

Sterling B2B Integrator



HealthCheck V1.0.2.1

Version 5.2.5

Sterling B2B Integrator



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Note

Before using this information and the product it supports, read the information in "Notices" on page 47.

Copyright

This edition applies to Version 5 Release 2 of Sterling B2B Integrator and to all subsequent releases and modifications until otherwise indicated in new editions.

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HealthCheck

HealthCheck is a utility for IBM® Sterling B2B Integrator. You can use HealthCheck to identify and analyze issues, errors, or incorrect configurations in Sterling B2B Integrator.

What's New

HealthCheck Tool What's New provides more information about the updates in a release.

What's New in V1.0.3.1 (Sterling B2B Integrator V5.2.6.1)

HealthCheck V1.0.3.1 features an updated user interface, a new scanner, and new test properties and features.

Updated user interface

HealthCheck V1.0.3.1 includes updated 10x .jar files, and thus, an updated user interface. Among other enhancements, this update means that HealthCheck can now be used in Internet Explorer.

Password Scanner

The Password Scanner ensures that the strength of users' passwords is sufficiently secure, and consists of two tests: the Super User test and the All User test. The Super User test checks the passwords of users in the system that are part of the super group. The All User test checks the passwords of all users in the system, regardless of whether or not they are part of the super group.

Test error limit

A new feature has been added to set a limit on the number of failures a particular test can report. Once that limit is reached, a message is recorded in the log and execution of that test is immediately terminated. This keeps a single test from flooding the report with thousands of similar errors and drowning out more serious issues.

Improved timeout feature

HealthCheck V1.0.3.1 now includes a test timeout property for every scanner. The default value for each scanner's testTimeout property has been adjusted to 120 seconds, or two minutes, and the default value for the scanner timeout has been changed to 1200 seconds, or 20 minutes. This helps to give tests ample time to finish and gives the user more control over all tests.

Improved PDF report display

The PDF report bar graphs now use an integer scale on the y-axis. Additionally, the "Occurrences by Test" graph in the summary now correctly counts the number of failures for each test and groups failures in a particular test by severity. These modifications make the PDF report graphs clearer and more accurate.

"Exclude" property added to Index Fragmentation, Table Compression, and Index Compression tests

Users can now choose to exclude indexes and tables from the Index Fragmentation, Table Compression, and Index Compression tests in the Database Scanner.

What's New in V1.0.2.2 (Sterling B2B Integrator V5.2.5.0, Interim Fix 7)

HealthCheck V1.0.2.2 provides further enhancements and support for newer versions of Oracle databases.

Table Compression and Index Compression tests

The Table Compression and Index Compression tests provide further information to users with Oracle 12c databases. The tests determine whether compression is enabled for certain tables and indexes. Enabling table and index compression can reduce storage costs and optimize data access.

What's New in V1.0.2.1 (Sterling B2B Integrator V5.2.5.0, Interim Fix 4)

HealthCheck V1.0.2.1 provides enhancements and support for newer versions of Oracle databases.

Support for Oracle 11g and 12c databases

The Settings test contains new properties for parameters specific to Oracle database versions 11g and higher. Some existing tests are also altered to support newer Oracle databases.

Database Scanner Index Fragmentation tests

Each database type has its own Index Fragmentation test for maximum customization. Index Fragmentation tests also determine the severity of the fragmentation based on the table size. Larger tables with more rows have a greater severity than smaller tables with fewer rows.

What's New in V1.0.2.0 (Sterling B2B Integrator V5.2.5.0)

HealthCheck V1.0.2.0 is the first version of the HealthCheck utility tool to be included with Sterling B2B Integrator. You can use HealthCheck to identify and analyze issues, errors, or incorrect configurations in Sterling B2B Integrator.

Known Issues

HealthCheck Known Issues provide more information about the known issues, and restrictions in the release.

HealthCheck V1.0.2.0 Known Issues

The IO Wait, NFS Mount, and ULimit tests in the Host System Scanner are implemented for Linux/UNIX environments only, and are not displayed in Windows environments.

The **Add Property** function works only for the Search test in the Business Process Scanner, `BusinessProcessScanner.search`, and the Purge sub test in the System Process Scanner, `SystemProcessScanner.properties.purge`. If you create a property for any other test, HealthCheck ignores the property. Ensure that you add properties in the correct format for each test. Properties that are incorrectly configured can cause the test to fail.

The test names for the Database scanner are not displayed in the help for the command-line interface. You can find the Database short names in the "Database Scanner Properties" on page 32.

The Requeue test in the Dynamic Tracking Data Scanner is displayed in the browser user interface, even though it is not yet implemented for HealthCheck, V1.0.2.0.

HealthCheck Utility Concepts

HealthCheck is a utility that provides system diagnostics, error analysis, and reporting, for IBM® Sterling B2B Integrator users.

Sterling B2B Integrator is an extensive software that contains multiple variable components. As a user of Sterling B2B Integrator, you might experience system performance problems or want to optimize system processes. HealthCheck is a utility that is packaged with Sterling B2B Integrator. HealthCheck provides system diagnostics, error analysis, and reporting to help you to maintain or improve your system performance. HealthCheck includes best practices and suggested actions to help your system perform efficiently.

HealthCheck is a utility to help you to determine what are the best practices to follow for your particular system. You are responsible for determining the appropriate action to take to resolve any warnings or errors that are identified by the utility. Recommendations that are displayed in the user interface of the HealthCheck utility and generated in reports, are simply suggestions for the implementation of best practices in Sterling B2B Integrator. The implementation of such recommendations is not necessarily a guarantee that the system performance improved, that the corresponding warnings were resolved, or that other errors do not occur.

HealthCheck Scanners Overview

Scanners are collections of tests and subtests that are grouped by function. Scanners test for and ensure optimization in different components of Sterling B2B Integrator, including business process configurations, system logs, and service scheduling.

Scanners also ensure that system components, such as your Java virtual machine, database server, and operating system, are optimally configured for Sterling B2B Integrator.

Business Process Scanner

The Business Process Scanner in the HealthCheck utility tests the optimization of business process work flows in Sterling B2B Integrator.

Business Process Scanner Details

Business processes are configured with Business Process Modeling Language (BPML) in Sterling B2B Integrator. BPML is an XML-based language that is used to model business processes. With BPML, you can define business operations, adapters, and services for each business process. The Business Process Scanner in the HealthCheck utility tests the optimization of business process work flows in Sterling B2B Integrator. The scanner scans the static BPML of each business process to ensure that it is correctly configured. For more information about optimizing your business processes, see Modeling Strategies for Efficient Processing.

BPMeta

The BPMeta test ensures that the BP Metadata Info Service parameters, LINKAGE, and DISPOSITION, are set to FALSE.

The LINKAGE parameter enables linking between a business process and any child or parent processes it possesses. Linking between all related business processes can stress system resources. The DISPOSITION parameter prints the business process state (WFD_STATE) and status (WFD_STATUS) to Process Data. Retrieving the state and status each time the service is called can stress system resources. Set LINKAGE and DISPOSITION parameters FALSE if they are not needed. For more information about the BP Metadata Info service, see BP Metadata Info Service.

The BPMeta Test has a severity level of 1, WARNING.

Doc Info

The Doc Info test ensures that the Get Document Info service parameter, RETRIEVE_INITIAL_DOC_ID parameter is set to FALSE.

The RETRIEVE_INITIAL_DOC_ID parameter contains DocumentInitialId, which contains the initial document ID of the Primary Document. Retrieving the initial document ID each time the Get Document Info service is called in a business process, can stress system resources. Set the RETRIEVE_INITIAL_DOC_ID to FALSE if it is not needed. For more information about the Get Document Info service, see Get Document Info Service.

The Doc Info Test has a severity level of 1, WARNING.

Message to Child

The Message to Child test ensures that message_to_child statements are written correctly in the BPML of your business processes. Your database fills at a slower rate when Assign elements are properly configured with message_to_child statements.

Ensure that your business process models are configured correctly. Ensure that Assign elements include a message_to_child attribute that specifically references the correct document to call in the next cycle. For more information about correctly configuring your business process models, see Modeling Guidelines for Large File Handling.

The Message to Child test has a severity level of 1, WARNING.

Sync

The Sync test ensures that the Invoke Sub-Process service parameter, INVOKE_MODE is set to inline. The parameter does not appear in the business process when the persistence level is set to "Error Only". For more information about the Invoke Sub-Process, see Invoke Sub-Process Service.

When the INVOKE_MODE is set to sync, the parent business process suspends processing until it receives data from its subprocesses. However, when the INVOKE_MODE is set to inline, subprocesses are run as part of the parent business process. Subprocesses and parent processes share process data in inline mode, which is more efficient and saves system resources. Unless you need to run subprocesses separately, set INVOKE_MODE to inline and not sync. For more information about calling subprocesses in inline, see Using Inline Invoke when Possible.

The Sync test has a severity level of 1, WARNING.

This Service

The This Service test identifies instances of the This service in your business processes. The This service is a utility with multiple functions that

is being replaced with other adapters and services with more specific functions. For more information about the This service, see This Service .

It is good practice to the most current services and adapters in your business processes. Consider selecting another service to meet your specific business process or process data needs, such as the Get Document Info service or the BP Metadata service. For more information about using up-to-date services and adapters, see Using the Most Current Services and Adapters. For more information about retiring or retired services and adapters, see *Retiring and Removed Services and Adapters*.

The This Service test has a severity level of 1, WARNING.

X Path

The X Path test identifies and returns XPath query statements that use the “//” expression in BPML. A search that includes the “//” expression searches every existing node to find the next child element in the query. The “//” expression selects all matching nodes in the BPML from the current node, which can slow down your system. For optimal performance, use XPath queries that use a specific path, and avoid queries that include the “//” expression. Using an XPath query with a specified path is more efficient than a path that includes the “//” expression and conserves system resources. For more information about writing efficient XPath statements, see Using Specified Path in XPath Searches.

The XPath test has a severity level of 1, WARNING.

Doc To DOM

The Doc To DOM test determines whether the number of DocToDom function calls in Assign statements is excessive. You can reduce the number of DocToDom function calls if you save DocToDom results in process data. Process data is persisted throughout the life of a business process. The DocToDom information is easily accessible in process data so that you do not have to make multiple calls. For more information about limiting DocToDom calls, see Limiting Calls to the File System.

The Doc To Dom test has a severity of 1, WARNING.

Persistence

The Persistence test determines whether the persistence level of a business process is at an appropriate level. Persistence

Certain business process work flows yield a more optimized performance at certain persistence levels. Persistence level can affect system performance speeds, but higher persistence levels are not detrimental to system health. Ensure that you select a persistence level that is best for your business needs. For more information about the persistence levels for business processes, see Business Process Persistence Options.

The Persistence test has a severity level of 1, WARNING.

Search

The Search test is an extensibility feature. For details about the Search test, see “Extensibility Properties” on page 40.

The Business Process scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or

improve performance, nor does a difference in suggested settings indicate a serious system error.

Config Scanner

The Config scanner tests the configuration of various system components in Sterling B2B Integrator, including queue management, property file configurations, and memory assignment in your particular Java virtual machine.

Config Scanner Details

You can configure Sterling B2B Integrator components, including fair-share scheduling queue management, property file configurations, and Java virtual machine memory allocation. Ensure that you configured Sterling B2B Integrator for optimized performance with the HealthCheck utility. The Config scanner tests the configuration of various system components in Sterling B2B Integrator.

The Configuration scanner has the following tests:

Jetty Threads

The Jetty Threads test ensures that the minimum and maximum number of jetty threads remain at their set values. Jetty is Java-based HTTP framework and web server that handles the Sterling B2B Integrator user interface and any communications that use HTTP, such as AS2. Jetty threads are Java threads that are available to the framework. The Jetty Threads test ensures that an optimal quantity of threads run concurrently to evenly distribute system resources. The Sterling B2B Integrator user interface functions optimally when the maximum number of jetty threads is 100, and the minimum number of jetty threads is 5. Ideally, the number of available jetty threads corresponds to the number of concurrent sessions or processes your system manages at a time. Changing the minimum and maximum number of threads is not suggested. However, if it is necessary, you can adjust the minimum or maximum number of jetty threads if you add the `numOfminJettyThread` and `numOfmaxJettyThread` parameters to the `customer_overrides.properties` file.

For more information about managing threads, see [Controlling the Threads](#).

The Jetty Threads test has a severity level of 2, ERROR.

JGroups

The JGroups test ensures that all nodes remain active in the cluster for clustered Sterling B2B Integrator environments.

The JGroups test fails when the test finds any log record of a node that left a cluster. If you have a clustered installation of Sterling B2B Integrator, view your system logs to determine when the node left the cluster. If there are multiple records of nodes that left the cluster outside of a planned node outage, your system might have network or connectivity problems.

For more information about managing threads, see [Controlling the Threads](#).

The Jetty Threads test has a severity level of 2, ERROR.

Ports

The Ports test ensures that the HTTP Server Adapter, FTP Server Adapter, and the SFTP Server Adapter do not use the same port. Ensure that your adapters are set to different ports.

Note: Multiple adapters that access the same port are acceptable only for clustered environments.

The Ports test has a severity of 2, WARNING.

Overrides

The Overrides test determines whether system properties files were changed. The Overrides test ensures your system's .in property files remain unchanged. Ensure that you edit only the customer_overrides.properties file to override default configurations in Sterling B2B Integrator property files, and do not alter other .properties or .in files.

Note: The Overrides test does not function if the installation data from the installed_data directory is deleted. The installed_data directory contains the base installation data for all installs, patches, and fixes applied to Sterling B2B Integrator. The Overrides test compares the properties files to the original installation data to ensure that they remain unchanged.

The Overrides test has a severity level of 2, ERROR.

Thread Stealing

The Thread Stealing test ensures that fair-share scheduling queues in Sterling B2B Integrator, other than the designated thread stealing queue, are thread stealing disabled. Ensure that the AllowStealing parameter for each queue is set to FALSE, except for Queue 7. Queue 7 is the only queue that is designated for thread stealing in Sterling B2B Integrator.

For more information about configuring queues, see Tuning Queues.

The Thread Stealing test has a severity level of 3, SEVERE.

Expired Certificate

The Expired Certificate test determines whether the validity period of a digital certificate is nearing expiration. Digital certificates that expire within five days of the current date are flagged by the test. Ensure that your digital certificates are up-to-date. It is good practice to replace or update your digital certificates within five days of expiration.

For more information about managing certificate expiration dates, see Check the Expiration Date of a System Certificate .

The Expired Certificate test has a severity of 2, ERROR.

The Heap Water Mark and Nursery to Heap Ratio tests check settings in your particular Java virtual machine (JVM). For information about configuring a HotSpot JVM, see Introduction to HotSpot JVM Performance and Tuning. For information about configuring an IBM JVM, see Introduction to the IBM® JVM Performance and Tuning Guidelines.

Heap High Water Mark

The Heap High Water Mark test ensures that the heap high water mark is less than 25% of the maximum heap size. The maximum heap size is the total memory allocation for the Java virtual machine (JVM). The heap high water mark is the memory usage of the Java virtual machine. If the heap high water mark is consistently less than the suggested usage of the total heap size, consider reducing the maximum heap size. You can reallocate your memory resources elsewhere.

For more information about configuring heap settings for your particular JVM, see Edit Performance Configuration Settings.

The Heap High Water Mark test has a severity of 1, WARNING.

Nursery to Heap Ratio

The Nursery to Heap Ratio test determines whether the percentage of heap consumption by the nursery is excessive. Ensure that your nursery consumes between 1/4 to 1/3 of the total heap size for optimal performance. If more memory is needed for your system, ensure that the nursery consumption does not exceed more than half of the total heap size.

For more information about configuring heap settings for your particular JVM, see Edit Performance Configuration Settings.

The Nursery to Heap Ratio test has a severity level of 1, WARNING.

The Active Connections and Load Balancing tests only appear in the HealthCheck utility if Sterling B2B Integrator runs on an Oracle database in a clustered environment.

Active Connections

The Active Connections test ensures that the Oracle Real Application Cluster (RAC) has a single active connection. The Active Connections test checks the number of actual database connections. Ensure that LOAD_BALANCING is set to OFF.

The Active Connections test has a severity of 2, ERROR.

Load Balancing

The Load Balancing test ensures that load balancing is disabled for the Oracle Real Application Cluster (RAC). Disabled load balancing is an attribute of an Oracle RAC configured for failover support or high availability. Ensure that LOAD_BALANCING is set to OFF, and FAILOVER is set to ON.

The Load Balancing test has a severity of 2, ERROR.

Note: For more information about configuring an Oracle RAC for high availability, see Using Oracle Real Application Clusters (RAC) for High Availability.

The Config scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

Database Scanners

The Database Scanner ensures that the database system that Sterling B2B Integrator uses is configured optimally. IBM DB2, Oracle or MSSQL databases are supported for the HealthCheck Tool.

Database Scanners Details

Sterling B2B Integrator uses a database server as a repository for transactional, reference, and history data that it generates and uses. You can check the health of your database with the HealthCheck utility. The Database Scanner ensures that the database system that Sterling B2B Integrator uses is configured optimally. IBM

DB2, Oracle or MSSQL databases are supported for the HealthCheck Tool.

DB2 Database Scanner:

The Database Scanner ensures that the DB2 database system that Sterling B2B Integrator uses is configured optimally.

DB2 Database Scanner Details

The Database Scanner ensures that the DB2 database system that Sterling B2B Integrator uses is configured optimally. For more information about configuring IBM DB2 for use with Sterling B2B Integrator, see IBM® DB2® for LUW Configuration and Monitoring.

Disk Space

The DB2 Disk Space test ensures that a reasonable amount of disk space remains. The Disk Space test compares the remaining disk space to a threshold to determine whether a reasonable amount of disk space remains. You might consider enabling `autoresize` for all DMS (database managed space) table spaces that are close to full capacity.

DB2 Index Fragmentation

The DB2 Index Fragmentation determines whether there are fragmented indices in your database, by checking large tables for fragmentation. The index might require rebuilding if there are large tables with fragmentation. A decrease in system performance may indicate a high occurrence of fragmentation.

Note: In some cases, the `reorgchk` utility might recommend table reorganization, even after a table reorg operation is performed. You should analyze `reorgchk` utility recommendations and assess the potential benefits against the costs of performing a reorganization. The `REORGCHK` command returns statistical information about data organization and can advise you about whether particular tables or indexes need to be reorganized. However, running specific queries against the `SYSSTAT` views at regular intervals or at specific times can build a history that will help you to identify trends that have potentially significant performance implications.

Settings

The Settings test ensures that your DB2 database system settings match the settings that are required for use with Sterling B2B Integrator. For more information about the required database settings for Sterling B2B Integrator, see Recommended settings for IBM DB2 registry variables and Recommended Settings for DBM CFG Parameters.

Settings has the following subtests:

Eval Uncommitted

Suggested value is 0N.

Skip Deleted

Required value is 0N.

Skip Inserted

Required value is 0N.

Use Alternate Page Cleaning

Suggested value is ON.

Lock to RB

Suggested value is STATEMENT.

Monitor Buffer Pool

Suggested value is ON.

Monitor Lock

Suggested value is ON.

Monitor Sort

Suggested value is ON.

Monitor Statements

Suggested value is ON.

Monitor Table

Suggested value is ON.

Monitor Timestamp

Suggested value is ON.

Monitor Unit of Work

Suggested value is ON.

Monitor Heap Size

Suggested value is ON.

For more information about the IBM DB2 Database, see DB2 for Linux UNIX and Windows.

MSSQL Database Scanner:

The Database Scanner ensures that the Microsoft SQL Server database system that Sterling B2B Integrator uses is configured optimally.

MSSQL Database Scanner Details

The Database Scanner ensures that the Microsoft SQL Server database system that Sterling B2B Integrator uses is configured optimally. For more information about configuring Microsoft SQL Server for use with Sterling B2B Integrator, see Microsoft SQL Server Configuration and Monitoring.

MSSQL Disk Space

The MSSQL Disk Space test ensures that a reasonable amount of disk space remains. The Disk Space test compares the remaining disk space to the threshold that is defined in a threshold to determine whether a reasonable amount of disk space remains.

MSSQL Index Fragmentation

The MSSQL Index Fragmentation determines whether there are fragmented indices in your database, by checking large tables for fragmentation. The

index might require rebuilding if there are large tables with fragmentation. A decrease in system performance may indicate a high occurrence of fragmentation.

Note: In some cases, it may not be possible or important to defragment indexes. You should assess the potential benefits against the costs of performing a reorganization.

Settings

The Settings test ensures that your Microsoft SQL Server database system settings match the required settings for use with Sterling B2B Integrator. For more information about the required database settings for Sterling B2B Integrator, see Recommended database-specific settings for Microsoft SQL Server.

Settings has the following subtests:

Collation

Required value is SQL_Latin1_General_CP850_Bin.

Is Auto Create Statistics

Suggested value is 1.

Is Auto Update Statistics

Suggested value is 1.

Page Verify Option

Suggested value is CHECKSUM.

Read Committed Snapshot

Suggested value is 1.

Oracle Database Scanner:

The Database Scanner ensures that the Oracle database system that Sterling B2B Integrator uses is configured optimally.

Oracle Database Scanner Details

The Database Scanner ensures that the Oracle database system that Sterling B2B Integrator uses is configured optimally. HealthCheck supports Oracle databases with a version of 10g or higher. For more information about configuring an Oracle database for use with Sterling B2B Integrator, see Oracle Database Configuration and Monitoring.

Oracle Disk Space

The Oracle Disk Space test ensures that a reasonable amount of disk space remains. The Disk Space test compares the remaining disk space to the threshold that is defined in a threshold to determine whether a reasonable amount of disk space remains.

Oracle Index Fragmentation

The Oracle Index Fragmentation test determines whether there are fragmented indices in your database, by checking large tables for fragmentation. The index might require rebuilding if there are large tables with fragmentation. A decrease in system performance might indicate a high occurrence of fragmentation.

Note: In some cases, it may not be possible or important to defragment indexes. You should assess the potential benefits against the costs of performing a reorganization.

Table Compression

The Table Compression test determines whether compression is enabled for the following tables: CORRELATION_SET, DATA_TABLE, DOCUMENT, TRANS_DATA, WORKFLOW_CONTEXT, ARCHIVE_INFO, and MBX_MESSAGE. Compressing these tables can improve your system performance by reducing storage costs and optimizing data access.

Note: The Table Compression test is available only for Oracle 12c.

Index Compression

The Index Compression test determines whether compression is enabled for the indices in the same set of tables in the Table Compression test: CORRELATION_SET, DATA_TABLE, DOCUMENT, TRANS_DATA, WORKFLOW_CONTEXT, ARCHIVE_INFO, and MBX_MESSAGE. Compressing the indices of these tables can improve your system performance by reducing storage costs and optimizing data access.

Note: The Index Compression test is available only for Oracle 12c.

Settings

The Settings test ensures that your Oracle database system settings match the settings that are required for use with Sterling B2B Integrator. For more information about the required database settings for Sterling B2B Integrator, see Oracle init parameter configuration checklist.

Settings has the following subtests:

Character Set

Character Set manages the storage character data in the Oracle database. The UTF8 character set best matches the default character set for Java and prevents unnecessary conversion of character data.

Required value is AL32UTF8.

Cursor Sharing

Cursor Sharing determines whether SQL sent from a client is parsed each time, or if the server can reuse, or "share", the compiled plan. Sterling B2B Integrator requires the setting to be EXACT for performance and data integrity.

Required value is EXACT.

Open Cursors

Open Cursors determines the number of cursors that the Oracle server creates.

Suggested value is 2000.

Optimizer Mode

Optimizer Mode determines the mode that the optimizer uses to select the proper execution path to fulfill query results, among other functions.

Suggested value is all_rows.

Processes (Per Node)

Processes determines the maximum number of processes that the Oracle server creates.

Suggested value is 500.

SGA (System Global Access) Max Size

SGA Maximum determines the amount of memory that is allocated to the System Global Area (SGA).

Suggested value is 1000.

Timed Statistics

Timed Statistics determines whether database statistics for particular times are logged by Oracle.

Undo Management

Suggested value is AUTO.

PGA (Program Global Area) Aggregate Target

PGA Aggregate Target determines the amount of memory that is allocated to the Program Global Area (PGA) target aggregate.

Note: The suggested best practices and values for PGA (Program Global Area) Aggregate Target differ depending upon which version of Oracle you use:

Oracle 10g

Suggested value is 1.

Oracle 11g and higher

If you use automatic memory management, the SGA Target and PGA Aggregate Target parameters set the minimum size settings for their respective memory areas. To allow Oracle to take full control of the memory management, ensure that these parameters are set to 0.

Suggested value is 0.

SGA (System Global Access) Target

SGA Target determines the target value that the Oracle server uses for the automatic allocation of SGA pool resources.

Note: The suggested best practices and values for SGA (System Global Access) Target differ depending upon which version of Oracle you use:

Oracle 10g

Suggested value is 100.

Oracle 11g and higher

If you use automatic memory management, the SGA Target and PGA Aggregate Target parameters set the minimum size settings for their respective memory areas. To allow Oracle to take full control of the memory management, ensure that these parameters are set to 0.

Suggested value is 0.

Note: The following subtests are only displayed for versions of Oracle 11g and higher:

Memory Target

Memory Target determines system-wide usable memory available to the Oracle database. The database self-tunes memory by reducing or enlarging the SGA and PGA as needed.

Suggested value is 0.

Memory Max Target

Memory Max Target specifies the maximum value to which the database administrator can set Memory Target.

Suggested value is 0 or the value of Memory Target.

Dynamic Tracking Data Scanner

The Dynamic Tracking Data Scanner tests for optimization and efficiency in handling business processes and messages.

Dynamic Tracking Data Scanner Details

The Dynamic Tracking Data Scanner tests for optimization and efficiency in handling business processes and messages.

Requeue

The Requeue test is not yet available in this version of HealthCheck.

Size Process Data

The Size Process Data test determines whether the number of pages of persisted business process data is excessive. For large business processes that are consistently persisted, you might consider reducing the amount of persisted data. Examine the process data structure in process runs, and use the Release service to purge unnecessary data at certain points in the workflow.

The Size Process Data test has a severity of 1, WARNING.

Halted Process

The Halted Process test determines whether the number of halted processes that occurred is too large.

The Halted Process Test has a severity of 2, ERROR.

Interrupted Process

The Interrupted Process test determines whether the number of interrupted processes that occurred is too large.

The Interrupted Process test has a severity of 2, ERROR.

Mailbox Old

The Mailbox Old test determines whether the number of old messages in the mailbox is too large.

The Mailbox Old test has a severity of 1, WARNING.

Mailbox Unextractable

The Mailbox Unextractable test determines whether the number of unextractable messages in the mailbox is too large.

The Mailbox Unextractable test has a severity of 2, WARNING.

Process Length

The Process Length test ensures that the length of time to process a business process is reasonable. The test compares the process time in the queue to `AE_ExecuteCycle`. If there are many business processes that exceed the number of steps per cycle for a queue, consider increasing the value of `AE_ExecuteCycle` for that queue in the `customer_overrides.properties` file. Otherwise, move the process to a different queue with enough steps per cycle. For more information about configuring processing cycles in queues, see Tuning Queues.

The Process Length test has a severity of 2, ERROR.

Waiting on IO Low Return Time

The Waiting on IO Low Return Time test reports an error if a business process in `WAITING_ON_IO` state returns to running quickly. There is overhead incurred when a business process is moved to `WAITING_ON_IO` and then resumed. The overhead is acceptable if the business process spends a long time blocked. If the process does not spend a long time blocked, it would be better for the system to leave the business process alone and wait for the step to complete, rather than entering `WAITING_ON_IO` state. The wait time is defined as the amount of time between the moment a business process begins waiting on IO and the moment the system resumes handling the business process. It is ideal for system performance if the wait time is greater than the overhead incurred by entering `WAITING_ON_IO` state. The test looks for processes where the wait time is less than the threshold value that is defined by this test's **shortWait** property.

The Waiting on IO Low Return Time test has a severity of 1, WARNING.

The Dynamic Tracking Data scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

Host System Scanner

The Host System scanner ensures that your operating system settings are optimal for Sterling B2B Integrator.

Host System Scanner

HealthCheck functions on Windows, Linux, and UNIX systems. You can ensure that your operating system settings, such as CPU usage, system processes, and system memory, are optimal for Sterling B2B Integrator with the Host System scanner.

Dump Files

The Dump Files test ensures that no Java core or heap dump files were generated in Sterling B2B Integrator. Java core and heap dump files are generated to the `install_dir/noapp/bin` directory. Java core files are generated manually or by your Java virtual machine (JVM) during an event, error, or malfunction. The Java core file contains information about the event that caused the issue, including environment, stack trace, and garbage collection information. Heap dump files The presence of Java core

or heap dump files might indicate a serious issue with your JVM. Ensure that the Java core or heap dump files were not manually generated. If the files were generated as a result of an error malfunction, investigate your JVM.

The Dump Files test has a severity of 2, ERROR.

Disk Free

The Disk Free test ensures that a reasonable amount of disk space remains for Sterling B2B Integrator directories. The test compares the remaining disk space to the threshold that is defined in the **Min Free** property to determine whether a reasonable amount of disk space remains for the documents, logs, and tmp directories. Ensure that each directory has at least 1 GB of freed disk space.

The Disk Free test has a severity level of 3, SEVERE.

Document Directory Count

The Document Directory Count test ensures that a reasonable number of files exist in the document directory and its child directories. The document directory is divided into child directories that are generated depending on the frequency of the `document_dir_extension` property. The test compares the number of files in each individual child directory to the threshold that is defined in the **Threshold** parameter. Use the `customer_overrides.properties` file to overwrite the `document_dir_extension` in the `jdbc.properties` file. Change `document_dir_extension` to a lower frequency in `SimpleDateFormat`.

The Document Directory Count has a severity level of 2, ERROR.

Old Logs

The Old Logs test determines whether there are old logs in the log directory. Ensure that you regularly delete old or unnecessary logs from Sterling B2B Integrator to conserve system resources.

The Old Logs test has a severity level of 1, WARNING.

Thread Count

The Thread Count test determines whether the number of overall threads in your system is excessive. Sterling B2B Integrator creates approximately 300 threads that are grouped under system threads, adapter threads, common JVM threads, third-party software threads, and several other threads that occur only once for different purposes. Examine your system threads to determine which threads for which components are running. Ensure that unused HTTP or FTP adapters do not contribute unnecessary threads to the system. For more information about managing system threads, see *Optimizing and Controlling the System Threads*.

The Threshold test has a severity level of 2, ERROR.

ULimit

The ULimit test ensures that the setting for the `time` parameter for `limit` or `ulimit` in your operating system, matches the setting that is required for Sterling B2B Integrator. In most environments, ensure that the `limit` or `ulimit` parameter is set to `unlimited` or `4096`.

The ULimit test has a variable severity.

Note: ULimit is implemented for Linux/UNIX environments only.

CPU Used

The CPU Used test determines what percentage of the CPU is used by Sterling B2B Integrator. Examine your operating system loads to determine why the CPU usage is high.

The CPU Test has a severity level of 3, SEVERE.

IO Wait

The IO Wait test determines the percentage of time the CPU was idle due to an outstanding disk input/output request. Examine your operating system loads to determine why the CPU idling is high. You might consider deploying Sterling B2B Integrator on a dedicated system.

The IO Wait Test has a severity level of 1, WARNING.

Note: IO Wait is implemented for Linux/UNIX environments only.

Processes

The Processes test determines the number of all system processes running in your operating system. Running too many system processes can diminish system resources, and negatively affect Sterling B2B Integrator performance. Ensure that you close unnecessary processes when you run Sterling B2B Integrator. You might also consider upgrading your disk or deploying Sterling B2B Integrator on a dedicated system.

The Processes Test has a severity level of 2, ERROR.

NFS Mount

The NFS Mount test ensures that the document directory is not NFS (Network File System) mounted. A network file system is a distributed file system protocol that allows network access to data stored on a remote mount. Accessing remote storage is slower than accessing local storage. Therefore, consider mounting the document directory locally and cross mount to other boxes if necessary.

The NFS test has a severity level of 1, WARNING.

Note: NFS Mount is implemented for Linux/UNIX environments only.

The Host System scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

Log Scanner

The Log scanner checks logs in Sterling B2B Integrator for irregularities that contribute to diminished system performance.

Log Scanner Details

Sterling B2B Integrator system logs contain useful information about various operations in your system. Sterling B2B Integrator logs are generated in the *install_dir/logs* directory. The Log scanner checks logs in Sterling B2B Integrator for irregularities that contribute to diminished system performance.

Tip: The Out of Memory test checks all existing log files in the logs directory. The test can take a long time to process if your log files are not regularly cleared. Remove old or unnecessary log files or disable the Out of Memory test to ensure that the HealthCheck utility functions correctly.

DMI Queue

The DMI Queue test scans relevant messages in the log files to determine whether the DMI queue was ever filled. If the DMI queue is continually full, certain Sterling B2B Integrator components might not function. If your database is at or near capacity, the DMI queue can fill quickly with outstanding requests. Consider examining your database to determine how to improve your database performance. You might also consider increasing the number of visibility threads, the size of the queue capacity, or decreasing the number of components that generate DMI event messages in the `customer_overrides.properties` file.

In the `customer_overrides.properties` file:

- Increase the number of visibility threads by increasing the value of `dmvisibility.number_visibility_threads`.
- Increase the amount of queue capacity by increasing the value of `dmvisibility.event_input_queue_capacity`.
- Replace all with specific components for event generation in `dmvisibility.visibility_coverage`.

For more information about configuring visibility and the DMI queue, see [Changing Advanced File Transfer Settings](#).

Note: If you also use Sterling File Gateway, ensure that CommBase is included in the visibility coverage. CommBase is required for Sterling File Gateway.

The DMI Queue test has a severity of 3, SEVERE.

Out of Memory

The Out of Memory test scans relevant messages in the log files to determine whether the Java virtual machine (JVM) was ever out of memory. Consider increasing the memory that is allocated, or the amount of physical memory available to your JVM.

For more information about managing Out of Memory errors, see [Correcting Out-Of-Memory Errors](#).

The Schedule test has a severity of 3, SEVERE.

The Log scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

Password Scanner

The Password Scanner ensures that the strength of users' passwords is sufficiently secure.

Password Scanner Details

Included in HealthCheck Version 1.0.3.1 and later, the Password Scanner consists of two tests: the Super User test and the All User test. Each test checks the password of the users in the selected group and produces an error if their password is 'password,' or matches a password on a preset list of common passwords. This list can be managed in the HealthCheck properties file.

If a user's password is 'password,' the scanner produces a SEVERE error. If a user's password matches one of the passwords on the list, the scanner produces an ERROR error.

Since both of these tests reveal information about users' passwords, results can only be seen by admin users, or super users. A non-super user cannot see the Password Scanner as an option, although it is still run in the background with all other tests. When it is run by a non-super user, the run dialog shows that the Password Scanner ran but produced no results.

Super users can enable and disable each test individually from the HealthCheck UI, or the HealthCheck properties file through the command line.

Super User Test

The Super User test checks the passwords of all users in the system that are part of the super group.

All User Test

The All User test checks the passwords of all users in the system, regardless of whether or not they are part of the super group.

Schedule Scanner

The Schedule scanner ensures that scheduled services, business processes, or rules that can optimize performance in Sterling B2B Integrator are enabled.

Schedule Scanner Details

You can configure schedules in Sterling B2B Integrator to run business processes, services, and rules at automatic intervals. Following scheduling best practices can help you to improve communications and optimize system operations. The Schedule scanner ensures that scheduled services, business processes, or rules that can optimize performance in Sterling B2B Integrator are enabled. For more information about scheduling, see Scheduling.

Mailbox

The Mailbox test ensures that either the Mailbox Evaluate All Automatic Rules service or the Mailbox Evaluate All Automatic Rules Sub Min business process is enabled. If both mailbox evaluator rules are selected, contention issues such as duplicate records can occur. Ensure that only one mailbox evaluator is enabled. Also, ensure that at least one rule is enabled. For more information about enabling or disabling schedules, see Enabling a Schedule or Disabling a Schedule.

Services

The Services test ensures that the Purge, AssociateBPsToDocs, and the Index Business Process services are enabled. These three services work together to conserve system resources by archiving or removing eligible documents. Enabling these services simultaneously can prevent accumulation of unnecessary data in the database.

Ensure that the Purge, AssociateBPsToDocs, and the Index Business Process services are enabled with the Services test.

- The Index Business Process service flags completed or terminated business processes for archiving or purging. For more information about the Index Business Process service, see Index Business Process Service.
- The AssociateBPsToDocs schedule associates expired documents with a business process ID for archiving or purging. For more information about the schedule, Default Schedules for Supplied Services and Adapters.
- The Purge service purges flagged business processes or documents. These three services work together to conserve system resources by archiving or removing eligible documents. For more information about the Purge service, see Purge Service.

The Services test has a severity of 3, SEVERE.

The Schedule Process scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

Static Config Scanner

The Static Config scanner determines whether fair-share scheduling queues are configured optimally.

Static Config Scanner Details

The Static Config scanner determines whether fair-share scheduling queues are configured optimally. The Static Config scanner tests all nine queues in Sterling B2B Integrator. However, you can select queues for the scanner to ignore with the **Skip Queues** property.

Average Cycle

The Average Cycle test calculates the average number of steps per business process and ensures that the value of the `AE_ExecuteCycle` parameter for each queue is greater than that average. If the value of the `AE_ExecuteCycle` parameter is less than the average, processes that take more steps than average to complete, are interrupted and terminated. Ensure that the value of the `AE_ExecuteCycle` parameter in the `install_dir/noapp.properties_platform_ifcresources_ext` file is large enough to allow all your business processes to complete. For more information about configuring queues, see Tuning Queues.

The Average Cycle Test has a severity level of 3, SEVERE.

Cycle Time

The Cycle Time test ensures that the value of `AE_ExecuteCycleTime` parameter for each queue (in milliseconds) is greater than the threshold value assigned to **Low Time**.

Are you using the fair-share scheduling queues in Sterling B2B Integrator to prioritize and manage your business processes? You might want to check whether your queue configuration parameters are at optimized settings with the Cycle Time test. Ensure that the value of the `AE_ExecuteCycleTime` parameter in the `install_dir/`

noapp.properties_platform_ifcresources_ext file is large enough to allow all your business processes to complete. For more information about configuring queues, see Tuning Queues.

The Cycle Time Test has a severity level of 3, SEVERE.

The Static Config scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or improve performance, nor does a difference in suggested settings indicate a serious system error.

System Process Scanner

The System Process scanner ensures that property values, scheduling, and enabling is optimized for a specific selection of business processes in Sterling B2B Integrator.

System Process Scanner

The System Process scanner ensures that property values, scheduling, and enabling is optimized for a specific selection of business processes in Sterling B2B Integrator. Only business processes that are included in the **Process List** are scanned by the System Process scanner.

Active

The Active test ensures that each business process listed in the **Process List** property is enabled. Ensure that each business process is enabled.

The Active test has a severity of 2, WARNING.

Schedule

The Schedule test ensures that the schedule for each business process that is listed in the **Process List** property is enabled. The test also ensures that the Execution Day and Execution Time parameters remain unchanged from the original suggested settings.

The Schedule test has a severity of 2, WARNING.

Past Completion

The Past Completion test ensures that business processes are completed within the threshold that is defined in **Failure Time Period**. The Past Completion test also ensures that the number of business process failures does not exceed the threshold that is defined in **Failure Amount**. Business processes that take a long time to complete might indicate issues with your database or with locking. Investigate the business process to determine why it took time to complete or failed to complete.

The Past Completion test has a severity of 2, WARNING.

Properties

The Properties test is an extensibility feature. For details about the Properties test, see “Extensibility Properties” on page 40.

The System Process scanner includes tests that help you to determine what are the best practices to follow for your particular system. Tests are designed to ensure that your settings match the settings suggested for Sterling B2B Integrator, but those settings might not necessarily be the best for your particular system or

improve performance, nor does a difference in suggested settings indicate a serious system error.

Installing HealthCheck

Understand the best practices for the installation of the HealthCheck utility.

Installing HealthCheck for Sterling B2B Integrator Version 5.2.6.1

Install HealthCheck on an instance of Sterling B2B Integrator Version 5.2.6.1.

About this task

HealthCheck V1.0.3.1 is automatically installed with Sterling B2B Integrator V5.2.6.1. The latest release of HealthCheck is also available for download on Fix Central.

Installation is unaffected by clustered or non-clustered environments.

To install HealthCheck on an instance of Sterling B2B Integrator:

Procedure

1. Download the latest HealthCheck release from Fix Central.
2. Copy the HealthCheck .jar file into the `<install_dir>/packages` directory.
3. Navigate to the Sterling B2B Integrator installation directory:
 - UNIX: `<install_dir>/bin`
 - Windows: `<install_dir>\bin`

where `<install_dir>` is the directory where Sterling B2B Integrator is installed.

4. Enter the command `hardstop.sh` on a UNIX system or `stopWindowsService.cmd` on a Windows system to stop all Sterling B2B Integrator processes.
5. Run the `InstallService` script on the HealthCheck .jar file.
 - On a UNIX system, run the command `InstallService.sh <package_dir>/healthCheck_xxxxxxx.jar`.
 - On a Windows system, run the command `InstallService.cmd <package_dir>\healthCheck_xxxxxxx.jar`.

where `xxxxxxx` is the version number for HealthCheck.

6. Enter the command `run.sh` on a UNIX system or `startWindowsService.cmd` on a Windows system to restart Sterling B2B Integrator.

What to do next

After installation, you can access the HealthCheck utility from your browser if you navigate to the following URL: `http://SI_install_IP_address:port_number/healthcheck`. You can also run HealthCheck from the command line by executing `healthCheck.sh` on a UNIX system or `healthCheck.cmd` on a Windows system.

Installing HealthCheck for Sterling B2B Integrator Version 5.2.6

Install HealthCheck on an instance of Sterling B2B Integrator Version 5.2.6.

About this task

HealthCheck V1.0.3.0 is automatically installed with Sterling B2B Integrator V5.2.6. Additionally, the latest release of HealthCheck is available for download on Fix Central.

Installation is unaffected by clustered or non-clustered environments.

To install HealthCheck on an instance of Sterling B2B Integrator:

Procedure

1. Download the latest HealthCheck release from Fix Central.
2. Copy the HealthCheck .jar file into the `<install_dir>/packages` directory.
3. Navigate to the Sterling B2B Integrator installation directory:
 - UNIX: `<install_dir>/bin`
 - Windows: `<install_dir>\bin`

where `<install_dir>` is the directory where Sterling B2B Integrator is installed.

4. Enter the command `hardstop.sh` on a UNIX system or `stopWindowsService.cmd` on a Windows system to stop all Sterling B2B Integrator processes.
5. Run the `InstallService` script on the HealthCheck .jar file.
 - On a UNIX system, run the command `InstallService.sh <package_dir>/healthCheck_xxxxxxx.jar`.
 - On a Windows system, run the command `InstallService.cmd <package_dir>\healthCheck_xxxxxxx.jar`.

where `xxxxxxx` is the version number for HealthCheck.

6. Enter the command `run.sh` on a UNIX system or `startWindowsService.cmd` on a Windows system to restart Sterling B2B Integrator.

What to do next

After installation, you can access the HealthCheck utility from your browser if you navigate to the following URL: `http://SI_install_IP_address:port_number/healthcheck`. You can also run HealthCheck from the command line by executing `healthCheck.sh` on a UNIX system or `healthCheck.cmd` on a Windows system.

Installing HealthCheck for Sterling B2B Integrator Version 5.2.5

Install HealthCheck on an instance of Sterling B2B Integrator Version 5.2.5.

About this task

HealthCheck V1.0.2.0 is automatically installed with Sterling B2B Integrator V5.2.5. The latest release of HealthCheck is available for download on Fix Central.

Installation is unaffected by clustered or non-clustered environments.

To install HealthCheck on an instance of Sterling B2B Integrator:

Procedure

1. Download the latest HealthCheck release from Fix Central.
2. Copy the HealthCheck .jar file into the `<install_dir>/packages` directory.

3. Navigate to the Sterling B2B Integrator installation directory:
 - UNIX: `<install_dir>/bin`
 - Windows: `<install_dir>\bin`

where `<install_dir>` is the directory where Sterling B2B Integrator is installed.
4. Enter the command `hardstop.sh` on a UNIX system or `stopWindowsService.cmd` on a Windows system to stop all Sterling B2B Integrator processes.
5. Run the `InstallService` script on the `HealthCheck.jar` file.
 - On a UNIX system, run the command `InstallService.sh <package_dir>/healthCheck_xxxxxxx.jar`.
 - On a Windows system, run the command `InstallService.cmd <package_dir>\healthCheck_xxxxxxx.jar`.

where `xxxxxxx` is the version number for `HealthCheck`.
6. Enter the command `run.sh` on a UNIX system or `startWindowsService.cmd` on a Windows system to restart Sterling B2B Integrator.

What to do next

After installation, you can access the `HealthCheck` utility from your browser if you navigate to the following URL: `http://SI_install_IP_address:port_number/healthcheck`. You can also run `HealthCheck` from the command line by executing `healthCheck.sh` on a UNIX system or `healthCheck.cmd` on a Windows system.

Installing HealthCheck for Sterling B2B Integrator Version 5.2.4.2

Install `HealthCheck` on an instance of Sterling B2B Integrator Version 5.2.4.2.

About this task

The latest release of `HealthCheck` is available for download on Fix Central.

Installation is unaffected by clustered or non-clustered environments.

To install `HealthCheck` on an instance of Sterling B2B Integrator:

Procedure

1. Download the latest `HealthCheck` release from Fix Central.
2. Copy the `HealthCheck.jar` file into the `<install_dir>/packages` directory.
3. Navigate to the Sterling B2B Integrator installation directory:
 - UNIX: `<install_dir>/bin`
 - Windows: `<install_dir>\bin`

where `<install_dir>` is the directory where Sterling B2B Integrator is installed.
4. Enter the command `hardstop.sh` on a UNIX system or `stopWindowsService.cmd` on a Windows system to stop all Sterling B2B Integrator processes.
5. Run the `InstallService` script on the `HealthCheck.jar` file.
 - On a UNIX system, run the command `InstallService.sh <package_dir>/healthCheck_xxxxxxx.jar`.
 - On a Windows system, run the command `InstallService.cmd <package_dir>\healthCheck_xxxxxxx.jar`.

where `xxxxxxx` is the version number for `HealthCheck`.

6. Enter the command `run.sh` on a UNIX system or `startWindowsService.cmd` on a Windows system to restart Sterling B2B Integrator.

What to do next

After installation, you can access the HealthCheck utility from your browser if you navigate to the following URL: `http://SI_install_IP_address:port_number/healthcheck`. You can also run HealthCheck from the command line by executing `healthCheck.sh` on a UNIX system or `healthCheck.cmd` on a Windows system.

Installing HealthCheck for Sterling B2B Integrator Version 5.2.4.1 and earlier

Install HealthCheck on an instance of Sterling B2B Integrator Version 5.2.4.1 and earlier.

About this task

The latest release of HealthCheck is available for download on Fix Central.

Installation is unaffected by clustered or non-clustered environments.

Note: Installing HealthCheck removes any interim fixes previously installed on this instance due to a limitation in Install Service. These interim fixes will need to be reinstalled after you install HealthCheck. This issue is fixed in Sterling B2B Integrator V5.2.4.2.

To install HealthCheck on an instance of Sterling B2B Integrator:

Procedure

1. Download the latest HealthCheck release from Fix Central.
2. Copy the HealthCheck .jar file into the `<install_dir>/packages` directory.
3. Navigate to the Sterling B2B Integrator installation directory:
 - UNIX: `<install_dir>/bin`
 - Windows: `<install_dir>\bin`

where `<install_dir>` is the directory where Sterling B2B Integrator is installed.

4. Enter the command `hardstop.sh` on a UNIX system or `stopWindowsService.cmd` on a Windows system to stop all Sterling B2B Integrator processes.
5. Run the `InstallService` script on the HealthCheck .jar file.
 - On a UNIX system, run the command `InstallService.sh <package_dir>/healthCheck_XXXXXXX.jar`.
 - On a Windows system, run the command `InstallService.cmd <package_dir>\healthCheck_XXXXXXX.jar`.

where `XXXXXXX` is the version number for HealthCheck.

6. Reinstall the latest interim fix.
7. Enter the command `run.sh` on a UNIX system or `startWindowsService.cmd` on a Windows system to restart Sterling B2B Integrator.

What to do next

After installation, you can access the HealthCheck utility from your browser if you navigate to the following URL: `http://SI_install_IP_address:port_number/`

healthcheck. You can also run HealthCheck from the command line by executing `healthCheck.sh` on a UNIX system or `healthCheck.cmd` on a Windows system.

Customizing HealthCheck

Customize HealthCheck settings to optimize your specific Sterling B2B Integrator configuration.

HealthCheck ensures that Sterling B2B Integrator is correctly configured by comparing your system settings to scanner and test property settings. These scanner and test properties are set to values that are required for Sterling B2B Integrator. In most situations, it is not suggested that you change these settings. However, if it necessary to change them for your particular system, you can customize property settings in the browser user interface or the HealthCheck property files.

To change the values of properties in the user interface, navigate to the property of the test or scanner to change, and enter the new value. You can easily change property values in the HealthCheck user interface, but changed values will revert to their original values after a test is run or after you log out of the utility.

You can also change the values of properties with the HealthCheck properties files. Unlike the user interface, changed values remain changed whether a test is run or you log out of HealthCheck or Sterling B2B Integrator. Values that are changed with the properties file are also accessible from the command-line interface. Ensure that you use the `customer_overrides.properties` file to change HealthCheck properties. Changing the `healthcheck.properties` file itself can negatively affect HealthCheck functionality.

Related concepts:

“HealthCheck Properties Overview” on page 27

Properties are suggested and required Sterling B2B Integrator settings defined in HealthCheck scanners and tests.

Reference

The HealthCheck reference includes more information on commands, messages, and best practices suggestions.

Commands

You can run HealthCheck scanners and tests from a command-line interface.

HealthCheck Commands

In addition to the browser user interface, you can also run scanners and tests from your command-line interface. Currently, HealthCheck command-line functions are limited to enabling and running tests. To configure and customize tests, use extensible properties, or to view error analysis, you must use the HealthCheck browser user interface.

You can access HealthCheck reports that are generated from test runs from the command line. HealthCheck reports are output to the `install_dir/reports/healthCheck/` directory. Ensure that you regularly clear out the reports file to conserve system resources.

The following commands are used to run the HealthCheck utility from the command line:

-h

is the Help command. The commands and abbreviated scanner and test names that are available for use in the command-line interface are displayed.

-ALL

enables and runs all scanners and tests in HealthCheck. A report with any errors or warnings is generated in the reports directory.

-S

is the Scanner command. The Scanner command both enables and runs scanners with the scanner short name. For example, to enable and run only the Business Process Scanner, System Process Scanner, and the Dynamic Tracking Data Scanner, enter:

```
-S BPS SPS DTDS
```

-T

is the Test command. The Test command both enables and runs specific tests with the scanner short name. For example, to enable and run only the X Path test in the Business Process Scanner, enter:

```
-T BPS.xPath
```

You can also find scanner and test short names in “HealthCheck Properties Overview”

HealthCheck Properties Overview

Properties are suggested and required Sterling B2B Integrator settings defined in HealthCheck scanners and tests.

Properties are values in the HealthCheck utility that are compared to your system and Sterling B2B Integrator configuration settings. HealthCheck ensures that Sterling B2B Integrator is correctly configured by comparing your system settings to scanner and test property settings. These scanner and test properties are set to values that are required for Sterling B2B Integrator. In most situations, it is not suggested that you change these settings. However, if it necessary to change them for your particular system, you can customize property settings in the browser user interface or the HealthCheck property files.

Related concepts:

“Customizing HealthCheck” on page 26

Customize HealthCheck settings to optimize your specific Sterling B2B Integrator configuration.

Global Scanner Properties

Global scanner properties are properties that are configured in one place, and then apply to all tests in all HealthCheck scanners.

Global Scanner Properties

HealthCheck scanners have the following global properties:

- **Reports** is a comma-separated list of strings that indicate part of a generated report name, and a filter of which items to put in that report.

Two PDF reports are generated by the **Reports** property: one report that details all of the recommendations and errors that are found in the course of the test, and a one report that details all of the errors found in a particular database.

Default value is `_All:,_Database:TestName=Database_Scanner`. Currently, this value is the only value that can be used in the **Reports** property.

- **Timeout** determines the maximum amount of time that is given to a scanner to complete all enabled tests before it reports a timeout error.

Default value is 1200 seconds, or 20 minutes.

- **Test Error Limit** determines the maximum number of errors that a given test can report. When the limit is reached, a message is recorded in the log and execution of that test is stopped immediately.

Default value is 50 errors.

Business Process Scanner Properties

Properties for the Business Process Scanner match the required settings for the optimization of business process work flows in Sterling B2B Integrator.

Global Properties

The Business Process Scanner has the following global properties:

- **Exclude** is a list that determines which business processes to exclude from the scan.
- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.

Default value is 120 seconds, or 2 minutes.

- **Progress Updating** determines how many business processes to check between progress update messages.

Default value is 500.

Test Properties

Each test in the Business Process scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 1. Business Process Scanner - Test Names and Properties. Displays each test in the Business Process Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
BPMeta	BPS.BPMeta	BusinessProcessScanner.BPMeta
Doc Info	BPS.DocInfo	BusinessProcessScanner.DocInfo
Message to Child	BPS.messageToChild	BusinessProcessScanner.messageToChild
Sync	BPS.sync	BusinessProcessScanner.sync
This Service	BPS.thisService	BusinessProcessScanner.thisService
X Path	BPS.xpath	BusinessProcessScanner.xpath
Doc to DOM	BPS.docToDOM	BusinessProcessScanner.docToDOM
Persistence	BPS.Persistence	BusinessProcessScanner.Persistence
Search	BPS.search	BusinessProcessScanner.search

Note: The Search test is an extensibility feature. For details about the Search test, see “Extensibility Properties” on page 40.

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

The Doc To DOM test has the following properties:

- **Excessive Doc To DOM** is a threshold value that is checked against the actual number of DocToDOM function calls to determine whether the quantity is excessive.
Default value is 3.

The Persistence test has the following properties:

- **Default On** compares the persistence of the current business process to the persistence level of the system default version of that business process. The persistence level of the system default business process is the preferred level.
- **Unwanted Persistences** is a value that represents an unwanted persistence level.
Default value is 1.

Config Scanner Properties

Properties for the Config Scanner match the required settings for fair-share scheduling queues, property file configurations, and Java virtual machine memory allocation.

Global Property

The Config Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Test Properties

Each test in the Config scanner has a property that enables or disables each test. Tests can be customized with the parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 2. Config Scanner - Test Names and Properties. Displays each test in the Config Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Active Connections	CS.activeConnections	ConfigScanner.activeConnections
J Groups	CS.jGroups	ConfigScanner.jGroups
Load Balancing	CS.loadBalancing	ConfigScanner.loadBalancing
Ports	CS.ports	ConfigScanner.ports
Thread Stealing	CS.threadStealing	ConfigScanner.threadStealing
Expired Certificate	CS.expiredCertificate	ConfigScanner.expiredCertificate
Heap High Water Mark	CS.heapHighWaterMark	ConfigScanner.heapHighWaterMark
Jetty Threads	CS.jettyThreads	ConfigScanner.jettyThreads

Table 2. Config Scanner - Test Names and Properties (continued). Displays each test in the Config Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Nursery To Heap Ratio	CS.nurseryToHeapRatio	ConfigScanner.nurseryToHeapRatio
Overrides	CS.overrides	ConfigScanner.overrides

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

The Jetty Threads test has the following properties:

- **Minimum** sets the ideal threshold value for the minimum number of jetty threads. Default value is 5.
- **Maximum** sets the ideal threshold value for the maximum number of jetty threads. Default value is 100.

The Overrides test has the following property:

- **Ignore** ignores certain property files that are overridden by the customer_overrides property file. Sterling B2B Integrator modifies some files when a fix pack or update is applied, or the environment is changed from a non-clustered environment to a clustered environment. The following files are included in **Ignore** by default:
 - version.properties_gis_ext
 - wizards.xml
 - propertyEncryption.properties.in
 - tuningDefaults.properties
 - pages.properties
 - report.properties.in
 - report.properties
 - jdbc.properties
 - jdbc.properties_afc_ext
 - ACTIVEMQDynamicclasspath.cfg
 - ACTIVEMQDynamicclasspath.cfg.in
 - CmdLine2server.properties
 - CmdLine2server.properties.in
 - customer_overrides.properties
 - customer_overrides.properties.in
 - healthCheck.properties

The Expired Certificate test has the following properties:

- **Ignore** determines which certificates to exclude from the Expired Certificates test. Enter certificate names delimited by a comma.
- **Days Until Expiration** is a threshold value that represents how far the expiration date is allowed from today. For example, if **Days Until Expiration** is set to five days from today, the Expired Certificate test returns all tests that expire within five days. Default value is 0 (days).

The Heap High Water Mark test has the following property:

- **Percent of Max** is a threshold value that represents a percentage of the total heap size. The Heap High Water Mark test compares this percentage to the heap high water mark to determine whether the heap size is too high.

Default value is 25.

The Nursery to Heap Ratio test has the following properties:

- **Max Nursery** is a threshold value that represents the maximum percentage of the heap that the nursery can consume. The Nursery to Heap Ratio test compares this percentage to the actual percentage of the heap that the nursery consumes to determine whether that percentage is excessive.

Default value is 30.

Dynamic Tracking Data Scanner Properties

Properties for the Dynamic Tracking Data Scanner match the required settings for handling Sterling B2B Integrator business processes and messages.

Global Property

Dynamic Tracking Data Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.

Default value is 120 seconds, or 2 minutes.

Test Properties

Each test in the Dynamic Tracking Data scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 3. Dynamic Tracking Data Scanner - Test Names and Properties. Displays each test in the Dynamic Tracking Data Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Requeue	DTDS.requeue	DynamicTrackingDataScanner.requeue
Size Process Data	DTDS.sizeProcessData	DynamicTrackingDataScanner.sizeProcessData
Halted Process	DTDS.haltedProcess	DynamicTrackingDataScanner.haltedProcess
Interrupted Process	DTDS.interruptedProcess	DynamicTrackingDataScanner.interruptedProcess
Mailbox Old	DTDS.mailboxOld	DynamicTrackingDataScanner.mailboxOld
Mailbox Unextractable	DTDS.mailboxUnextractable	DynamicTrackingDataScanner.mailboxUnextractable
Process Length	DTDS.processLength	DynamicTrackingDataScanner.processLength
Waiting on IO	DTD.waitingOnIO	DynamicTrackingDataScanner.waitingOnIO

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

Halted Process has the property:

- **Large Halt** is a threshold value that represents an excessive number of halted processes. The Halted Process test compares this value to the actual number of halted processes to determine whether the number of halted processes is too large.

Default value is 500.

Interrupted Process has the property:

- **Large Inter** is a threshold value that represents an excessive number of interrupted processes. The Halted Process test compares this value to the actual number of interrupted processes to determine whether the number of interrupted processes is too large.

Default value is 500.

Mailbox Old has the property:

- **Is Old** determines how old a message must be to be considered an old message. For example, if **Is Old** is set to 30, any message in existence for 30 or more days is considered to be an old message.

Default value is 30 (days).

- **Large Old** is a threshold value that represents an excessive number of old messages. The Mailbox Old test compares the actual quantity of old messages in the mailbox to the value that is defined in **Large Old** to determine whether the quantity of old messages is excessive.

Default value is 30.

Mailbox Unextractable has the property:

- **Large Unextractable** is a threshold value that represents an excessive number of unextractable messages. The Mailbox Unextractable test compares this value to the actual quantity of unextractable messages in the mailbox to determine whether the quantity of unextractable messages is too excessive.

Default value is 300.

Process Length has the property:

- **Max Cycles** is a threshold value that determines the maximum number of cycles a business process stays in the queue for processing. The Process Length test ensures that `AE_ExecuteCycle` does not exceed the value that is defined by **Max Cycles**.

Default value is 3.

Waiting on IO has the property:

-

minimum return time is a threshold value that defines a reasonable time range between the moment a business process is marked `waiting_on_io` to the moment the system resumes handling the business process.

Default value is 10 seconds.

Database Scanner Properties

Properties for the Database Scanner match the settings that are required for your particular database with Sterling B2B Integrator.

Global Property

The Database scanner has the following global property:

- Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Test Properties

Each subtest in the DB2, Oracle, or MSSQL Database scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 4. DB2 Database Scanner - Test Names and Properties. Displays each test in the DB2 Database Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
DB2 Disk Free Test	DBS.db2.diskSpace	DatabaseScanner.db2.diskSpace
DB2 Index Fragmentation	DBS.db2.fragmentation	DatabaseScanner.db2.fragmentation
Eval Uncommitted	DBS.db2.settings.db2_evaluncommitted	DatabaseScanner.db2.settings.db2_evaluncommitted
Skip Deleted	DBS.db2.settings.db2_skipdeleted	DatabaseScanner.db2.settings.db2_skipdeleted
Skip Inserted	DBS.db2.settings.db2_skipinserted	DatabaseScanner.db2.settings.db2_skipinserted
Use Alternate Page Cleaning	DBS.db2.settings.db2_use_alternate_page_cleaning	DatabaseScanner.db2.settings.db2_use_alternate_page_cleaning
Lock to RB	DBS.db2.settings.db2lock_to_rb	DatabaseScanner.db2.settings.db2lock_to_rb
Monitor Buffer Pool	DBS.db2.settings.dft_mon_bufpool	DatabaseScanner.db2.settings.dft_mon_bufpool
Monitor Lock	DBS.db2.settings.dft_lock	DatabaseScanner.db2.settings.dft_mon_lock
Monitor Sort	DBS.db2.settings.dft_mon_sort	DatabaseScanner.db2.settings.dft_mon_sort
Monitor Statements	DBS.db2.settings.dft_mon_stmt	DatabaseScanner.db2.settings.dft_mon_stmt
Monitor Table	DBS.db2.settings.dft_mon_table	DatabaseScanner.db2.settings.dft_mon_table
Monitor Timestamp	DBS.db2.settings.dft_mon_timestamp	DatabaseScanner.db2.settings.dft_mon_timestamp
Monitor Unit of Work	DBS.db2.settings.dft_mon_uow	DatabaseScanner.db2.settings.dft_mon_uow
Monitor Heap Size	DBS.db2.settings.mon_heap_sz	DatabaseScanner.db2.settings.mon_heap_sz

Table 5. Oracle Database Scanner - Test Names and Properties. Displays each test in the Oracle Database Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Oracle Disk Free Test	DBS.oracle.diskSpace	DatabaseScanner.oracle.diskSpace
Oracle Index Fragmentation	DBS.oracle.fragmentation	DatabaseScanner.oracle.fragmentation
Table Compression	DBS.oracle.tableCompression	DatabaseScanner.oracle.tableCompression
Index Compression	DBS.oracle.indexCompression	DatabaseScanner.oracle.indexCompression
Character Set	DBS.oracle.settings.characterSet	DatabaseScanner.oracle.settings.characterSet
Cursor Sharing	DBS.oracle.settings.cursor_sharing	DatabaseScanner.oracle.settings.cursor_sharing
Open Cursors	DBS.oracle.settings.open_cursors	DatabaseScanner.oracle.settings.open_cursors
Optimizer Mode	DBS.oracle.settings.optimizer_mode	DatabaseScanner.oracle.settings.optimizer_mode
Processes per Node	DBS.oracle.settings.processes_per_node	DatabaseScanner.oracle.settings.processes_per_node
Timed Statistics	DBS.oracle.settings.timed_statistics	DatabaseScanner.oracle.settings.timed_statistics
Undo Management	DBS.oracle.settings.undo_management	DatabaseScanner.oracle.settings.undo_management
SGA (System Global Access) Max Size	DBS.oracle.settings.sga_max_size	DatabaseScanner.oracle.settings.sga_max_size
PGA (Program Global Area) Aggregate Target	DBS.oracle.settings.pga_aggregate_target	DatabaseScanner.oracle.settings.pga_aggregate_target
SGA (System Global Access) Target	DBS.oracle.settings.sga_target	DatabaseScanner.oracle.settings.sga_target
Memory Target	DBS.oracle.settings.memory_target	DatabaseScanner.oracle.settings.memory_target
Memory Max Target	DBS.oracle.settings.memory_max_target	DatabaseScanner.oracle.settings.memory_max_target

Table 6. Microsoft SQL Server Database Scanner - Test Names and Properties. Displays each test in the Microsoft SQL Server Database Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
MSSQL Disk Free Test	DBS.mssql.diskSpace	DatabaseScanner.mssql.diskSpace
MSSQL Index Fragmentation	DBS.mssql.fragmentation	DatabaseScanner.mssql.fragmentation
Collation	DBS.mssql.settings.collation	DatabaseScanner.mssql.settings.Collation
Is Auto Create Statistics	DBS.oracle.settings.isAutoCreateStatistics	DatabaseScanner.mssql.settings.isAutoCreateStatistics
Is Auto Update Statistics	DBS.oracle.settings.isAutoUpdateStatistics	DatabaseScanner.mssql.settings.isAutoUpdateStatistics

Table 6. Microsoft SQL Server Database Scanner - Test Names and Properties (continued). Displays each test in the Microsoft SQL Server Database Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Page Verify Option	DBS.oracle.settings.page_verify_option	DatabaseScanner.mssql.settings.page_verify_option
Read Committed Snapshot	DBS.oracle.settings.read_committed_snapshot	DatabaseScanner.mssql.settings.read_committed_snapshot

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

The DB2 Disk Space, MSSQL Disk Space, and Oracle Disk Space tests each have the following properties:

- Min Free** is a threshold value that determines what percentage of the disk space must remain free.
Required value is 25.

Note: The **Min Free** property exists in the Disk Space test for all three database types: IBM DB2, Oracle, and Microsoft SQL Server.

The DB2 Index Fragmentation, MSSQL Index Fragmentation, and Oracle Index Fragmentation tests each have the following properties:

- Index Fragmentation Severe Threshold** determines whether there are fragmented indexes in your database, by checking large tables for fragmentation. **Severe Threshold** sets a threshold for the size of tables that are checked for index fragmentation. Ensure that you defragment tables that are flagged by the threshold immediately.
Required value is 500000.
- Index Fragmentation Error Threshold** determines whether there are fragmented indexes in your database, by checking large tables for fragmentation. **Error Threshold** sets a threshold for the size of tables that are checked for index fragmentation. Ensure that you defragment tables that are flagged by the threshold as soon as possible.
Required value is 5000.
- Exclude** is a comma-separated list of indexes to exclude from this test.

The Oracle Index Compression and Oracle Table Compression tests each have the following property:

- Exclude** is a comma-separated list of indexes and tables to ignore (for the Index Compression test), or a comma-separated list of tables to ignore (for the Table Compression test). This property is available to users with Oracle 12c databases.

Host System Scanner Properties

Properties for the Host System Scanner match the required operating system settings for Sterling B2B Integrator.

Global Property

The Host System Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Test Properties

Each test in the Host System scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 7. Host System Scanner - Test Names and Properties. Displays each test in the Host System Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Dump Files	HSS.dumpFiles	HostSystemScanner.dumpFiles
CPU Used	HSS.CPUUsed	HostSystemScanner.CPUUsed
Processes	HSS.Processes	HostSystemScanner.Processes
IO Wait	HSS.IOWait	HostSystemScanner.IOWait
Disk Free	HSS.diskFree	HostSystemScanner.diskFree
Document Directory Count	HSS.documentDirectoryCount	HostSystemScanner.documentDirectoryCount
Old Logs	HSS.oldLogs	HostSystemScanner.oldLogs
Thread Count	HSS.threadCount	HostSystemScanner.threadCount
NFS Mount Test	HSS.NFSMount	HostSystemScanner.NFSMount
ULimit	HSS.ulimit	HostSystemScanner.ulimit

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

CPU Used has the following property:

- **Max Percent CPU Used** is a threshold value that determines what percentage of CPU usage is excessive.
Default value is 70.

Processes has the following property:

- **Max Processes Waiting** is a threshold that determines what is the maximum allowed number of running processes.
Default value is 3.

IO Wait has the following property:

- **Max Percent CPU Idle** is a threshold value that determines what percentage of CPU idle time is excessive.
Default value is 2.

Disk Free has the following property:

- **Min Free** is a threshold value that determines what percentage of the disk space must remain free for each directory.
Default value is 1 GB.

Disk Free has the following subtests:

- The Document Directory subtest ensures that a reasonable amount of disk space remains in the *install_dir/documents* directory.
- The Logs Directory subtest ensures that a reasonable amount of disk space remains in the *install_dir/logs* directory.
- The Temp Directory subtest ensures that a reasonable amount of disk space remains in the *install_dir/tmp* directory.

Document Directory Count has the following properties:

- **Threshold** is a threshold value that determines what number of files in the document directory and its child directories is excessive.
Default value is 500.

NFS Mount has the following property:

- **Unwanted Types** determines which mount types are unwanted. The NFS Mount test fails if any mount type included in the list is encountered.
Required value is *nfs*.

Important: Do not change this property. NFS is the only unwanted type.

Old Logs has the following properties:

- **Too Many Old** is a threshold value that represents an excessive number of old logs. The Old Logs test compares the actual quantity of old logs to the threshold to determine whether there are too many old logs.

Thread Count has the following property:

- **Threshold** is a threshold value that determines what number of threads is excessive.
Default value is 500.

Log Scanner Properties

Properties for the Log Scanner match the required settings for optimized logs and system performance in Sterling B2B Integrator.

Global Property

The Log Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Password Scanner Properties

Properties for the Password Scanner help to ensure that your users' passwords are sufficiently secure.

Global Property

The Password Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Test Properties

The Super User test and the All User test check users' passwords against a default list of common passwords to help increase security. If a user's password is 'password,' the scanner produces a SEVERE error. If a user's password matches one of the passwords on the list, the scanner produces an ERROR error. You can view and modify this list in the `healthCheck.properties.in` file.

Schedule Scanner Properties

Properties for the Schedule scanner match the required settings of scheduled services, business processes, and rules for Sterling B2B Integrator.

Global Property

The Schedule Scanner has the following global property:

- **Test Timeout** determines the maximum amount of time that is given for a test to complete before a timeout error is reported.
Default value is 120 seconds, or 2 minutes.

Test Properties

Each test in the Config scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 8. Schedule Scanner - Test Names and Properties. Displays each test in the Schedule Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Mailbox	SS.mailbox	ScheduleScanner.mailbox
Services	SS.services	ScheduleScanner.services

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

The Mailbox test has the following property:

- **Active** returns the status of mailbox evaluators in Sterling B2B Integrator, either ACTIVE or INACTIVE. The Mailbox test fails if both evaluators are ACTIVE.
Default value is ACTIVE.

Static Config Scanner Properties

Properties for the Static Config Scanner match the required settings for fair-share scheduling queues in Sterling B2B Integrator.

Global Properties

Static Config Scanner has the following global properties:

- **Skip Queues** determines which queues to exclude from the scan. Enter queue numbers delimited by a comma.

Default value is 6,7,8,9.

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Test Timeout determines the maximum amount of time that is given for a test to complete before a timeout error is reported.

Default value is 120 seconds, or 2 minutes.

Test Properties

Each test in the Static Config scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 9. Static Config Scanner - Test Names and Properties. Displays each test in the Static Config Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Average Cycle	SCS.averageCycle	StaticConfigScanner.averageCycle
Cycle Time	SCS.cycleTime	StaticConfigScanner.cycleTime

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

Cycle Time has the following properties:

- **Low Time** sets the threshold value for the minimum amount of time that a business process remains in a queue (in milliseconds).

Default value is 60000 milliseconds.

System Process Scanner Properties

Properties for the System Process Scanner match the required settings for the properties, scheduling, and enabling of certain business processes in Sterling B2B Integrator.

Global Properties

The System Process Scanner has the following global properties:

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Test Timeout determines the maximum amount of time that is given for a test to complete before a timeout error is reported.

Default value is 120 seconds, or 2 minutes.

- **Process List** determines which processes to test. Enter processes delimited by a comma in the following format:

process_name:schedule_name:expected_scheduled_interval

process_name

Is the name of the business process.

schedule_name

Is the schedule associated with the business process.

expected_scheduled_value

Is a value or range that represents how often the process is scheduled to run.

Test Properties

Each test in the System Process scanner has a property that enables or disables each test. Tests can be customized with parameters that are found in the `healthcheck.properties` file. To customize HealthCheck tests, ensure that you add parameters that you want to customize in the `customer_overrides.properties` file.

Table 10. System Process Scanner - Test Names and Properties. Displays each test in the System Process Scanner with the command line short name and property value.

Test Name	Command Line Short Name	Property
Active	SPS.active	SystemProcessScanner.active
Schedule	SPS.schedule	SystemProcessScanner.schedule
Past Completion	SPS.pastCompletion	SystemProcessScanner.pastCompletion
Properties	SPS.properties	SystemProcessScanner.properties

Note: The Properties test is an extensibility feature. For details about the Properties test, see “Extensibility Properties.”

Some tests have further properties. The value of the properties is set to values that are required for Sterling B2B Integrator. As a result, it is not suggested that you alter these values:

The Past Completion test has the following properties:

- **Check Failures On** determines which business process status (`basic_status`) values to consider as errors. Enter integer values delimited by a comma. Default value is 1.
- **Failure Amount** defines what quantity of tests that failure within the threshold value that is defined in **Failure Time Period** is excessive. The Past Completion test fails if the number of failures exceeds **Failure Amount**. Default value is 10.
- **Failure Time Period** is a threshold value that defines a period in which to examine errors. Default value is 600000 (milliseconds).

Extensibility Properties

HealthCheck includes the Search and Properties tests as extensibility features. These tests feature further customization options for expanded analysis.

Search

The Search test is an extensibility feature that is included in the HealthCheck utility. Search is a search function that returns strings in the BPML of a business process that match regular expression queries that are defined with the **Tests** property. If no regular expression argument is defined, the Search test returns nothing.

The Search test has the following subtest:

- You can create custom regular expression searches with the **Tests** subtest. Enter regular expression queries for the **regExp**, **flags**, and **health** parameters in the following format:

custom_test_name.regExp=
Enter the regular expression.

custom_test_name.flags=
Enter the java pattern flags.

custom_test_name.health.field_name=
Enter the field name of the HealthCheck utility health object.

The Search test has a variable severity.

Properties

The Properties test is an extensibility feature that is included in the Health Check utility. Properties is a customizable test that ensures that the properties of business processes that are included in the scanner **Process List**, match the suggested values.

The Properties test has the following subtest:

- You can ensure that business process properties match suggested values by creating sub tests with **Prefix List**. Enter subtest names delimited by a comma. The HealthCheck tool populates the sub test and properties in the display table. Default value is purge.

Prefix List has the following properties:

- **prefix_name.check** is a list of the expected property values of a subtest that is defined in **Prefix List**. Enter values in the format *property_name:expected_value* delimited by a comma.
- **prefix_name.file** is the directory name where the process properties are stored.

The Properties test has a variable severity.

Suggested Actions

You can use messages and suggested actions from the HealthCheck Tool to diagnose system issues, and contribute to best practices.

Business Process Scanner

Table 11. Business Process Scanner Suggested Actions

Severity	Test Name	Suggested Action
1	getDocInfo Performance Options	Set RETRIEVE_INITIAL_DOC_ID to false for GetDocumentInfoService.
1	Sync Invoke Search	Replace SYNC with INLINE invocation method.
1	Message to Child Test	Review the BP and ensure all message_to_child statements are in order.
1	XPath with //	Remove double slashes and use fully qualified paths whenever possible.
1	This Service Search	Use getDocInfo or getBPInfo instead of THIS SERVICE.

Table 11. Business Process Scanner Suggested Actions (continued)

Severity	Test Name	Suggested Action
1	Excessive docToDom Search	Reduce the number docToDom calls by saving the docToDom results in process data.
1	getBPMeta Optimizations Search	Set DISPOSITION and LINKAGE to false for BPMetaDataInfoService unless the disposition and linkage data is needed.
1	Persistence Level Check	Consider changing the persistence level.

Config Scanner

Table 12. Config Scanner Suggested Actions

Severity	Test Name	Suggested Action
2	Expired Certificates Test	Replace the certificate with a new one or remove the certificate if it is not used.
2	Nursery to Heap Test	Adjust heap and nursery sizes. The nursery should generally be 1/4 to 1/3 of the heap but never more than 1/2 of the heap.
3	Thread Stealing Test	Disable thread stealing in specified queues.
2	Jetty Threads Test	Change the minimum amount of jetty threads back to the original suggested value.
2	Customer Overrides Test	The value of a property changed from the original installation. Do not modify property files directly but instead use <code>customer_overrides.properties</code> .
2	jGroups Configuration Test	At least one member node left the cluster. Use your system logs to determine when the node left the cluster. If it was not during a planned node outage, your system might have network or connectivity problems.
2	Heap High Water Mark Test	You may have more memory allocated than you need. There may be additional overhead associated with managing this additional unused memory. Consider reducing the JVM available memory so that the heap high water mark is at least [percentOfMax]% of the max heap size.
2	Multiple Ports Test	Two or more adapters share a port. Assign a different port to either of the two adapters.
2	Oracle RAC URL Setup Check	Oracle RAC <code>load_balancing</code> is not recommended. Turn <code>load_balancing</code> off.
2	Active Connections Test	More than one RAC node is active at a time. Oracle RAC <code>load_balancing</code> is not recommended. Disable <code>load_balancing</code> or determine why there is load on multiple RAC nodes.

Database Scanner - Oracle

Table 13. Log Scanner Suggested Actions

Severity	Test Name	Suggested Action
Varies.	Oracle Index Fragmentation	The index may require rebuilding. If performance has decreased or there have been a large number of entries deleted with increasing data values as keys (such as dates), it may be beneficial to rebuild the index. In some cases though, it may not be possible or important to defragment indexes so you should assess the potential benefits against the costs of performing a reorganization.

Table 13. Log Scanner Suggested Actions (continued)

Severity	Test Name	Suggested Action
Varies.	Oracle Free Disk Space Check	Increase the amount of space the database can use. Consider enabling autoextend for all of the database files that are close to 100% utilization.
1	Oracle Index Compression test	Consider enabling compression for index [index_name] on table [table_name].
1	Oracle Table Compression test	Consider enabling compression for table [table_name].

Database Scanner - MSSQL

Table 14. Log Scanner Suggested Actions

Severity	Test Name	Suggested Action
Varies.	MSSQL Index Fragmentation	Rebuild the index using the command ALTER INDEX REBUILD WITH (ONLINE = ON). In some cases, it may not be possible or important to defragment indexes. You should assess the potential benefits against the costs of performing a reorganization.
Varies.	MSSQL Free Disk Space Check	Increase the amount of space the database can use. Consider enabling autogrow for all of the database files that are close to 100% utilization.

Database Scanner - DB2

Table 15. Log Scanner Suggested Actions

Severity	Test Name	Suggested Action
Varies.	DB2 Index Fragmentation	Consider rebuilding the index. In some cases, the reorgchk utility might suggest table reorganization, even after a table reorg operation is performed. You should analyze reorgchk utility suggestions and assess the potential benefits against the costs of performing a reorganization.
Varies.	DB2Free Disk Space Check	Rebuild the index.

Dynamic Tracking Data Scanner

Table 16. Dynamic Tracking Data Suggested Actions

Severity	Test Name	Suggested Action
1	Waiting On IO Low Return Time Test	A specific business process has a waiting_on_io with a low return time. Examine recent process execution details. Adapters, such as the HTTP and SFTP adapters have the defaultDelayWaitingOnIO property to delay waiting on input and output processes. You can increase the value of defaultDelayWaitingOnIO.
2	Interrupted Processes	There is more than the allowed number of interrupted processes. Interrupted processes must be manually resumed or terminated. You can set business processes to auto_resume or auto_terminate to automatically resume or terminate processes during recovery.
2	Halted Processes	There is more than the allowed number of halted processes. Halted processes must be manually resumed or terminated. You can add onfault handlers to business processes to avoid halting.

Table 16. Dynamic Tracking Data Suggested Actions (continued)

Severity	Test Name	Suggested Action
2	Excessive Unextractable Messages	here are more than the suggested number of messages across all mailboxes. Examine which mailboxes have a large number of messages and determine why partners are not retrieving messages. Ensure that you regularly purge or archive messages and do not send messages to inactive trading partners.
1	Excessive Old Messages Test	There is more than allowed number of old messages. Examine which mailboxes have messages older than the threshold and determine why trading partners are not retrieving messages. Ensure that you regularly purge or archive messages and do not send messages to inactive trading partners.
1	Process Data Size Test	The specified business process has a large amount of process data. Examine process data structure in recent process executions. Use the release service to clear process data.
2	Process Length Test	The specified business process has a step count higher than its current queue. If processes exceed the number of steps per cycle for a queue, consider increasing the steps per cycle for that queue in customer overrides. Otherwise, move the process to a different queue with enough steps per cycle.

Host System Scanner

Table 17. Host System Scanner Suggested Actions

Severity	Test Name	Suggested Action
3	Disk Space Free in SI Directories Test	The specified directory has less than suggested amount of space. Increase the amount of disk space for that directory.
1	Old Log Directories Test	There are more than the suggested number of log directories in the logs directory. Delete old log files from the specified directory.
2	Java Core and Heap Dump Files Test	There is at least one Java core or heap dump file in the installation directory. Examine and address any issues reported in the heap dump file if this file wasn't manually generated. Move or delete the specified files.
1	ULimit Test	The ULimit setting is not limited. Verify that OS level limit or ULimit settings are correct.
2	Document Directory File Count Test	There are more than the suggested number of files per directory in one of the directories in the document payload directory. Ensure that the "document_dir_extension" property is in a SimpleDateFormat in jdbc.properties/customer_overrides to define the directory structure for the document payload directory.
2	Thread Count Test	Examine a thread dump to determine what threads are running. Unused HTTP or FTP adapters can contribute to the total number of threads in the system.
3	CPU Test	Examine system load to determine why CPU usage is high.
2	Processes Waiting Test	Examine system load to determine what processes are running. Sterling B2B Integrator runs optimally when installed on a separate system.
1	IO Wait Test	Examine system load to determine why input and output idle times are high. Consider installing Sterling B2B Integrator on an isolated disk, or increasing the amount of cache.

Log Scanner

Table 18. Log Scanner Suggested Actions

Severity	Test Name	Suggested Action
3	DMI Queue Full Test	Increase the DMI processing threads, examine and improve database performance, or turn down/off DMI event generation.
2	Out of Memory Exception Test	Increase memory available

Schedule Scanner

Table 19. Schedule Scanner Suggested Actions

Severity	Test Name	Suggested Action
2	Multiple Mailbox Rules Activity	Disable one or more MailboxEvaluateAllAutomaticRules* services.
3	Service Disabled	Enable the schedule for service.
3	Purge Service Disabled	Reactivate the internal purge service or run the external purge service.
3	External Purge Enabled	Continue running the external purge service or reactivate the internal purge service.

Static Config Scanner

Table 20. Static Config Scanner Suggested Action

Severity	Test Name	Suggested Action
3	Queue Properties Time Test	Increase the maximum time an execution cycle of a business process could take to greater than <value>.
3	Queue Properties Average Time Test	Increase the maximum steps an execution cycle of a business process could complete to greater than <value>.

System Process Scanner

Table 21. System Process Scanner Suggested Actions

Severity	Test Name	Suggested Action
2	Active Service Test	Ensure that the specified process is running.
2	Scheduled Test	Ensure that the schedule is enabled and that the scheduling interval matches its suggested value.
2	Completion Test	The specified test took too long to complete, which might indicate an issue with the database. Examine recent process execution details to determine why the process is running slowly.
2	Properties Test	Ensure that the parameters match the suggested values.
2	Past Completion Test	A previous run of the specified test took too long to complete, which might indicate an issue with the database. Examine recent process execution details to determine why the process is running slowly.
2	Excessive Failures	The specified test failed a number of times, which might indicate a performance or locking issue. Examine recent process execution details to determine why the process is running slowly.
2	Process Overlap	The specified test overlapped with another instance, which might indicate a performance problem with the database. Examine recent process execution details to determine why the process is running slowly.

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