Administration
Communications Billing Analytics - Business Edition

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1 Preface

About Customer Self-Service and Tools

Siebel's Self-Service for Communications includes every application that communications service providers need to enable a complete online customer-self service experience at their website. The suite includes software applications for:

- e-Billing and Payment
- Service and Order Management
- Point-of-Sale
- Reporting and Analytics
- Rate Plan Advice

Siebel's Self-Service applications for the telecommunications industry combine Siebel's unrivaled Customer Self-Service and e-Billing software suite with its extensive industry domain expertise. The packaged, out-of-the-box applications are tailored to solve communications service providers' distinct business problems and to meet communications industry-specific process requirements.

Siebel's Self-Service for Communications includes:

Communications Billing Manager

Communication Billing Manager is a complete e-billing application for communications service providers that gives business and consumer customers valuable and convenient access to their communications bills along with the ability to easily make online payments.

Communications Self-Service Manager

Communications Self-Service Manager enables customers of communications service providers to manage every aspect of their service relationship online. From a single convenient interface, customers can easily activate and manage subscriptions, change rate plans and features, and modify subscriber profile settings. Business customers are able to complete these activities for individual employees, as well as company departments and divisions, across their entire organization.

Communication Billing Analytics

Communication Billing Analytics is a reporting solution for business customers that empowers both individual employees and business managers to analyze and understand their communications costs and usage by investigating and identifying trends and patterns across multiple views of their own unique organization.

Rate Plan Advisor

Rate Plan Advisor is a web-based application that recommends the ideal rate plan for wireless subscribers in real-time. Individual consumers as well as large businesses can analyze their actual historical voice/mobile/data usage, find the best-fit rate plans, and compare the features offered by those plans. With its intuitive wizard user interface, Rate Plan Advisor quickly guides end-customers or customer service representatives through the entire analysis process. In addition, a service provider’s customer care and marketing groups can also use Rate Plan Advisor to identify pre-churn subscribers, simulate new rate plans, and run predictive analytics.

About This Guide

This guide is intended for system administrators and other IT professionals and describes how to install and configure the third-party platforms that support the Communications Billing Analytics production environment and deploy Communications Billing Analytics J2EE web applications.

It assumes in-depth understanding of and practical experience with system administrator responsibilities, including:

Operating System Administration Requirements

- Start up and shut down the system
- Log in and out of the system
- Determine software patch/pack levels
- Install software & patches/packs
- Navigate the file system
- Manipulate text files
- Create files and directories
- Change permissions of files and directories
- Use basic network commands
- Transfer files with FTP
- Monitor processes & system resource usage
- Perform system backups and recovery
- Implement system security

Database Administration Requirements

- Install and configure your database server
- Start and stop your database server and database instances
- Use administrative tools

- Manage users, privileges, and resources
- Create an operational database
- Manage database files
- Manage tables and indexes
- Back up and restore databases
- Monitor database performance

Application Server Administration Requirements

- Install and configure your application server
- Start and stop your application server
- Use administrative tools
- Manage users, privileges, and resources
- Configure Java resources
- Package and deploy web applications
- Monitor application server performance

This guide does *not* describe general UNIX or Windows system administration. See the appropriate UNIX or Windows user documentation.

Related Documentation

A PDF version of this guide is also available.

Online	How to Access
A PDF of this guide	A PDF of this guide is available on the product CD-ROM.

This guide is part of the Communications Billing Analytics documentation set. For more information about using Communications Billing Analytics, see the following guides:

Deploying and Customizing J2EE Applications	How to customize J2EE web applications for deployment with Communications Billing Analytics.
Communications Billing Analytics Installation Guide	How to install Communications Billing Analytics on a J2EE and database server.

Obtaining Siebel Software and Documentation

You can download Siebel software and documentation directly from Customer Central at https://support.edocs.com. After you log in, click the Downloads button on the left. When the next page appears, a table displays all of the available downloads. To search for specific items, select the Version and/or Category and click the Search Downloads button. If you download software, an email from Siebel Technical Support will automatically be sent to you (the registered owner) with your license key information.

If you received an Siebel product installation CD, load it on your system and navigate from its root directory to the folder where the software installer resides for your operating system. You can run the installer from that location, or you can copy it to your file system and run it from there. The product documentation included with your CD is in the Documentation folder located in the root directory. The license key information for the products on the CD is included with the package materials shipped with the CD.

If You Need Help

Technical Support is available to customers who have an active maintenance and support contract with Siebel. Technical Support engineers can help you install, configure, and maintain your Siebel application.

This guide contains general troubleshooting guidelines intended to empower you to resolve problems on your own. If you are still unable to identify and correct an issue, contact Technical Support for assistance.

Information to provide

Before contacting Siebel Technical Support, try resolving the problem yourself using the information provided in this guide. If you cannot resolve the issue on your own, be sure to gather the following information and have it handy when you contact technical support. This enables your Siebel support engineer to more quickly assess your problem and get you back up and running more quickly.

Please be prepared to provide Technical Support the following information:

Contact information:

- Your name and role in your organization.
- Your company’s name
- Your phone number and best times to call you
- Your e-mail address

Product and platform:

- In which Siebel product did the problem occur?

- What version of the product do you have?
- What is your operating system version? RDBMS? Other platform information?

Specific details about your problem:

- Did your system crash or hang?
- What system activity was taking place when the problem occurred?
- Did the system generate a screen error message? If so, please send us that message. (Type the error text or press the Print Screen button and paste the screen into your email.)
- Did the system write information to a log? If so, please send us that file. For more information, see the *Troubleshooting Guide*.
- How did the system respond to the error?
- What steps have you taken to attempt to resolve the problem?
- What other information would we need to have (supporting data files, steps we'd need to take) to replicate the problem or error?

Problem severity:

- Clearly communicate the impact of the case (Severity I, II, III, IV) as well as the Priority (Urgent, High, Medium, Low, No Rush).
- Specify whether the problem occurred in a production or test environment.

Contacting Siebel Technical Support

You can contact Technical Support online, by email, or by telephone.

Siebel provides global Technical Support services from the following Support Centers:

US Support Center
Natick, MA
Mon-Fri 8:30am – 8:00pm US EST
Telephone: 508-652-8400

Europe Support Center
London, United Kingdom
Mon-Fri 9:00am – 5:00 GMT
Telephone: +44 20 8956 2673

Asia Pac Rim Support Center
Melbourne, Australia
Mon-Fri 9:00am – 5:00pm AU
Telephone: +61 3 9909 7301

Customer Central
https://support.edocs.com

Email Support
mailto:support@edocs.com

Escalation process

Siebel managerial escalation ensures that critical problems are properly managed through resolution including aligning proper resources and providing notification and frequent status reports to the client.

Siebel escalation process has two tiers:

1. **Technical Escalation -** Siebel technical escalation chain ensures access to the right technical resources to determine the best course of action.

2. **Managerial Escalation -** All severity 1 cases are immediately brought to the attention of the Technical Support Manager, who can align the necessary resources for resolution. Our escalation process ensures that critical problems are properly managed to resolution, and that clients as well as Siebel executive management receive notification and frequent status reports.

By separating their tasks, the technical resources remain 100% focused on resolving the problem while the Support Manager handles communication and status.

To escalate your case, ask the Technical Support Engineer to:

1. Raise the severity level classification
2. Put you in contact with the Technical Support Escalation Manager
3. Request that the Director of Technical Support arrange a conference call with the Vice President of Services
4. Contact VP of Services directly if you are still in need of more immediate assistance.

2 Overview of the Application Setup

Before Getting Started

During the Mastering process, your project team evaluated your organization’s online presentation needs along with your data input format and ETL upload requirements.

You must use the Command Center to set up and configure one or more applications to support your Communications Billing Analytics installation in a live production environment.

Before setting up your application in the Command Center, you must:

- Become familiar with the data sources used by Communications Billing Analytics and the particular account information they are intended to provide the user. Creating and configuring the correct production jobs with the appropriate configuration settings requires a thorough understanding of your site's requirements.
- Work with your project team to establish what jobs you need to define and which job configuration settings you need for your application to work as intended by your design team. Review the job configuration options.

The Application Setup Process

The process of setting up a new application in the Command Center requires three general steps. If you have multiple applications, it is best to set up one application at a time.

To set up a new application, you must:

1. **Create a new application.** This short step requires you to define, or name, the application in the Command Center. See *Creating a New Application*.
2. **Create and configure the associated production jobs.** To implement your application in a live environment, you must configure various production jobs. See *What Jobs Do I Need to Create?* for a description of the types of jobs you must create to maintain a production environment.
   For each job, you must choose the configuration options that will enable your application to function as intended. For some batch jobs, you must also publish associated template files.

Once you have defined your application, created and configured jobs, you can proceed to set up a schedule for each job and begin live production. Note that the command center does not automatically schedule jobs to run; you must manually specify job schedules for production. See *Scheduling Jobs*.

What Jobs Do I Need to Create?

Each command center application requires certain batch jobs run on a recurring basis to maintain current data.

The specific number and type of production (batch) jobs you need to create and configure depends on the type of input file your application use.

Production Jobs

The following production jobs are provided by Communications Billing Analytics.

ReportCleanup Job

Deletes Batch Report files and related records from the database.

This job should be run monthly.

Hierarchy Importer Job

Reads XML files that define a hierarchy and builds that hierarchy in the OLTP database and synchronizes with the OLAP database.

OLTP Production Loader Job

Reads data from the *xchange* table in the OLTP database to synchronize Accounts, Services, and Hierarchy tables in the OLAP database.

3 Setting Up a New Application and Jobs

Logging Into the Command Center

You use the Command Center to set up, configure, and manage your applications.

During live production, you use the Command Center to schedule and run production tasks, monitor system activity, and perform other system administration activities.

The Command Center is a secure application that requires you to log in with an administrator's ID and password. If you forget the Command Center password, contact your system administrator or the person who installed Communications Billing Analytics.

Always log out of the Command Center after completing a session. By logging out, you help maintain the security of the production environment and minimize the chance an application or job can be accidentally corrupted or destroyed.

To change the administrator's password, see Command Center online help.

To log into the Command Center:

1. Verify that the Web server and the database server are both running.
2. Launch your Internet browser.
3. Enter the URL for the Command Center servlet configured when Communications Billing Analytics was installed.
4. On the Login Administrator page, enter the administrator's ID and password. The default ID is admin and the password is edocs.

   If you can't access the Login Administrator page or the Command Center does not recognize the ID and password, consult your system administrator or the person who installed.
5. Click Submit. The Command Center Main Console displays:

To log out of the Command Center:

- Click **`Logout`** on the Main Console.

Creating a New Application

To create a new application:

1. Go to the Command Center.

   Click Create New Application from the Main Console. The command center displays the Create New Application screen:

2. Enter the name of the application. The first character in the name must be an alpha. The rest of the name can contain alphanumeric characters and underscores, but no spaces. For example, **`testApp`**.

3. Enter the JNDI name of the datasource EJB to use for this application. For example, **`/edx/ejb/EdocsDataSource`**.

4. You can ignore the **`Index Partition Count`**.

5. Click **`Create Application and Continue`**. The Create New Job screen displays.

6. Proceed to create and configure jobs for your application.

About mapping your application to a datasource EJB

The Datasource Name is the real/global JNDI name as opposed to the local JNDI name ("java:comp/env/…"). The datasource EJB exists in a separate presentation EAR file. To successfully create the application, the JNDI name must exist and the EJB must be properly deployed and available to application. The Command Center validates the JNDI name before the mapping is persisted.

You must specify a datasource EJB for each application (DDN) you create in the Command Center. When creating an application in the Command Center, a datasource refers to an EJB in your application (EAR file) that specifies summary information and location of your document data.

Specifying the datasource EJB at the DDN level allows you to set the JNDI mapping without modifying deployment descriptors, repackaging, and redeploying your web application. It also enables you to retrieve, for example, live data from an external database or archival data from offline storage. In some cases, customizing the datasource can also improve performance and save disk space.

For information on developing a custom datasource EJB, please consult your Siebel Professional Services representative.

Report Cleanup Job

The following steps show how to create, configure and run this job:

1. Log on to Command Center and Add a New Job.

2. Provide a descriptive job name. For example:

   myReportCleanUpJob

3. Select **`ReportCleanUp`** from Job Type drop down menu, then click on **`Configure Job`** and **`Continue`** button. (The Publisher is not required for this job.)

   The default parameters for the job are:

   Number of Days to Keep Batch Files - number of days after which report files will be deleted

   Report DB JNDI - the JNDI name of OLTP data source.

4. Click on **`Submit Changes`** and **`Schedule`**. Click **`OK`** on message box.

   In this page you can schedule when to run the job or one can click on **`RUN NOW`** to run the job immediately.

5. Click **`REFRESH`** to see when the job was run successfully. If not, it will be colored red

Importing Data

You use the Hierarchy Importer and OLTP Production Loader jobs to load sample data and set up the sample hierarchy. Run the jobs in the following order:

1. Run the Hierarchy Importer job specifying *ProductSampleLeadingCompanyOrg.xml* as the input file.

2. Run the OLTP prod. Loader job.

3. Run the Hierarchy Importer job using the *BusinessHierarchy.xml* and *CostCenterHierarchy.xml* files.

The details about configuring the Hierarchy Importer and OLTP Production jobs is described below.

Hierarchy Importer Job

Sample hierarchy XML files can be found at */opt/siebel/TAM/J2EEApps/exchange*

The following steps show how to create, configure and run this job:

1. Log on to Command Center and click **`Add a New Job`**.

2. Provide a descriptive job name. For example:

   myhierarchyImporter

3. Select **`hierarchyImporter`** from Job Type drop down menu and click on the **`Configure Job`** and then the **`Continue`** button. (The Publisher is not used for this job). The default parameters for the job are:

   For Task1: Scanner:

   Input File Path - The directory where the XML file is that defines the hierarchy to import.

   Input File Name - The name of the XML file that defines the hierarchy.

   Output File Path - The directory where the processed XML file is stored for the next step.

4. Click on **`Submit Changes`** and **`Schedule`**. Click **`OK`** on message box.

   In this page you can schedule when to run the job or one can click on **`RUN NO`**W to run the job immediately.

5. Click **`REFRESH`** to see when the job was run successfully. If not, it will be colored red

OLTP Production Loader Job

Reads data from the *xchange* table in the OLAP database to build Accounts, Service, and Hierarchy tables in the OLTP database.

Caution The ETLOLTPProductionJob must be run **last** in the ETL process.

The following steps show how to create, configure and run this job:

1. Log on to Command Center and click **`Add a New Job`**.

2. Provide a descriptive job name. For example:

   myOLTPETLProductionLoader

3. Select **`ETLOLTPProductionJob`** from Job Type drop down menu and click on **`Configure Job`** and then the **`Continue`** button. (The Publisher is not used for this job).

4. This job is configured for only one batch.

5. Click on **`Submit Changes`** and **`Schedule`**. Click **`OK`** on message box.

   In this page you can schedule when to run the job or one can click on **`RUN NOW`** to run the job immediately.

6. Click **`REFRESH`** to see when the job was run successfully. If not, it will be colored red

7. Check the data in the Baccount, ServiceAgreement, and Hierarchy tables for new data.

4 Managing the Live Production Process

General Production Monitoring Activities

Once you have set up and configured an application and its jobs, you use the Command Center to schedule jobs, manage the production process on a daily basis, and to perform administrative activities related to your application.

The Command Center Main Console provides a high-level status of all activity related to jobs in the production environment, and is the first screen you see when you log into the Command Center.

You also use the Main Console to schedule, control, and monitor all production jobs, including:

- Setting and changing job schedules; see *Scheduling Jobs*
- Monitoring the status of jobs and individual production tasks; see *Monitoring Production Jobs, Viewing Job status,* and *Viewing and Verifying Task Status*
- Starting a job; see also *Canceling and Retrying Failed Jobs*
- Monitoring system services; see *Monitoring System Services*

Keeping your applications running efficiently in an ongoing, live production environment requires regular monitoring and maintenance.

Here are a few of the system monitoring activities you want to perform on a regular basis.

Daily application monitoring tasks:

- Check the Command Center Status screen to monitor the state of production jobs.
- Check the administrator email accounts for any administrator alert mail. Administrator email is generated if there's a problem passing email notifications to the SMTP host or if email notification is not working properly for some other reason.

Weekly (or more often) application monitoring tasks:

- Check message log report messages: Activity, Error, and Warning Logs. See *Viewing Message Logs*.

General system maintenance activities:

- Run activity reports to review application usage statistics.
- Maintain the database. See *Database Administration*.

Scheduling Jobs

You must manually schedule jobs to run in a live production environment; jobs are not automatically scheduled. The frequency with which you choose to run a job depends on both the job type and your organization's presentment needs. Consider all jobs and system events in planning your schedule.

You can schedule a job to run a simple weekly or monthly basis, or establish a more complex timetable. Review the available scheduling parameters and carefully choose the combination of options that yield the particular schedule you need.

You can change a job schedule anytime, *except while the job is processing*.

Warning: If you try to save schedule changes while a job is running in the production queue (job status says "Processing"), The new scheduling parameters are ignored.

Here is a general idea of how often you might want to run various jobs:

Job Type	How Often to Run
Purge Apps	Schedule Purge Apps to run as often as necessary to clear space on your database server.
Purge Logs	Schedule Purge Logs to run as often as necessary to clear space on your database server.
Report	Schedule the Report job to run after the Indexer job (Reporting feature users only).
JIT Report Collector	Schedule the JIT Report Collector when a number of JIT reports have been created, which depends on your system and JIT configuration (Reporting feature users only).

Scheduling Jobs for Sample Data

During installation, there was an option to load the sample hierarchy. If that option was not run, then the following jobs must be run, in order, to load sample data into the hierarchy:

1. HierarchyImporter job using *ProductSampleLeadingCompanyOrg.xml*, which is located in <install-directory>*/TAM/J2EEApps/exchange*.
2. ETLOltpProductionJob
3. HierarchyImporter job using *BusinessHierarchy.xml*, which is located in <install-directory>*/TAM/J2EEApps/exchange*.
4. HierarchyImporter job on *CostCenterHierarchy.xml*, which is located in <install-directory>*/TAM/J2EEApps/exchange*.

The Run Now button

Click the **Run Now** button on the Main Console to run just one instance of the job immediately, overriding the scheduling parameters (except concurrency parameters; if you saved the schedule to run multiple occurrences of a job, the Run Now button uses multiple occurrences instead of one).

Running jobs concurrently (multiple instances)

You can configure the Scheduler to enable multiple instances of an application job to run in parallel. If you do not schedule a job to use concurrency, The job runs sequentially, requiring one job instance to complete before another can start.

If a job processes large or multiple input files, repeating the job sequentially may not allow enough time to complete the job before another input file appeared in the input directory. Running jobs in parallel enables you to leverage machine power to process a large amount of data in less time.

To run instances of a job concurrently, you must configure the maximum number of concurrent job instances to allow for each job (5, 10, 15, or 20) in the job schedule.

Concurrency is available with thread-safe jobs only; PurgeApp and PurgeLogs are not thread-safe and can run only one occurrence at a time.

The Command Center lets you monitor and manage the individual job instances to keep your production environment running efficiently.

To set or change a job schedule:

1. At the Command Center, locate the job you want to schedule or reschedule and click its status in the Next Run column. The Schedule screen appears. (If you just completed configuring a job, the Schedule screen appears automatically.)

2. Specify a valid start date for the schedule to take effect. Click **Popup Calendar** to select dates quickly.

   Specify the schedule window parameters and any repeating parameters, if necessary. These options are described in the following table. To clear the screen to reenter all parameters, click `Clear Schedule`.

Job Schedule Parameters	
Field	**Use to…**
Schedule Date	
Schedule Date	Specify the date the job schedule goes into effect
Schedule Window	
Start Time	Time of day (hour and minutes) to run the job
Try Once	Run the job once on the date and time specified only

Job Schedule Parameters	
Try every … minutes until … time of day	Rerun the job at the specified interval (in minutes) until the end time
Recurring	
Do not repeat this event	Run the job as specified in the previous fields and do not repeat it
Repeat every …	Run the job on the daily or weekly frequency specified: every, every other, every third, or every fourth day, on the selected day of week, all week days, or on both weekend days
Repeat on day … of the month every …	Run the job on the numeric day of the month specified, on every month, every other month, or every 3, 4, 6, or 12 months
Forever	Run the schedule continuously (no end date)
Until …	Run the schedule up until the end date, then stop
Concurrency	
Do not run multiple job instances: only one at a time	Run only one instance of the job at one time.
Run maximum number of (5) concurrent job instances	Run multiple occurrences of the job at one time (concurrently). Specify the maximum number of instances to allow; click the 5 drop-down box and choose 5, 10, 15, or 20.

3. When finished setting the schedule, click **`Save Schedule`**. This schedule is saved and the job is added to the production queue, overriding any scheduling parameters you set for a single execution of the job. To run the job immediately, click **`Run Now`**. (You can also choose this button on the Main Console. The **`Run Now`** button overrides scheduling parameters except concurrency parameters; if you saved the schedule to run multiple occurrences of a job, the **`Run Now`** button uses multiple occurrences instead of one).

Tip To start a job, list jobs, or view schedules from a command line, see the SDK documentation about implementing the com.edocs.pwc.cli API package.

Monitoring Production Jobs

Use the Command Center Main Console to monitor the state of all production jobs for your applications.

Regularly check the status of jobs and tasks to track:

- Whether a job has completed successfully
- Which tasks completed successfully

- Why a job failed

You can use the Command Center to correct problems, restart or cancel failed jobs, and accept, reject, and purge individual volumes. See *Canceling and Retrying Failed Jobs*.

For each application, the Main Console lists each configured job type alphabetically. Although there can be multiple instances of an individual job for an application, the Main Console can display only one, so it chooses a representative job instance. The job instances are sorted first by status "ranking" and then by last run time in reverse chronological order. The top-most instance from that list is selected as the representative instance.

Command Center Main Console

Column	Description
Application	Name of the application.
Job Name	Name of the job.
Job Type	The purpose of the batch job: Indexer, Email Notification, Purge Apps, etc.
Last Run	Date and time the representative job instance ran.
Run Time	Elapsed time the representative job instance has been running in hours, minutes, and seconds.
Status	Current execution state of the representative job instance.
Next Run	Date and time the job is scheduled to run next. (This applies only to the job and not a particular instance.)
Action	Displays a button that lets you take action on that job. The `Run Now` button lets you run the job once immediately, overriding the scheduling parameters (except concurrency parameters). The Retry button lets you retry all failed instances of the job.

Note that the Main Console does not show any activity until you create one or more applications and jobs.

To list jobs for a particular application only:

- On the Main Console, click the name of the application in the Application column. The Edit Application page appears, showing only those jobs defined for the selected application.

To sort jobs listed on the Main Console by application:

- Click the word Application in the column header.

To sort jobs on the Main Console by job name (alphabetically), job type, last run, run time, status, or next run:

- Click the column header.

To display the current information on the Main Console:

- Click the **`Refresh`** button.

Viewing Job Status

The status of each production job appears on the Command Center Main Console. Jobs can have the following status, shown here in the order used for ranking purposes:

Job Status	Description
Failed	Job failed
Processing	Job is currently executing
Reprocessing	Job is currently executing after a user manually selected it for reprocessing using the Retry or Retry All button
Reprocess	A user has manually selected the job for reprocessing using the Retry or Retry All button, but the job has not yet begun
No operation	Job/Task did nothing as resources were not ready yet, for example, if the Scanner task found no file in the input directory.
Done	Job has completed successfully
Canceled	Job run failed and was canceled
Not yet started	Job has not begun executing
Done, recurring	Job completed successfully and has been scheduled to run again, or the job has processed one data file and is looking at the input directory to see whether there are any more data files to process in this run
No operation, recurring	Previous job run resulted in a "No operation" status, but the job has been scheduled to run again
Canceled, recurring	Job was canceled and is now looking at the input directory to see whether there are any more data files to process in this run

Viewing and Verifying Task Status

Each production job consists of several individual tasks that work together to generate job output. In addition to job status, each individual task is assigned a status when the job runs. You can closely monitor and manage the task status for a job instance using the Command Center Task Status page.

Every configured task must complete successfully before the application sets job status to Done on the Main Console.

If any of the production tasks is unable to complete, the job fails, and the status changes to Failed. All failed jobs display in red on the Main Console. If a job fails, you can run it again.

To view task status detail for a job:

1. Click the status of the job in the Main Console **`Status`** column. The Task Status screen appears showing the status of each production task in the job.

2. To change the display order of tasks (processing order remains unchanged), click **`Task`**. To change the display order of information in the Last Run and Status columns, click **`Last Run`** or **`Status`**. Click the links again to restore each display to its original order.

3. Click **`Refresh`** to display an updated task status.

4. You have the option of rerunning or canceling a failed job. Click **`Retry Failed Job`**, or **`Cancel Failed Job`**.

5. The Task Status page displays each instance of a job started during the most recent scheduled run in reverse chronological order (youngest first), along with the status of each task in the instance.

The Task Status page identifies each job instance by a Job Instance ID, and displays the following information:

Command Center Task Status Page

Column	Description
Job Instance ID	A number uniquely identifying each job instance.
Last Updated	The time the task status last updated.
Status	Current execution state of the task. Task Status can be: Processing, Failed, Reprocessing, Reprocess, No operation, Canceled, Not yet started, or Done.
Action	Displays a button that lets you take action on that job instance or on all instances. The Retry button lets you retry that instance; the Retry All button lets you retry all failed instances of the job. The Cancel button lets you cancel that instance; the Cancel All button lets you cancel all failed instances of the job.

Which job instances appear on the Task Status page

The Task Status page displays:

1. Up to the last *N* job instances that have Done, Canceled, or No operation status (where *N* is the maximum number of concurrent instances allowed for the job), *plus*

2. Any instances in Processing, Failed, Reprocessing, or Reprocess status

   If you are not using concurrency (*N*=1), the Task Status page shows up to **five** rows of job instances in Done, Canceled, or No operation status, plus any instances in Processing, Failed, Reprocessing, or Reprocess status.

When a scheduled run completes, the completed rows remain in view on the Task Status page until a new schedule begins. At this point, the Task Status page begins displaying the instances generated by the new schedule instead. The only exception is that any instances from the previous schedule still in Processing, Failed, Reprocessing, or Reprocess states remain even if a new schedule has begun. Those instances are removed from the Task Status page once processing is complete, or in the case of a failed instance, once you cancel or retry it successfully.

Schedules can overlap if a second schedule begins before the current run completes. Another scheduled run can begin only if:

3. The first run is not using the maximum number of instances (if enough "resource" is available). For example, if the first run has 3 instances in Processing and the maximum allowed is 10, the next run can start up to 7 new instances.

4. No job instances in the first are in the Failed state.

   Overlapping schedules mean that instances from both schedules could appear on the Task Status page. You can tell from the Last Updated field to which schedule the instance belongs.

   The *number* of rows that appear on the Task Status page at any given time depends on the point of progress of the job plus:

5. Whether you have enabled concurrency for the job (if the maximum number of instances specified in the schedule is >1).

6. The maximum number of concurrent jobs you allow. This number is also the maximum number of Done, Canceled, or No operation jobs that can appear on the Task Status. If you are not using concurrency, the Task Status shows a maximum of 5 job instances in Done, Canceled, or No operation.

7. For jobs that scan for an input file, such as Indexer, the number of input files placed in the input directory.

   For jobs that process multiple statements in parallel with the StatementScanner task, such as the Report job, the number of statements to process up to the maximum number of instances.

8. Whether the job schedule overlaps due to a long lasting run.

Additional ways to verify that a task completed successfully

In addition to checking the individual task status on the Task Status screen, you can check for individual task output to determine whether a task completed successfully, as described here:

Task	How to verify task completion
Mail Notification	Check the job status window. Verify emails sent.

Canceling and Retrying Failed Jobs

You can use the Main Console to cancel or retry a job, and the Task Status page to retry or cancel a failed instance of a job.

If one instance fails, other instances that have started continue to completion, but no new instances are started.

Retry running a failed job or job instance if you want to start it from the point where it failed. If you want to restart a job or instances of a job, cancel and run it again.

If the task has not been started, the Last Update field shows "-" and Status shows Not Yet Started.

To retry a *failed* job before its next scheduled run time:

- On the Main Console, click the **Retry** button for the failed job. Or, on the Task Status page, click **Retry All**, which retries all failed instances of the job.

  The failed job immediately restarts at the failed task, and changes the instance status from **Failed** to **Reprocess**.

To cancel all instances of a *failed job*:

- On the Task Status page, click the `Cancel All` button.

  All failed instances of the job are cancelled, and the job status changes to Canceled, and remains Canceled until the next time the job is scheduled to run again.

To cancel a failed job instance:

- On the Task Status page, click **Cancel** in the Action section next to the failed instance.

  The failed job instance is canceled, and the job instance status changes to Canceled, and remains Canceled until the next time the job is scheduled to run again.

Changing a Job Configuration

You change a job configuration any time, *except while the job is processing*.

Warning: If you try to save configuration changes while a job is running in the production queue (job status is "Processing") The new job configuration parameters are ignored.

To edit a job configuration:

1. On the Main Console, click the name of the job you want to reconfigure. The job configuration screen displays.

2. Enter your changes. If you want to clear all current job parameters, click **`Reset`**.

3. Click Submit Changes and Schedule.

4. Click **OK**. The Schedule screen displays, where you can edit the job schedule, if needed.

Deleting a Job

You can delete a job you no longer need in an application. Deleting a job removes the job configuration and schedule in the Command Center.

Deleting a job does not remove data associated with the job that is already in the database. (Use Purge App and Purge Logs jobs to purge data.)

Make sure you really want to delete the job; you can always cancel a job, or change its configuration or schedule.

To delete a job:

1. On the Main Console, click the name of the application. The Edit Application screen displays, which lists the application jobs.
2. Click the box in the "Delete?' column for the job.
3. Click the **Delete Marked Jobs** button.
4. Click **OK** when asked if you are sure you want to delete the marked job. The job is removed from the application.

Viewing Message Logs

Logs of all activities that occur and messages generated during production are maintained. Review these logs on a regular, ongoing basis to monitor jobs in your production environment.

You can create and view a report showing any of the following types of log messages generated over a select time period:

- **Error** – Error log
- **Information** – Activity log
- **Warning** – Warning log

Log reports display the following information:

Log Report Column	Description
Timestamp	The date and time the message was created in the log
SourceHost	Name of the server that generated the error message or where the production activity occurred
Message ID	A code identifying the task where the error occurred and the level of error

Log Report Column	Description
Message	Message text

To view production log messages:

1. Click **Reporting** on the Command Center menu. The Reporting screen appears.
2. Click the **View Logs** tab to display the View Logs screen.
3. Select the type of message log to view.
4. Enter a start date and end date range to search. Click **Popup Calendar** to select dates quickly.
5. Enter a start time and end time to search.
6. Click Submit Query.
7. The log messages display of the selected type generated during the selected date and time range.
8. To select different log information to view, click **Reselect Log View**.

Monitoring System Services

You can check on the status of system services using the Command Center.

To view the status of system services:

- Click **Service Status** on the Command Center menu. The Service Status page appears, and indicates whether all services are running or which, if any, are missing

If services are missing:

1. Close Command Center.
2. Shut down and restart the application server.
3. Display the Service Status again to verify that the problem has been corrected. If services are still missing, refer to your Installation Guide.

5 Reviewing System Activity

Job Reports

You can use the Command Center to create and view job reports showing history and statistical information about each time a particular job ran in one or more applications over a particular time period. You can generate a report for a specific job or for all jobs.

If you prefer, you can generate a report about jobs that ran against one or more specific data files.

The following information displays on the Job Report for Email Notification:

Column	**Description**
Job Name	Name of the job
Application	Name of the application
Start Time	Time the job started
End Time	Time the job ended
Time Elapsed	Total running time
Total Email Count	Total number of emails generated
Total Emails Sent	Total number of emails sent successfully
Total Emails Unsent	Total number of emails not sent; messages can be unsent if the job is still processing or due to an error, exception, etc.
Total Emails Unresolved	Total number of emails with unresolved status, for example, due to missing email address. To calculate this total, you must set the system property "com.edocs.tasks.mns.percentcomplete" to true in the EDX.CONFIG.
Total Emails Failed	Total number of emails with failed status; an email fails if all retries are unsuccessful
Address Error	Number of times an error occurred with the end rolling email address
Server Error	Number of times a mail server error occurred
Job Status	The current status of the job
Data File	Name of the data file the job used

Column	Description
Percent Complete	The percentage of the job that is currently complete. To calculate percent complete, you must set the system property "com.edocs.tasks.mns.percentcomplete" to true in the EDX.CONFIG.

To view a Job Report:

1. Click **`Reporting`** on the Command Center menu. The Reporting screen displays.
2. Click the **`Job Reports`** icon to display the Job Reports screen.
3. Select one or more applications from the drop-down menu.
4. Click Submit Query.
5. To generate a report for a particular job, enter the job name; to get a report for all jobs during a given time frame, leave the job name field blank. **WARNING**: Not entering a job name can return a very large data set that can take a long time to load. For heavily trafficked systems, setting a small date and time range is recommended.
6. Enter a start and end date, and a start and end time range. Click **`Popup Calendar`** to select dates quickly.
7. To generate a report for one or more data files, instead of by job and/or date range, select the files. Tip: To select or unselect a data file, press Ctrl+Left mouse click. WARNING: If you select a data file, all other fields for this query are ignored.
8. Click **`Submit Query`** to start the search.
9. A Job Report for the selected search criteria displays.
10. Click **`Search Again`** to perform another search for job data.

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6 Other System Administration Activities

Database Administration

Running an application in a live production environment can generate a large volume of historical data in an application's database. You are responsible for monitoring and maintaining your own database server.

It is a good idea to monitor your database server on a weekly or other regular basis to:

- Check database utilization; to periodically eliminate older application data and free up space on your database server, create, configure, and run the Purge App and Purge Logs jobs. See *Creating and Configuring a Purge App Job* and *Creating and Configuring a Purge Logs Job*.
- Check memory utilization on SQL server/swap (paging) file utilization. When peak number of Commit Charge gets to 10% of limit, then it is advisable to increase the size of paging file, or install more RAM.
- Back up

Changing the Administrator's Password

You can change the Administrator's password, which you use to log into the Command Center, at any time.

It's a good idea to periodically change the password to ensure system security.

To change the Administrator's password:

1. On the Command Center Main Console, click **`Settings`**. The Settings screen displays.
2. Click the **`Admin Login`** tab to display the Change Administrator Login page.
3. Enter the new password in the Password field.
4. Enter the password again in the Re-Type Password field to confirm. Click Reset to clear the fields, if necessary.
5. Click Update Password.

Deleting an Old Application

If you have an old or unusable application, you can use the Command Center to delete it from your system.

If you are testing in a quality assurance or development environment, you might want to remove an unneeded application.

You would not normally need to delete an application from a production environment, unless you incorrectly configured an application or set up the training application by mistake.

Note that deleting an application only removes it from use; it does not delete any associated data in the database for jobs that were run. To delete data from the database, run Purge App and Purge Logs jobs.

To delete an old application:

1. Delete all jobs associated with an application. You can't delete an application until you've deleted all the related jobs.
2. At the Main Console, click the name of the application you want to delete. The Edit Application screen displays.
3. If any jobs still exist, click the box in the "Delete?" column for each job, then click **`Delete Marked Jobs`**. Click **`OK`** when asked if you are sure you want to delete the marked jobs.
4. Click the **`Remove Application`** button (which only appears when no jobs are listed).
5. Click **`OK`** when asked if you are sure you want to delete the application.

Appendix A: Error Messages

Job Error Messages

APP is com.edocs.services.application.LogMsgCatalog

Message ID	Severity	Message Text	User Action
APP0001	Error	Error initializing app stored procedure call strings	Call for Support
APP0002	Error	Unable to interpret the docid: {0}	Call for Support
APP0003	Exception	Exception caught: {0}	Call for support

MAI is com.edocs.services.mailer.LogMsgCatalog

Message ID	Severity	Message Text	User Action
MAI0001	Error	Error initializing mailer purge stored procedure call strings	Call for support

MGR is com.edocs.services.merger.LogMsgCatalog

Message ID	Severity	Message Text	User Action
MGR0001	Error	InvalidAppException occurred while trying to access the application path: {0}	Call for support
MGR0002	Exception Error	{0} occurred while trying to access the application path: {1}	Call for support
MGR0003	Exception	Exception occurred while trying to access the input stream: {0}	Call for support
MGR0004	Exception	Exception occurred while reading versioning information: {0}	Call for support
MGR0008	Exception Error	Unable to de-serialize the parameter properties object: {0} Unable to interpret the docid: {0}	Call for support
MGR0009	Exception	Exception occurred while application information: {0}	Call for support
MGR0010	Exception	Exception occurred while reading versioning information: {0}	Call for support
MGR0011	Exception	C++ merger code threw an exception: {0}	Call for support

Message ID	Severity	Message Text	User Action
MGR0013	Error	UnsatisfiedLinkError, Check LD_LIBRARY_PATH	Call for support
MGR0014	Error	Unable to interpret the docid: {0}	Call for support
MGR0015	Error	Exception occurred while preparing to retrieve the document: {0}	Call for support

MNS is com.edocs.tasks.mns.LogMsgCatalog

Message ID	Severity	Message Text	User Action
MNS0001	Information	Started	None
MNS0002	Exception	Exception caught: {0}	Call for support
MNS0003	Information	Finished Processing	None
MNS0004	Error	Something is very wrong. Mail servers might not be working.	Call for support
MNS0005	Error	Total Accounts = {0}, Total Tried = {1}, Total Emails Sent = {2}	None
MNS0006	Exception	Exception caught: {0}	Call for support
MNS0007	Exception	Exception caught: {0}	Call for support
MNS0008	Exception	Exception caught: {0}	Call for support
MNS0009	Exception	Exception caught: {0}	Call for support
MNS0010	Exception	Exception caught: {0}	Call for support
MNS0011	Information	Created and starting...	None
MNS0012	Exception	Exception caught: {0}	Call for support
MNS0013	Exception	Exception caught: {0}	Call for support
MNS0014	Exception	Exception caught: {0}	Call for support
MNS0015	Exception	Exception caught: {0}	Call for support
MNS0016	Exception	Exception caught: {0}	Call for support
MNS0017	Exception	Exception caught: {0}	Call for support
MNS0018	Exception	Exception caught: {0}	Call for support
MNS0019	Exception	Exception caught: {0}	Call for support
MNS0020	Error	Error initializing stored procedures call strings	Call for support
MNS0021	Information	Failed to send mails, tried retry number of times, Perhaps Mail servers are not working.	Check your mail server
MNS0022	Exception	Exception caught: {0}	Call for support

MON is com.edocs.services.monitor.LogMsgCatalog

Message ID	Severity	Message Text	User Action
MON0001	Exception	Exception occurred while looking up EJB: {0}	Call for support
MON0002	Exception	Exception occurred while looking up EJB: {0}	Call for support
MON0003	Information	Monitor created	None
MON0004	Exception	Exception occurred while looking up EJB: {0}	Call for support
MON0005	Information	Monitor removed	None

PDB is com.edocs.pwc.db.LogMsgCatalog

Message ID	Severity	Message Text	User Action
PDB0001	Error	Error initializing stored procedure call strings	Call for Support

PTK is com.edocs.pwc.tasks.LogMsgCatalog

Message ID	Severity	Message Text	User Action
PTK0001	Information	Created and starting	None
PTK0002	Exception	Exception caught:{0}	Call for support
PTK0003	Exception	Exception caught:{0}	Call for support
PTK0004	Exception	Exception caught:{0}	Call for support
PTK0005	Exception	Exception caught:{0}	Call for support
PTK0006	Exception	Exception caught:{0}	Call for support
PTK0007	Exception	Exception caught:{0}	Call for support
PTK0008	Exception	Exception caught:{0}	Call for support
PTK0009	Exception	Exception caught:{0}	Call for support
PTK0010	Exception	Exception caught:{0}	Call for support
PTK0011	Exception	Exception caught:{0}	Call for support
PTK0012	Exception	Exception caught:{0}	Call for support
PTK0013	Exception	Exception caught:{0}	Call for support
PTK0014	Exception	Exception caught:{0}	Call for support
PTK0015	Exception	Exception caught:{0}	Call for support
PTK0016	Information	Finished processing task	None

PUR is com.edocs.tasks.purge.system.LogMsgCatalog

Message ID	Severity	Message Text	User Action
PUR0001	Information	{0} purged {1} records from the database	Call for support
PUR0002	Information	The task configuration for {0} has a negative purge age of {1}. No purging will occur.	Call for support
PUR0003	Error	The following exception was caught during {0} {1}	Call for support

SCH is com.edocs.pwc.scheduler.LogMsgCatalog

Message ID	Severity	Message Text	User Action
SCH0001	Information	Starting JobProcessor for ({0}) job instance: {1}	Call for support
SCH0002	Exception	Exception in processJobs: {0}	Call for support
SCH0003	Information	PWC Scheduler started	Call for support
SCH0004	Exception	Reprocessing of jobs failed: {0}	None
SCH0005	Exception	Processing of jobs failed: {0	None
SCH0006	Exception	Non-recoverable error in PWC Scheduler!: {0}	None
SCH0007	Information	Starting job instance thread for: {0}	Call for support
SCH0008	Error	Job instance initialization failed for: {0} {1}	Call for support
SCH0009	Error	Failed to get Job/Schedule Object for job instance: {0} {1}	Call for support
SCH0010	Error	Failed to update failed job status for: {0} {1}	None
SCH0011	Information	Job instance: {0}; Starting task: {1}; order: {2}	Call for support
SCH0012	Information	Job instance: {0}; Done task: {1}; order: {2}	Call for support
SCH0013	Information	Job instance: {0}; Starting task: {1}; order: {2}	Call for support
SCH0014	Error	Failed to update failed job status for: {0} {1}	None
SCH0015	Error	Failure in job processor thread for: {0} {1}	Call for support
SCH0016	Error	Failed to update failed job status for: {0} {1}	None
SCH0017	Error	Status forced to "Failed" from {0} for hung job instance: {1}	None

Message ID	Severity	Message Text	User Action
SCH0018	Error	PWC Scheduler unable to force "Fail" hung job instances: {0}	Call for support
SCH0019	Error	Failed to define next schedule for job instance: {0}	None
SCH0020	Information	Done job instance thread for: {0}	None

SCN is com.edocs.tasks.scanner.LogMsgCatalog

Message ID	Severity	Message Text	User Action
SCN0001	Error	Scanner.getTaskParams: Failed to get task config params - {0}	Call for support
SCN0002	Error	Scanner.setTaskParams - missing param: {0}, for job {1}, ddn {2}, task order {3}	Call for support
SCN0003	Information	Scanner.setTaskParams({0}, {1}, {2}): {3}	Call for support
SCN0004	Error	Scanner.setTaskParams: Failed to set task config params - {0}	Call for support
SCN0005	Error	Scanner.isTaskConfigValid: Failed to find input directory: {0}	Call for support
SCN0006	Error	Scanner.isTaskConfigValid: Failed to create output directory: {0}	Call for support
SCN0007	Error	Scanner.isTaskConfigValid: Failed while validating config params - {0}	Call for support
SCN0008	Information	Scanner.processTask({0}, {1})	None
SCN0009	Error	Scanner.processTask: Failed to create ddn volume - {0}	Call for support
SCN0010	Error	Scanner.processTask: Failed caused by an invalid input file: {0}	Call for support
SCN0011	Information	Scanner.processTask({0}, {1}): Attempting to move {2} -> {3}	None
SCN0012	Error	Scanner.processTask({0}, {1}) - attempt to move: {2} -> {3} failed	Call for support
SCN0013	Information	Scanner.processTask({0}, {1}) - attempt to move: {2} -> {3} succeeded	None
SCN0014	Error	Scanner.processTask: failed to process - {0}	Call for support
SCN0015	Information	Scanner.processTask: {0} : file length is 0.	None

SCT is com.edocs.tasks.shellcmd.LogMsgCatalog

Message ID	Severity	Message Text	User Action
SCT0001	Error	Exception caught: {0}	Call for support
SCT0002	Error	Shell Command unable to finish: {0}	Call for support
SCT0003	Information	ShellCmdTask: About to execute the following shell command: {0}	None
SCT0004	Information	ShellCmdTask: Return Value = {0}	None
SCT0005	Information	ShellCmdTask: Shell output: {0} DVN: {1}	None
SC0006	Error	ShellCmdTask: processTask: Failed to create ddn volume - {0}	Call for support
SCT0007	Error	ShellCmdTask: processTask: Unable to set task output: {0}	Call for support
SCT0008	Information	ShellCmdTask: DVN changed. Shell output: {0} DVN: {1}	None

VRS is com.edocs.services.versioning.LogMsgCatalog

Message ID	Severity	Message Text	User Action
VRS0001	Exception	Exception occurred while creating IVersionSetReader object locally: {0}	Call for support
VRS0002	Exception	Exception occurred whilst creating IVersionSetReader remote object: {0}	Call for support
VRS0003	Exception	Unable to instantiate remote IVersionSetReader interface: {0}	Call for support
VRS0004	Exception	Exception occurred whilst creating IVersionSetWriter object locally: {0}	Call for support
VRS0005	Exception	Exception occurred whilst creating IVersionSetWriter remote object: {0}	Call for support
VRS0006	Exception	Unable to instantiate remote IVersionSetWriter interface: {0}	Call for support
VRS0007	Exception	Exception occurred whilst creating IVersionedObj object locally: {0}	Call for support
VRS0008	Exception	Exception occurred whilst creating IVersionedObj remote object: {0}	Call for support
VRS0009	Exception	Unable to instantiate remote IVersionedObj interface: {0}	Call for support
VRS0010	Exception	Unable read data required for instantiating remote version interface implementations	Call for support