CTI Billing Solutions Limited

Operations Guide

Analysis 7 1.10 – Core Back-office

Product	Analysis 7
Product version	1.10
Doc Ref	MMA7OPS
Doc Version	1.00
Doc Status	Published
Circulation	Commercial in confidence
Doc Size	70 pages

ctigroup.com

CTI Billing Solutions Limited

CTI Billing Solutions Limited (CTI) ® *is part of* CTI Group (CTIG) ®.

A trusted partner to an enviable tier 1 and tier 2 client base – including many of the world's leading telecommunications providers and billing system developers – *CTIG* has a long history of providing *Call recording, eBilling* and *Analytics solutions*.

Trademarks and intellectual property rights

The *A7 (A7)* solution utilises *Liferay®*, which is the intellectual property of Liferay Inc.® and is licensed from them in accordance with the standard ***GNU LGPL 2.1 licence agreement.*** [1]

A7's web service utilises *Apache™ Tomcat™* and *httpd* ® licensed under the terms described in ***Apache Licence (version 2.0).*** [2]

Microsoft® and *Windows®* are the registered trademarks of *Microsoft Corporation*.

Oracle® is a registered trademark of *Oracle®*.

The *A7* database requires an *Oracle Database®* (a registered trademark of *Oracle*) database management system.

Where *Single sign-*on *option (SSO)* operation is not in use, the *Lightweight Directory Access Protocol (LDAP)* directory server of choice is *OpenDS®*, which is a registered trademark of *Oracle*.

CTI hereby acknowledge all trademarks, intellectual property rights and copyrights associated with the pre-requisite technology upon which it is built; a full list of which is distributed with the *A7* software.

The support and maintenance of any pre-requisite technology remains the responsibility of the customer and should be conducted in accordance with the relevant supplier's recommendations and industry best practise. Explicit support and guidance is provided only where specific provision must be made for *A7* functionality; as specified in the *A7* licence agreement.

All other product or service names mentioned in this document are the trademark or service mark of their respective companies or organisations.

External references

CTI is not responsible for the availability of any third-party references (for example, URL) contained within this document; it neither endorses – nor is liable for – any content, advertising or other material available via the supplied references. *CTI* is not liable for any loss or damage incurred – or alleged to have been incurred – by recourse to these references.

[1] See text version of the license at http://www.gnu.org/licenses/lgpl-2.1.txt
[2] See a text version of the Apache licence at http://www.apache.org/licenses/LICENSE-2.0.txt

Our contact address:

CTI Billing Solutions Limited

Daisyfield Business Centre
Appleby Street
Blackburn
United Kingdom
BB1 3BL

Tel: +44 0 1254 291500
Fax: +44 0 1254 291504
Email: info@ctigroup.com

Feedback on this document

We are always looking for ways to improve the support we provide to our customers. Your feedback is invaluable in enabling us to do so.

Comment on this document via the following Email address:

documentation@ctigroup.com

Version	Status	Date	Author	Reason
1.00	Published	25/07/2014	Ian Bridge	Documents Analysis 7 v1.10 release

Preface

Document definition

The contents of this document form part of the contractual relationship between CTI and the *Service-provider* [3].

Objectives

This document provides a high-level description of the Back-office functionality of *Analysis 7 (A7)*.

Constraints

- This document refers to CTI's *A7* solution as either *Analysis 7* or *A7* throughout.
- The available functionality is dependent upon the data supplied; as discussed and agreed during data configuration stage.
- All functionality described in this document relates to *A7's Core Back-office* component unless explicitly stated otherwise.
- Screenshots used in this document are for illustrative purposes only and not necessarily reflect the exact layout and functionality of the *Service-provider*'s deployed solution.

  CTI make all reasonable endeavours to ensure that any data displayed in screenshots is either test or anonymised data.

Audience

Things you'll need before you start

Familiarise yourself with the document's *Terminology section (page ii)*.

This document is made available to:

- The *Service-provider*'s management, business and technical users to identify the range of features offered by A7;
- CTI and *Service-provider* management for use in project prioritisation, planning and control;
- CTI development, testing and writing for solution planning, design, and documentation;
- CTI marketing and sales for use in message development for marketing campaigns and sales tools.
- Related documents

This document is part of the ***A7 documentation set***, which comprises:

Document title	Audience	Reference
Analysis 7 v1.10 – Data description`	Management, deployment and administration	MMA7DD
Analysis 7 v1.10 – Data limits and constraints	Management, deployment and administration	MMA7LIM
Analysis 7 v1.10 – Help Desk user guide	Operations, support and administration	MMA7HDUG
Analysis 7 v1.10 - Installation Guide	Operations, support and administration	MMA7INS
Analysis 7 v1.10 - Operations guide	Operations, support and administration	MMA7OPS
Analysis 7 v1.10 - Pre-Installation Guide	Management, deployment and administration	MMA7PRE

[3] See *Terminology section (page iii)*

Document title	Audience	Reference
Analysis 7 v1.10 – Product specification – Back-office	Management, deployment and administration	MMA7BOPS
Analysis 7 v1.10 – Product specification – Front-office	Management, deployment and administration	MMA7FOPS
Analysis 7 v1.10 – User Guide– Admin	Management and administration	MMA7AUG
Analysis 7 v1.10 – User Guide– Subscriber	General usage	MMA7SUG

Documentation conventions and devices

Terminology

This document uses the following terms to indicate *A7* specific entities.

Term	Explanation
Customer	A user of the *Service-provider*'s service – via one or more *Subscribers* – who consequently has access to use A7 to view and manage their usage.
Group	A management unit used to collect *Subscribers* and other (subordinate) *groups* into meaningful units. In the case of a telecommunications solution, this may be – for example – a *Department*, Team, *Area* or *Cost-centre*. The lowest level group is typically the account level.
Service	The billable entity used by *Subscribers* and for which *usage charges* and other costs are incurred. In the case of a telecommunications solution, this may be – for example – a Mobile Phone Voice or Data service, a broadband link or a landline.
Service-provider	The organisation – or other entity – providing the *Service* to their *Customers* via *Subscribers*. In the case of a telecommunications solution, this may be – for example – a *Mobile Operator* (*MO*), or a *Mobile Virtual Network Operator* (*MVNO*).
Subscriber	The device or mechanism accessing and using the *Service-provider's* service(s) and incurring *usage charges*. For example: In the case of a telecommunications solution, then a *Subscriber* may be a handset, tablet, laptop, TV or landline.
Subscriber-transaction	A single instance of *service* use by a *Subscriber*. In the case of a telecommunications solution, this may be – for example – a call from a mobile phone or landline.
User	A person registered and authorised to use A7 without being associated with a specific *Subscriber*. In the case of a telecommunications solution, this may be – for example – a *Service-provider's* Customer-service agent (CSA) for example.

Typography

This document uses the following typographical conventions throughout.

Special notices

Hints and tips

Warning statements.

Supplementary information.

Contextual indicators

This text is a cross-reference.	
This text refers to an object or feature.	The *Scheduled reports* tab, the *Main Menu*
`This text indicates computer input, or computer file path names.`	▪ Navigate to /`directory/path` name ▪ **Input** `This is a description` as **Data description**
This text introduces a numbered list of instructions. 1. Numbered lists are always instructions.	
Text like this is the name of a screen object; something you type into, press or select.	▪ **Input** `This is a description` as **Data description** ▪ **Next** to continue ▪ **Select Data category**
[This text is a physical button to be pressed]	**[Enter}**

Contents

Table of contents

Part four
Report definitions

Appendices

Table of figures

Table of tables

Part one

A7 Basics

Chapters in Part one ...

1. System overview

A7 is a three-tier web application, which comprises:

- A Java-based *Liferay Portal* web tier;
- A *.NET Framework* application tier;
- An *Oracle* database tier.

Billing data (for example, *Call Detail Record (CDR)* data) is delivered to the system via an intermediary application, which converts the data feed file into the *XML* format required by *A7*.

2. Service components

2.1. Interactive services

The interactive services which constitute the *A7* system include the:

- *Oracle Database*
- *Liferay Portal*
- *A7*
- [Optionally] A *LDAP* server.

2.2. Batch processes

The Application server supports a number of batch processes, which deliver the following functionality:

- Data load (*Data Loader*);
- Reporting ;
- Housekeeping (*Housekeeper*);
- Messaging (*Message Process*).

3. Common components

This chapter documents common components within A7 Back-office only.

As with A7 Front-office, functionality is delivered through portlets, which are displayed singly or in groups on a page, or as pop-up panels.

3.1. User interface elements

The A7 Back-office user interface is consistent with that of the *Front-office* – as described in the ***Analysis 7 1.10 Core Front-office Product Specification***.

3.2. User access controls

The A7 Back-office user access controls are consistent with those of the *Front-office* – as described in the ***Analysis 7 1.10 Core Front-office Product Specification***..

3.3. Report components

Scheduled reports are not available to *Back-office users*.

The A7 Back-office report components are consistent with those of the *Front-office* – as described in the ***Analysis 7 1.10 Core Front-office Product Specification***.– exceptions are described in this section.

3.3.1. Report filters

Report filters work in the same way for Front– and Back–office; the filters available to Back-office users are described in *Table 1 ()*.

Table 1: A7 Back-office Report filters

Report filter name	Report filter description
Bill status	A drop-down list enabling filtering by *Bill status*: Options {**All**; Inactive or Active}.
Code usage	A drop-down list enabling filtering by *Code usage:* Options {**All codes**; Expired or Active}.
Consolidated customer	A Search filter text box enabling entry of a *Consolidated customer code*, *Company name* or *Email address.*
Consolidated customer group status	A drop-down list enabling filtering by *Consolidated customer group status*: Options {**All**; Inactive or Active}.
Corporate ID	A *Search filter text box* enabling entry of *a Corporate ID* (*customer code*).
Corporate ID or Name	A *Search filter text box* enabling entry of *a Corporate ID* (*customer code*) or *Company name*.
Date - Show all dates	A checkbox; tick to show data for all dates loaded.

Report filter name	Report filter description
Date – calendar terms	A drop-down list enabling filtering by generic calendar terms. Options {Today; Yesterday; This week; **This month** or Specified month and year}. **Constraints:** ▪ This Month – the current calendar month; from the 1st to the current day – not the preceding 30 days; ▪ This Week – the current calendar week; from the Monday – not the preceding seven days. ▪ If using the specified Year/Month filter, the report includes all jobs in the specified calendar Year/Month.
Date range	A pair of date pickers (calendars) enabling selection of the Date-from and Date-to elements of a date range.
Group status	A drop-down list enabling filtering by *Group status*: Options {**All**; Inactive or Active}.
Job status	A drop-down list enabling filtering by *Job status*: Options {**All**; Open; Failed or Complete}.
Profile name	A Search filter text box enabling entry of a *Profile* name.
User name or email	A Search filter text box enabling entry of a user name or an Email address, The filter works on either first or last names and begins to return results when you enter three, or more, characters..
User status	🛈 By default all users (excluding deleted) are shown. A drop-down list enabling filtering by *User status*: Options {**Enabled**; Disabled; Enabled/Disabled or Deleted} 🛈 Enabled –includes all *Registered users* even if they have never Signed-in;

3.3.2. Report functionality

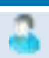
Report actions menu

As with Front-office, a *Report actions menu* button is displayed in some reports, including:

- List Customers - on data drill down;
- Profile Feature Management;
- sFTP;
- Account Manager (only on the first page);
- Housekeeper;
- Housekeeper By Customer (Analysis RT module only)
- Housekeeper by File (Analysis RT module only).

The *Report actions menu* presents a context-sensitive list of actions to be applied to the selected row – the available set of Back-office actions is shown in *Table 2 ().*

Table 2 Actions within the Report action menu

Name	Icon	Description
Assign		Used in Profile management to display the *Assign customer to profile* portlet – section *()*.
Delete		Click to delete the selected object.

Name	Icon	Description
Download		Click to download the selected object.
Edit		Click to edit the selected object.
Test		Click to test the sFTP settings.
View		Click to view the selected object.

Action buttons

Back-office functionality is also provided by a set of action buttons. These context-sensitive actions appear on *Manage user* and *Manage customer* pages. The available set of buttons is described in *Table 3 ()*.

Table 3 Actions buttons

Button name	Description
View analysis as this user	Enter impersonation mode.
View analysis as this customer	“
Disable User	As stated on button
Enable User	“
Delete User	“
View Error Log	“
Download Error Log	“
Request Code	“
List Active	“
List Used	“

Part two

Operating A7

Chapters in Part two ...

4. A7 services

A7 is designed for continuous operation, with little need to restart any of its components.

However, if there is a need to restart any of the hardware components then you must stop *A7* and restart it – in its entirety – in the specific sequence shown in *Restarting the services* – see *Section Ch. 5.4 ()*.

Failure to restart in accordance with these instructions may result in adverse performance and/or operation of *A7*.

Batch services are defined in the file <App_installPath>\RunAsService.xml – see *Chapter 5 ()*.

Check adequate data backups exist before running processes that update A7 data.

5. Batch services

The Application server supports a number of batch processes, which deliver the following functionality:

- Data load (*Data Loader*);
- Reporting ;
- Housekeeping (*Housekeeper*);
- Messaging (*Message Process*).

Batch processes are run automatically via the *A7* Windows application service. Each process is defined within the parameter file RunAsService.xml – as described in *Appendix A ()* – including the operating window within which it is allowed to run, for example:

- `ANY`,
- `NIGHT`[4],
- `DAY`,
- `WEEKEND`,
- `OUTOFHOURS`.

Batch process started outside of their operating window will idle; becoming operational only when the operating window start time.

These same settings also apply to the support tool *pantherGUI*.

A7 Pro-active Error Reporting feature equips its batch processes to inform designated reporting-points of their error status if they fail.

The functionality can be configured to :

- Send an error notification to multiple email addresses or none;
- Send to different email addresses for each job;
- Cater for multiple languages (default English);
- Attach any associated `.job` files (where relevant and practicable).

5.1. Data Loader

The *Data Loader* process runs as a background *Windows* service to:

- Accept *XML* data files extracted from a billing system and formatted for input to *A7*;
- Transform the billing data into a format directly loadable into the *A7* database;
- Execute the data load;
- Issue notifications to designated parties impacted by the data load.

In addition to those data loading tasks, *Data Loader* also manages the running of two additional tasks:

[4] The day/night split is configurable by specifying global NightStart and NightEnd times. The global values can be over-ridden on a per process basis if necessary allowing scheduling flexibility.

- The *A7 Housekeeper*, which removes aged or unwanted data from the database;
- The Messaging service, which passes email generated by *A7* to the *Windows SMTP* service.

5.1.1. Data Loader process steps

Data Loader comprises several distinct-processes, the first of which is *Creator*. This process is triggered by the arrival of *XML* data files in the input directory `01_Input`.

Each subsequent process is triggered by the arrival of the `JobFile` (created by *Creator*) in that process's input directory. The triggered process then executes its phase of the load before moving the `JobFile` into the next process's input directory, thereby causing the next process to begin).

In addition to creating the `JobFile` the *Creator* process also stores the received *XML* data file in a date-stamped directory named Source. The raw data is then picked-up by the `02_Prepare` process and then loaded into the *A7* system when the *Load* process is triggered (by receipt of the job file `JobFile` in directory `03_Load`.

Table 4: Data Loader Process Steps_

Process	Input Folder	Output Folder	Tasks / Events
Creator	`01_Input`	`02_Prepare`	Create job file
Prepare	`02_Prepare`	`03_Load`	Prepare data for loading
Load	`03_Load`	`04_Activate`	Load raw data files
Activate	`04_Activate`	`06_Finish`	Activate bill
Activate Consolidated	`04_ActivateConsolidated`	`05_Notify`	Activate consolidated bill
Notify Users	`05_Notify`	`06_Finish`	Notify users that a new bill has been loaded.
Complete	`06_Finish`	`07_Clean`	Mark the job as complete.
Clean	`07_Clean`	`None`	Delete job file and data file

5.1.2. Data Loader states

The file name extension of the `JobFile` changes during processing to reflect its current state.

The file extension can be a useful indicator of job progress or point of failure.

Table 5: Data Loader JobFile extensions

Extension	Meaning
`.job`	`JobFile` is ready to picked up by the next process
`.busy`	`JobFile` is being used by the current process
`.err`	An error has occurred with processing the `JobFile`
`.sleep`	The `JobFile` is hibernating (usually awaiting an operating window).

5.2. Bureau Housekeeper user interface

Housekeeper warning

By default all Customers are Period-based (not Stored). This allows A7 to remove customers no longer with the service-provider, or with no bills.

HOWEVER ... if the system date of the PC running Housekeeper is a future date A7 will remove ALL bills, the customer and all users from the system.

CTI accept no responsibility for a future system date being set, nor for the impact it may have.

The *Bureau Housekeeper user interface* functionality comprises a back-end batch process that tidily summarises and removes aged data from the A7 data set, coupled with a front-end user interface in *Bureau* that can be used to view, audit and reconcile loaded data. The batch service will periodically run to remove aged *CDR* data and summary bill data (depending upon settings). It can also be used in manual mode to excise specific data or datasets..

Bureau Housekeeper user interface functionality includes:

- Automatically summarising aged *CDR* and removing aged summary records after a configurable retention period.
- A manual facility to mark a customer's data set for removal.
- Periodically processing any manual requests to remove specific data sets; full data set for the selected customer is removed.
- The configurable option to reload the same bill multiple times, which caters for correcting any incorrect invoices that may have been loaded. The old invoice is de-activated, but not removed from the system.

5.3. Stopping the services

Table 6: Shutdown sequence

Seq	Server	OS	Service	Command
01	web server	Linux	*Liferay Portal*	`service <Web_serviceName> stop`
02	Application server	Windows	*IIS*	From a *Windows IIS Manager* window stop the `<App_poolName>`
03	Application server	Windows	*A7*	From a *Windows Services Manager* window, stop the service: `<App_serviceName>`
04	database server	Linux	*Oracle Database*	Operating system shutdown

Stop the web service

Use `chkconfig --list <Web_serviceName>` to check the service status

1. Open a terminal session on your web server
2. Navigate to the / directory
3. Input the following command

   `service <Web_serviceName> stop` **[Enter]**

Stop the Windows application service

API service

1. On your Application server open a *Windows IIS Manager* window as follows
   Windows > *Start Menu* > *Control Panel* > *Administrative Tools*, select **IIS**

   [Alternatively] At a *Windows command prompt*, input **`inetmgr`** **[Enter]** to invoke *Windows' Internet Information Services Manager window*

   The *Windows IIS Manager* is displayed
2. Select **Application Pool** from the displayed hierarchy

   You may need to expand the *Connection* node to see this option.

   The *Application pools list* is displayed.
3. Locate your API pool <App_poolName>
4. Stop the API service
   [right click] <App_poolName> and select **Stop**

Windows application service

Within *Windows* session running on your Application server machine:

1. Open a *Windows Services Manager* window as follows:
   Windows > *Start Menu* > *Control Panel* > *Administrative Tools*, select **Services**

   [Alternatively] At the *Windows* > *Start Menu*, input `services.msc` **[Enter]** into the search field.

   The *Windows Services Manager* window is displayed.
2. Locate the <App_serviceName> service.
3. Stop the Windows application service.
   [right click] <App_serviceName>, select **Stop**

Stop the database service

Stopping and restarting the physical database server hardware will automatically cause the database service to stop and restart.

Alternatively to just close down the *Oracle* database input the following command at an *SQL* prompt;

```
shutdown immediate
```

5.4. Restarting the services

Table 7: (Re)Start sequence.

Seq	Server	OS	Service	Command
01	database server	Linux	*Oracle Database*	Operating system start-up
02	Application server	Windows	*A7* application	From a *Windows Services Manager* window, start the service: <App_serviceName>.

Seq	Server	OS	Service	Command
03	Application server	Windows	*IIS*	From a *Windows IIS Manager* window, recycle pool: `<App_poolName>`.
04	web server	Linux	*Liferay Portal*	`service <Web_serviceName> start`
05	web server	Linux	*Apache*	`/usr/apache_2.2/bin/apachectl restart`

Start database service

From with a *SQL* session, input the following command:

`start-up` **[Enter]**

[Alternatively] Do an operating system start.

5.5. Start the Application server

Windows application service

Within *Windows* session running on your Application server machine:

1. Open a *Windows Services Manager* window as follows:

   Windows > *Start Menu* > *Control Panel* > *Administrative Tools*, select **Services**

   [Alternatively] At the *Windows* > *Start Menu*, input `services.msc` **[Enter]** into the search field.

   The *Windows Services Manager* window is displayed.
2. Locate the `<App_serviceName>` service.
3. Stop the Windows application service.

   [right click] `<App_serviceName>`, select **Start**

API service

Recycling an application pool causes the associated service to shut down all processes serving the application pool and to restart new processes.

1. On your Application server open a *Windows IIS Manager* window as follows

   Windows > *Start Menu* > *Control Panel* > *Administrative Tools*, select **IIS**

   [Alternatively] At a *Windows command prompt*, input **`inetmgr`** **[Enter]** to invoke *Windows' Internet Information Services Manager window*

   The *Windows IIS Manager* is displayed
2. Select **Application Pool** from the displayed hierarchy

   You may need to expand the *Connection* node to see this option.

   The *Application pools list* is displayed.
3. Locate your API pool `<App_poolName>`

4. Start the API service

   [right click] `<App_poolName>` and select **Recycle**

Start the Web server

From within a *Linux* terminal session, input the following two commands at the `/` prompt; this will start both the web and the *Apache* services.

1. Start the web portal service

   `service <Web_serviceName> start` **[Enter]**

2. Start the Apache server *httpd*

   `../usr/apache_2.2/bin/apachectl restart` **[Enter]**

6. Monitoring A7

Ideally use a *Simple Network Management Protocol (SNMP)* trap monitoring tool to monitor *A7*, see also: *Useful diagnostic files* (on page 27).

Java Management Extensions (JMX) and *Simple Mail Transfer Protocol (SMTP)* monitoring is also supported.

The following *Panther* event ID's should be monitored:

Table 8: Panther events for SNMP trapping

Category	Event text	Event Id
Windows Service	▪ Could Not Load Config	5002
Data Processing Services	▪ Process Init Failed ▪ Process Not Valid Object ▪ Process Startup Failed ▪ Process Exception Caught ▪ Process Required Parameter Not Found ▪ ID Process Parameter Error	3001 3002 3003 3004 3005 3007
Data Processing Jobs	▪ Job Processing Failed ▪ Loader File Skipped	4002 4003
Messaging Service	▪ Send Exception ▪ Process Exception	8001 8002

6.1. Application server

6.1.1. Monitoring Windows application service

A7 is powered by the *Panther Engine*. You can configure this process to notify designated reporting-points of any errors via

In addition, when an error is detected during the processing of a *Data Loader* file, the `JobFile` is allocated an `.err` extension. Processing of that *Data Loader* file ceases.

Error event information, warnings and information arising from the day-to-day running of *Panther* is also recorded in the *Windows application log.*

CTI Group Bureau users may monitor the progress of their jobs via the *Bureau* > *Data Processing* > **View Jobs** feature – see *Chapter 7 ()*.

The `JobFile` is available for download by *Bureau* users once processing stops, whether successful or as a result of an error.

View *Windows* application log

1. On the Application server, navigate to
   Windows > *Start Menu* > *Control Panel* > *Administrative Tools* and select **Event Viewer**

   Alternatively you can run the command `eventvwr` from a *Windows command prompt*

The *Windows Event Viewer window* is displayed.

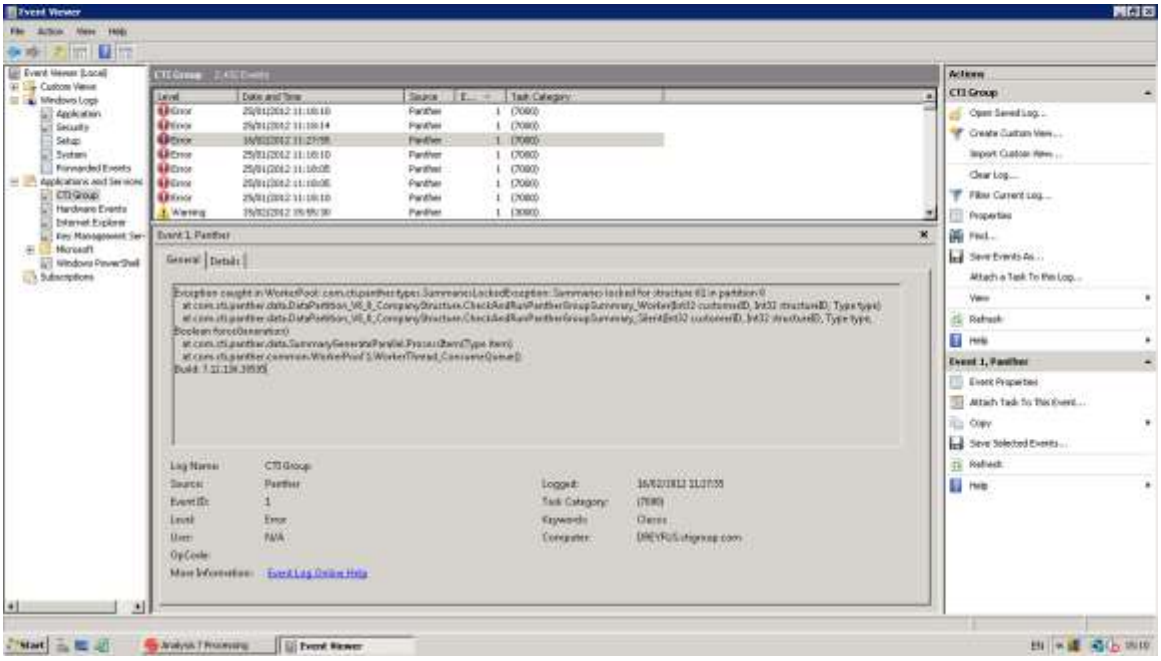


Figure 1: Windows event viewer, showing example events.

2. Navigate to *Windows Logs* -and select **Application**

   The current application logs are displayed; they can be filtered on a number of things including a date range and the name of the application.

See *Sample errors from Data Processing Audit File* (on page) for examples of the sorts of items that may be reported here.

6.1.2. OpenDS

If you are using the *OpenDS* directory service in conjunction with *Liferay Portal* to authenticate and manage access to *A7* it can be monitored via its *GUI*.

6.2. Web Server

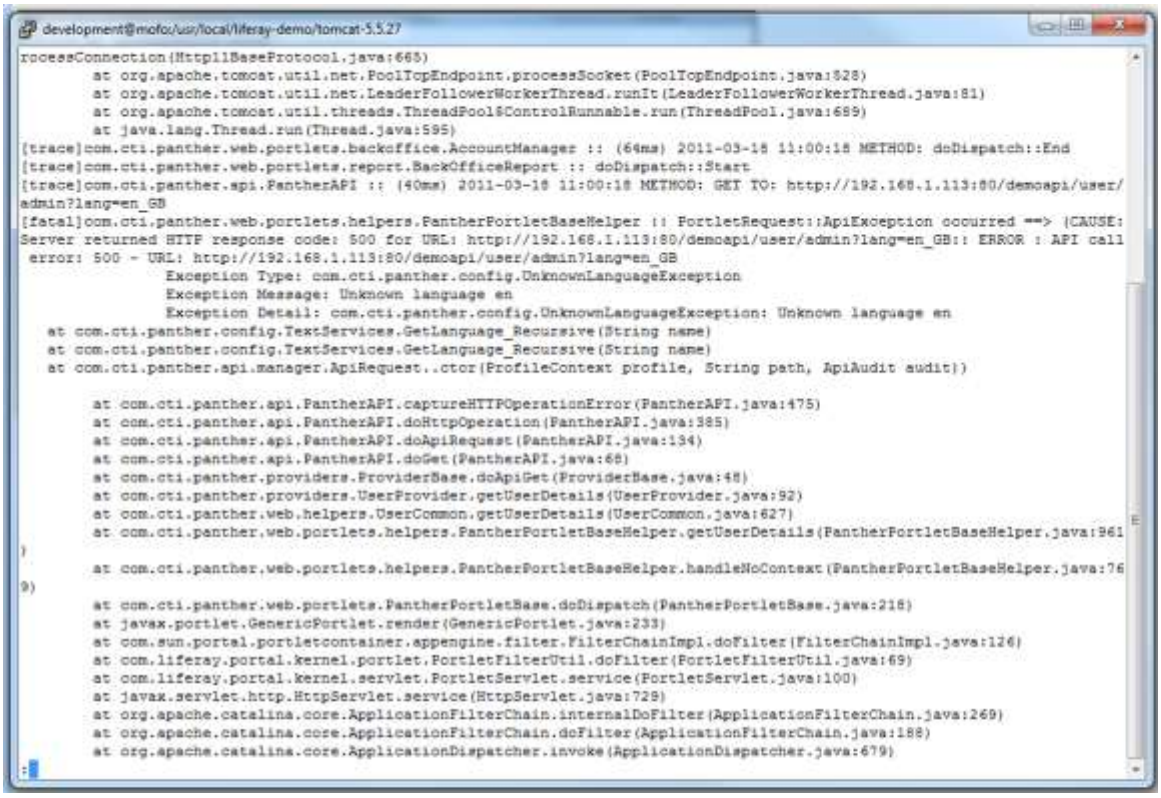


Figure 2: Example catalina.out log

Liferay Portal produces a log file, which records information and/or errors arising during the running of the *Liferay Portal* service.

See file: <web_installPath>/tomcat-5.5.27/logs/catalina.out).

View the log via the Linux command line (using for example, `cat |less, vi, vim` or `tail`).

6.3. Database server

The database server should be monitored in line with local system management policy.

The most Important area to consider is the timely availability of appropriate disk space and system resources.
Tasks such as index rebuilds and other database restructuring often require two or three times the database size to cater for example, for log files and duplication of index tables.

Whatever monitoring tool or process is chosen, sufficient warning should be given to administrators to prevent any application failure.

Further information on monitoring the database can be found in: *A7 Oracle Best Practice Guide (MMA7OBP)*.

7. Using Bureau

The *Bureau* feature of *A7* provides access to *Data Loader* job data for audit, reconciliation and diagnostic purposes.

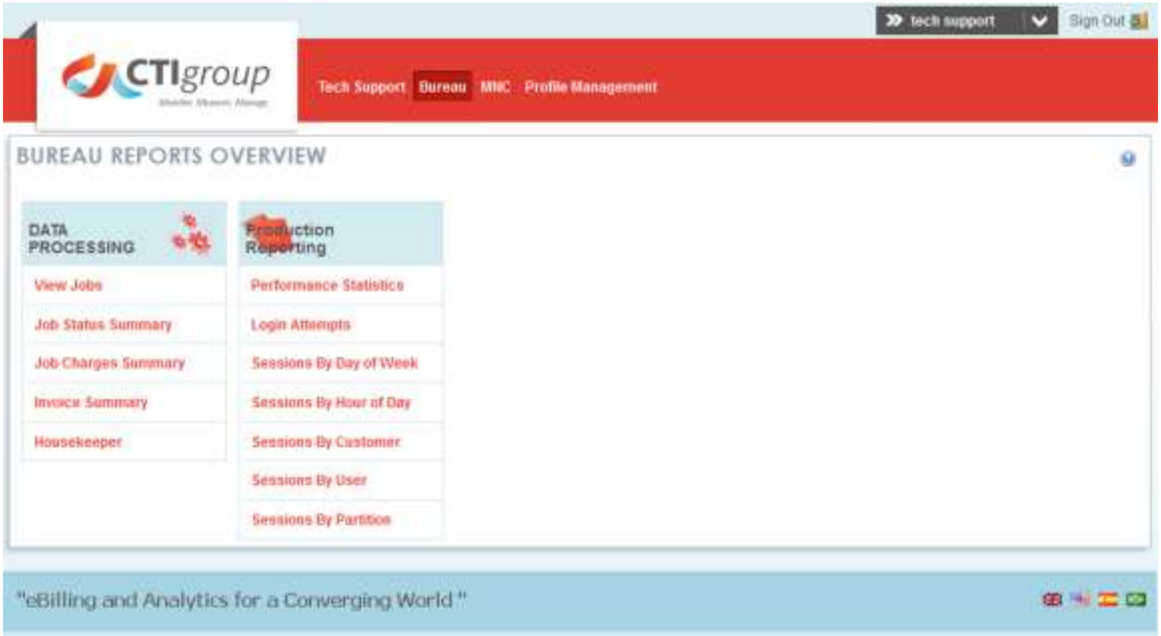


Figure 3: A7 Bureau screen

Bureau data processing functionality comprises:

- *View Jobs*

  Displays a list of recent *Data Loader* jobs, which includes a description of the data file, the date the job was created, the date it was last updated and the status (that is, `Open; Failed; Complete.`). Drilldown icons enable the viewing of job statistics and chargeable item details.

- *Job Status Summary*

  Displays a breakdown of job states (that is, `Open; Failed; Complete.`) over the date range entered in the *Date Filter*.

- *Job Charges Summary*

  Displays a summary break down by *Job charge type*, providing information that be readily used for audit purposes. Also provides a summary job statistics report.

- *Job Statistics*

  Displays statistics for the selected job including, for example, File size, Handset count, Invoice count, and record counts. In addition it enables the download of the audit file for further analysis.

- *Payment Summary* [5]

  Displays a list of all customers loaded, showing, for example, the number of billing entities loaded, the number of handsets loaded and the number of bills loaded.

- *Bureau Housekeeper user interface*.

[5] Renamed from Invoice Summary.

The *Bureau Housekeeper user interface* functionality comprises a back-end batch process that tidily summarises and removes aged data from the A7 data set, coupled with a front-end user interface in *Bureau* that can be used to view, audit and reconcile loaded data. The batch service will periodically run to remove aged *CDR* data and summary bill data (depending upon settings). It can also be used in manual mode to excise specific data or datasets.

To access *Bureau* functionality you will need to login to *A7* as a user of type *Bureau* or *Tech Support*.

7.1. Viewing job information

View job list

Displays a list of recent *Data Loader* jobs, which includes a description of the data file, the date the job was created, the date it was last updated and the status (that is, `Open; Failed; Complete.`). Drilldown icons enable the viewing of job statistics and chargeable item details.

1. Navigate to *Bureau* > *Data Processing* > *View Jobs*
2. Select job status from the drop-down list, *Job Status*
3. Select timeframe from the drop-down list, *Date Filter*

   If you selected the filter *Specified Month and Year* then:

   a. Select the month from the drop-down list, *Month*

   b. Select the year from the drop-down list, *Year*

   The list of jobs meeting the filter criteria is displayed.

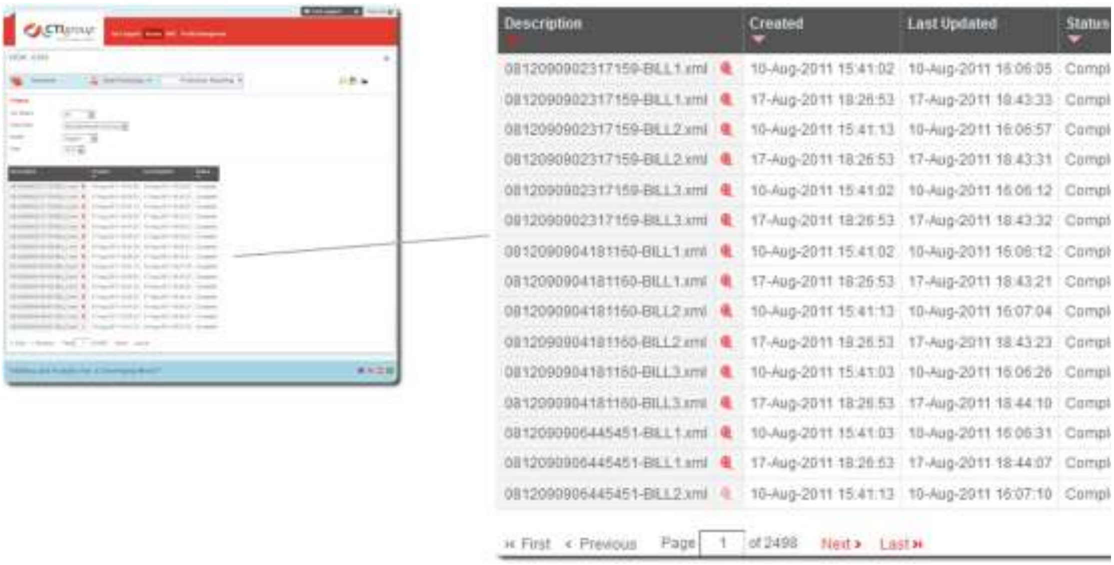


Figure 4: Bureau – Viewing the Jobs List

View job details

1. From within *View Jobs* job list, click the magnifying-glass icon to select a job to examine.

The window is updated with the job's details and a list of chargeable items.

2. *[Optionally]* Click the download link to download a copy of the job data audit details.

Download Job Data Processing Audit

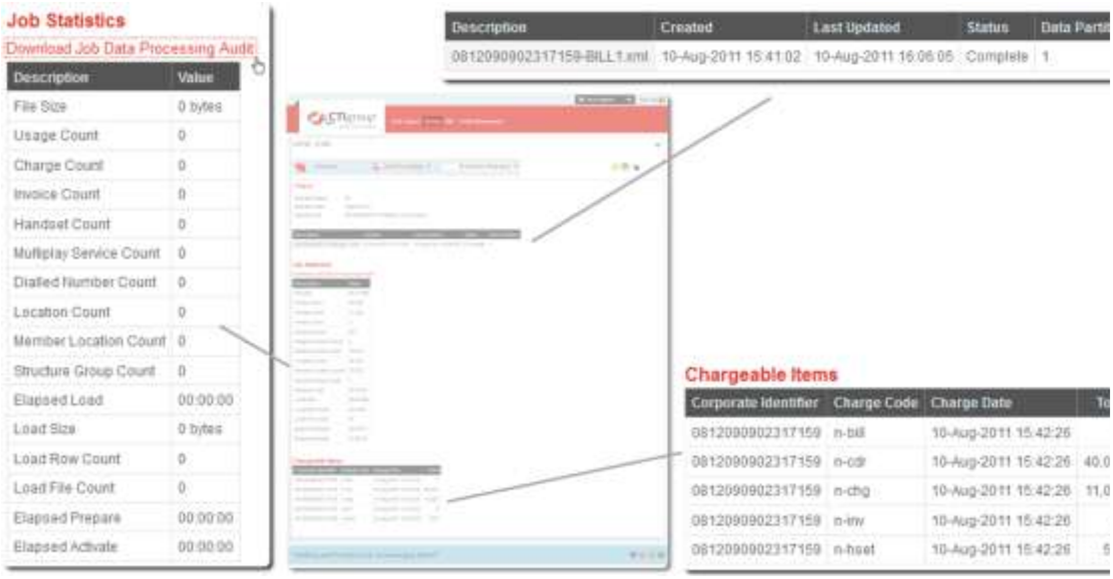


Figure 5: Bureau - View Jobs drill down into job details

View job status summary

Displays a breakdown of job states (that is, `Open; Failed; Complete.`) over the date range entered in the *Date Filter*.

1. Navigate to *Bureau* > *Data Processing* > *Job Status Summary*
2. Select timeframe from the drop-down list, *Date Filter*
3. If you selected the filter *Specified Month and Year* then:
   a. Select the month from the drop-down list, *Month*
   c. Select the year from the drop-down list, *Year*

   The filtered *Job Status Summary* is displayed.

7.2. View audit or reconciliation details

View job charges and statistics

Displays a summary break down by *Job charge type*, providing information that be readily used for audit purposes. Also provides a summary job statistics report.

1. Navigate to *Bureau* > *Data Processing* > *Job Charges Summary*
2. Select job status from the drop-down list *Job Status*
3. Select timeframe from the drop-down list, *Date Filter*

4. If you selected the filter *Specified Month and Year* then:
   a. Select the month from the drop-down list, *Month*
   d. Select the year from the drop-down list, *Year*

   The filtered *Job Charges Summary* is displayed.

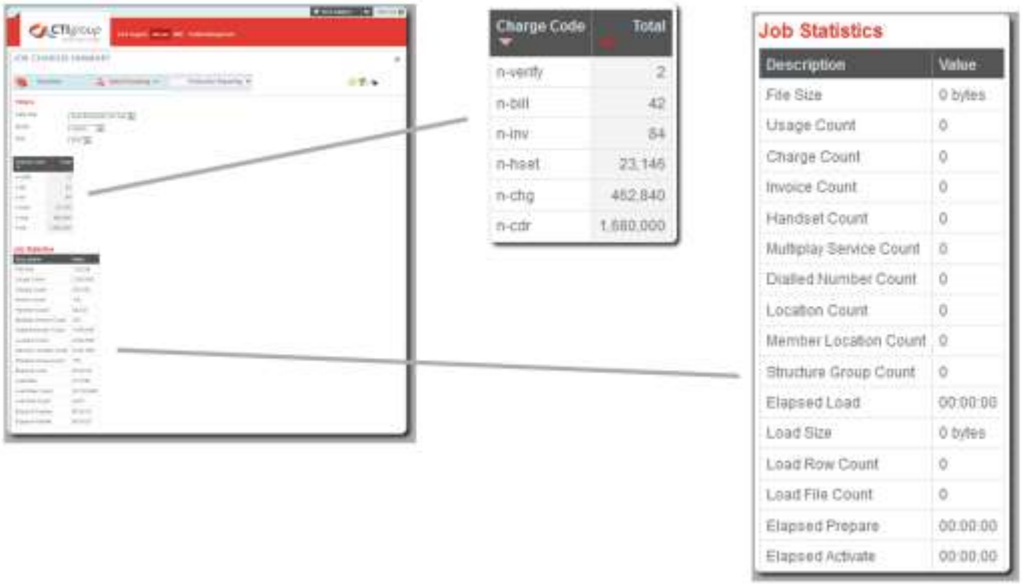


Figure 6: Job charges summary display (Example)

Payment summary

Displays a list of all customers loaded, showing, for example, the number of billing entities loaded, the number of handsets loaded and the number of bills loaded.

1. Navigate to *Bureau* > *Data Processing* > *Payment Summary*
2. *[Optionally]* Select timeframe
3. *[Optionally]* Input filter value as *Corporate ID*

   The filtered *Payment Summary* is displayed.

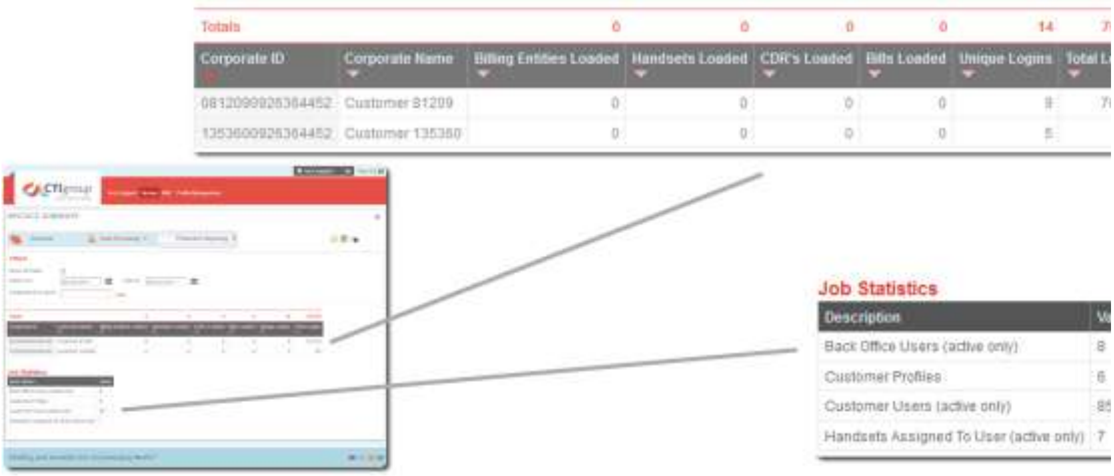


Figure 7: Bureau - Viewing the payment summary

7.3. Using Housekeeper

The *Bureau Housekeeper user interface* functionality comprises a back-end batch process that tidily summarises and removes aged data from the A7 data set, coupled with a front-end user interface in *Bureau* that can be used to view, audit and reconcile loaded data. The batch service will periodically run to remove aged *CDR* data and summary bill data (depending upon settings). It can also be used in manual mode to excise specific data or datasets.

Housekeeper warning

By default all Customers are Period-based (not Stored). This allows A7 to remove customers no longer with the service-provider, or with no bills.

HOWEVER … if the system date of the PC running Housekeeper is a future date A7 will remove ALL bills, the customer and all users from the system.

CTI accept no responsibility for a future system date being set, nor for the impact it may have.

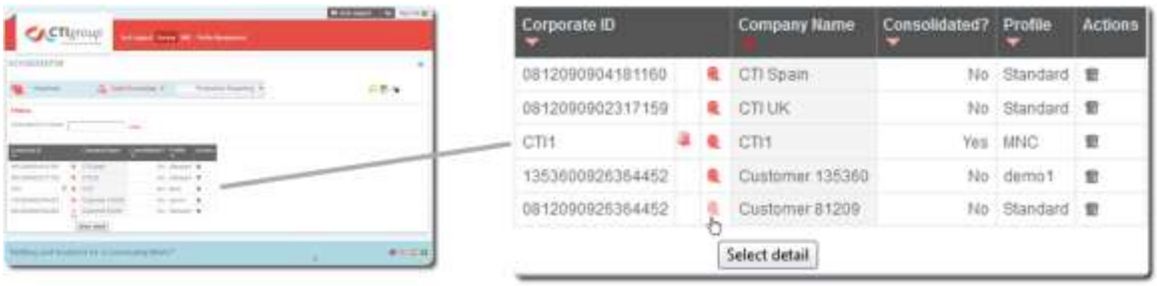


Figure 8: Bureau - Housekeeper Corporate ID list

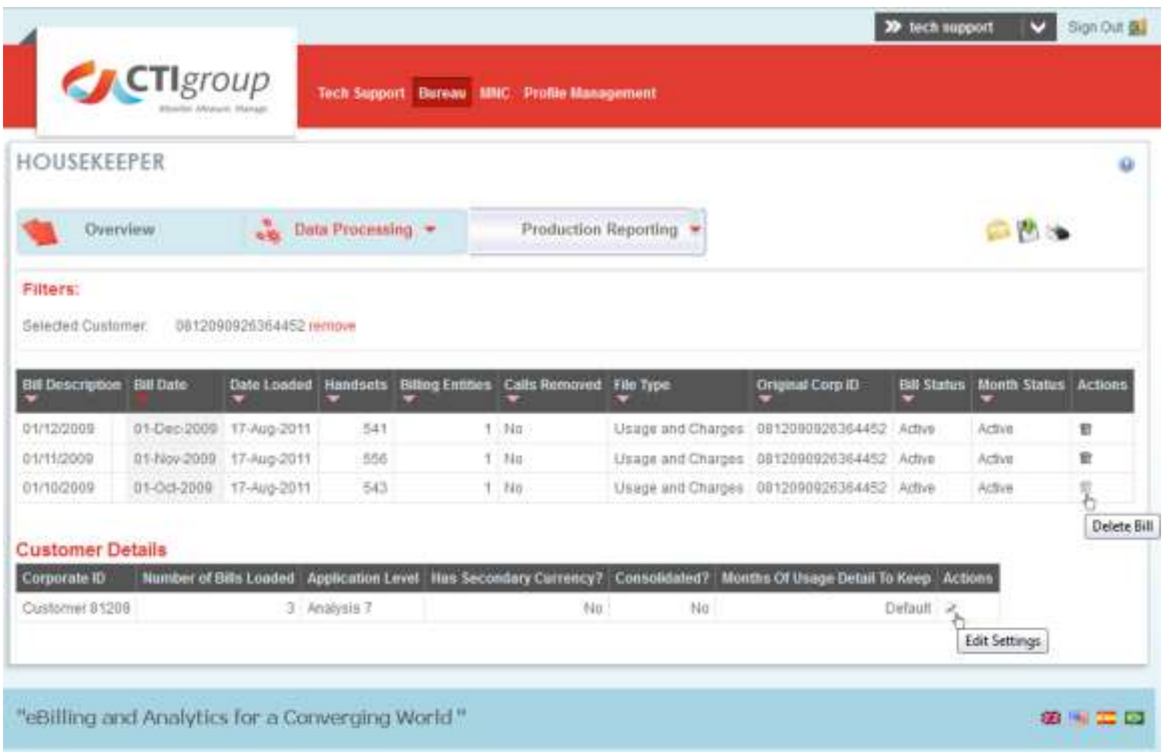


Figure 9: Bureau - Housekeeper customer details view

Delete a loaded bill

1. From the initial *Housekeeper* screen, drilldown to inspect the required *Corporate ID*.

   The customer bills are displayed along with a summary of their details.
2. Select the delete icon for the required bill.

   The dialog *Delete Bill confirmation* is opened.
3. **Delete** to schedule the bill for deletion.
   [Alternatively] Cancel to leave the Bill as-is.

Edit bill retention period

1. From the initial *Housekeeper* screen, drilldown to inspect the required *Corporate ID*.

   The customer bills are displayed along with a summary of their details.

   Select the **Action** for the customer.

   The dialog *Update customer settings* is opened.
2. Select required value from the drop-down list, *Number of months of usage details to keep*
3. **Update** to apply the changes.
   A confirmation message is displayed.
   [Alternatively] Cancel to exit with no change.
4. Cancel to return to close the dialog.

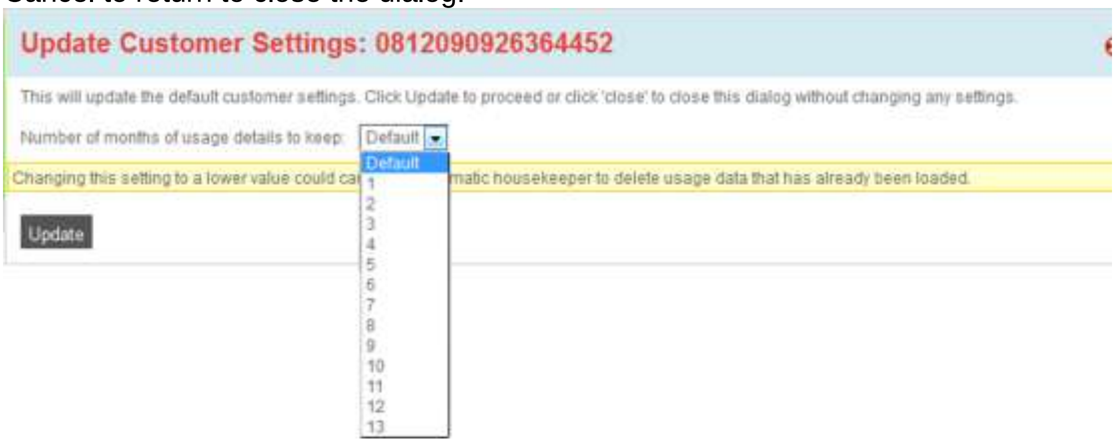


Figure 10: Bureau - Using Housekeeper to update customer settings

Part three

Diagnosing errors

Chapters in Part three ...

8. Accessing diagnostic information

8.1. Impersonating customers or users

It is sometimes useful for diagnostic or incident resolution purposes, to act on behalf of a customer or user. *A7* provides an impersonation feature to enable this.

customers

You cannot impersonate a customer unless bills are loaded and active.'

This feature enables you to act as a top level *A7* user for the selected customer, with read/write access allowing you to make any necessary changes.

Whilst operating in this mode a message of the following type will be displayed at the top right hand side of the display.

Figure 11:User impersonation message

The mode over rides any profile restrictions that might otherwise apply to the actual customer Login, making all portlet visible and accessible.

portlet not ordinarily accessible by the customer are highlighted with the following message:

You cannot impersonate a customer unless bills are loaded and active.'

Any email requests generated whilst impersonating a customer are sent to the registered email address of the Technical support user.

However, any email requests generated whilst impersonating a user are sent to the registered email address of the user being impersonated.

If you Logout whilst in Impersonation mode, when you next Login you will see the standard *Tech Support* landing-page.

Impersonate a customer

You can access this feature only if you Login as a Tech support user.

1. Navigate to *A7 Main menu bar* > **Tech Support** > *Support overview*
   The window *Tech Support* is displayed.
2. Within portlet, *Support overview*, **List customer**
   [Alternatively] Support overview menu bar > *Manage customers* > **List customer**
   The report *customer list* is displayed.
3. **Select detail** to view customer details.

Selected customer details are displayed

4. **View A7 as this customer** to enter Impersonation mode.

   The customers *A7* landing page is displayed, along with the warning message:

Figure 12: Customer impersonation message.

5. **Return to Tech Support** to exit Impersonation mode.

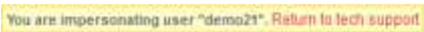
Impersonate a user

You can access this feature only if you Login as a Tech support user.

1. Navigate to *Tech Support* > *List users*
2. **Select detail** to View user details.

   Selected user details are displayed
3. **View A7 as this user** to enter Impersonation mode

   The users *A7* landing page is displayed along with the warning message:



4. **Return to Tech Support** to exit Impersonation mode.

8.2. Useful diagnostic files

Point of failure	Log type	Access
Web application	catalina.out	`<web_installPath>`/tomcat-5.5.27/logs/catalina.out For example: `/usr/local/liferay-portal-demoA7/tomcat-5.5.27/logs/catalina.out`
Batch process	*Windows* application log	Navigate to *Event Viewer -> Windows Logs -> Application*
	Data Loader `*.err` and `*.job` files.	`07_Clean`
	The job's `audit.xml` file.	See: *Investigating failed jobs* (on page 28) and *Sample Data Processing Audit File* (on page).
Database process	The *Oracle* log file `alert_<SID>.log`	`ORACLE_BASE/admin/ORACLE_SID/bdump.`

9. Investigating failed jobs

1. Navigate to the job detail screen for the failed job – see *Chapter 7.1 ()*.
2. Select **Failed** from the drop-down list*, Job Status.*

   The window is updated with the failed job's details.
3. **Download Job Data Processing Audit** to initiate the download.

   The standard Windows download dialog is displayed.
4. **Save** or **Open** the file as required.

   For sample output – see *Sample Data Processing Audit File* (on page).

   Sample errors are – as described in *Sample errors from Data Processing Audit File* (on page).

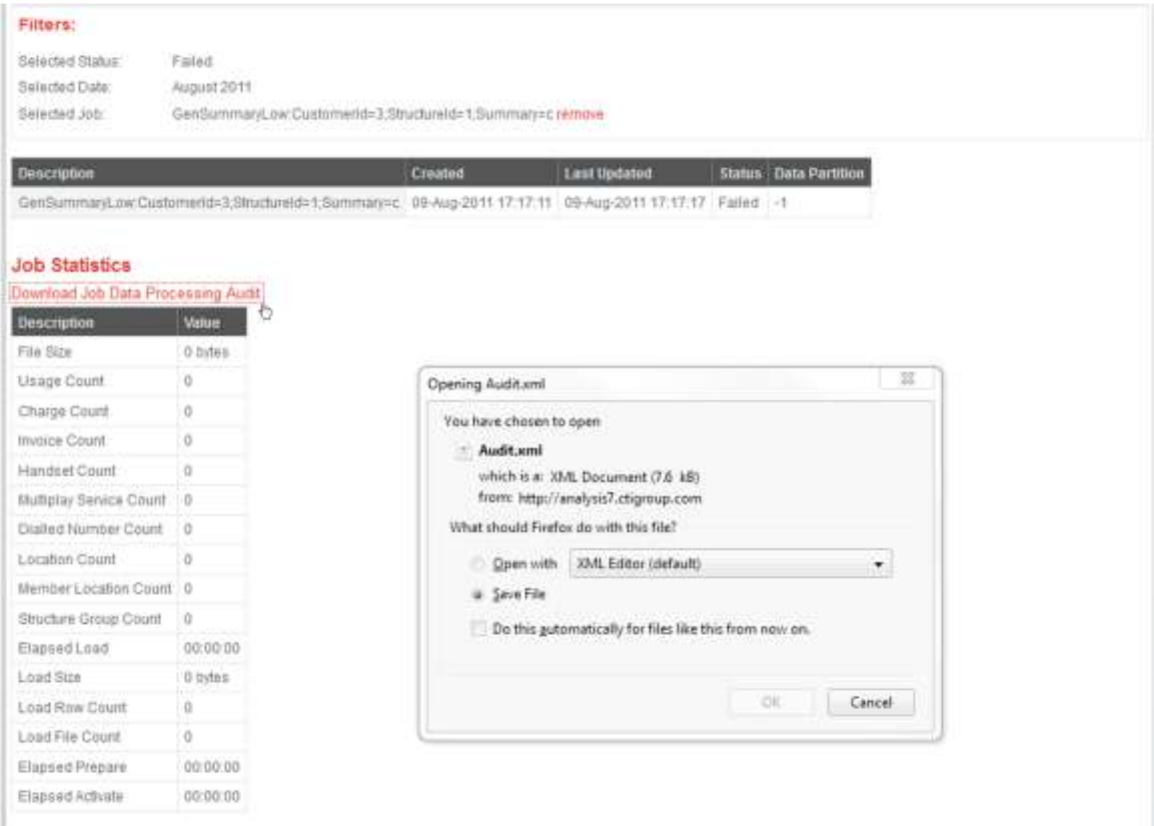


Figure 13: Downloading the failed job file

10. Handling errors

10.1. Handling data load errors

Things to check:

- The error file `*.err`:
  - Is the file correctly named?
  - Has the file already been processed?
    Duplicate files will be rejected by the *Prepare* process.

    Users are advised not to rename and resubmit failed `.err` file as this is could lead to data duplication on the *A7* database.

    If necessary you can use an *overwrite* setting to force the file to be processed, overwriting the previously loaded data. You must consult the *A7 Support team* before doing this.
  - Does the file content conform to the agreed format specified by the *Data interface specification (DIS)*?
  - Are there currency problems?
    If your base currency is, for example, € (Euro), but no currency is specified in the input file, it may default to £ (GBP).
- The *Data Loader* service
  - Is the *Data Loader* service (still) running?
  - Does the *Windows Event Log* contain any pertinent failure messages regarding the service?

Recovering from Data Loader errors:

For failures in the data load processes: Create, Prepare, Load and Activate only.

1. Remove the `*.err` file from the *Data Loader* folders;
2. Use *Housekeeper* to remove any erroneous data;
3. Submit the corrected file for reload.

These are critical steps in loading the data and ensuring data integrity.

10.2. Handling errors in other batch processes

Errors in non-data-load processes such as *Housekeeper*, *Summary Generation* or bespoke processes should be investigated on a case-by-case basis.

You will need to identify the root cause of the fail using the log files and analysis of the data being processed see also: *Useful diagnostic files* (on page 27).

Integrity of the data is paramount, so careful assessment of the impact of any updating that may have occurred must be made before a decision can be taken as to whether to continue processing.

10.2.1. Housekeeper errors

Check the *Windows Event Log* for errors relating to the *Housekeeper* service.

You should also look in the *Housekeeper* folder Delete job file and data file for any `*.err` files.

10.2.2. System timeouts

What are they?

The errors (sometimes referred to as *Pink* errors due to their pink message background) occur when one part of the system fails to respond to an asynchronous request from another part of the system within the expected timeframe.

Causes

This error can arise from many causes:

- Insufficient system, resources;
- Poor firewall configuration;
- Poor system throughput to the database (disk IO is very important to *A7*);
- System too busy for the hardware setup.

Diagnostics:

Check the following for Information on these errors:

- *Windows Event Log*;
- *Oracle* log file if *Oracle Database* processes are involved.

10.2.3. User Login issues

- Is the service running?
- Is their *Username* and Password correct? Has their *Username* been disabled?
- Is the firewall allowing requests?
- Is the load balancer on the web server operating?
- Can the web server communicate with the database server?

11. Requesting support

CTI Group offers a support service for incident investigation and resolution.

Information we typically require includes:

- Date and time of incident(s);
- A full description of the incident, including whether recurring or one-off (is it repeatable?);
- A statement of impact of the incident;
- Relevant logs (for example, `catalina.out` if web/front end problem);
- *Oracle* logs for database issues;
- *Windows Event Log*;
- System and environment details;
- User ID;
- Account ID;
- Screenshots if appropriate.

Refer to your *Service Level Agreement (SLA)* for further details.

<table>
<tr><td>Description:</td><td colspan="3">The View jobs report displays a list of Data Load jobs in a specified date range.
This can be a useful diagnostic aid in identifying why a Data Load has failed.</td></tr>
<tr><td rowspan="2">Access path:</td><td colspan="3">From the Bureau reports menu bar, select Data processing»View jobs</td></tr>
<tr><td colspan="3">From the Bureau reports overview portlet, select View jobs</td></tr>
<tr><td rowspan="5">Column-set @ Top-level</td><td>Columns</td><td colspan="2">Description, Created, Last updated and Status
<table><tr><th>Description</th><th>Created</th><th>Last Updated</th><th>Status</th></tr></table></td></tr>
<tr><td>Summary rows</td><td colspan="2">Not available.</td></tr>
<tr><td>Example</td><td colspan="2">
<table>
<tr><th>Description</th><th>Created</th><th>Last Updated</th><th>Status</th></tr>
<tr><td>0310121520012785-BILL1.xml</td><td>05-Feb-2013 13:25:48</td><td>05-Feb-2013 13:27:30</td><td>Complete</td></tr>
<tr><td>0310121520012785-BILL2.xml</td><td>05-Feb-2013 14:02:13</td><td>05-Feb-2013 14:03:54</td><td>Complete</td></tr>
<tr><td>ActivateConCust - CTI-106 (Queue)</td><td>05-Feb-2013 13:24:11</td><td>05-Feb-2013 13:24:50</td><td>Failed</td></tr>
<tr><td>HouseKeeperAuto (Queue)</td><td>05-Feb-2013 13:24:46</td><td>05-Feb-2013 13:24:46</td><td>Open</td></tr>
<tr><td>LearntCallTag - 0310121520012785 - dhand(Queue)</td><td>05-Feb-2013 13:42:50</td><td>05-Feb-2013 13:42:50</td><td>Open</td></tr>
<tr><td>ProdFeatRemove - 1353600926364452 (Queue)</td><td>05-Feb-2013 13:24:11</td><td>05-Feb-2013 13:24:19</td><td>Complete</td></tr>
<tr><td>ProdFeatRemove - 1353600926364452 (Queue)</td><td>05-Feb-2013 13:24:11</td><td>05-Feb-2013 13:24:20</td><td>Complete</td></tr>
<tr><td>ScheduleRepAuto (Queue)</td><td>05-Feb-2013 13:24:11</td><td>05-Feb-2013 13:24:19</td><td>Complete</td></tr>
<tr><td>ScheduleRepAuto (Queue)</td><td>05-Feb-2013 13:25:10</td><td>05-Feb-2013 13:25:19</td><td>Complete</td></tr>
</table></td></tr>
<tr><td>Sequence</td><td colspan="2">(Job) Description – ascending.</td></tr>
<tr><td>Filters</td><td>Available:</td><td>▪ Job status drop-down list;
▪ Job description text search box;
▪ Date range selectors.</td></tr>
</table>

		Applied:	The *Date range* filter is set to show the previous month of data.
		Removal:	Remove by changing the applied filter values.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	*Select detail* icon drills down to show *Job details.*	
	Select group drill down	Not available.	
Column-set @ Level one – Select detail	**Multi table display**		
	Filters	Available:	*None.*
		Applied:	*Job status, Date* and *Job* (applied by drill-down action).
		Removal:	Use *Remove* hyperlink – to remove the selected *Job* filter and return to the top-level.
	Job details panel		
	Column	*Description, Created, Last updated, Status* and *Data partition.* Description | Created | Last Updated | Status | Data Partition	
	Summary rows	Not available.	
	Example	Description | Created | Last Updated | Status | Data Partition 0310121520012785-BILL2.xml | 05-Feb-2013 14:02:13 | 05-Feb-2013 14:03:54 | Complete | 0	
	Sequence	Single-line display.	
	Functionality	Not available.	
	Select detail drill down	Not available.	
	Select group drill down	Not available.	
	Job statistics		
	Columns	List of the file attributes: *File size, Usage count, Charge count, Invoice count. Line count, Multiplay service count, Terminating number count. Location count, Member location count, Structure group count, Elapsed load, Load size, Load row count, Load file count, Elapsed prepare* and *Elapsed active*. *Description* and *Value.* Description | Value	
	Summary rows	Not available.	
	Example	Description | Value File Size | 20.02 MB Usage Count | 25,000 Elapsed Prepare | 00:00:34 Elapsed Activate | 00:00:02	
	Sequence	Fixed format.	
	Functionality	A hyperlink – *Download Job Data Processing Audit* – allows the user to save a local copy of the *Job Data Processing Audit* file.	

<table>
<tr><td rowspan="10"></td><td>Select detail drill down</td><td>Not available.</td></tr>
<tr><td>Select group drill down</td><td>Not available.</td></tr>
<tr><td colspan="2">Chargeable items</td></tr>
<tr><td>Columns</td><td>Corporate ID, Charge code, Charge date, and Total.
<table><tr><th>Corporate Identifier</th><th>Charge Code</th><th>Charge Date</th><th>Total</th></tr></table></td></tr>
<tr><td>Summary rows</td><td>Not available.</td></tr>
<tr><td>Example</td><td><table>
<tr><th>Corporate Identifier</th><th>Charge Code</th><th>Charge Date</th><th>Total</th></tr>
<tr><td>0310121520012785</td><td>n-bill</td><td>05-Feb-2013 14:03:52</td><td>1</td></tr>
<tr><td>0310121520012785</td><td>n-cdr</td><td>05-Feb-2013 14:03:52</td><td>25,000</td></tr>
<tr><td>0310121520012785</td><td>n-chg</td><td>05-Feb-2013 14:03:52</td><td>27,500</td></tr>
<tr><td>0310121520012785</td><td>n-inv</td><td>05-Feb-2013 14:03:52</td><td>10</td></tr>
<tr><td>0310121520012785</td><td>n-hsat</td><td>05-Feb-2013 14:03:52</td><td>964</td></tr>
</table></td></tr>
<tr><td>Sequence</td><td>Corporate id – ascending.</td></tr>
<tr><td>Functionality</td><td>Not available.</td></tr>
<tr><td>Select detail drill down</td><td>Not available.</td></tr>
<tr><td>Select group drill down</td><td>Not available.</td></tr>
<tr><td>Constraints</td><td colspan="2">None specified.</td></tr>
<tr><td>Exceptions</td><td colspan="2">Common report elements not available include:
▪ Summary rows;
▪ Charts;
▪ Select group drill-down.</td></tr>
</table>

Part four

Report definitions

Chapters in Part four ...

All the reports described within this section share the functionality described in chapter *3.3* () unless stated otherwise in their Report definition.

A7's Back-office report functionality is largely contained within two feature-sets:

- Bureau

Figure 14 The Bureau reports overview portlet

  - Data processing
    Data processing reports enable the Back-office user to monitor the data load process.
  - Production reporting

Only available to Bureau and Tech Support Users

Production reporting functionality enables *Service-providers* and/or *application hosts* to see how A7 site is performing.

If *CTI* is acting as *application host* then these reports are included as part of the SLA (Service Level Agreement) between *CTI* and the *Service-provider*.

- Unbilled

12. Data processing reports

12.1. View jobs

Description:	The *View jobs* report displays a list of *Data Load* jobs in a specified date range.
	This can be a useful diagnostic aid in identifying why a Data Load has failed.
Access path:	From the *Bureau reports* menu bar, select **Data processing»View jobs**
	From the *Bureau reports overview* portlet, select **View jobs**
Constraints	None specified.
Exceptions	*Common report elements* not available include: ▪ Summary rows; ▪ Charts; ▪ *Select group* drill-down.

Column-set	**View jobs @ Top-level**
Columns	*Description, Created, Last updated* and *Status*

Description	Created	Last Updated	Status

Example

Description	Created	Last Updated	Status
0310121520012785-BILL1.xml	05-Feb-2013 13:25:48	05-Feb-2013 13:27:30	Complete
0310121520012785-BILL2.xml	05-Feb-2013 14:02:13	05-Feb-2013 14:03:54	Complete
ActivateConCust - CTI-106 (Queue)	05-Feb-2013 13:24:11	05-Feb-2013 13:24:50	Failed
HouseKeeperAuto (Queue)	05-Feb-2013 13:24:46	05-Feb-2013 13:24:46	Open
LearntCallTag - 0310121520012785 - dhand(Queue)	05-Feb-2013 13:42:50	05-Feb-2013 13:42:50	Open
ProdFeatRemove - 1353600926364452 (Queue)	05-Feb-2013 13:24:11	05-Feb-2013 13:24:19	Complete
ProdFeatRemove - 1353600926364452 (Queue)	05-Feb-2013 13:24:11	05-Feb-2013 13:24:20	Complete
ScheduleRepAuto (Queue)	05-Feb-2013 13:24:11	05-Feb-2013 13:24:19	Complete
ScheduleRepAuto (Queue)	05-Feb-2013 13:25:10	05-Feb-2013 13:25:10	Complete

Sequence	(*Job*) *Description* – ascending.	
Filters	▪ *Job status* drop-down list; ▪ *Date filter* drop-down list. ▪ Date filter {Pre-set to This Month on initial display}.	
Functionality	*Common reporting elements*.	
		Select detail icon drills down to show *Job details.*
		Not available.

Column-set	**View jobs @ Top-level**	
Filters	*Pre-set in line with selection at top-level); none selectable at this level.*	
Job details panel	**Columns**	*Description, Created, Last updated, Status* and *Data partition.*

Description	Created	Last Updated	Status	Data Partition

Example

Description	Created	Last Updated	Status	Data Partition
0310121520012785-BILL2.xml	05-Feb-2013 14:02:13	05-Feb-2013 14:03:54	Complete	0

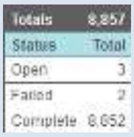
Sequence	Single-line display.
Functionality	*Common reporting elements* only.

Column-set	View jobs @ Top-level		
Job statistics panel	**Columns**	List of the file attributes: *File size, Usage count, Charge count, Invoice count. Line count, Multiplay service count, Terminating number count. Location count, Member location count, Structure group count, Elapsed load, Load size, Load row count, Load file count, Elapsed prepare* and *Elapsed active*. *Description* and *Value.* Description / Value	
	Example	Description / Value File Size / 20.02 MB Usage Count / 25,000 Elapsed Prepare / 00:00:34 Elapsed Activate / 00:00:02	
	Sequence	Fixed format.	
	Functionality	*Common reporting elements*.	
		Hyperlink	**Download Job Data Processing Audit** to save a local copy of the *Job Data Processing Audit* file.
			Not available
Chargeable items panel	**Columns**	*Corporate ID, Charge code, Charge date*, and *Total.* Corporate Identifier / Charge Code / Charge Date / Total	
	Example	Corporate Identifier / Charge Code / Charge Date / Total 0310121520012785 / n-bill / 05-Feb-2013 14:03:52 / 1 0310121520012785 / n-cdr / 05-Feb-2013 14:03:52 / 25,000 0310121520012785 / n-chg / 05-Feb-2013 14:03:52 / 27,500 0310121520012785 / n-inv / 05-Feb-2013 14:03:52 / 10 0310121520012785 / n-hsal / 05-Feb-2013 14:03:52 / 964	
	Sequence	*Corporate id* – ascending.	
	Functionality	*Common reporting elements*.	
			Not available

12.2. Job status summary

Description:	The *Job status summary* report displays a one-line per *Job status* summary of the number of jobs loaded within a specified date range.
Access path:	From the *Bureau reports* menu bar, select *Data processing»* **Job status summary**
	From the *Bureau reports overview* portlet, select **Job status summary**
Constraints	None specified.
Exceptions	These Common report elements are not available: ▪ *Select group* drill-down; ▪ *Select detail* drill-down.

Job status summary – column-set @ Top-level	
Columns	*Charge code, Charge code total* Displays a total row, showing totals for all numeric columns.

Example	 Totals 8,857 Status | Total Open | 3 Failed | 2 Complete | 8,852
Sequence	As show in example.
Filters	*Date* filter drop-down list {defaults to This Month on initial display}.
Functionality	*Common reporting elements* only
	Not available.

12.3. Job charges summary

Description:	The *Job charges summary report* shows a one-line total for each *Charge code* loaded during a specified date range.
Access path:	From the *Main menu,* **Bureau»Data processing»Job charges summary**
	From the *Data Processing* pane of the *Bureau Reports Overview* portlet, select **Job charges summary**.
Constraints	None specified.
Exceptions	These Common report elements are not available: ▪ *Select group* drill-down; ▪ *Select detail* drill-down.

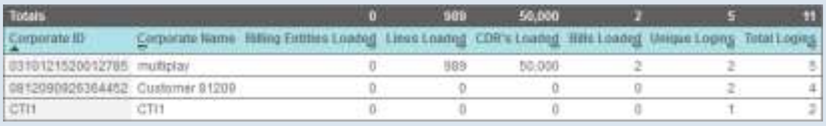
Job charges summary – column-set @ Top-level	
Columns	*Charge code, Charge code total* Displays a total row, showing totals for all numeric columns.
Example	 Charge Code | Total n-chg | 55,000 n-cdr | 50,000 n-bset | 1,978 n-inv | 20 n-bill | 2
Sequence	*Charge code total – descending.*
Filters	*Date* filter drop-down list {defaults to This Month on initial display}.
Functionality	*Common reporting elements* only
	Not available.

12.4. Payment summary

Description:	The *Payment summary* report displays a one-line per *Corporate ID* summary of the data loaded.
Access path:	From the *Main menu,* **Bureau»Data processing»Payment summary**
	From the *Data Processing* pane of the *Bureau Reports Overview* portlet, select **Payment summary**.
Constraints	Only available to Bureau users. Only available to Service-providers hosting and managing *A7*;

Exceptions	These Common report elements are not available: ▪ Charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.
Column-set	**Payment summary @ Top-level**
Columns	Corporate ID, Corporate name, Billing entities loaded, Lines loaded, CDR loaded, Bills loaded, Unique logins, Total logins. Displays a total row, showing totals for all numeric columns.

Example



Corporate ID	Corporate Name	Billing Entities Loaded	Lines Loaded	CDR's Loaded	Bills Loaded	Unique Logins	Total Logins
Totals		0	989	50,000	2	5	11
0310121520012785	multiplay	0	989	50,000	2	2	5
0812090926364452	Customer 81209	0	0	0	0	2	4
CTI1	CTI1	0	0	0	0	1	2

Sequence	*Corporate ID* – ascending.
Filters	▪ *Show all dates* tick box; ▪ *Date range* selectors {default: preceding seven days}; ▪ *Corporate ID or Name* text search box.
Functionality	*Common reporting elements* only
	Not available.

12.5. Housekeeper

Description:	The housekeeper report displays a list of the customers loaded, providing options to: ▪ Delete an individual bill customer; ▪ Delete, the complete month; ▪ Edit the number of months/bills retained for a selected customer.
Access path:	From the *Main menu,* **Bureau»Data processing»Housekeeper**
	From the *Data Processing* pane of the *Bureau Reports Overview* portlet, select **Housekeeper**.
Constraints	Some features only available in MNC solutions as identified above.
Exceptions	*Common report elements* not available include: ▪ Summary rows; ▪ Charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.
Column-set	**Housekeeper @ Top-level**
Columns	List of customers: *Corporate ID*, *Company name*, *Consolidated?*, *Profile* and *Actions.*

Example

Corporate ID	Company Name	Consolidated?	Profile	Actions

Sequence	*Company name* – ascending.
Filters	*Corporate ID or Name.*
Functionality	*Common reporting elements*
	Select this *Actions* column icon to delete a customer; the deletion is done by a *Housekeeper* job. Deleting a *Customer* also deletes all associated *Users* including their logon

		activity data.
		Select to show: ▪ A list of bills that have been loaded; ▪ *Customer* details.
		Select to show a list of *Corporate IDs* for the selected *Customer*.

Column-set	**Housekeeper @ Level one – via Select group drill-down**	
Columns	List of Corporate IDs for the selected Customer. *Corporate ID* and *Actions*.	
Example		
Sequence	*Corporate ID* – ascending.	
Filters	Selected customer	
Functionality	*Common reporting elements* only.	
		Delete the corporate ID and associated details.
		Not available.
Column-set	**Housekeeper @ Level one – via Select detail drill-down**	

Column-set	Housekeeper @ Level one – via Select detail drill-down	
Filters	▪ *Billing period* {as selected with drill-down}; ▪ *Selected Customer* {as selected with drill-down}.	
List of bills panel	Description	List of bills loaded (by month) per billing period for the selected customer.
	Columns	*Bill description, Bill date, Date loaded, Lines, Billing entities, Calls remove, File type, Original Corp ID, Bill status, Month status*, and *Actions*
	Example	
	Sequence	*Bill date* - descending
	Functionality	*Common reporting elements*
		Select and confirm to delete all bills in the selected *billing-period*. Removes bills but retains associated Organisational structures. If you delete all bills for a month you return to the customer list.
		Select detail icon displays the list of *Bills* in the selected *Billing-period* (*sub bills*).
		Not available.
Customer details panel	Description	List of the selected Customer's details. [6]
	Columns	*Corporate ID, Number of Bills Loaded, Application level, Has secondary currency?, Consolidated?, Months of usage detail to keep*, and *Actions.*
	Example	
	Sequence	Single line
	Functionality	*Common reporting elements*
		Select to edit the number of months *Usage details* retained. [7]
		Not available

Column-set	Housekeeper @ Level two – via select detail drill-down
Columns	*Bill description, Bill date, Date loaded, Lines, Billing entities, Calls remove, File type, Original Corp ID, Bill status, Month status*, and *Actions*
Example	
Sequence	*Bill date* - descending
Filters	*Customer* and *Billing period*.
Functionality	*Common reporting elements*.
	Select and confirm to delete the selected bill. Removes the bill but retains any associated Organisational structures.

[6] Not all columns are required – for example *Consolidated?* may be hidden at system setup time.

[7] This allows a number of selected customers to have their call records kept for longer than the three months. However, this is a chargeable extra and not standard functionality.

Column-set	Housekeeper @ Level two – via select detail drill-down
	You are returned to the customer list if you delete all bills for the month
	Not available.

12.6. Load report

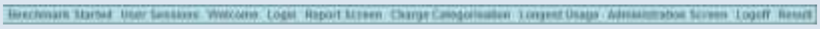
Description:	The *Load* report displays a one-line summary for each file loaded.
Access path:	From the *Main menu,* **Bureau»Data processing»Load report**
	From the *Data Processing* pane of the *Bureau Reports Overview* portlet, select **Load report**.
Constraints	Only available to Bureau and Tech Support users.
	The sum of `Active` and `Inactive` *Bill status* totals may differ from the `All` figure, which also includes *Housekeeper* jobs;
	Changes made to the data using Housekeeper may impact the figures in this report.
	▪ Excludes jobs with a status of `Pending` or `Failed`; ▪ On initial load the report shows only the last calendar month; ▪ By default all customers are shown; ▪ Report includes instances Configurable:{**On**; Off}.

Exceptions	▪ Set the *Bill status* filter to `Active` to avoid reloaded data being double-counted;
	▪ These Common report elements are not available:
	  ▪ Charts;
	  ▪ *Select group* drill-down;
	  ▪ *Select detail* drill-down.

Column-set	Load report @ Top-level
Columns	Displays total row for all numeric columns.
Example	
Sequence	*Filename* – descending.
Filters	▪ *Show all dates* tick box {Default: No}; ▪ *Date range* selectors {Default: preceding calendar month}; ▪ *Bill status* drop-down list {All, Active, Inactive}.
Functionality	*Common reporting elements* only.
	Not available.

13. Production reporting

13.1. Performance statistics

Description:	The *Performance statistics report* summarises current response times and active session numbers over a specified period for all customers loaded. Performance data is collected at specified intervals {configurable: default=15 minutes}.		
Access path:	From the *Main menu,* **Bureau» Production reporting »Performance statistics**		
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Performance statistics.**		
Constraints	Only available to Bureau and Tech Support Users		
Exceptions	▪ These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.		
Column-set @ top-level	Columns	*Benchmark started, User sessions, Welcome, Login, Report screen, Charge categorisation, Longest usage, Administration screen, Logoff, Result.*	
	Summary rows	Displays total and average rows for all numeric columns.	
	Example		
	Sequence	*Benchmark started* timestamp – descending.	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors.
		Applied:	The *Date range* is set to show the previous seven days on entry.
		Removal:	Remove by changing or deselecting the applied filter values.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	None available.	
	Select group drill down	None available.	

13.2. Login attempts

Description:	This *Login attempts report* displays a daily summary of the number of successful and unsuccessful login attempts in a specified date-range.
Access path:	From the *Main menu,* **Bureau» Production reporting »Login attempts**
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Login attempts.**
Constraints	Only available to Bureau and Tech Support Users
	▪ Includes only failed logins; ▪ Includes *Front-* and *Back-office* login attempts.
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.

<table>
<tr><td rowspan="10">Column-set @ top-level</td><td>Columns</td><td colspan="2">List shows total login attempts per day for the selected period.
Date, Successful logins, Failed logins, Total logins.
Date | Successful Logins | Failed Logins | Total Logins</td></tr>
<tr><td>Summary rows</td><td colspan="2">Displays total row for all numeric columns.</td></tr>
<tr><td>Example</td><td colspan="2"><table><tr><td>Totals</td><td>16</td><td>0</td><td>16</td></tr><tr><td>Date</td><td>Successful Logins</td><td>Failed Logins</td><td>Total Logins</td></tr><tr><td>22-Feb-2013</td><td>2</td><td>0</td><td>2</td></tr><tr><td>27-Feb-2013</td><td>5</td><td>0</td><td>5</td></tr><tr><td>28-Feb-2013</td><td>8</td><td>0</td><td>8</td></tr><tr><td>01-Mar-2013</td><td>1</td><td>0</td><td>1</td></tr></table></td></tr>
<tr><td>Sequence</td><td colspan="2">Date – ascending.</td></tr>
<tr><td rowspan="3">Filters</td><td>Available:</td><td>▪ Show all dates tick box;
▪ Date range selectors.</td></tr>
<tr><td>Applied:</td><td>The Date range is set to show the previous seven days on entry.</td></tr>
<tr><td>Removal:</td><td>Remove by changing or deselecting the applied filter values.</td></tr>
<tr><td>Functionality</td><td colspan="2">Common reporting elements only.</td></tr>
<tr><td>Select detail drill down</td><td colspan="2">None available.</td></tr>
<tr><td>Select group drill down</td><td colspan="2">None available.</td></tr>
</table>

13.3. Sessions by day of week

<table>
<tr><td>Description:</td><td colspan="2">The Sessions by day-of-the-week report summarises the number of A7 sessions in a specified period, showing total sessions per day and that total as a percentage of the total sessions in the period.</td></tr>
<tr><td rowspan="2">Access path:</td><td colspan="2">From the Main menu, Bureau» Production reporting »Sessions by day of week</td></tr>
<tr><td colspan="2">From the Production Reporting pane of the Bureau Reports Overview portlet, select Sessions by day of week.</td></tr>
<tr><td>Constraints</td><td colspan="2">Only available to Bureau and Tech Support Users
▪ Includes Front- and Back-office sessions;
▪ Displays up to seven rows (one per week day);
▪ Displays only non-zero rows.</td></tr>
<tr><td>Exceptions</td><td colspan="2">These Common report elements are not available:
▪ Pie-charts;
▪ Select group drill-down;
▪ Select detail drill-down.</td></tr>
<tr><td rowspan="2">Column-set @ top-level</td><td>Columns</td><td>Day, Number of sessions and Percent
Day | Number of Sessions | Percent</td></tr>
<tr><td>Summary rows</td><td>The totals row displays the Total number of sessions in the selected period.</td></tr>
</table>

	Example	

Totals	16	
Day	Number of Sessions	Percent
Wednesday	5	31.3 %
Thursday	8	50.0 %
Friday	3	18.8 %

	Sequence	Day of the Week – logical order (Sunday through Saturday).	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors.
		Applied:	The *Date range* is set to show the previous seven days on entry.
		Removal:	Remove by changing or deselecting the applied filter values.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	None available.	
	Select group drill down	None available.	

13.4. Sessions by hour of day

Description:	The *Sessions by hour-of-the-day report* summarises the number of A7 sessions in a specified period, showing: ▪ The *Total number of sessions* for each hour of the day; ▪ The *Total number of sessions* for each hour expressed as a percentage of the *Total number of sessions* in the period.
Access path:	From the *Main menu,* **Bureau» Production reporting »Sessions by hour of day**
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Sessions by hour of day**.
Constraints	Only available to Bureau and Tech Support Users
	▪ Includes *Front-* and *Back-office* sessions; ▪ Displays up to 24 rows (one per hour); ▪ Displays only non-zero rows.
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.

Column-set @ top-level	Columns	*Hour, Number of sessions* and *Percent*

Hour	Number of Sessions	Percent

	Summary rows	The totals row displays the *Total number of sessions* in the selected period.
	Example	

Totals	16	
Hour	Number of Sessions	Percent
08:00 - 08:59	1	6.3 %
10:00 - 10:59	1	6.3 %
11:00 - 11:59	1	6.3 %
12:00 - 12:59	4	25.0 %
13:00 - 13:59	3	18.8 %
14:00 - 14:59	2	12.5 %
15:00 - 15:59	3	18.8 %
16:00 - 16:59	1	6.3 %

	Sequence	Hour of the Day – ascending order (00:00 through 23:59).	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors.
		Applied:	The *Date range* is set to show the previous seven days on entry.
		Removal:	Remove by changing or deselecting the applied filter values.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	None available.	
	Select group drill down	None available.	

13.5. Sessions by customer

Description:	The *Sessions by customer report* summarises the number of A7 sessions in a specified period, showing: ▪ *Total sessions per customer*; ▪ *Total sessions per customer* as a percentage of the *Total sessions in the period*.
Access path:	From the *Main menu*, **Bureau» Production reporting »Sessions by customer**
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Sessions by customer.**
Constraints	Only available to Bureau and Tech Support Users
	▪ Includes *Front-* and *Back-office* sessions; ▪ Displays one row per *Customer*; ▪ Displays only non-zero rows.
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.

Column-set @ top-level	Columns	*Corporate ID, Company Name, Number of sessions* and *Percent*	
	Summary rows	The totals row displays the *Total number of sessions* in the selected period.	
	Example		

Corporate ID	Company Name	Number of Sessions	Percent
Totals		53	
08120909263644 52	Customer 81209	30	56.6 %
CTI-106	CTI-106	9	17.0 %
135360092636 4452	Customer 135360	7	13.2 %
031012152001 2785	multiplay	5	9.4 %
CTI1	CTI1	2	3.8 %

	Sequence	Number of sessions – descending.	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors; ▪ *Corporate ID or Name;* ▪ *Code usage*.

		Applied:	On initial entry: ▪ *Date range* is set to show the previous seven days; ▪ *Code usage* is set to show `All codes`.
		Removal:	▪ Remove by changing or deselecting the applied filter values. ▪ Use *Clear* hyperlink to remove *Corporate ID or Name* filter.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	None available.	
	Select group drill down	None available.	

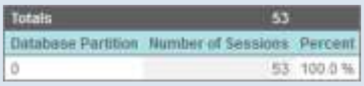
13.6. Sessions by user

Description:	The *Sessions by user report* summarises the number of A7 sessions in a specified period, showing: ▪ *Total sessions per user*; ▪ *Total sessions per user* as a percentage of the *Total sessions in the period*.		
Access path:	From the *Main menu,* **Bureau» Production reporting »Sessions by user**		
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Sessions by user**.		
Constraints	Only available to Bureau and Tech Support Users		
	▪ Includes *Front*- and *Back-office* sessions; ▪ Displays one row per *User*; ▪ Displays only non-zero rows.		
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.		
Column-set @ top-level	Columns	*Username, Corporate ID, Company Name, User status, Number of sessions* and *Percent* Username | Corporate ID | Company Name | User Status | Number of Sessions | Percent	
	Summary rows	The totals row displays the *Total number of sessions* in the selected period.	
	Example	(see table below)	
	Sequence	Number of sessions – descending.	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors; ▪ *User Name(s) or Email.*

Totals				438	
Username	Corporate ID	Company Name	User Status	Number of Sessions	Percent
tsupport			Active	253	57.8 %
ibridge			Active	106	24.2 %
smckenzie			Active	21	4.8 %
cservice			Active	2	0.5 %
jtest	CTI1	CTI1	Active	2	0.5 %
dhand	0310121520012785	multiplay	Active	1	0.2 %
huser	1353600928364452	Customer:135360	Disabled	1	0.2 %
nuser	CTI-106	CTI-106	Active	1	0.2 %

		Applied:	The *Date range* is set to show the previous seven days;
		Removal:	▪ Remove by changing or deselecting the applied filter values. ▪ Use *Clear* hyperlink to remove the *User Name(s) or Email* filter.
	Functionality	*Common reporting elements* only.	
	Select detail drill down	None available.	
	Select group drill down	None available.	

13.7. Sessions by partition

Description:	The *Sessions by Partition report* summarises the number of A7 sessions in a specified period, showing: ▪ *Total sessions per Database Partition*; ▪ *Total sessions per Database Partition* as a percentage of the *Total sessions in the period*.		
Access path:	From the *Main menu,* **Bureau» Production reporting »Sessions by partition**		
	From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Sessions by partition**.		
Constraints	Only available to *Bureau* and *Tech Support Users*; Only available to *Service-providers* using *SQL*.		
	▪ Switched off by default {`configurable`}; ▪ Includes *Front-* and *Back-office* sessions; ▪ Displays one row per database partition; ▪ Displays only non-zero rows.		
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.		
Column-set @ top-level	Columns	*Database Partition, Number of sessions* and *Percent*  Database Partition | Number of Sessions | Percent	
	Summary rows	The totals row displays the *Total number of sessions* in the selected period.	
	Example	 Totals 53 Database Partition | Number of Sessions | Percent 0 | 53 | 100.0 %	
	Sequence	Number of sessions – descending.	
	Filters	Available:	▪ *Show all dates* tick box; ▪ *Date range* selectors.
		Applied:	The *Date range* is set to show the previous seven days;
		Removal:	Remove by changing or deselecting the applied filter values..
	Functionality	*Common reporting elements* only.	

	Select detail drill down	None available.
	Select group drill down	None available.

14. Unbilled reports

14.1. Load report

Description:	This report displays a list of the unbilled files that have been loaded, showing the processing status and basic volumetric data.
Access path:	From the *Unbilled menu, select* **Unbilled reports»Load report**
	From the *Main menu, select* **Unbilled,** then from the *Unbilled bureau reports* pane, select **Load report**
Constraints	Available to Tech support and Bureau users only.
Exceptions	These Common report elements are not available: ▪ Chart report function is not available; ▪ Column totals are not available, but the average run time duration is shown.
Column-set	**List of load files – single level report**
Columns	*Filename File Stamp Date Loaded Time Taken Processing Status Total Corporates Total Accounts Total Subscribers Total Usage Records* **Summary row**: *Average time taken* (that is the average run-time duration).
Example	
Sequence	*Date loaded* – descending.
Filters	▪ *All dates* loaded (check box); ▪ *Date loaded* picker and text boxes; ▪ *Corporate ID* text search box; ▪ *File name* text search box; ▪ *Processing status* drop-down-list. Related information: *Ch.* *(page)*
Functionality	*Common reporting elements* only.

Filename	File Stamp	Date Loaded	Time Taken	Processing Status	Total Corporates	Total Accounts	Total Subscribers	Total Usage Records
Averages			0:00:60					
95621.txt	Jul 3, 2013 2:11:13 PM	Jul 10, 2013 3:04:23 PM	0:02:30	Completed	1	7	262	217,064
Universal Exports 3_1.txt	Jul 16, 2013 4:48:41 PM	Jul 18, 2013 2:56:12 PM	0:00:00	Completed	1	1	3	3

14.2. Invoice summary report

Description:	This report displays a list of the unbilled files loaded per month.
Access path:	From the *Unbilled menu, select* **Unbilled reports»Invoicing summary report**
	From the *Main menu,* **Unbilled,** then from the *Unbilled bureau reports* pane, select **Invoicing summary report**

Constraints	Available to Tech support and Bureau users only. The values in this report do not change to reflect unbilled data that has been removed using Housekeeper.
Exceptions	These Common report elements are not available: ▪ Chart report function is not available; ▪ Column totals,
Column-set	**Invoice summary – single level report**
Columns	*Year Month (When loaded), Total Corporates (Count), Total Accounts (Count)* and *Total Subscribers (Count)*.
Example	Year Month / Total Corporates / Total Accounts / Total Subscribers Jul 2013 / 3 / 17 / 265
Sequence	*Year Month* – latest first.
Filters	*Filters not available.*
Functionality	*Common reporting elements* only.

14.3. Unbilled housekeeper by customer

Description:	This report enables the removal of customers and/or accounts. The user has the option to choose a *Corporate ID* and remove the *Customer*, or to drill-down a level and remove individual *Accounts* within the *Customer*.
Access path:	From the *Main menu,* **Bureau» Production reporting »Sessions by customer** From the *Production Reporting* pane of the *Bureau Reports Overview* portlet, select **Sessions by customer.**
Constraints	Only available to Bureau and Tech Support Users ▪ Includes *Front-* and *Back-office* sessions; ▪ Displays one row per *Customer*; ▪ Displays only non-zero rows.
Exceptions	These Common report elements are not available: ▪ Pie-charts; ▪ *Select group* drill-down; ▪ *Select detail* drill-down.
Column-set 1	**Corporate ID @ Level one – multi-level report**
Columns	*Corporate ID, Company Name, Housekeeper Status* and *Actions* (Delete)
Example	Corporate ID / Company Name / Housekeeper Status / Actions Demo01 / Demo Customer / Available
Sequence	*Corporate ID* – ascending.
Filters	▪ *Corporate ID* (text search box); ▪ *Housekeeper Status (drop-down-list)* ▪ By default includes only files loaded in the last week and excludes completed jobs.
Functionality	*Common reporting elements*; Drill-down a level. *Select group* to drill down to Account-level

Column-set 2	**Account @ Level two – via select group drill-down**
Columns	*Account* and *Actions* (Delete)
Example	

Account	Actions
ACC00000001	
ACC00000002	
ACC00000003	
ACC00000004	
ACC00000005	

Sequence	Account – ascending.
Filters	*Account* (text search box);
Functionality	*Common reporting elements*. Delete account. Select and confirm to delete the selected account.

14.4. Unbilled housekeeper by file

Description:	This report enables the removal of Unbilled files
Access path:	From the *Unbilled menu, select* **Unbilled reports»Load report** From the *Main menu, select* **Unbilled,** then from the *Unbilled bureau reports* pane, select **Load report**
Constraints	Available to Tech support and Bureau users only.
Exceptions	These Common report elements are not available: ▪ Chart report function is not available; ▪ Column totals are not available.
Column-set	**Load file list – single level report**
Columns	*File Name, Date Loaded, Total Corporate IDs, Total accounts, Total Subscribers, Total CDRs,* and *Actions* (Delete icon)
Example	

File Name	Date Loaded	Corps	Accounts	Housekeeper Status	Actions
DEMO CUSTOMER UNBILLED (9).txt	25-Apr-2013 12:46:05	1	5	Available	
DEMO CUSTOMER UNBILLED (8).txt	25-Apr-2013 12:46:04	1	5	Available	
DEMO CUSTOMER UNBILLED (24).txt	25-Apr-2013 12:45:44	1	5	Available	
DEMO CUSTOMER UNBILLED (23).txt	25-Apr-2013 12:45:43	1	5	Available	

Sequence	Date loaded – latest first.
Filters	▪ *All dates* loaded (check box); ▪ *Date loaded from range* (date picker) visible only if *All dates loaded* is unchecked; ▪ *Corporate ID* (text search box); ▪ *File name* (text search box)*;* ▪ *Housekeeper Status (drop-down-list)* By default the filter includes only files loaded in the last week and excludes completed jobs.
Functionality	*Common reporting elements* only.
Functionality	*Common reporting elements*. Delete file. Select and confirm to delete the selected load file.

Appendices

Appendix A Configuring RunAsService.XML

Change no other settings in `RunAsService.xml` without the explicit direction of *CTI Group*

Configuration parameters for are stored in the file:

`<App_installPath>/RunAsService.xml`

`The frequency at which services run is set by parameter; the valid values being:`

- Yn – every year
- Wn – every week
- Mn– every month
- Dn– every day
- Hn – every hour
- MIn – every minute
- Sn – every second

Where n is a multiplier and may be omitted, in which case a multiplier of one is applied.

So, for example, a frequency of W4 is every four weeks.

Change the data retention mode:

1. Take a backup copy of `RunAsService.xml`
2. Open the file `RunAsService.xml` with a text editor of your choice.
3. Locate the *Housekeeper* **`automation`** section.

```
<!-- Housekeeper Automation -->
<JobProcess>
<FriendlyName>House Keeper automation sevice</FriendlyName>
<AssemblyFile>com.cti.panther.processing.adapter.dll</AssemblyFile>
<ClassName>com.cti.panther.processing.adapter.OtherProcesses.HousekeeperAutomatedProcess</ClassName>
<InputFolder>HK_Auto</InputFolder>
<OutputFolder>05_Finish</OutputFolder>
<Param Name=>>KeepSummaryMonths>>>12</Param>
<Param Name=>>KeepCallDetailMonths>>>3</Param>
<Param Name=>>RunAfter>>>00:00</Param>
<Param Name=>>FunctionType>>>Stored</Param>
</JobProcess>
```

4. Locate the *FunctionType* parameter.
5. Edit the value of the *FunctionType* parameter as follows:

Data retention mode	Parameter value
To use *Calendar Months*	**`Period`**
To use *Data Loaded Months*	**`Stored`**

6. Save the file `RunAsService.xml`

Set ErrorEmail address details:

1. Take a backup copy of `RunAsService.xml`
2. Open the file `RunAsService.xml` with a text editor of your choice.

3. Repeat the following for each job you want to add the details to:
   i. Locate the job's XML element' (one of: <JobCreator>, <JobProcess> or <JobDestroyer>) .
   ii. Locate the ErrorEmails parameters and insert your email details.

```
<!-- In the event of an error A7 will email the job to a CSV list of
email addresses below -->
<Param
Name=>>ErrorEmails>>>forexample@webdomain.com,forexamplesboss@webd
omain.com</Param>
```

   iii. Set the ErrorEmailLanguage parameter to the required UTF8 language code.

```
<!--Specifiy the language to use in the error email template (make sure
it exists and in the right format (e.g. en-gb) -->
<Param Name=>>ErrorEmailLanguage>>>en-gb</Param>
```

4. Save the file `RunAsService.xml`

Change operating window settings

Care should be taken when changing operating windows. Incorrect settings can significantly impact performance.

1. Take a backup copy of `RunAsService.xml`
2. Open the file `RunAsService.xml` with a text editor of your choice.
3. Repeat the following for each process you want to change:
   i. Locate the job's XML element' (one of: <JobCreator>, <JobProcess> or <JobDestroyer>) .
   ii. Locate the <OperatingWindow> parameter, for example:
   iii. <OperatingWindow>ANY</OperatingWindow> <!-- ANY, NIGHT, DAY, WEEKEND, OUTOFHOURS -->
   iv. Set the <OperatingWindow> parameter to the required value.
   v. To override the global <NightStart> and <NightEnd> values for the process, insert (or amend existing) lines:

```
<NightStart>17</NightStart>   <!-- Hour in 24hr format -->
<NightEnd>7</NightEnd>  <!-- Hour in 24hr format -->
```

4. Save the file `RunAsService.xml`

The global `<NightStart>` and `<NightEnd>` values are defined under the `<Machine>` element.

[Inside back cover page]

Our contact address:

CTI Billing Solutions Limited

Daisyfield Business Centre
Appleby Street
Blackburn
United Kingdom
BB1 3BL

Tel: +44 0 1254 291500
Fax: +44 0 1254 291504

Email: info@ctigroup.com

Feedback on this document

We are always looking for ways to improve the support we provide to our customers. Your feedback is invaluable in enabling us to do so.

Comment on this document via the following Email address:

documentation@ctigroup.com

ctigroup.com