IBM Sterling B2B Integrator

Monitoring Business Process Operations

Release 5.2

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Note

Before using this information and the product it supports, read the information in “Notices” on page 21.

Copyright

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Business Process Monitoring

IBM® Sterling B2B Integrator provides a variety of ways to monitor processing activity at the business process level, enabling you to ascertain whether your transactions are happening expeditiously, pinpoint and troubleshoot slow or halted processes, and research and correct errors that led to unexpected results.

You can troubleshoot using system-generated log files, monitor processing in real-time using several different monitors in the interface, and use reports to gather information of a specific type. Convenient interface components indicate status and state conditions, allow you to monitor business process queue usage, and provide an overview snapshot of the state of all current processes.

For processes that stopped running, you must troubleshoot to identify the cause, reconcile the issue or error, and determine whether to restart, resume, or terminate the instance. You can also expedite active processes that are taking too long by changing their queue priority, for quicker processing. When used in combination, status information, advanced status and state messages, and reports can help to determine:

- Issues resulting while a process runs
- Errors or warnings that prevent a process from completing successfully
- Actions you can take to reconcile problems

In addition, Sterling B2B Integrator has a built-in system recovery business process that runs automatically every 45 minutes. The recovery business process monitors active business processes and reports any processes lost due to a system crash.

Business Process Instances

Because processing is configured using business process models, distinguishing between different incidences of a process model being run, when the same model runs multiple times, is important for monitoring the separate occurrences. The term *business process instance* is used to differentiate these incidents. A *business process instance* is a unique occurrence of a business process, created when a business process model runs.

Tools for Different Business Process Monitoring Tasks

The following table describes the different tools available for monitoring business processes:

When You Want To...	Use This Tool...
Ascertain at a glance the number of current processes that are waiting, interrupted or halted	“At-a-Glance Processing State for All Current Business Processes” on page 4
See a list of current processes by name, to review their status, state, start and end times, deadline, and expiration date	“Monitor Current Business Processes” on page 6

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When You Want To...	Use This Tool...
• View a list of all of the steps in a process to find the step where an issue occurred • Access advanced status and state information for a process • Identify which users have permission to run a selected process • Review service information for the steps in the process • Locate the contract ID for a contract associated with a step in a process • View the primary document • Access process data for a step • Stop, restart or terminate a process	"Monitor a Business Process Instance" on page 8
View detailed status data regarding an error for a step in a process	"Business Process Status Reports" on page 12
View process data for a single step in a process	Instance data view (see "View the Process Data for a Single Step in a Process" on page 10)
View or generate a report to gather specific processing-related data according to your needs	• Create your own report configurations using **Operations** > **Reports** in the interface, and configure them to run as part of business process models. • Some services, such as the Translation service, generate status reports you can use to monitor processing.
Check service activity and determine whether processing was interrupted at the service level	"Monitor a Service Activity" on page 12
View or print a report showing a complete XML picture of the process progression, including participants, start and end times, IDs, and so forth, all in a fully formed .xml file	Generate an XML report for a process from the **Action** field on the Business Process Details page (see "Monitor a Business Process Instance" on page 8).
View the full advanced status information for a service step that resulted in an error or warning	Select **Status Report** on the "Monitor a Business Process Instance" on page 8.
Review EDI Compliance or Translation reports	Preconfigured reports – Some services and predefined business processes generate reports when a process runs. These are the EDIDeenvelope business processes (that is, X12Deenvelope, EDIFACTDeenvelope, CIIDeenvelope), which generate an EDI Compliance report; and the Translation service, which produces a Translation Status report.

When You Want To...	Use This Tool...
Have a snapshot view of processing activity in one pane on your dashboard	Any of the following provided dashboard portlets, as your permission settings allow: • Cache Statistics – Review the size of business process data that is processing (in kilobytes) or the cache usage related to business processes running in Sterling B2B Integrator • Cache Usage – Review the amount of free and used memory or disk cache related to current processing • Enhanced System Log Files – View log entries in real time for one or more logs you choose, such as the business process execution log, business process exceptions log, and business process policy statistics log. • Queue Priority Statistics Portlet – Review the average wait time for each queue, by queue name. This may useful when monitoring in queue processes.
Locate a specific instance of a business process	Search tools: • Basic and advanced searches enable you to locate instances using a range of high-level or detailed search criteria • Correlation searches provide a deeper level of search functionality using name-value pairs See "Ways to Search for Business Process Instances" on page 13
View log data, such as the business process execution log, business process exceptions log, business process policy statistics log, or archive log	System Logs view—From the **Administration Menu**, select **Operations** > **System** > **Logs** and select the appropriate log file to view.
Monitor queues in Sterling B2B Integrator, to determine whether your processes are running efficiently or queues are backing up	"Monitor Business Process Efficiency Through Queue Usage" on page 5

Status Indicators

Throughout the interface, for monitoring active and recent process instances, Sterling B2B Integrator provides two status indicators that indicate whether further action may be required:

Status Indicator	Active Business Process	Recent Business Process
 Success	Encountering no errors or warnings at this point of the execution.	Encountered no errors during execution.

Status Indicator	Active Business Process	Recent Business Process
 Error	• Waiting for other activities to complete before continuing execution. • Encountering errors or warnings during execution.	Encountered errors or warnings during execution.

These devices provide a high-level indication of whether processing is proceeding or has stopped for some reason. Because the Error indicator (red light) may indicate only that a process is waiting on another activity in order to complete or that warnings were generated during a process, you must research further, using tools such as the Business Process Detail page, to determine whether action is required to facilitate processing or rectify an error.

Monitoring In Queue Processes

Business process tracking information indicates when Active business processes are *In Queue,* providing an added level of detail about Active processes. Processes In Queue have a state of Active but are waiting, by order of queue priority, for system availability to continue processing.

Knowing that a business process is queued may be particularly useful, for example, if the processing load is heavy and multiple processes are queued. You may want to expedite a queued process. You can expedite or halt queued processes. To search for business processes that are In Queue, search for processes with an Active state; the results include In Queue processes.

The following list details the interface pages that indicate when a process is In Queue:

Business Process Monitor page
(select Business Processes > Current Processes, or complete an advanced search for a process to display this page)
The **State** column displays a ticking clock icon and the phrase **In Queue**.

Business Process Detail page
(select the process ID from the Monitor page)
While the **State** field displays **Active**, a ticking clock icon and the phrase *Process has been placed in queue ...* display above the table that details the process steps.

Execute Business Process page (this page displays when you manually start, restart, or resume a process)
A ticking clock icon and the phrase *Process has been placed in queue ...* display above the table that details the process steps.

At-a-Glance Processing State for All Current Business Processes

At times you may need only to quickly check whether any current processes are waiting, interrupted or halted, requiring further interaction. For this purpose, the Business Process Usage monitor enables you to review at a glance the number of currently running business processes at each of the state levels listed on the page (see below). For each listed processing state, the page indicates how many processes are currently in that state.

This monitor provides click-through access to more detailed information you may need. When one or more processes are found for a given state, you can click the number to link to a business process monitor page, which lists the processes found for the state you selected. From here, you can select a business process instance ID and review details, as well as restart, resume, stop, expedite or terminate one or more process instances.

Access the Business Process Usage monitor from the Administration menu by selecting **Operations** > **System** > **Troubleshooter**. In the System Status area, click **Business Process Usage**. You can leave this pop-up window open and refresh it as needed (press **F5** on your keyboard) to review the state of your current processes periodically.

The following list describes the state values indicated on the page:

Active Business process currently running.

Halted
Business process halted.

Waiting
Business process waiting for actions to complete before continuing to run.

Waiting_On_IO
Business process waiting for required input or output and will resume after receiving input or sending output.

Interrupted_Man
Business process interrupted manually.

Interrupted_Auto
Business process interrupted automatically.

Monitor Business Process Efficiency Through Queue Usage

Active processes or steps within a process that are waiting in line to be run are *queued* in the system. You can monitor queues in Sterling B2B Integrator, to determine whether your processes are running efficiently or queues are backing up. You may find that slow processing is due to a problem at the front of the line or with performance-related settings that you can change.

You can view a graphic representation of a variety of business process queue usage statistics in a single interface location. From the Administration menu, select **Operations** > **System** > **Troubleshooter**, then **Business Process Queue Usage**. Using the information displayed on the page, you can spot performance issues needing resolution, to increase performance of the business process queue.

Note: The graphical display of statistics is not available for AIX® and OS400 operating systems. If you have the displayGraphics property located in the *install_dir*/properties/ui.properties.in file set to true, the Business Process Queue Usage page displays in graphic format; otherwise, the Business Process Queue Usage page displays in text format. The default is true for Linux, Sun, HP, and Windows operating systems. The default is false for AIX and OS400 operating systems.

The Business Process Queue Usage monitor displays showing the following information:

- Average wait time, in milliseconds, between executions of business process instances for each queue

- Average business process instance run cycle time, which may include the execution times of several steps. It captures the average time that process instances are active on threads before being rescheduled
- Total number of business process instances currently in the queues
- Cache Usage – Amount of free and used memory or disk cache related to current processing.
- Cache Statistics:
  - Number of processes that ran without being cached
  - Number of processes currently in cache
  - Cache location (enables you to determine the number of processes found in the soft reference cache, in the disk cache, and in the memory cache)

Monitor Current Business Processes

The most basic way to monitor current processing is through the Business Process Monitor. The Business Process Monitor page displays processing information for the ten most recent instances of business processes that have run, and refreshes automatically. If an instance you are looking for does not display in the Business Process Monitor, you can perform a search to locate it.

Access the Monitor from the **Administration** menu by selecting **Business Processes** > **Current Processes**, from the search results pages, and from the Business Process Usage monitor.

Note: This monitor also displays when you select a link from the Business Process Usage monitor, in a new window. This pop-up Monitor page contains fewer descriptive fields and does not automatically refresh, but you can take action (such as restarting or expediting a process) on one or more of the listed process instances.

From the Business Process Monitor, you can access additional details about a process from the different fields displayed (see “Monitor a Business Process Instance” on page 8). In the Monitor page, the following fields enable you to view general processing information about instances, link to details as noted, and perform other activities, as appropriate:

Automatically refresh every minute
Default time to refresh the list of the ten most recent instances. To disable this feature, clear the check box.

Status Indicator of the status of an active or recently run instance (Success or Error). See “Status Indicators” on page 3.

ID Number assigned by Sterling B2B Integrator to identify an instance. Click the number to display the Business Process Details page. See “Monitor a Business Process Instance” on page 8.

Name Name of the process model run for this instance. Click the name to view the BPML code for the business process model.

State Current® state of a process instance. The following list describes possible states, and the actions you can take for a process in that state:

- Active – Currently processing. Can be halted.
- Queued – A subset of the Active state, in which the process is waiting on a thread. Can be stopped or expedited. If stopped, the process state progresses to halting and then halted.

- Completed – All processing is done. Can be restarted.
- Terminated – Process has been stopped and marked for no further processing. Can be restarted.
- Waiting – Process is on hold for a period of time and will continue processing when the specified wait criteria has been met. Does not hold a thread during the wait time. Can be terminated or resumed.
- Waiting_on_IO – Waiting for input from a service or adapter before the process can continue. Does not hold a thread before the adapter completes its activity and has input for it. Can be terminated or resumed.
- Interrupted_Auto(matically) – Process was in an active state, but is interrupted by a system shutdown. This state also results if the process is configured with a recovery level of AUTO_RESUME, and auto-resume has failed when the process was hung in an Active state. Can be terminated.
- Interrupted_Man(ually) –Process was in an active state, but is interrupted by a runtime error. This state also results if the process is configured with a recovery level of MANUAL, and the system is re-activated after a system shutdown. Must be manually resumed or restarted. Can be terminated.
- Halting – A request for the process to stop has been made and it is safely handling the request.
- Halted – Process has been stopped. Can be restarted, resumed, or terminated.

Note: You can configure, at the business process level, how you want Sterling B2B Integrator to handle a processing interruption by using the Recovery Level setting when you check-in a business process model.

Started
: Date and time an instance started.

Ended
: Date and time an instance ended.

Deadline
: Time frame in which the process must be running (and not queued) after the process starts, as configured in the business process model deadline setting.

Parent/Child
: Arrow icons link to any parent or child process related to this instance. An up arrow indicates a parent process and a down arrow indicates a child process (subprocess).

If the deenveloping tracking feature is activated, the field may display a left-pointing arrow. A left arrow indicates a parent process that did not deenvelope the business process. Click the arrow to view the transaction set that deenveloped the business process. This feature is off by default.

Expires
: Information about when an instance is eligible for removal from the active system. To display the expiration information, including whether the data for the instance is archived or purged after it expires, click **Info**.

Monitor a Business Process Instance

When you need to monitor or troubleshoot a process at the step level, the Business Process Detail page, accessed by clicking the ID for a process instance in the Business Process Monitor, provides you with a step-by-step progress outline for a specific business process instance. From this page, you can access process data and messages related to a specific step in the business process instance you are monitoring or troubleshooting. In this way you can pinpoint the specific step where problems occurred and diagnose the problem.

From the Business Process Detail page, you can also stop, restart, resume, expedite or terminate an instance, and run an XML report for the instance.

Other Ways to Access Business Process Detail Page

There are two additional ways to access the Business Process Detail page, although there are some variations in the display, as follows:

- When you manually initiate a business process from the Execution Manager, the page displays in a new window. This pop-up detail page does not enable you to take any related action (such as restart or terminate) directly from the page.
- When you select a link from the Business Process Usage monitor, then select an instance ID on the Monitor page, the Detail page displays in a new window. This pop-up detail page does not enable you to take related action (such as restart, expedite, terminate) directly from the page, but you can initiate actions from the previous page (the Monitor).

Business Process Detail Page Field Descriptions

In the Business Process Detail page, the following fields provide detailed processing information and enable you to perform activities, as appropriate:

Name Name of the instance for which you are viewing details. Click the name to view the BPML code that makes up the instance.

Instance ID
Number assigned by Sterling B2B Integrator to identify this instance.

Status Current status of this instance. Possible status levels are:
- Success
- Error

State Current state of this instance. The following list shows possible states:
- Active

Note: If the state is Active and Queued, while the **State** field displays **Active**, a ticking clock icon and the phrase *Process has been placed in queue ...* display above the table that details the process steps.

- Completed
- Terminated
- Waiting
- Waiting_on_IO
- Interrupted_Auto(matically)
- Interrupted_Man(ually)
- Halting
- Halted

User User having permission to run this business process.

Deadline
How much time the process may take to complete, as configured in the business process model deadline setting.

Contract ID
ID of the contract defined in the trading profile associated with this process.

Action
Actions you may perform related to this business process instance. The available selections display according to whether the instance is currently active or stopped. Possible actions are:

- Restart – Continue running the instance at the step where it stopped.
- Expedite – Move a queued process to the front of the queue.

  Note: In a clustered environment, a business process can be expedited only on the node where the business process is running. It cannot be expedited from a different node in a cluster.
- Stop – Stop running the instance (you can restart or resume it later).
- Terminate –Stop running the instance, and stop or cancel any remaining active and waiting subprocesses.
- XML report – Generates an XML report that describes the instance components, activities and participants.

Note: If you terminate a waiting instance, the **State** field may indicate messages in the following order: Halting > Halted > Terminated.

Step The steps in the process instance are numbered, for identification purposes, in order of occurrence as indicated in this column.

Service
Name of the service running for a current step. Click the service name to view settings for a service in this instance.

Status Current status of the steps in this instance. Possible status levels are:

- Success
- Error

Error statuses provide an explanation of the error, such as "Service Configuration Error."

Advanced Status
Additional service-specific details about any status errors reported in the previous column. For a list of possible messages and recommended actions, see "Advanced Status Messages" on page 18.

Started
Date and time the step of the instance started.

Ended Date and time the step of the instance ended.

Status Report
Pop-up report provides the results of a service. To view the status report, click **info**.

Document
Business process document that this service is processing (that is, the primary document). To view the document, click **info**.

Instance Data
Link to process data for the step. To view the information, click **info**. See "View the Process Data for a Single Step in a Process."

View the Process Data for a Single Step in a Process

Rather than reviewing process data for the entire process, you can view the data for the single step where a problem occurred. To view process data for any step that has the Information icon ( ) in the **Instance Data** field, click the icon. The pop-up window displays the contents of the process data generated after the specific step in this instance, along with links to view the input and output messages processing through the service for the step.

`RoutingRuleGMMsgStatusMonitor` Business Process (V5.2.6 or later)

The `RoutingRuleGMMsgStatusMonitor` business process is predefined and is used to monitor the status of the business process that is launched to process a message from the IBM Global High Availability Mailbox.

The `RoutingRuleDMMsgStatusMonitor` business process performs the following primary activities:

- Monitors the status of the business process that is launched to process a message from the Global Mailbox.
- Passes the message processing status to the Global Mailbox management tool.

Following is a list of the status that is displayed on the Event History page of the Global Mailbox management tool:

Unprocessed
The business process is yet to launch and message processing is yet to start.

Processing
The business process is running and message processing is in progress.

Complete
The business process (message processing) completed successfully.

Failed
The business process (message processing) failed. Message processing can fail because a business process fails, or because the data center goes offline before processing is complete.

Message processing can also fail if the event rule configuration does not match with the configuration in Sterling B2B Integrator. For example, the business process or user who is specified in the event rule is not available in Sterling B2B Integrator or the system business process (RoutingRuleDMMsgStatusMonitor) is deleted. In such cases, the Global Mailbox administrator or Sterling B2B Integrator administrator must make appropriate changes to the event rule configuration or the business process and resend the events.

Important: To see the reasons for failure, verify the running instances of the `RoutingRuleDMMsgStatusMonitor` business process or monitor the Sterling B2B Integrator system logs (`Operation/System/logs`)

The following BPML of the `RoutingRuleDMMsgStatusMonitor` business process:

```
<process name="RoutingRuleDMMsgStatusMonitor">
  <rule name="nOOfEvents">
    <condition>EventCount &lt;= count(EventList/EventIdList/EventId) and
 not(contains(FaultUpdateDone/text(),&quot;true&quot;))</condition>
  </rule>

  <rule name="MoreFaultyEvents">
    <condition>FaultEventCount &lt;= count(EventList/EventIdList/EventId)
</condition>
  </rule>

  <sequence name="MonitorRouteBPStatus">
    <sequence name="InvokeBP">
      <operation name="Invoke Business Process Service">
        <participant name="InvokeBusinessProcessService"/>
        <output message="InvokeBusinessProcessServiceTypeInputMessage">
          <assign to="." from="*"></assign>
          <assign to="INVOKE_MODE">SYNC</assign>
          <assign to="NOTIFY_PARENT_ON_ERROR">ALL</assign>
          <assign to="WFD_NAME" from="/ProcessData/WFD_NAME/text()"></assign>
        </output>
        <input message="inmsg">
          <assign to="." from="*"></assign>
        </input>
      </operation>

      <onFault>
        <sequence name="BeginUpdateFailedStatus">
          <assign name="Assign" to="FaultEventCount">1</assign>
          <choice name="UpdatedFailedMessageStatus">
            <select>
              <case ref="MoreFaultyEvents" activity="UpdateForEachEvent"/>
            </select>

            <sequence name="UpdateForEachEvent">
              <assign name="Assign" to="IndFaultEventId" from=
"EventList/EventIdList/EventId[number(/ProcessData/FaultEventCount/text())]
/text()"></assign>
              <operation name="XAPI Service">
                <participant name="XAPIService"/>
                <output message="XAPIServiceTypeInputMessage">
                  <assign to="." from="*"></assign>
                  <assign to="api">updateEventStatusToDistributedMailbox
</assign>
                  <assign to="xml" from="concat(&apos;&lt;EventUpdate&gt;
&lt;EventIdList&gt;&apos;,IndFaultEventId,&apos;&lt;/EventIdList&gt;
&lt;ProcessingStatus&gt;Failed&lt;/ProcessingStatus&gt;
&lt;/EventUpdate&gt;&apos;)"></assign>
                </output>
                <input message="inmsg">
                  <assign to="." from="*"></assign>
                </input>
              </operation>

              <assign name="Assign" to="FaultEventCount"
from="FaultEventCount + 1"></assign>
              <repeat name="NextEventFailureUpdate"
ref="UpdatedFailedMessageStatus"/>

            </sequence>
          </choice>
          <assign to="FaultUpdateDone">true</assign>
        </sequence>
      </onFault>
    </sequence>
    <sequence name="Begin Update">
      <assign name="Assign" to="EventCount">1</assign>
```

```
      <choice name="UpdatedMessageStatus">
        <select>
          <case ref="nOOfEvents" activity="UpdateSuccessForEachEvent"/>
        </select>

        <sequence name="UpdateSuccessForEachEvent">
          <assign name="Assign" to="IndEventId" from="EventList/EventIdList/
EventId[number(/ProcessData/EventCount/text())]/text()"></assign>
          <operation name="XAPI Service">
            <participant name="XAPIService"/>
            <output message="XAPIServiceTypeInputMessage">
              <assign to="." from="*"></assign>
              <assign to="api">updateEventStatusToDistributedMailbox</assign>
              <assign to="xml" from="concat(&apos;&lt;EventUpdate&gt;
&lt;EventIdList&gt;&apos;,IndEventId,&apos;&lt;/EventIdList&gt;
&lt;ProcessingStatus&gt;Success&lt;/ProcessingStatus&gt;&lt;/EventUpdate&gt;
&apos;)">
</assign>
            </output>
            <input message="inmsg">
              <assign to="." from="*"></assign>
            </input>
          </operation>

          <assign name="Assign" to="EventCount" from="EventCount + 1"></assign>
          <repeat name="NextEventSuccessUpdate" ref="UpdatedMessageStatus"/>

        </sequence>
      </choice>
    </sequence>
  </sequence>
</process>
```

Business Process Status Reports

Status reports provide detailed information regarding errors encountered for a service at a given step in a process instance, such as where in a step the error occurred. Sterling B2B Integrator generates a status report when a status error is reported, and indicates that the data is available to you by placing an Information icon () in the Status Report column of the Business Process Detail page. Click the link to view the data, which opens in a new window.

Monitor a Service Activity

The Service Activity tool provides service-level monitoring capabilities for those services and adapters that are configured to take advantage of it. This is useful when troubleshooting a step in a business process or when you need to review processing for a service that runs outside of business process and therefore is not accessible from the Business Process Monitor page.

Using this tool, you can specifically check service activity to determine whether processing was interrupted at the service level. To access the tool, select **Business Processes** > **Current Activities**. Use the Service Activity page to display the Service Monitor, listing the activities you need to review.

Use the Service Monitor to:

- View the state of an activity
- View an activity

When you monitor service activity, consider:

- If the activity is a schedule, you can click the ID number to display the schedule settings.
- If the activity is a business process, you can click the ID number to display the Business Process Detail page.
- If the activity initiated a business process, you can click the ID number to display the Business Process Detail page.
- If the activity indicates RMI it is a Remote Management Interface.
- You are viewing service activity in order of priority.
- The date and time indicated represents when the service activity registered Sterling B2B Integrator.

Ways to Search for Business Process Instances

At times the Business Process Monitor may not display the information you need. You have three ways to search for information about your processing:

- Basic – You can use the Central Search wizard to search for information about current and completed business process instances, which is particularly useful when the instance you need is not displayed in the Business Process Monitor. In the Central Search pages, you can specify the search criteria to locate business process instances.
- Advanced – Using the Advanced Search pages, you can refine your search and also search for more detailed business process information, including:
  - Active business process instances in Sterling B2B Integrator
  - Business process instances restored from an offline location
  - IBM Sterling Gentran:Server® for UNIX Life Cycle records (for Sterling B2B Integrator customers who have enabled this feature)
  - Documents that are processing or processed as a result of a business process
  - EDI records for business process instances that included EDI interchange processing

  Because some criteria may not apply to your business needs, you can customize the display of some of the Advanced Search pages.
- Correlation – The correlation search tools enable you to locate the instance you need by searching for correlated name-value pairs (such as Invoice Number/PO123) associated with the instance. Correlation data is either automatically generated by Sterling B2B Integrator services or is generated according to the business process model or services configuration. Correlation search types for business process instances include:
  - Standard Correlation Search – Use correlation data to search live or restore tables
  - Business Process Specification Schema (BPSS) – Correlations that define a standard structure of the activities within a business process
  - EDI correlations – Created by business processes that include deenveloping, enveloping, and functional acknowledgment generation services, such as the EDI Encoder, EDI Enveloping, and EDI Overdue Acknowledgment Check, to perform document exchange

You can search for business process instances by location, ID, and business process name.

Searching for Business Process Instances

There are basic and advanced ways to search for business process instances. You can also perform correlation searches.

Basic Search for Business Process Instances

Procedure

1. From the **Administration** menu, select **Business Processes** > **Central Search**.
2. Specify any combination of the following search criteria, and then click **Go!**

   Business Process
   Display instances with names that contain the specified character or string.

   Status Display instances with a success, error, or either outcome.

   Search Inline Process Name
   Identifies business processes by the business process name. If you are running in *inline* mode, select **Yes** for **Search Inline Process Name** in the search options. If you are not running in *inline* mode, select **No** for **Search Inline Process Name**.

   Time range
   Display instances that are run within the specified **Start Date** and times, and **End Date** and time.
3. Click the number link that indicates the number of matches in Sterling B2B Integrator. The Monitor page opens, listing the business process instances that match your search criteria.

Advanced Search for Business Process Instances

Procedure

1. From the **Administration** menu, select **Business Processes** > **Advanced Search** > **Business Processes**.
2. Specify any combination of the following search criteria, as appropriate, and click **Go!**:

   Select the area to search from:
   Select one of the following options:
   - Live Tables – Display live (active) instances.
   - Restores Tables – Display data for instances restored from an offline location.

   Process ID
   ID assigned by Sterling B2B Integrator to identify an instance. Type the appropriate ID.

   Business Processes
   List of business process models currently saved in Sterling B2B Integrator. Select the appropriate name from the list.

   To select multiple process model names, select the first one and then hold the **Shift** key while selecting additional models. To deselect an item, hold the **Ctrl** key down while clicking the item to deselect.

   Search Inline Process Names
   Identifies business processes by the business process name. If you are running in *inline* mode, select **Search Inline Process Names** in the search options.

System Business Processes
Sterling B2B Integrator system business processes (that is, business processes that complete system operations outside of those completed according to your configured business processes).

Select the appropriate processes from the list.

Enable Business Process Operations
Displays the option to perform activities such as Restart, Resume and Terminate in the Monitor page that shows the search results. Select the check box to enable the activities or clear the check box to disable the activities.

State Current or final state of an instance.

The default value is ALL (search returns all instances, regardless of state). Maintain the default value or select one of the options.

Status Current or final status of an instance. The default value is ALL (displays all instances, regardless of status). Maintain the default value or select one of the options.

Start date/time range
Returns instances running or completed within the specified start dates and times.

Using the following formats, type or select a starting date and time range and select **A.M.** or **P.M.**:

- Date – MM/DD/YYYY
- Time – HR:MN

Deadline
Returns instances according to whether they have missed their deadline, met their deadline, or have a pending deadline. The default value is Any (displays all instances, regardless of deadline status). Maintain the default value or select one of the options.

Deadline Due date/time range
Returns instances according to the deadline status indicated in the **Deadline** field, between the specified dates and times.

Either indicate the past deadlines scheduled for the date and time specified or deadlines schedules next for the data and time specified. When indicating the ranges, use the following formats:

- Date – MM/DD/YYYY
- Time – HR:MN

Searching for EDIINT Transaction Records

About this task

To search for EDIINT transaction records for business processes that included EDI interchange processing:

Procedure

1. From the **Administration** menu, select **Business Processes** > **Advanced Search** > **EDIINT**.
2. Complete one of the following:
   - Click **Go!** to view all EDIINT transaction records.

- Search for specific EDIINT transaction records. Specify any combination of the following search criteria and click **Go!**

  Contracts
  Display the records with a contract name that corresponds to the specified contract.

  Status
  Display the records with a status that corresponds to the specified status.

  Type
  Display the records with an Internet security protocol type that corresponds to the specified type.

  Start date/time range
  Display the records generated within the specified start dates and times.

Searching for IBM Sterling Gentran:Server for UNIX Life Cycle Records

About this task

Customers that have IBM Sterling Gentran:Server for UNIX installed can search for IBM Sterling Gentran:Server for UNIX Life Cycle records by:

- Trading partner
- Document
- Data manager

Procedure

1. From the **Administration** menu, select **Business Processes** > **Advanced Search IBM Sterling Gentran:Server for UNIX**.
2. Specify any combination of the following search criteria, as appropriate, and click **Go!**

IBM Sterling Gentran:Server for UNIX Life Cycle Record Fields

Field	Description	Action
Trading Partner		
Trading Partnership Code	Code that identifies the trading partnership record in the document.	Type the code of the trading partnership.
Interchange Sender ID	ID defined by the organization that is sending documents at the interchange level.	Type the ID of the interchange sender.
Application Sender ID	ID for the sending organization at the group level.	Type the ID of the application sender.
Interchange Receiver ID	ID for the receiving organization at the interchange level.	Type the ID of the interchange receiver.
Application Receiver ID	ID for the receiving organization at the group level.	Type the ID of the application receiver.
Standard Version	Version and release number of the EDI standard you agree to use for a trading partnership.	Type the version and release number of the EDI standard.
EDI Transaction	Set ID/message type ID that you and your trading partner agreed to exchange.	Type the ID of the EDI transaction performed when running the document.

Field	Description	Action
Document		
Document Reference Number	Number that references each data set or document to track the movement of the data set or document through IBM Sterling Gentran:Server for UNIX.	Type the number that references the data set or document.
Interchange Control Number	Sequential number, located at the beginning and end of an interchange, used to verify that all interchanges sent have been received and that the information in the interchange is complete.	Type the number that references the interchange.
Group Control Number	Sequential number, located at the beginning and end of a group, used to verify that all groups sent have been received and that the information in the group is complete.	Type the number that references the group.
Transaction Control Number	Sequential number, located at the beginning and end of a transaction, used to verify that all transactions sent have been received and the information in the transaction is complete.	Type the number that references the transaction.
Data Manager		
Data Manager	Identifies the data manager that processed the file.	Select the name of the data manager from the list.
Flow Direction	Format of the source and destination file determines the flow direction.	Select one of the following options: • Inbound • Outbound • Translation
Status	Current or final status of a document.	Select one of the following options from the list: • Success • Error
Mailbag ID	Code that IBM Sterling Gentran:Server for UNIX generated to identify a session in which files were received and data files passed in the session.	Type the code of the mailbag from the list.

IBM Sterling Gentran:Server Life Cycle Monitoring System Activity Page

The following list describes the fields and columns in the IBM Sterling Gentran:Server Monitoring System Activity page:

Status Indicator that represents the current or final status of this IBM Sterling Gentran:Server for UNIX Life Cycle record.

Result Number
Record search result number.

TP Code
Code of the trading partner.

Doc Number
Number of the reference document that enabled this record to generate.

DM Name
Name of the data manager of this IBM Sterling Gentran:Server for UNIX Life Cycle record.

Date Date and time that the IBM Sterling Gentran:Server for UNIX Life Cycle record was generated.

Info Detailed processing information about the IBM Sterling Gentran:Server for UNIX Life Cycle record. Click **Info** to display the information.

Turning on the Deenvelope Tracking Feature

Procedure

1. Shut down Sterling B2B Integrator.
2. In the install_dir/properties directory, update the enveloping.properites.in file setting usePostProcessorBPLinks value to be true. (Default value is false.)
3. Run the *install_dir/*bin/setupfiles.sh.
4. Restart Sterling B2B Integrator.

Advanced Status Messages

In the Business Process Detail page, you can check the message in the Advanced Status column of the business process instance to determine whether further action for the business process is required. The following table describes advanced status messages and possible actions you can take:

Message	**Description**	**Action**
None	No advanced status is available for the current stage.	No action is required.
Invalid Business Process	Business process does not exist.	1. In the Monitor page, find the instance. 2. Select a different instance from the **Advanced** list. 3. From the **Action** field, select **Restart**.
Business Process Disabled	Unavailable feature selected for the business process.	1. Find the instance by performing an advanced search. For information, see "Advanced Search for Business Process Instances" on page 14. 2. From the **Business Process** menu, select **Manager**, and then locate the instance. 3. Click **Enable** for the selected instance. 4. Click **Execution Manager** for the instance. The business process resumes automatically.
Service Disabled	Unavailable feature selected for this service in the business process.	1. From the **Deployment** menu, select **Services** > **Configuration**. 2. Search and find the service. 3. Click **Enable** for the selected service. The business process resumes automatically.

Message	Description	Action
Service Error	Error occurred with the service processing the data at this point in the business process.	Perform one of the following possible processes: Check the status of the service or adapter: 1. From the **Operations** menu, select **System** > **Troubleshooter**. 2. For Application Status, under Adapters, verify that the service or adapter is enabled. 3. If necessary, enable the service or adapter. 4. Select **Resume** from the Business Process Detail page. For enabled services and adapter: 1. If the service or adapter is enabled, from the **Operations** menu, select **System** > **Logs**. 2. View the log associated with the service that encountered the error. The log may show where the error occurred or what caused the error. 3. Correct the error where possible and select **Resume** from the Business Process Detail page. If the log does not contain information about the error, resume the instance and verify your results.
Service Stopped	Service in the business process stopped.	1. In the Monitor page, find the instance. 2. In the ID column, click the number identifying the instance to display the related Business Process Detail page. 3. Identify which service stopped. 4. Troubleshoot the business process to determine what caused the service to stop running. 5. Select **Resume** from the **Action** field.
Business Process Instance Stopped	Business process discontinued execution.	1. In the Monitor page, find the instance. 2. In the ID column, click the number identifying the instance to display the related Business Process Detail page. 3. Review the advanced message to determine why the instance stopped and correct the problem. 4. Return to the Monitor page and select **Resume**, **Restart**, or **Advanced Restart** in the **Action** field.
Invalid Service	Service does not exist.	1. Install and configure the service. 2. Restart Sterling B2B Integrator.
Mandatory parameter for service missing	Service is missing a required parameter.	1. Determine which parameter is missing. 2. Modify the service properties in the business process model. 3. Restart the process if necessary.

Message	Description	Action
Invalid value for mandatory parameter	Value for required parameter is incorrect.	1. Fix the incorrect parameter in the business process model. 2. Restart the process.

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