the number of free items currently available in the message queue is less than MinAvailableMessageQueueItems, requests will be suppressed - this is done as a means of flow control to avoid discarding messages because of overflowing the message queue. It may be appropriate to increase this value on a correspondence server which may have synchronisation occurring with a large number of neighbours simultaneously if there are frequent warning messages in the event log regarding overflow of the message queue, provided that the message queue size itself is large enough (this is determined by the configuration item MessageQueueItems and should be set to at least 7 * (# simultaneous connections) to avoid overflow).
MinExtendInterval	10000		Y		How long the Message Store should wait between dynamic expansions (ms)
MinExtendSize	256		Y		Minimum amount to expand a Message Store volume (in pages)
MinFreeDiskSpace	256		Y		The minimum amount of space that must be present on disk in order to expand the Message Store (MB)
MinFreePercent	10		Y		The minimum percentage of free space in the message store which the message server will attempt to maintain.
MinimumWorkingSetSize	0	8388608	Y	9, 12	This, together with MaximumWorkingSetSize, allows control over the working set of the Message Server. Note that the working set can never be decreased via this, only increased; if the current value of the minimum working set size is greater than this, no changes will be made. 8388608 is 8Mb
MinIndexArchiveDays	15	13			Specifies the minimum number of days that must pass before an index run will be rebuilt by the archiver. This will result in each index being rebuilt every 2 weeks.
MinMessageExpiry	1	34	Y		The minimum message expiry which may be specified when a message is created. 34 days is used to allow 5 weeks of disconnect before we loose messages and is less than explicit for EPOSS to catch coding errors.

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MinMessagePortRecoveryQueueSize	8				When the queue of items on a message port drops below the Message port's defined queue size plus this value, then the message port will come out of recovery mode. Having this value less than MaxMessagePortRecoveryQueueSize prevents hysteresis when switching into and out of recovery mode.
MinMessagePortSize	16		N		The minimum size of a message port queue.
NetSocketBufSize	65536				Buffer Size for communication with NT comms stack
PageCacheSize	256	512	N		Number of page blocks (4K each) allocated to the cache. 512 pages = 2048 Kbytes
PendingQueueExpirationTime	60000				When a message has been in the Pending queue for longer than this time it is discarded.
PersistentObjectIndexRetryCount	10				This defines the number of retries to be attempted when accessing the Persistent Object index when a timeout occurs.
QueryOptimization	0	2	Y	13	This controls the use of Riposte indexes with queries and when Select expressions are used in RiposteScanMessage or RiposteNextMessage. If it is set to 0 then all optimizations are disabled. If QueryOptimization is set to 1, then optimization will always be attempted. If QueryOptimization is set to 2, then optimization will only be attempted when specifically requested by the application.
ReadAheadMessageBuffers	15				Specifies the number of additional messages that will be "read ahead" in a single message retrieval operation by a Message Port recovery thread.
RebuildPersistentObjectIndex	0				This provides a mechanism for forcing the persistent object index to be rebuilt before the Message Server comes online. (Note that this can't necessarily be done with RiposteRebuildIndexRun.) When set to 1, the persistent object index will be automatically rebuilt the next time the Message Server restarts, and once this happens, RebuildPersistentObjectIndex will be reset to 0.
RecoveryMode	0		N		If this is set to 1, then Riposte will restart in Recovery Mode. This is required in some recovery scenarios. This is set explicitly on the Live systems, since it has been used in recovery situations. It should not be included in Build Scripts.

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RecoveryNeighbors	1		Y		Specifies the number of neighbors with which a message server must synchronize before it can exit recovery mode
RegionIdentifier	0			3	The region ID of the installation. Was used by BES at the counter.
RemoteBroadcastInterval	60000		Y		Specifies the marker interval for remote permanent neighbors (ms)
ReplicatedTransactionChunkSize	500	60			The minimum number of messages committed together when transactions are replicated
RequestQueueItems	64				This queue is used to store incoming requests (there is no queue for outgoing requests, a separate mechanism is used to avoid sending the same request too frequently that does not involve a queue). A value equal to the maximum number of simultaneous connections should be sufficient, and often a value less than this is enough, as requests are serviced fairly efficiently. This value can be tuned by observing the frequency of "Incoming request discarded" warning messages in the event log if these are happening frequently, then RequestQueueItems should be increased.
RequestTimeoutInterval	3000		Y		The amount of time, in milliseconds, for the node to wait before re-requesting messages from a neighbor.
ScavengerPauseInterval	1000		Y		The amount of time that the scavenger process should idle before continuing its background processing. (ms)
ScavengerShutdownWait	5000				This is the amount of time in milliseconds that the Riposte shutdown will wait before abandoning the scavenger.
ScavengerTableSize	32				The scavenger table is used to keep track of units which are candidates for being scavenged. Typically, when a unit is found which can be scavenged (or which is explicitly identified as being available storage due to a run being destroyed or a volume extension), the next unit pointed to by that unit is also a likely candidate for scavenging. The use of this table does involve a linear scan of the table, so it should not be set to a large value and in general it is not recommended that this configuration item be modified from its default value.
SiteIdentifier	0	44	Y		The site ID for the Riposte installation.
SmallVolumeGrowthPercent	50		Y		The percentage by which a 'small' Message Store volume will be dynamically grown by Riposte

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SmallVolumeSize	25600		Y		The threshold size for a 'small' Message Store volume in pages.
SplitPorts	0				No longer used.
TCPConnect	0				Required to support RSA autodial. Not used by Pathway.
TimeSynchDriftLimit	60000	5000	Y	4, 14	The maximum allowable difference in time values between the host server and the time source message server (ms). Set by autoconfig see [Auto].
TimeSynchLevel	0		Y	5	Sets the level to which time synchronization is enabled. 1 = Allow time change but not date change. Note: set to value 2 by autoconfig on install to allow date to change if PC clock drift is significant see [Auto].
TimeSynchNodeId	0			6	Indicates the Riposte node responsible for keeping synchronization time for other nodes. Set by Autoconfig [Auto] to Gateway node for slave counters and correspondence server for gateway counter.
TraceCriticalSections	0				Allows debugging of Critical sections. Not to be used on Live since it is very verbose.
TraceIndexBuild	0	0		12	When set to 1, the Message Server will log additional information and statistics in the Windows NT Event Log regarding the progress and performance of index build operations.
TraceShutdown	0				A boolean flag which specifies whether Shutdown should be traced or not.
TransactionWaitTimeout	10000		Y		The amount of time to wait on a blocked transaction before returning a timeout error (ms)
UnconnectedBroadcastInterval	900000	7200000	Y	7, 12	Specifies the interval at which connections will be established to non-permanent neighbors (ms). Note: set to 60000 during autoconfig install to get around a problem.
UnconnectedBroadcastPauseInterval	10000				The period of time (in milliseconds) between scans of the table of non-permanent neighbours to see if any UBIs have been triggered.
UnconnectedBroadcastRetryAttempts	3	2		12	The number of Retries to be made following a failed connection to a of non-permanent neighbour.
UnconnectedBroadcastRetryInterval	60000	900000		12	The base interval between retries following a failed connection to a of non-permanent neighbour. Retries are after time n, n, 2n, 4n, 8n etc.

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UnconnectedBroadcastStartupDelay	0				Setting this to a non-zero value delays the first UnconnectedBroadcastInterval expiry by the amount specified (see also UnconnectedBroadcastStartupInterval).
UnconnectedBroadcastStartupInterval	0			9	This specifies a time interval in milliseconds. It works in conjunction with UnconnectedBroadcastStartupDelay to delay the timing of the first unconnected broadcast attempt after startup. The length of the delay is equal to the number of milliseconds specified by UnconnectedBroadcastStartupDelay plus a random number of milliseconds that is uniformly distributed over the interval specified by UnconnectedBroadcastStartupInterval.
UnmaskedBroadcastFrequency	10				Specifies the frequency with which a Correspondence Server will make a "unmasked" marker broadcast.
ValidateNetworkAddresses	1				If this is set to 0, then IP addresses are not checked when communicating with neighbours. This can be used to support dynamic IP addresses on clients.
VerifyPersistentObjectIndexKey	0				If this is set then additional diagnostic checks are made on the Persistent Object index.
WarnExtendSize	512		Y		forget what this is. Help please!
WarnFreeDiskSpace	5120			8	Specifies when a low disk space warning message will be written to the Message Store (MB)

Notes:

- 1) This is set to 70 during migration to CI4 and then reset to 35.
- 2) This should only be configured on the Gateway PC. It appears to be configured on all PCs. (Probably not a problem since all messages should be sent to the centre in a single ISDN call.)

Although this is strictly wrong, it is best to leave it alone.

- 3) This is configured appropriately by Auto Config.

I believe it is only used by BES so is strictly unnecessary now.

- 4) This is set to 1000 by AutoConfig. Why is it not set up by the build scripts?

Although this is strictly wrong, it is best to leave it alone.

- 5) This is initially set to 2 by AutoConfig, then once the initial synchronisation is complete it is reset to 1.
- 6) Set by AutoConfig to the Virtual CS on the gateway Node and to Node 1 on all other nodes.
- 7) AutoConfig initially sets this to 60000 (1 minute) to speed up the initial download then resets it to 1800000 (30 mins) on completion. This should now be set to 7200000.

This value is based on a separate Registry parameter. I need to add in the details.

Ajay: can you supply this info please?

- 8) This seems rather high for a counter.
- However I can't think of a better way of using it so I propose we leave it alone.*
- 9) This parameter was introduced with Riposte 6.0.3 (Build 223 Update 20 or Update 21).
 - 10) This previously had a default value of 4000. The default changed prior to CI4 going live, but this document was not updated at the time.
 - 11) For Satellite connected outlets this needs a value of 14 for normal running and 35 for rollout (PinICL).
 - 12) This change is covered by CP 2774 or 2764.
 - 13) This change is covered by CP 2711.
 - 14) This change is covered by PinICL 53384. In the past this has been controlled by AutoConfig (see Note 4), however in order to change the value for MI, it is simpler to change it in the build script rather than autoconfig.

3.2 Configuration of RiposteMirror

I propose that the following parameters are set explicitly (the following is a copy of the table from section 3.1, but only including those entries which explicitly need to be set) :-

Parameter	Default Value	Live Build Script	Dyn-amic	Notes	Description / Comment
ArchiveEndTime	4	23	Y		End time of the archive (in hours).
ArchiveStartTime	0	20	Y		Start time of the archive (in hours).
BlockCacheSize	64	128	N		Number of message blocks (16K each) allocated to the cache. 128 blocks = 2048 Kbytes
ClusterCacheSize	40	35	N		Number of cluster blocks (64K each) allocated to the cache 35 clusters = 2.25 Mbytes A minimum of IndexBuildMergeFactor+1 clusters must be available in the cluster cache for each index build operation that is taking place.
CountryIdentifier	0	44			The country ID of the installation

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DefaultMessageExpiry	90	36	Y		The default message expiry which will be applied to any messages which are created without explicit specification of the message expiry (in days). 120 days is the longest time a benefit authorization can exist for.
DefaultObjectVersionExpiry	0	1	Y	3	The default message expiry which will be applied to persistent object version messages
DeletedObjectVersionExpiry	100	40000	Y		The minimum expiry period for current deleted persistent object versions.
LogRecoveryModeConnections	0	1		4	This is a Boolean flag. When set to 1 it will cause the Message Server to log all neighbor connections that are established while the Message Server is in recovery mode, including the message that initiated the connection (which will typically be a marker). Note that this only applies to Message Servers that are not configured as Correspondence Servers.
MaxDirtyUnits	8	20			
MaxMessageExpiry	-1	37	Y		Specifies the maximum message expiry that may be specified when a message is created. 37 is one day longer than the default to catch coding errors
MaxReanimation	90	36	N		The maximum period of time that may pass with the message server not running.
MinIndexArchiveDays	15	13			Specifies the minimum number of days that must pass before an index run will be rebuilt by the archiver. This will result in each index being rebuilt every 2 weeks.
MinMessageExpiry	1	34	Y	3	The minimum message expiry which may be specified when a message is created. 34 days is used to allow 5 weeks of disconnect before we loose messages and is less than explicit for EPOSS to catch coding errors.
PageCacheSize	256	512	N		Number of page blocks (4K each) allocated to the cache. 512 pages = 2048 Kbytes
QueryOptimization	0	2	Y	5	
RegionIdentifier	0			1	The region ID of the installation. Was used by BES at the counter.
ReplicatedTransactionChunkSize	500	60		3, 4	The minimum number of messages committed together when transactions are replicated
SiteIdentifier	0	44	Y		The site ID for the Riposte installation.
TraceIndexBuild	0	0		4	When set to 1, the Message Server will log additional information and statistics in the Windows NT Event Log regarding the progress and performance of index build operations.

Notes:

- 1) RegionIdentifier is already set up by AutoConfig

I believe it is only used by BES so is strictly unnecessary now.

- 2) I've not set the TimeSynch... parameters since no messages are ever initiated on the RiposteMirror service. Note it is probably safest not to configure these since we do NOT want multiple services trying to maintain the clock.
- 3) This value was omitted from earlier versions of this document. It is not clear what the current value is on the Live estate. This is how it should be set in the future. (If it is currently incorrect it may not be worth explicitly correcting it.)
- 4) This change is covered by CP 2774 or 2764.
- 5) This change is covered by CP 2711.

3.3 Configuration of RiposteTraining

I propose that the following parameters are set explicitly (the following is a copy of the table from section 3.1, but only including those entries which explicitly need to be set) :-

Parameter	Default Value	Live Build Script	Dyn-amic	Notes	Description / Comment
BlockCacheSize	64	128	N		Number of message blocks (16K each) allocated to the cache. 128 blocks = 2048 Kbytes
ClusterCacheSize	40	35	N		Number of cluster blocks (64K each) allocated to the cache 35 clusters = 2.25 Mbytes A minimum of IndexBuildMergeFactor+1 clusters must be available in the cluster cache for each index build operation that is taking place.
CountryIdentifier	0	44			The country ID of the installation
MaxDirtyUnits	8	20			
PageCacheSize	256	512	N		Number of page blocks (4K each) allocated to the cache. 512 pages = 2048 Kbytes
QueryOptimization	0	2	Y	4	
RegionIdentifier	0			1	
SiteIdentifier	0	44	Y		The site ID for the Riposte installation.

Notes:

- 1) RegionIdentifier is already set up by AutoConfig

I believe it is only used by BES so is strictly unnecessary now.

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-
- 2) I've not set the Message Expiry parameters since the message store is destroyed each day, however it may be simpler to configure such parameters for consistency.
 - 3) I've not set the TimeSynch... parameters since there is nothing to synchronise the time to. Also we do NOT want multiple services trying to maintain the clock.
 - 4) This change is covered by CP 2711.

4. Indexes

4.1 Indexes Required

The indexes that are required on the counter are defined in the table below together with their key size.

All these indexes should be configured for all 3 Riposte services (ie Riposte, RiposteMirror and RiposteTraining).

Note: The index configuration for a system can be found by either looking at the Riposte settings in the NT Registry or by using the "RiposteIndex" command.

Attribute Indexed	KeySize	Notes	Comment
AMEntry.AMType	8	3	
AMEntry.DValue	32	3	
AMSession.AMType	8	3	
AMTxn.AMType	4	3	
Application	16		This was originally marked for removal in CP 2500, but subsequently reinstated for use by APS
CardID	100	1, 4	
Data.BalanceDataId	36	3	
Data.BatchID	12	4	
Data.CardID	20	4	
Data.MarkerHash	8	3	
Data.MessageID	24	4	
Data.NINO	12	4	
Data.PaymentID	24	4	
Data.TranType	32	4	
Date	12	4	
EPOSSTransaction.AdditionalData.APSSEQ	8		
EPOSSTransaction.BlackBoxData.APSXRE	8		
F			
EPOSSTransaction.CrossReference	20	1, 4	
EPOSSTransaction.DSM.L5	4	4	
EPOSSTransaction.OpeningFiguresId	32	2	
EPOSSTransaction.PM.L5	4	4	
EPOSSTransaction.PM.L7	4	4	
LPO.Collection	32		
MsgType	24	3	
Reversal.Id	4	1, 4	
Reversal.Num	12	1, 4	
SecurityEvent.EventName	16	2	
ServiceType	4	1, 2, 4	
TranType	100	1, 4	
TxnData.Container	4		
TxnData.TxnId	20		
WAIndex.LFSFlag	4		

Notes:

- 1) I don't believe that this index will ever contain any messages.

- 2) This doesn't appear to be created by any Desktop application if not explicitly created (at least not in training mode)
- 3) Needed for Asset Manager. Not used.
- 4) Originally marked for deletion at CI4 in CP 2500, however those deletions not implemented due to lack of testing.

I need confirmation from the EPOSS team that it is safe to remove all of these. My belief is that they are all safe to delete.

Some are NOT safe. I'll try again later!

4.2 Index Maintenance

With the introduction of Riposte 6, index maintenance is required. This is achieved by allowing Riposte Archiving to periodically rebuild the indexes. Archiving is currently configured so that each index will be rebuilt every 14 days.

5. Node Identifiers

The Riposte node identifiers and the corresponding UDP port settings for the counters are:

Counter Type	Node ID	UDP Port Setting
Gateway	1	0
Mirror message store on removable disk in single counter office	31	2996
Other counters	2 to 30	0

6. Neighbour Relationships

There are 2 types of Neighbour relationships for the Counters :-

- a) To Correspondence Servers (gateways only)
- b) To other counters

These are described in the following sub-sections.

6.1 Correspondence Servers

These relationships are set up as part of auto config.

The Correspondence Server is set up as a Virtual neighbour to each gateway. The relationship is configured with both IP addresses for each main CS (4 addresses in all). The relationships are all configured as non-local, non-permanent and virtual

This is done using the following commands

```
cd c:\rtools
RiposteNode Add 0 42 ip1 0 0 1
RiposteNode AddAddress 0 42 ip2
RiposteNode AddAddress 0 42 ip3
RiposteNode AddAddress 0 42 ip4
```

Where "ipn" are the 4 IP addresses for the remote node.

These are defined elsewhere. Perhaps I need a cross reference.

All CSs are assumed to be Virtual neighbour 42.

Is it 42 or 40?

6.2 Other counters

These relationships are set up as part of auto config.

Each counter (including the Riposte Mirror in a single counter office) is set up as a neighbour to each other counter. Each relationship is configured with the single IP addresses for the remote counter. The relationships are all configured as local, permanent and non-virtual

This is done using the following commands

```
cd c:\rtools
RiposteNode Add gggggg nn ip 1 1 0
```

Where "gggggg" is the Riposte Group Id (ie FAD code) of the outlet and "nn" is the Riposte Node Id of the remote counter and "ip" is the IP address for the remote counter.

7. Message Store

There are up to three message stores on a counter. The initial allocation size for these is shown below.

Message Store	Initial Allocation	Comment
Normal	25,000	le 100 Mb
Mirror message store (Single counter offices only)	25,000	le 100 Mb
Training Message Store	25,000	le 100 Mb