



ALTIGEN
COMMUNICATIONS

Call Detail Reporting

for AltiWare Open Edition (OE) / AltiServ Contact

Center (ACC) Release 5.0

and AltiContact Manager (ACM) Release 5.0

Manual

Revised 05/2004 4403-0012-5.0

WARNING!

Toll fraud is committed when individuals unlawfully gain access to customer telecommunication systems. This is a criminal offense. Currently, we do not know of any telecommunications system that is immune to this type of criminal activity. AltiGen Communications, Inc. will not accept liability for any damages, including long distance charges, which result from unauthorized and/or unlawful use. Although AltiGen Communications, Inc. has designed security features into its products, it is your sole responsibility to use the security features and to establish security practices within your company, including training, security awareness, and call auditing.

NOTICE

While every effort has been made to ensure accuracy, AltiGen Communications, Inc. will not be liable for technical or editorial errors or omissions contained within the documentation. The information contained in this documentation is subject to change without notice.

This documentation may be used only in accordance with the terms of the AltiGen Communications, Inc. License Agreement.

AltiGen Communications, Inc.
4555 Cushing Pkwy.
Fremont, CA 94538
Telephone: 510-252-9712
Fax: 510-252-9738
E-mail: info@altigen.com
Web site: www.altigen.com

TRADEMARKS

AltiGen, AltiServ, AltiWare, AltiContact Manager, AltiLink, AltiConsole, AltiAdmin, ACM Admin, Alti-IP 600, AltiVR Player, Zoomerang, and Dynamic Messaging are trademarks or registered trademarks of AltiGen Communications, Inc.

All other brand names mentioned are trademarks or registered trademarks of their respective manufacturers.

Copyright © AltiGen Communications, Inc. 2004. All rights reserved.
Printed in U.S.A. 05/2004 4403-0012-5.0

Contents

Warranty	iii
-----------------------	------------

CHAPTER 1

Using CDR Search	1
New in Version 5.0	1
Installing CDR Search on a Client System	2
Installation Notes	2
Downgrade Procedure	3
Logging In	4
Running a Search	9
CDR Search	9
Group CDR Search	12
Workgroup Statistics Search	15
Search Results	16
Summary (CDR Search and Group CDR Search)	17
Call Details	18
Statistics (WG Statistics)	20
Exporting Records	21
Printing Records	21

CHAPTER 2

CDR Overview	23
Real-Time Monitoring and the CDR Client	23
The RTM Statistics Database	23
Internal Database Configuration (Internal Logger Service)	25
External (Remote) Logging of Call Data	26
Call Center Events and CDR	27
Past and Present CDR	27
Configuration Areas Affecting CDR Information	28
Routing and Route Name	28
Multi-Project Naming	28

Wrapup	29
Ring No Answer Configurations and VM	29
Login and Log-out	29
Conference Call Limitation	29
Changing Time Settings	30

CHAPTER 3

Data Storage	31
Common Features of ILS and ELS	31
Differences between ILS and ELS	32
Internal Logger Service	32
External Logger Service	32
Logger Service Configuration	33
External Logger Server Configuration Tool	33
Configuration GUI for External Logger Server	34
Limitations	35

CHAPTER 4

CDR and Workgroup CDR Search — Typical Searches . .	37
Example Call Sequences and their Effect on CDR Records	40

CHAPTER 5

Records and Data Schema	43
Search Results	44
RTM Data Schema	74
Reporting Fields Glossary	80
CDR Timestamps and Dates	80
Start time	80
Glossary	83
Index	91

Warranty

What The Warranty Covers

AltiGen Communications warrants its hardware products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, AltiGen Communications will, at its sole option, repair, refund or replace the product with a like product.

How Long the Warranty Is Effective

All AltiGen Communications products are warranted for one (1) year for all parts from the date of the first end user purchase.

Whom the Warranty Protects

This warranty is valid only for the first end user purchaser.

What the Warranty Does Not Cover

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
 - a) Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - b) Repair or attempted repair by anyone not authorized by AltiGen Communications.
 - c) Any damage of the product due to shipment.
 - d) Removal or installation of the product.
 - e) Causes external to the product, such as electric power fluctuations or failure.
 - f) Use of supplies or parts not meeting AltiGen Communications' specifications.
 - g) Normal wear and tear.
 - h) Any other cause which does not relate to a product defect.
3. Shipping, installation, set-up and removal service charges.

How to Obtain Service

End user customers should contact your Authorized AltiGen Dealer for service.

Authorized AltiGen Dealers must follow the steps below for service:

1. Take or ship the product (shipment prepaid) to your AltiGen distributor or to AltiGen Communications, Inc.

All materials being returned to AltiGen must have an associated RMA number. RMA numbers are issued by AltiGen Customer Service and can be obtained by calling 1-888-ALTIGEN (258-4436) or faxing an RMA form to 510-252-9738, attention to Customer Service. AltiGen reserves the right to refuse return of any material that does not have an RMA number. The RMA number should be clearly marked on the outside of the box in which the material is being returned. For example:

Attn.: RMA # 123
AltiGen Communications, Inc.
4555 Cushing Pkwy.
Fremont, CA 94538

Upon authorization of return, AltiGen will decide whether the malfunctioning product will be repaired or replaced.

2. To obtain warranty service, you will be required to provide:
 - a) the date and proof of purchase
 - b) serial number of the product
 - c) your name and company name
 - d) your shipping address
 - e) a description of the problem.
3. For additional information contact your AltiGen Dealer or AltiGen Communications, Inc. via e-mail at support@altigen.com.

Effect of State Law

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales Outside the U.S.A.

For AltiGen Communications products sold outside of the U.S.A., contact your AltiGen Communications dealer for warranty information and services.

Using CDR Search

CDR Search is a client application that lets you search a Call Detail Reporting database. You can install CDR Search on either the system server or on an administrator client desktop. CDR Search works only with AltiWare OE/ACC Release 5.0 or AltiContact Manager (ACM) 5.0.

CDR Search, Group CDR Search, WG Statistics

CDR client offers three ways to search call records.

- **CDR Search** lets you define a search by the type of call, incoming or outgoing. To perform this search, you must log in as the administrator.
- **Group CDR** lets you specify a search by workgroup. To perform this search, you can log in as the administrator or as a workgroup supervisor.
- **WG Statistics** lets you search workgroup call data captured from the real-time monitoring functions in the Workgroup Statistics tab of the AltiSupervisor client. To perform this search, you can log in as the administrator or as a workgroup supervisor.

New in Version 5.0

- Statistics displays have been restructured.
- CDR Search Tool for 4.6 CDR database is available for customers upgrading from 4.6 to 5.0. The utility has the same functionality as CDR Search 4.6, and can work when AltiWare 4.6 is not running. Extension login is needed for this tool.
- Dual external CDR database support — CDR Search can select from one of two external databases for database query.
- Standard ODBC and SQL interfaces support
- Support third-party database storage as External Database
- Extension password protection for logins.

Installing CDR Search on a Client System

Important: 4.6 client programs cannot be installed in the same PC running 5.0 client programs.

Installation Notes

- For AltiWare OE/ACC and ACM installation, the following CDR Logger components must be included:

- CDRLogDLL.dll
- Logservice.exe
- Libexpat.dll
- NewLogServiceInit.dll

After files are copied, load NewLogServiceInit.dll and call exported InitLogService function and set the type as “0” (Internal Log Service).

- For External Logger Server installation, a new installation project must be created. The installation program should check if the user has administrator priority and then ask for a destination folder where the program is installed. The project must include the following files:

- Logservice.exe
- ELSCfg.exe
- Libexpat.dll
- NewLogServiceInit.dll

After files are copied:

1. Load NewLogServiceInit.dll and call exported InitLogService function and set the type as “0” (Internal Log Service).
 2. Create sub menu in system menu with the name “External Logger Server.”
 3. Create shortcut in the menu with the name “External Logger Server Configuration” and link it to ELSCfg.exe.
- For CDR Search installation, the following file must be added:
 - Libexpat.dll

After files are copied, no additional action is required.

System Requirements

- The client system must be running Windows 98, 2000, NT, Windows ME, or higher.
- AltiWare OE, AltiServ Contact Center, or AltiContact Manager (Release 5.0 or higher) must be installed on the system and the link to TCP/IP enabled.

Hardware Requirements

- External database server (such as Microsoft SQL 7.0 or 2000) should be at least Pentium 4, 1 GHz with 512M RAM.

Important: Refer to “Limitations” on page 35 for a list of limitations for CDR Search.

To install the CDR client:

1. Log in to the client machine using a domain account and make sure it is connected to the network on which the system is running.
2. Exit all Windows applications.
3. Insert the AltiWare CD into the CD ROM drive.
4. In the CDR>CDRSearch_Client folder, run **Setup.exe**. Follow the step-by-step installation instructions as they appear on the screen.

Uninstalling CDR Search

1. From the Windows Start menu, select **Programs > CDR Search > Uninstall CDR Search 5.0**.
2. Click **OK** when the dialog box asks if you want to uninstall the program, and respond to any additional prompts.

Downgrade Procedure

1. Go to **Control Panel>Add/Remove Programs** and remove the CDR Search 5.0 program and ALL OTHER 5.0 client applications (including AltiAgent, AltiView, AltiSupervisor and AltiConsole).
2. Reboot your system.
3. Go to “<local drive>:\Program Files\AltiGen\Shared Files\” and remove **AlpInterface.dll**.

Logging In

Note: The **AlpInterface** might be located under “\WinNT\System32\”, “\Windows\System32\” or some other location. Use the **Search for Files and Folders** feature to locate and remove all **AlpInterface.dll** files from the system.

4. Install the CDR Search 4.6 software.

Logging In

There are two ways to log in to CDR search.

Administrator login lets you perform all three types of search described in “CDR Search, Group CDR Search, WG Statistics” on page 1. To log in as an administrator, your extension must be designated as the Manager Extension in AltiAdmin or ACM Admin. See your system administrator for details.

Workgroup supervisor login lets you run a Group CDR search or a WG Statistics search, described in “CDR Search, Group CDR Search, WG Statistics” on page 1. To log in as a workgroup supervisor, the option-pack license must be installed on the server. For information on obtaining a license, contact your Authorized AltiGen dealer.

Before you log in

When you log in for the first time, you need to know either the IP address or the name of the server you’ll be linking to. (If you use the server name rather than the IP address, CDR Search replaces the name with the IP address the next time you log in.)

To obtain the AltiWare or ACM Admin IP address, ask your system administrator.

Note: If you are connecting to the Internet through a modem, establish a connection from your PC to your ISP before you log in to CDR search.

Logging in - Administrator Login

1. From the Windows **Start** menu, select **Programs > CDR Search > CDR Search 5.0**. The Login window appears.



Figure 1. Login window

2. Enter the IP address or name of the **Server**.
3. Enter your **Extension** and **Password**.

Check the **Save password** check box to store your log in password for the next time you access CDR Search.

Note: Altiserv maintains a counter for each extension to track login failures. Up to 8 login attempts are allowed, after which login will be disabled from 1 to 24 hours (depending on the Administrator's setting).

4. Select **Administrator login** and click **OK**.

Logging In

5. In the **CDR Server** dialog box, select the database containing the data you want to access, then click **Select**.



Figure 2. CDR Server dialog box

Note: This option is available only when the external logger service is installed on the SQL Server, and External CDR Logging is enabled. Consult your system administrator for more information.

Logging in - Workgroup Supervisor Login

1. From the Windows **Start** menu, select **Programs > CDR Search > CDR Search 5.0**. The Login window appears.

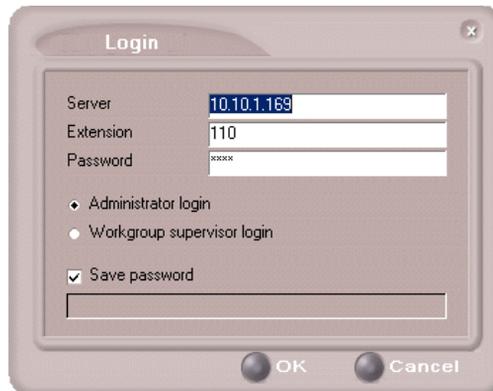


Figure 3. Login window

2. Enter the IP address or name of the **Server**.
3. Enter your **Extension** and **Password**.

Check the **Save password** check box to store your log in password for the next time you access CDR Search.

Note: Altiserv maintains a counter for each extension to track login failures. Up to 8 login attempts are allowed, after which login will be disabled from 1 to 24 hours (depending on the Administrator's setting).

- 4. Select **Workgroup supervisor login**, and click **OK**.
- 5. In the **CDR Server** dialog box, select the database containing the data you want to access, then click **Select**.

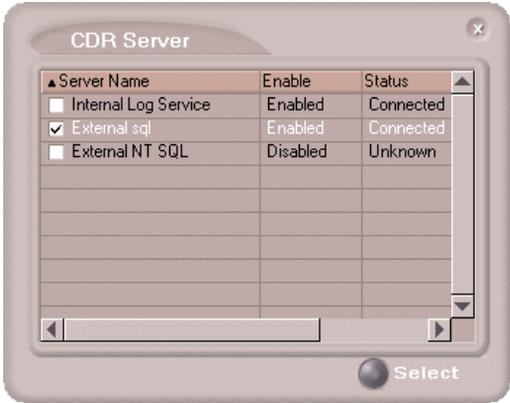


Figure 4. CDR Server dialog box

Note: This option is available only when the external logger service is installed on the SQL Server, and External CDR Logging is enabled. Consult your system administrator for more information.

6. In the **Password** dialog box that appears, select the workgroups you want, enter the password for each, and click **OK** to open the CDR Search main window.

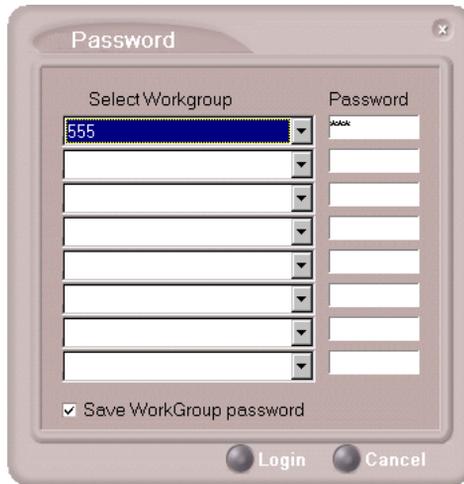


Figure 5. Password dialog box

This will allow access to the workgroup CDR and workgroup statistics.

If you enter an invalid password, the Password window reappears. A red X appears before the problem workgroup. Re-enter the password and click **OK**.

For multiple workgroups: If you re-enter an invalid password for *one* workgroup, the CDR Search main window will open, but the workgroup will not appear in the **Workgroup** drop-down and thus will not be available as a search criterion.

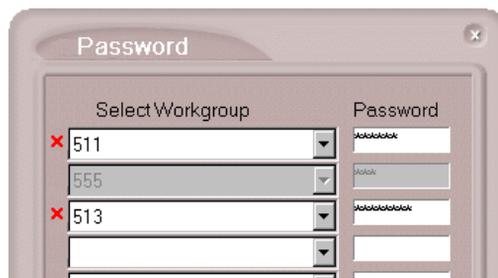


Figure 6. Password window showing invalid password

Running a Search

The CDR Search main window has three tabs: **CDR**, **Group CDR**, and **WG Statistics**.

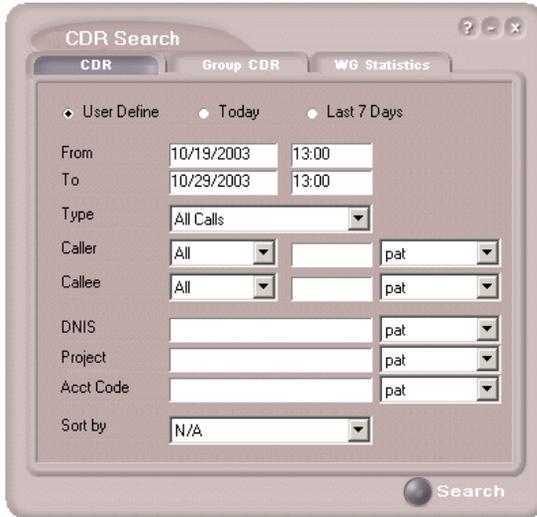


Figure 7. CDR tab of CDR Search window

CDR Search

CDR Search lets you search all calls, internal and external. To perform this search, you must log in as the administrator.

To run a CDR search:

1. Select the time range for the search:
 - **User Define**—the From/To fields default to a range that includes the ten previous days. Edit the date and time for a custom range.
 - **Today**—sets the From/To fields to the current date
 - **Last 7 Days**—sets the From/To range to the previous seven days
2. Select the **Type** of search:

- **All Calls**—calls involving: Auto Attendant/IVR, Ring No Answer, Queue, Voice Mail (no VM recorded or VM recorded), Connect, Logon, Logoff, All Trunks Busy, No session, VM Access, Forward, Transfer, VM Notify, WG Abandoned, Park, System Park, Conference, Call Monitor, Transfer Cancel, Call Redirect, Call Pick Up, Dial Cancel
- **Connected Calls & Messages**—Connected Calls plus Messages (see below)
- **Connected Calls**—incoming calls answered by a person, and outgoing calls that entered “Connected” state
Note: For CDR records, Connected Calls refer to calls in these states: connected, transfer, park, system park, conference call and transfer cancel.
- **Messages**—incoming calls directed to voicemail
- **Unanswered Calls**—incoming or outgoing calls not answered by a person
Note: For CDR records, Unanswered calls refer to calls abandoned while in these states: AA, forward, RNA, queue, voicemail, WG abandoned, call redirect, no more session, pick up by and dial cancel. Calls abandoned also include all calls routed to go somewhere other than a workgroup, where a workgroup has busy call handling set not to queue.
- **All Trunks Busy**—outgoing calls aborted due to busy signals

Note: See “CDRMAIN” on page 61 for call data details.

3. Define the type of calls in the Caller/Callee fields and enter values for the Trunk and Extension, if applicable.
 - **All**—searches for both incoming and outgoing calls
 - **To search for outgoing calls only**—set Caller to Extension and Callee to Trunk, then enter the appropriate numbers
 - **To search for incoming calls only**—set Caller to Trunk and Callee to Extension, then enter the appropriate numbers
 - **To search for internal (station to station) calls**—set Caller and Callee to Extension

Use the drop down lists (located to the right of the **Caller** and **Callee** value fields) to further define the value match for your record search:

- **Exact** - retrieves records that exactly match the field value entered
- **Like** - retrieves records that begin with the field value entered
- **Pat** - retrieves records that contain the field value in any part of the extension/trunk digits.

Example: “252” is the Callee value entered in the blank field. If **exact** is selected, any record with only “252” in the Callee field is retrieved. If **like** is selected with this value, any records where “252” begins the Callee field (e.g. **252-9712**, **252-9713**) is retrieved. If **pat** is selected with this value, any records with “252” in any part of the Callee field is retrieved (e.g: **252-9712**, **946-2525**).

4. In the search criteria fields, enter data for **DNIS, Project, or Acct Code** as desired.

Use the drop down lists (located to the right of the **DNIS, Project** and **Acct Code** value fields) to further define the value match for your record search:

- **Exact** - retrieves records that exactly match the field value entered
- **Like** - retrieves records that begin with the field value entered
- **Pat** - retrieves records that contain the field value in any part of the DNIS/Project/Acct Code digits.

5. Select to **Sort by:**

- **Date/Time**—sorts day-by-day (or hour-by-hour if you select Today as the time range for the search).
- **Extension**—sorts by extension.
- **Trunk**—sorts by trunk.
- **N/A**—search without sorting, retrieves total number of records.

Note: For faster searching, using **N/A** to sort records is recommended.

(For example, when you search for Connected Calls, the time range as “Today,” and sorting by **N/A**, CDR will retrieve the total number of connected calls for “today.”)

- Note:** If the time range for the search is less than 1 day, and **Date/Time** is selected for **Sort by**, CDR will list records hourly. If time range for the search is longer than 1 day, and **Date/Time** is selected for **Sort by**, CDR will list records daily.

Running a Search

6. Click **Search**. During the search, a progress window appears.



Figure 8. Search Progress window

To cancel the search, click **Cancel**.

7. Search results appear in the **Summary** window. Refer to “Search Results” on page 16 for details on working with search results.

Group CDR Search

Group CDR search lets you specify a search by group. To perform this search, you can log in as the administrator or as a workgroup supervisor.

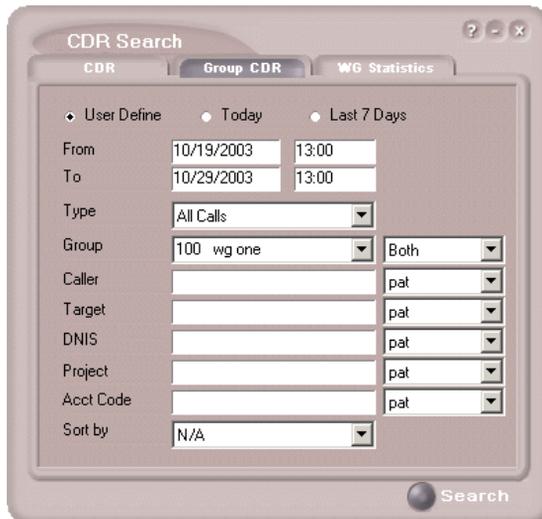


Figure 9. Group CDR tab of CDR Search window

To run a Group CDR search:

1. Select the time range for the search:
 - **User Define**—the From/To fields default to a range that includes the ten previous days. Edit the date and time for a custom range.

- **Today**—sets the From/To fields to the current date
 - **Last 7 Days**—sets the From/To range to the previous seven days
2. Select the **Type** of search:
 - **All Calls**—calls involving: Auto Attendant/IVR, Ring No Answer, Queue, Voice Mail (no VM recorded or VM recorded), Connect, Logon, Logoff, All Trunks Busy, No session, VM Access, Forward, Transfer, VM Notify, WG Abandoned, Park, System Park, Conference, Call Monitor, Transfer Cancel, Call Redirect, Call Pick Up, Dial Cancel

Note: When searching for All Calls in WG CDR, the search results will not include workgroup agent login/logout, as the system does not recognize logging in/out as a call.
 - **Connected Calls & Messages**—Connected Calls plus “Messages (see below)
 - **Connected Calls**—incoming calls answered by agent and outgoing calls made by agent (when an **Outgoing Workgroup** is selected for the agent in the Workgroup Extension Configuration in AltAdmin/ACM Admin).
 - **Messages**—calls directed to voicemail
 - **Unanswered Calls**—incoming calls not answered by agent or workgroup (abandoned in AA, forward, RNA, queue, voicemail, WG abandoned, call redirect, no more session, pick up by and dial cancel). Calls abandoned also include all calls routed to go somewhere other than a workgroup, where a workgroup has busy call handling set not to queue.
 - **All Trunks Busy**—outgoing calls aborted due to busy signals
 - **Agent Login/out**—calls sorted by the login/out times of workgroup member extension numbers

Note: See “CDRMAIN” on page 61 for call data details.
 3. Select the **Workgroup** whose call records you want to search.
 4. In the search criteria fields, enter data for **Caller, Target, DNIS, Project, or Acct Code** as desired.

Use the drop down lists (located to the right of the **Caller, Target, DNIS, Project or Acct Code** value fields) to further define the value match for your record search:

- **Exact** - retrieves records that exactly match the field value entered
- **Like** - retrieves records that begin with the field value entered
- **Pat** - retrieves records that contain the field value in any part of the extension/trunk digits.

5. Select to **Sort by**:

- **Date/Time**—sorts day-by-day (or hour-by-hour if you select Today as the time range for the search)
- **Agent**—sorts by agent
- **Workgroup**—sorts by workgroup
- **Trunk**—sorts by trunk
- **N/A**—search without sorting, retrieves total number of records.

Note: For faster searching, using **N/A** to sort records is recommended.

(For example, when you search for Connected Calls, the time range as “Today,” and sorting by N/A, CDR will retrieve the total number of connected calls for “today.”

Note: If the time range for the search is less than 1 day, and Date/Time is selected for Sort by, CDR will list records hourly. If time range for the search is longer than 1 day, and Date/Time is selected for Sort by, CDR will list records daily.

6. Click **Search**. During the search, a progress window appears.
7. To cancel the search, click **Cancel**.

Search results appear in the Summary window. Refer to “Search Results” on page 16 for details on working with search results.

Workgroup Statistics Search

Workgroup Statistics lets you search workgroup call data (rtmData.mdb records) captured from the real-time monitoring function in the Workgroup Statistics tab of the Altisupervisor client. To perform this search, you can log in as the administrator or as a workgroup supervisor.

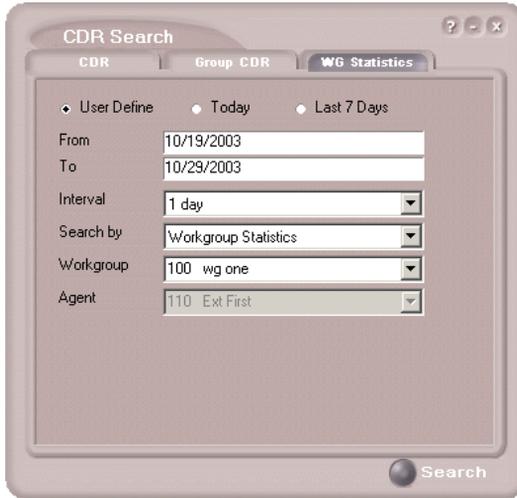


Figure 10. WG Statistics tab of CDR Search window

To run a WG Statistics search:

- Select the time range for the search:
 - User Define**—the From/To fields default to a range that includes the ten previous days. Edit the date and time for a custom range
 - Today**—sets the From/To fields to the current date
 - Last 7 Days**—sets the From/To range to the previous seven days
- Select the **Interval** (1 day, 1 hour, or 15 minutes) to specify the granularity of your search results.

Note: This selection is overridden by the interval setting in AltAdmin/ACM Admin. If your search results produce greater intervals than you specified, consult your system administrator.
- Select the type of search:
 - Workgroup Statistics**—statistics on a specific workgroup

- **Agent Statistics per Workgroup**—statistics on a specific agent for a specific workgroup
- **Agent Statistics**—statistics on a specific agent for every workgroup to which he/she belongs

Note: See “CDR Search and Group CDR Search Results Windows” on page 44 for workgroup statistics call data details.

4. Depending on the type of search you selected, specify a **Workgroup** and/or **Agent** to search on.
5. Click **Search**. During the search, a progress window appears. To cancel the search, click **Cancel**.

Search results appear in the Statistics window. Refer to “Search Results” on page 16 for details on working with search results.

Search Results

The type of search you perform determines the type of results you see: **Summary**, which also enables drilldown to call **Details** and **Records** windows, or **Statistics**.

All Results windows have the following buttons:

- **Export** - exports selected calls to a csv file. Refer to “Exporting Records” on page 21 for details.
- **Print** - prints the selected calls. Refer to “Printing Records” on page 21 for details.

All Statistics windows (WG, Agent Statistics Per WG, Agent) also have a **Stop** button.

For explanations of records and database schema, see *Chapter 5, Records and Data Schema*.

Summary (CDR Search and Group CDR Search)

For CDR Search and Group CDR Search, the Summary window displays the results.

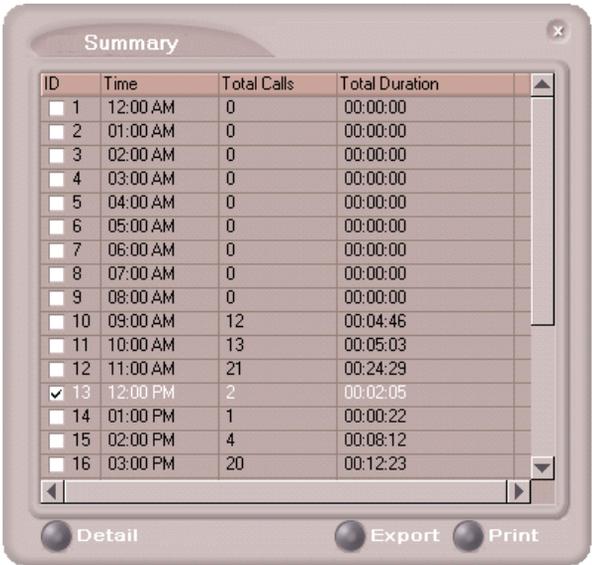


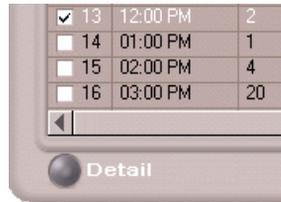
Figure 11. Summary window

- The **Detail** button opens the Detail window for a selected call. Refer to “Call Details” on page 18 for details.

Call Details

You can drill down for detailed information on call records.

1. To see details on a call, select a record in the Summary window and click **Detail**.



The Detail window opens.

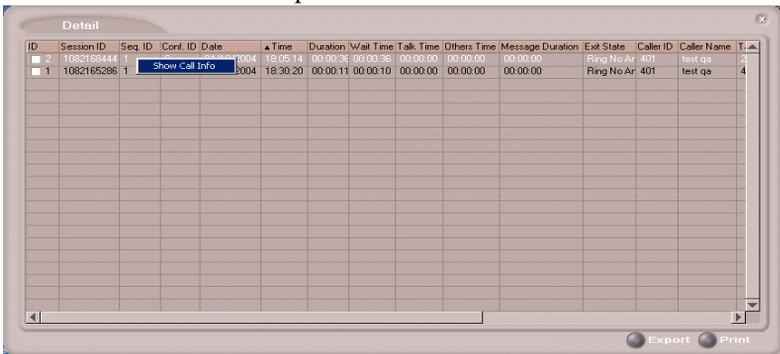


Figure 12. The Detail window

2. To view call records, right-click a record in the Detail window and select **Show Call Info**.

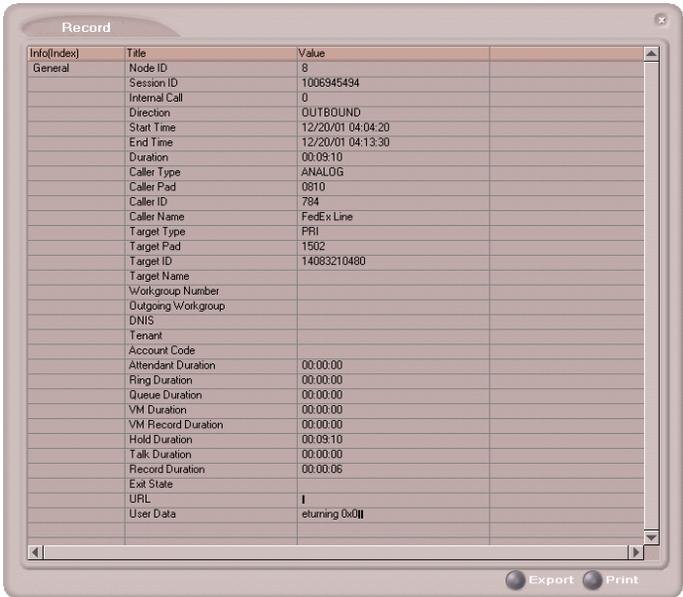


Figure 13. The Record window (Call Info)

Statistics (WG Statistics)

For Workgroup Statistics searches, the Statistics windows display the results of your search. There are different windows for the three types of WG Statistics searches you can perform.

ID	Date	Time	Calls in Queue	Calls Answered	Calls Answered Duration	Outgoing Calls	Outgoing Calls
1	04/10/2004	00:00:00	0	0	00:00:00	0	00:00:00
2	04/11/2004	00:00:00	0	0	00:00:00	0	00:00:00
3	04/12/2004	00:00:00	0	0	00:00:00	0	00:00:00
4	04/13/2004	00:00:00	0	0	00:00:00	0	00:00:00
5	04/14/2004	00:00:00	0	0	00:00:00	0	00:00:00
6	04/15/2004	00:00:00	0	0	00:00:00	0	00:00:00
7	04/16/2004	00:00:00	0	0	00:00:00	0	00:00:00
8	04/17/2004	00:00:00	0	0	00:00:00	0	00:00:00

Title	Value	Percentage	Title	Value
Group Inbound Calls Summary				
Group Total Inbound Calls	0	0.00%	Total Inbound Talk Time	00:00:00
Total Calls without Queuing	0	0.00%	Average Inbound Talk Time	00:00:00
Total Calls in Queue	0	0.00%	Average Queue Time	00:00:00
Total Calls Answered	0	0.00%	Average Wait Time for Answered Calls	00:00:00
Total Calls Overflowed	0	0.00%	Average Wait Time for Overflowed Calls	00:00:00
Total Calls Abandoned	0	0.00%	Average Wait Time for Abandoned Calls	00:00:00
Abandoned in Queue	0	0.00%	Total Wait Time for Answered Calls	00:00:00
Abandoned during Ring	0	0.00%	Total Wait Time for Overflowed Calls	00:00:00
Abandoned to Voice Mail	0	0.00%	Total Wait Time for Abandoned Calls	00:00:00
Leave VM	0	0.00%		
Without VM	0	0.00%		
Abandoned to Others	0	0.00%		
Historical Service Level				
Total Calls Answered within SL	0	0.00%		
Group Outbound Calls Summary				
Group Outbound Connected Calls	0		Total Outbound Talk Time	00:00:00
			Average Outbound Talk Time	00:00:00

Figure 14. The Workgroup Statistics window

ID	Date	Time	In Call Ans	In Talk Time	Out Call Ans	Out Talk Time	Login Time	Logout Time
1	04/10/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
2	04/11/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
3	04/12/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
4	04/13/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
5	04/14/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
6	04/15/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
7	04/16/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00
8	04/17/2004	00:00:00	0	00:00:00	0	00:00:00	--/-- 00:00:00	--/-- 00:00:00

Title	Value
Total Logged In Time	004 07:05:00
Total Inbound Calls Answered	0
Total Talk Time	00:00:00
Average Talk Time	00:00:00
Total Connected Outbound Calls	0
Total Talk Time	00:00:00
Average Talk Time	00:00:00
Total Number of Wrap-up	0
Total Wrap-up Time	00:00:00
Average Wrap-up Time	00:00:00

Figure 15. The Agent Statistics per Workgroup window

ID	Date	Time	In Call Ans	In Talk Time	Out Call Ans	Out Talk Time
1	04/10/2004	00:00:00	0	00:00:00	0	00:00:00
2	04/11/2004	00:00:00	0	00:00:00	0	00:00:00
3	04/12/2004	00:00:00	0	00:00:00	0	00:00:00
4	04/13/2004	00:00:00	0	00:00:00	0	00:00:00
5	04/14/2004	00:00:00	0	00:00:00	0	00:00:00
6	04/15/2004	00:00:00	0	00:00:00	0	00:00:00
7	04/16/2004	00:00:00	0	00:00:00	0	00:00:00
8	04/17/2004	00:00:00	0	00:00:00	0	00:00:00

Title	Value
Total Inbound Calls Answered	0
Total Talk Time	00:00:00
Average Talk Time	00:00:00
Total Connected Outbound Calls	0
Total Talk Time	00:00:00
Average Talk Time	00:00:00
Total Number of Wrap-up	0
Total Wrap-up Time	00:00:00
Average Wrap-up Time	00:00:00

Figure 16. Agent Statistics window

Exporting Records

You can export records in csv format from the Statistics, Summary, Detail, and Record windows.

To export records from the Statistics window:

1. Click **Export**.
2. Click **OK** to open the Save As dialog box.

To export records from the Summary, Detail, and Record windows:

1. Do one of the following:
 - To export specific records, select the records you want, then click **Export**. In the Select window that appears, select **Export only selected records**.
 - To export all records, click **Export**. In the Select window that appears, select **Export All Records**.
2. Click **OK** to open the Save As dialog box.

Printing Records

You can print records from the Statistics, Summary, Detail, and Record windows.

To export records from the Statistics window:

1. Click **Print**.
2. Click **OK** to open the Windows Print dialog.

To print records from the Summary, Detail, and Record windows:

1. Do one of the following:
 - To print all records, click **Print**. In the Select window that appears, select **Print out all records**.
 - To print specific records, select the records you want, then click **Print**. In the Select window that appears, select **Print out only selected records**.
2. Click **OK** to open the Windows Print dialog.

CDR Overview

AltiGen's Call Detail Recording (CDR) solutions include data creating, recording, collecting, and reporting. While CDR can be used for individual and departmental billing, timecards, and market analysis, this manual places special emphasis on CDR's use for call center applications. The data schema are designed to provide information for PBX, call center, billing, multi-project, and performance tracking information.

Real-Time Monitoring and the CDR Client

Workgroup call data is captured from the real-time monitoring function of the Altisupervisor client application and made available to a dedicated feature—the "WG Statistics" tab—in the CDR Search client. The difference between call detail recording (described immediately below) and the RTM records is that call detail recording tracks every individual call, from auto-attendant through disconnect, while RTM reporting takes "snapshots" of call center data at continuous intervals ranging from every 15 minutes to every 24 hours.

Such data contains statistics—counts, sums, totals, averages, and percentages—on items such as the number of calls in the workgroup's queue, the amount of time callers waited in the queue, and the number of calls that were abandoned from the queue, during the searched time period. This data is stored in its own database, which is configured for backups, storage limits, and the granularity of your data (determined by the interval size) via settings in AltAdmin/ACM Admin.

The RTM Statistics Database

The RTM statistics database, called "rtmData.mdb," is installed automatically with AltWare in a folder called "AltIDB," in any location the user chooses.

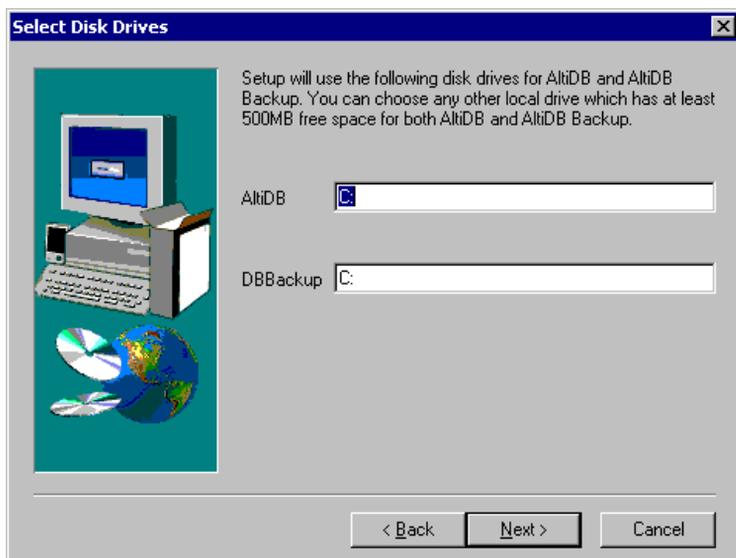


Figure 1. AltiServ installation

You can set up call reporting if AltiWare and AltiAdmin are installed on the same server.

In AltiWare, call reporting distinguishes between *call detail* data, which records every call made to, out of, and within the AltiServ system, and *RTM* data, which is workgroup-related statistical data captured from the real-time monitoring function used in the AltiSupervisor client application. Both types of data can be set up for call reporting, or logging, although their storage systems are different.

- **Call detail data** can be logged to your local drive, to a remote server, and/or exported via a COMM port.
- **RTM data** is always logged to your local drive.

Data logged to your local drive is stored in a directory called **AltiDB**, which is located by default on the root of the drive where AltiWare is installed. Files are stored in .mdb format.

Backups, if you choose to make them, are created in a subdirectory called **DBBackup**, which in turn contains three subdirectories: **MCDR** for Advanced Call Data, **RTMCALL** for Call Data, and **RTMDATA** for RTM data. These three types of data have separate report screens in the CDR Search client, and are described in the CDR documentation.

To set up and use call reports, select **System Configuration...** on the **Management** menu, then click the **Call Reports** tab in AltAdmin/ACM Admin.

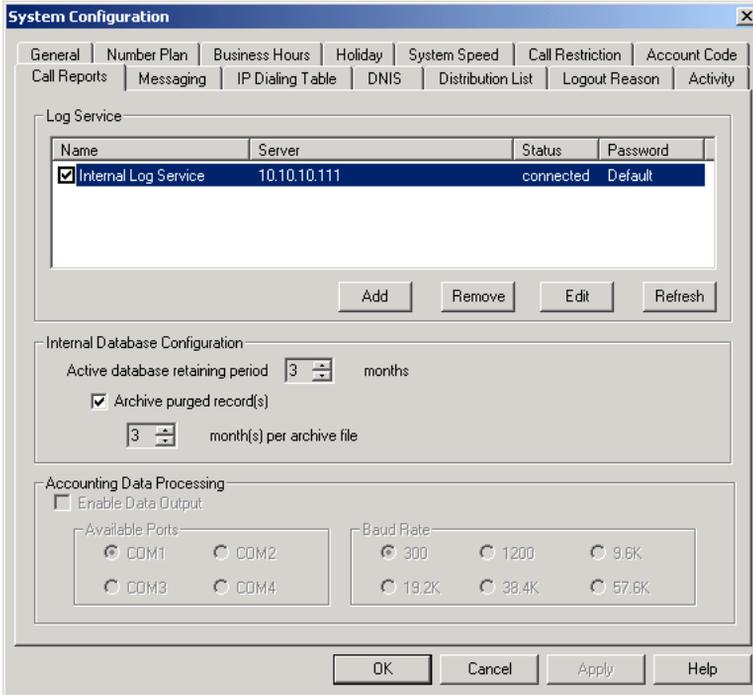


Figure 2. Call Reports window, System Configuration

When **RTM Data - MDB** is selected, the **Config** button opens a dialog box where the user can enable and configure these records.

Internal Database Configuration (Internal Logger Service)

To set up and enable CDR collection to the local drive, click the **Add** button. A dialog box appears.

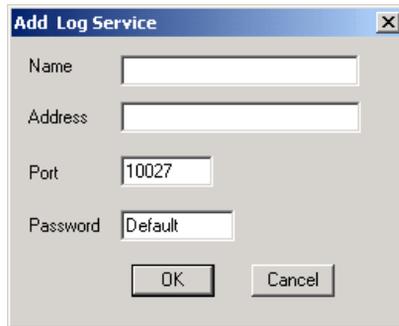


Figure 3. Add Log Service

Add a **Name** and IP **Address** for the Internal Log Service, then click **OK**.

In the **Internal Database Configuration** section, select the **Active database retaining period** in months. Check the **Archive purged record(s)** field and select the number of months per archive file if you wish to archive purged Internal Logger Service records.

External (Remote) Logging of Call Data

AltiWare allows you to output call accounting to a Microsoft SQL 7 or SQL 2000 database or to a third party external application.

In either case, the database cannot be on the same server as the AltiWare system. A system integrator or database developer will need to write a custom query to extract data from the SQL database.

You can send reports from a number of different AltiServ systems to the same database.

Note: Before you enable external logging using this window, you need to set up and configure the database. It should be ready to receive the reports before you enable the export here.

Note: AltiGen does not provide any SQL backup and restore utility. We strongly recommend that you use SQL Backup and Maintenance utility to perform daily backup and maintenance jobs, and use a restore utility to restore the database. If you need to reconstruct the SQL server, run the External Logger Setup to create an empty calldb database before restore.

To set up and enable RTM data collection to the local drive, click the **Add** button. A dialog box appears.

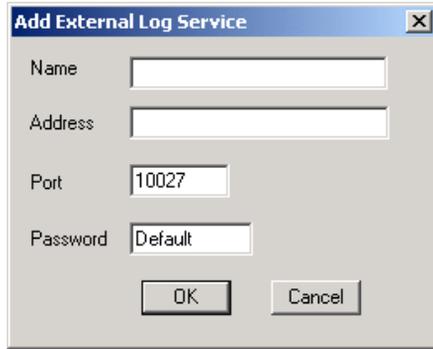


Figure 4. Enable external RTM data logging

Add a **Name** and IP **Address** for the External Log Service, then click **OK**.

Call Center Events and CDR

In call detail recording, every individual call is tracked from its start time to its end time. An incoming trunk call, for instance, starts with auto-attendant answer. The auto attendant/IVR offers the caller specific routing choices, and/or collects information to intelligently route a call. Queuing, if it happens, starts with the call leaving the auto attendant/IVR, includes ring time of the agent phone, and ends when an agent answers the phone. Disconnects (call abandons) can happen at any time during the process. All of this activity is summarized under talk time and wrap-up time. It is searchable via the “CDR” and “WG CDR” tabs of the CDR Search client.

Past and Present CDR

Database Schema. The CDR data schema has been redesigned and streamlined. If you have a reporting package using past versions of AltiGen’s CDR or SMDR, the reporting package vendor will have to rewrite the reporting program to work with the new schema.

Rate Tables. AltiWare 4.0 and higher does not support rate tables, unlike previous releases. This function must now be obtained by external applications found in reporting tools. The CDR database has sufficient information to support rate and charge evaluation by external applications.

Migration. If you are upgrading from OE 4.5 or earlier, you will not be provided with any conversion tool for CDR records stored under OE 4.5 or prior releases.

Extension-to-Extension Call Reporting. CDR Search includes records for internal calls between extensions, and from internal extensions to workgroups. This is in addition to information on incoming and outgoing trunk calls.

SMDR Cautions. SMDR is a Mitel-defined data schema for delivering basic call information out the RS232 serial port to external recording and reporting applications. While AltiGen has provided an SMDR interface, it has had many problems in terms of accuracy and consistency of information delivery. SMDR is **not** CDR. CDR is historical, and is a database containing call records. SMDR is a real time delivery of a subset of this information. We recommend that you use the new CDR, not the SMDR, for reporting and billing applications. No improvements or corrections have been made to SMDR.

Configuration Areas Affecting CDR Information

Routing and Route Name

How calls are routed in outcall routing is reflected in the CDR record. The route names configured in AltiAdmin/ACM Admin will appear in the route table name area of the records.

Multi-Project Naming

Each extension table entry in AltiAdmin/ACM Admin has a field to identify the extension owner. If a name is placed in this field, that name will be used in the CDR record to represent the project or department associated with the particular extension.

Wrapup

Setting the wrapup time or supporting AltiX ActiveX controls can affect the level of CDR information. For example, using ActiveX for AltiLinkPlus, a client application can place wrapup data into the User Defined data field of the CDR record. This is useful if the user wants to correlate business information with call handling information; revenue achieved versus talktime by agent. A system integrator is required to use AltiGen's AltiX ActiveX control.

Ring No Answer Configurations and VM

Agents sign on to workgroups and answer calls. On occasion, an agent or extension might be signed on, but negligently walk away from their station. Under these conditions, AltiAdmin/ACM Admin allows the administrator to define what AltiWare should do if it encounters a Ring No Answer condition on a phone.

For example, the call can be sent to voice mail, to another agent, back to queue, or to auto attendant/IVR. How this configuration is set up determines the types of CDR records that will be recorded for this condition. Since AltiWare tracks all incoming calls from a trunk to an extension, this also applies to calls routed to regular extensions, not just workgroups.

Login and Log-out

The CDR records database also supports a special record type. This record type records when agents login and log-out from a workgroup. The information tells only when the action has taken place and which agent logged in and out. Therefore, a reporting program should always check to see if the record it is using or examining is for logon/log-out or for tracking the nature of a call. An agent logon/log-out record should have the agent's extension number and PAD information.

Conference Call Limitation

When an extension initiates a conference call with another extension, this "Conference" state between extensions is NOT logged in the CDR or RTM database.

Changing Time Settings

If an administrator changes the time setting in Windows, it will affect active calls' CDR records. It may cause large, negative or zero talk time in CDR records.

Data Storage

AltiWare can store data using either an Internal Logger Service (ILS) or up to two External Logger Service (ELS). CDR Search can use either ILS or CDR to search stored data.

Call detail record data (CDR) and workgroup-related statistical data (RTM) are stored in the same database but in different tables. These two storage systems are described below.

Common Features of ILS and ELS

- Status can be monitored by AltiAdmin/ACM Admin through the bottom of the Main Window or through the Call Report window (**System>Call Report**)
- Broken and reconnection mechanism implemented on:
 - TCP connection between AltiWare/ACM and Logger Service
 - database connection between Logger Service and database.

When the connection is broken, the sender will cache all data to first-in-first-out buffer. The sender will try to reconnect the receiver automatically. Once the connection is back, all data will be sent. The buffer is stored in memory and hard disk. The size limitation of each buffer is 1G (data for approximately two months), or free size of hard drive is less than 512 MB, whatever is met first. When the buffer is overflowed, the earliest data is dropped.

- Auto check and upgrade database at startup - when Logger Service starts, it performs the following:
 1. Compare CDR structure with the current database used by configuration.
 2. If they are the same, there is no change.
 3. If they are different, and the data can be upgraded, it will be automatically upgraded.
 4. If the database cannot be upgraded, it will rename the old database and create a new database; the new database will then be used to store data.

Differences between ILS and ELS

- Status monitoring of connection between AltiWare/ACM and Logger Service - User Database ID and Client ID can be used to verify connection to Logger Service. “Database ID” is fixed to “Default” and cannot be found on any GUI. “Client ID” is mentioned as “Password” in AltiAdmin/ACM Admin and External Logger Service Configuration. If the verification fails, the status of the Logger Service is “Invalid Password,” which can be monitored by the administrator.
- If no database is set up correctly, or the database is shut down when Logger Service is starting, it will be stopped.

Differences between ILS and ELS

Internal Logger Service

- Only supports Microsoft Access Database
- Implements auto retain and backup mechanism (one-12 months)
- Only AltiWare/ACM Admin within the same computer can connect to the Internal Logger Service.

External Logger Service

- Supports any database that provides ODBC drivers for Microsoft Windows 2000 platform (including Access, SQL 2000, SQL 7, Oracle, DB2, Sybase, MySQL)
- No retain/backup mechanism
- Any computer can connect to the server (TCP port 10027)
- Any number of AltiWare systems with different System IDs can connect to the same Logger Service. If two AltiWare systems with the same System ID try to connect to the same Logger Service, the second Logger Service will get a “System ID conflicted” error.
- When ELS is installed within Microsoft SQL 2000, the installation program will create database, ODBC configuration, and other configuration by default. If it is installed to work with remote SQL 2000 and any other Relation Database, the customer must manually configure Logger Service first.

Logger Service Configuration

AltiAdmin/ACM Admin can configure CDRLogDLL, add (register) and remove New Logger Server for AltiWare remotely, but they cannot configure Logger Server.

In order to implement remote manager ability, a Log Service configuration window can be accessed in AltiAdmin/ACM Admin.

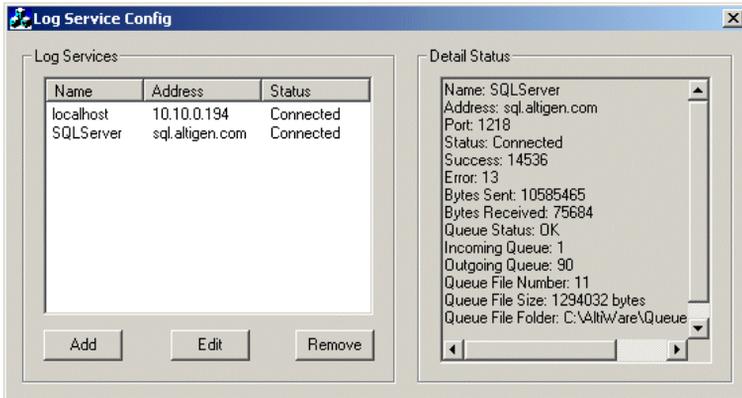


Figure 1. Log Service Configuration Window

Use the Log Service Configuration window to **Add**, **Edit** and/or **Remove** a Log Service.

External Logger Server Configuration Tool

The External Logger Configuration Tool is used to configure Logger Server. Currently, all configurations are saved into registry, so any change in configuration will not work unless Logger Service is restarted. When the configuration is changed, the Configuration Tool will automatically restart Logger Service.

Note: There is no configuration tool for Internal Logger Server because all parameters are fixed.

Configuration GUI for External Logger Server

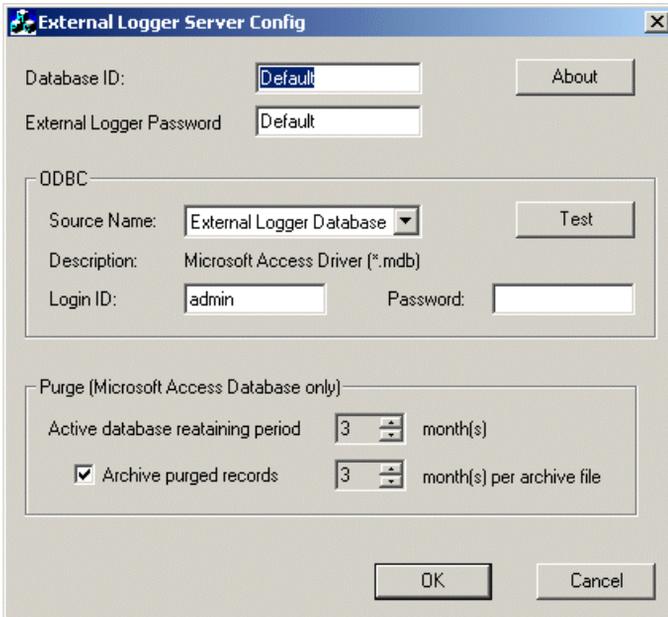


Figure 2. External Logger Service Configuration Window

For ELS, only **Database ID**, **Password**, **ODBC Source Name**, **Login ID** and **Password** are configurable. Other parameters, such as **TCP port** and **buffer folder**, cannot be changed. If the database is a **Microsoft Access Database**, ELS can purge and back up the database on demand.

Testing the DB Dialog

The **Test** button is used for testing and diagnosing the ODBC database. It can test whether the ODBC source, Login ID and password are correct and that the CDR/RTM tables of the database are compatible with the current Logger Server.

Important: It is strongly recommended that you run this test after you have changed any database parameters.

If the configuration tool cannot connect to the ODBC source, it will pop up the following dialog boxes to report error information and to re-input login information.



Figure 3. Connection Failed! dialog box



Figure 4. SQL Server Login

When the ODBC information is correct, the tool will check all tables required and will try to find all differences. If the database is not compatible, the **OK** button will be grayed out.

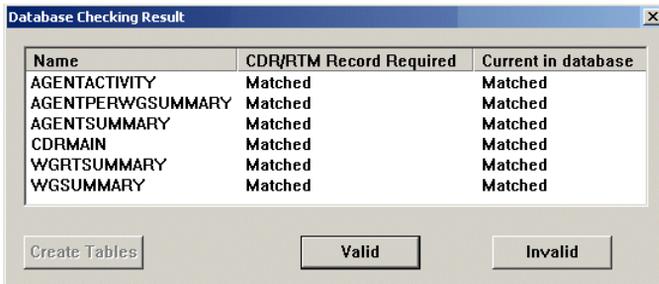


Figure 5. Database Checking Result

Limitations

- One Internal Logger Server per computer.
- One External Logger Server per computer.
- One Super Logger Server per computer.

External Logger Server Configuration Tool

- One Internal, External and Super Logger Server can be installed in same computer.
- One AltWare can only output data to, at most, one Internal Logger Server and two External Logger Server.
- Internal Logger Server only serves AltWare of same computer.
- Internal Logger Server only supports Microsoft Access Database.
- Internal and External Logger Server do not support multiple databases.
- One Database Connection license is required for every Logger Server and every CDR Search requires one additional license.
- External Logger Configuration tools cannot run remotely.
- 100 commands per second on every TCP or database connection.
- Maximum 1 G buffer files for every buffer; otherwise, always keep 500 MB free hard drive space. (When free space is below 500 MB, the buffer files will be truncated automatically.)

CDR and Workgroup CDR Search — Typical Searches

This section contains examples of how to run various CDR and Workgroup CDR searches that are typically used by call centers. Identify the type of search you would like to perform, go to the CDR Search main window, define the search date, set the fields and settings as directed, then click the **Search** button to run the search.

Note: *Connected Calls* include Connected Calls, Transferred Calls and Conference Calls.

All includes Auto Attendant/IVR, Ring No Answer, Queue, Voice Mail (no VM recorded or VM recorded), Connect, Logon, Logoff, All Trunks Busy, No session, VM Access, Forward, Transfer, VM Notify, WG Abandoned, Park, System Park, Conference, Call Monitor, Transfer Cancel, Call Redirect, Call Pick Up, Dial Cancel.

Unanswered Calls include calls abandoned while in these states: AA, Forward, RNA, Queue, Voicemail, WG abandoned, Call Redirect, No More Session, Pick Up By and Dial Cancel.

Example CDR Searches	
<i>To run a search on:</i>	<i>Use these fields and settings:</i>
All outgoing trunk calls, system-wide	Set Type to <i>Connected Calls</i> Set Caller to <i>All</i> Set Callee to <i>Trunk</i>
All incoming trunk calls, system-wide	Set Type to <i>Connected Calls</i> Set Caller to <i>Trunk</i> Set Callee to <i>Extension</i> , enter particular extension, select <i>Exact</i>

Sample CDR Searches

Example CDR Searches

<i>To run a search on:</i>	<i>Use these fields and settings:</i>
All outgoing trunk calls for a particular extension	Set Type to <i>Connected Calls</i> Set Caller to <i>Extension</i> , enter <i>particular extension</i> , select <i>Exact</i> Set Callee to <i>Trunk</i>
All connected incoming trunk calls for a particular extension	Set Type to <i>Connected Calls</i> Set Caller to <i>Trunk</i> Set Callee to <i>Extension</i> , enter <i>particular extension</i> , select <i>Exact</i>
All internal and external calls from a particular extension	Set Type to <i>Connected Calls</i> Set Caller to <i>Extension</i> , enter the <i>particular extension</i> , select <i>Exact</i> Set Callee to <i>All</i>
All incoming (trunk to extension and trunk to trunk) calls (system-wide) originated by extensions	Set Type to <i>Connected Calls</i> Set Caller to <i>Trunk</i> Set Callee to <i>All</i>
All internal and external connected calls (system-wide)	Set Type to <i>Connected Calls</i> Set Caller to <i>Extension</i> Set Callee to <i>All</i>
All incoming calls to a particular extension <u>from trunk</u>	Set Type to <i>All</i> Set Caller to <i>Trunk</i> Set Callee to <i>Extension</i>
All internal calls	Set Type to <i>Connected Calls</i> Set Caller to <i>Extension</i> Set Callee to <i>Extension</i>

Example CDR Searches	
<i>To run a search on:</i>	<i>Use these fields and settings:</i>
All internal calls to/from a particular extension	Set Type to <i>Connected Calls</i> Set Caller to <i>Extension</i> , enter <i>particular extension</i> , select <i>Exact</i> Set Callee to <i>Extension</i> , enter <i>particular extension</i> , select <i>Exact</i>
All trunks busy	Set Type to <i>All Trunks Busy</i> Set Caller to <i>All</i> Set Callee to <i>All</i>

Example Workgroup CDR Searches	
<i>To run a search on:</i>	<i>Use these fields and settings:</i>
All incoming workgroup calls <u>per agent</u>	Set Type to <i>Connected Calls</i> Enter <i>Workgroup Number</i> , select <i>Inbound</i> Set Sort By to <i>Agent</i>
All incoming workgroup calls <u>per workgroup</u>	Set Type to <i>Connected Calls</i> Enter <i>Workgroup Number</i> , select <i>Inbound</i> Set Sort By to <i>N/A</i>
All unanswered calls by workgroup	Set Type to <i>Unanswered Calls</i> Enter <i>Workgroup Number</i> , select <i>Both</i> Set Sort By to <i>N/A</i> or <i>Date/Time</i>
All workgroup voicemail messages by workgroup	Set Type to <i>Messages</i> Enter <i>Workgroup Number</i> , select <i>Both</i> Set Sort By to <i>Workgroup</i>

Example Workgroup CDR Searches	
<i>To run a search on:</i>	<i>Use these fields and settings:</i>
All calls to workgroup	Set Type to <i>All Calls</i> Enter <i>Workgroup Number</i> , select <i>Both</i> Set Sort By to <i>N/A</i> or <i>Date/Time</i>
All calls to workgroup via specific DNIS	Set Type to <i>All Calls</i> Enter <i>Workgroup Number</i> , select <i>Both</i> Enter <i>DNIS</i> digits, select <i>Exact</i> Set Sort By to <i>Workgroup</i>
All trunks busy for workgroup trunks (for outbound calls)	Set Type to <i>All Trunks Busy</i> Enter <i>Workgroup Number</i> , select <i>Outbound</i> Set Sort By to <i>N/A</i>
All Unanswered Calls by Agent	Set Type to <i>Unanswered</i> Enter <i>Workgroup Number</i> , select <i>Both</i> Set Sort By to <i>Agent</i>

Example Call Sequences and their Effect on CDR Records

One objective of the CDR record is to track the talk time of agents and individuals for incoming and outgoing calls. Many call sequences are possible. The following are examples of inbound and outbound calls to a call center and sequences of recorded results in the CDR Detail report:

Example 1 - Ext. 102 calls Operator, Operator transfers Ext. 102 to Ext. 309, Ext. is connect to Ext. 309. The result is three sessions logged for this event.

ID	Session ID	Date	Time	Duration	Wait Time	Talk Time	Exit State	Caller ID	Caller Name
294	1006926006	11/30/01	09:46:54	00:00:51	00:00:09	00:00:42	VOICE MAIL RECORD	8476622100	
295	1006926007	11/30/01	09:45:41	00:00:27	00:00:13	00:00:14	CONNECT	206.111.153.254-73	
296	1006926008	11/30/01	09:45:58	00:01:51	00:00:39	00:01:12	VOICE MAIL RECORD	7608298567	
297	1006926009	11/30/01	09:46:28	00:00:59	00:00:00	00:00:59	VOICE MAIL ACCESS	308	
298	1006926009	11/30/01	09:47:14	00:00:13	00:00:00	00:00:13	VOICE MAIL RECORD	308	
299	1006926010	11/30/01	09:46:42	00:01:15	00:00:29	00:00:46	TRANSFER	64.105.217.139-102	64.105.217.139-102
300	1006926010	11/30/01	09:47:55	00:00:02	00:00:02	00:00:00	TRANSFER	100	Front Desk
301	1006926010	11/30/01	09:47:57	00:02:07	00:00:12	00:01:55	CONNECT	64.105.217.139-102	
302	1006926011	11/30/01	09:46:48	00:00:00	00:00:00	00:00:00	RING NO ANSWER	222	
303	1006926012	11/30/01	09:46:49	00:00:08	00:00:08	00:00:00	AUTO ATTENDANT	8083969775	
304	1006926013	11/30/01	09:46:50	00:00:56	00:00:06	00:00:50	CONNECT	508	
305	1006926014	11/30/01	09:46:52	00:01:15	00:01:15	00:00:00	TRANSFER	9258469481	
306	1006926014	11/30/01	09:48:07	00:00:07	00:00:00	00:00:07	CONNECT	9258469481	
307	1006926015	11/30/01	09:47:18	00:02:59	00:00:06	00:02:53	CONNECT	9258469481	
308	1006926016	11/30/01	09:48:04	00:02:16	00:00:07	00:02:09	CONNECT	220	
309	1006926017	11/30/01	09:49:17	00:02:21	00:00:09	00:02:12	CONNECT	403	

Figure 1. CDR record sessions for Example 1

Example 2 - External party calls and connects directly to Ext. 105. The result is one sessions logged for this event.

ID	Session ID	Date	Time	Duration	Wait Time	Talk Time	Exit State	Caller ID	Caller Name	Target ID
314	1006926021	11/30/01	09:54:11	00:00:37	00:00:00	00:00:37	VOICE MAIL	261		261
315	1006926022	11/30/01	09:54:27	00:09:04	00:00:10	00:08:54	CONNECT	206.111.153.2		180035820
316	1006926023	11/30/01	09:54:38	00:00:17	00:00:09	00:00:08	CONNECT	222		159
317	1006926024	11/30/01	09:54:44	00:00:00	00:00:00	00:00:00	DIAL CANCE	100		2*****
318	1006926024	11/30/01	09:54:44	00:00:04	00:00:04	00:00:00	VOICE MAIL	100		261
319	1006926025	11/30/01	09:54:52	00:02:34	00:00:20	00:02:14	CONNECT	6504934759		100
320	1006926026	11/30/01	09:55:43	00:00:48	00:00:10	00:00:38	CONNECT	206.111.153.2		151
321	1006926027	11/30/01	09:55:53	00:01:13	00:00:13	00:01:03	CONNECT	206		7617020
322	1006926028	11/30/01	09:55:53	00:01:00	00:00:16	00:00:44	CONNECT	4087191489	IONICS CIRCUITS	105
323	1006926029	11/30/01	09:56:40	00:01:51	00:00:03	00:01:48	CONNECT	159		171456110
324	1006926030	11/30/01	09:56:52	00:00:04	00:00:00	00:00:04	VOICE MAIL	204		204
325	1006926031	11/30/01	09:57:23	00:12:12	00:00:03	00:12:09	CONNECT	309		141030510
326	1006926032	11/30/01	09:59:27	00:00:07	00:00:07	00:00:00	RING NO AN	159		509
327	1006926033	11/30/01	09:59:40	00:00:18	00:00:17	00:00:01	CONNECT	159		508
328	1006926034	11/30/01	10:00:08	00:00:06	00:00:06	00:00:00	VOICE MAIL	509		159
329	1006926034	11/30/01	10:00:08	00:00:00	00:00:00	00:00:00	DIAL CANCE	509		1*****

Figure 2. CDR record sessions for Example 2

Example 3 - External party calls office and gets Automated Attendant, then dials out Operator. The result is two sessions logged for this event.

Example Call Sequences and their Effect on CDR Records

ID	Session ID	Date	Time	Duration	Wait Time	Talk Time	Exit State	Caller ID	Caller Name	Target ID
541	1006926207	11/30/01	10:55:14	00:01:30	00:00:03	00:01:27	CONNECT	100	Front Desk	7966160
542	1006926208	11/30/01	10:56:26	00:04:49	00:00:12	00:04:37	CONNECT	508		14087520800
543	1006926209	11/30/01	10:56:53	00:01:22	00:00:00	00:01:22	VOICE MAIL ACCESS	329		329
544	1006926210	11/30/01	10:57:00	00:00:56	00:00:36	00:00:20	VOICE MAIL RECORD	0		261
545	1006926211	11/30/01	10:57:24	00:00:40	00:00:07	00:00:33	CONNECT	100		411
546	1006926212	11/30/01	10:58:11	00:01:37	00:00:08	00:01:29	CONNECT	210		19492798519
547	1006926213	11/30/01	10:58:12	00:01:44	00:00:07	00:01:37	CONNECT	100		7133900
548	1006926214	11/30/01	10:58:14	00:00:39	00:00:39	00:00:00	BUSINESS ANSWER	8045392431		308
549	1006926215	11/30/01	10:58:33	00:01:36	00:01:36	00:00:00	TRANSFER	5107951624		100
550	1006926215	11/30/01	11:00:09	00:00:57	00:00:00	00:00:57	CONNECT	5107951624		100
551	1006926216	11/30/01	10:59:40	00:01:33	00:00:57	00:00:56	VOICE MAIL RECORD	7049263474		316
552	1006926217	11/30/01	10:59:13	00:00:59	00:00:38	00:00:21	TRANSFER	7049263474		204
553	1006926217	11/30/01	11:00:08	00:00:04	00:00:04	00:00:00	TRANSFER	204		235
554	1006926217	11/30/01	11:00:12	00:00:55	00:00:08	00:00:47	VOICE MAIL RECORD	7049263474		235
555	1006926218	11/30/01	10:59:57	00:01:17	00:00:30	00:00:47	VOICE MAIL RECORD	4409348030		316
556	1006926219	11/30/01	11:00:03	00:08:18	00:00:15	00:08:03	CONNECT	UNKNOWN		106

Figure 3. CDR record sessions for Example 3

Records and Data Schema

This section contains explanations of the CDR search results records, including the data schema.

Important!

The following types of records included in WG CDR are *not included* in WG RTM:

- **Call Monitor** - WG Call Monitor/Barge-in (Supervisor Silent Monitoring/Barge-In)
- **Voice Mail** - WG leaves message at another extension in the same system
- **Forward** - call forwarding
- **Ring No Answer** - caller is a WG agent; outgoing WG Call to a RNA number
- **Voice Mail Access** - caller is a WG agent; voice mail access to WG (login to WG VM and check voice mail)
- **All Trunks Busy**
- **Park**

Search Results

This section explains the fields in all the CDR Search results windows.

CDR Search and Group CDR Search Results Windows

Summary Window	
Shown in “Summary (CDR Search and Group CDR Search)” on page 17	
Field	Definition
ID	Number assigned by CDR Search to this record
Time/Extension/ Workgroup/ Trunk/Date	Start time for this record, if sorting by Time ; Extension for this record, if sorting by Extension ; Workgroup for this record, if sorting by Workgroup ; Trunk for this record, if sorting by Trunk ; Date for this record, if sorting by Date .
Total Records	Total calls of the type searched for
Total Duration	Sum of duration of the calls in this record, where duration lasts from Start Time to End Time (see “Record Window for “Call Info”” on page 46 for explanations of these fields)

Detail Window	
Shown in “Call Details” on page 18	
Field	Definition
ID	Number assigned by CDR Search to this record
Session ID	Unique number assigned by AltWare to this call
Sequence ID	Unique number to identify multiple records of same call (same session ID), beginning with 0.
Conference ID	Unique number to identify multiple conference calls.
Date	Date of call

Detail Window

Shown in “Call Details” on page 18

Field	Definition
Time	Start time of call
Duration	Duration of call in seconds (EndTime minus StartTime ; see Table 4, “CDRMAIN,” on page 61 for explanations of these schema)
Wait Time	RingDuration plus QueueDuration (see Table 4, “CDRMAIN,” on page 61 for explanations of these schema)
Talk Time	TalkDuration (see Table 4, “CDRMAIN,” on page 61 for explanations of these schema)
Others Time	AADuration plus HoldDuration plus VMDuration
Message Duration	VMRecDuration
Exit state	State of call when it is in this stage or sequence (see Table 4, “CDRMAIN,” on page 61 for details)
Caller ID	Caller phone number of a call
Caller Name	Caller name for a call
Target ID	Target number for a call
Target Name	Target name for a call
DNIS	DNIS information for an incoming call
Acct Code	Account code
URL	URL when “call” is initiated by AltWeb user clicking the make-call button
User Data	Agent input

Record Window for “Call Info”

Shown in “Call Details” on page 16

Node ID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin
Session ID	Session ID: a unique number, usually 9 digits or larger, assigned by AltiWare to a call
Internal Call	Internal or external call
Direction	Direction of the call (incoming or outgoing)
Start Time	<i>Outgoing</i> call: Time and date when caller receives ringback, busy, or connect signal <i>Incoming</i> call: Time and date when AA picks up
End Time	Timestamp when call exits this stage or disconnects
Duration	Duration of call in seconds (End Time minus Start Time)
Caller Type	Type of line for a call (see Table 4, “CDRMAIN,” on page 61 for details)
Caller PAD	Line’s physical address for a call
Caller ID	Caller number for a call
Caller Name	Caller name for a call
Target Type	Type of line for a call (see Table 4, “CDRMAIN,” on page 61 for details)
Target PAD	Physical address of line for a call
Target ID	Target number for a call
Target Name	Target name for a call
Workgroup Number	Workgroup number for an incoming call

Record Window for "Call Info"

Shown in "Call Details" on page 16

Outgoing Workgroup	Workgroup number for an outgoing call, as set in AltAdmin/ACM Admin or by agent at logon
DNIS	DNIS number for incoming call
Project	Project name for trunk, as set in AltAdmin/ACM Admin
Account Code	Account code
Attendant Duration	Duration in seconds call was connected to the Auto Attendant/IVR
Ring Duration	WaitTime minus QueueDuration
Queue Duration	Duration in seconds that incoming call was in queue
VM Duration	Duration in seconds after a call goes into voicemail box; includes greeting, false attempts at messages, and review of message, and includes VM Record Duration
VM Record Duration	Duration in seconds of recording time for a VM message that was completed; in AltView, this corresponds to Length field of a voicemail.
Hold Duration	Duration in seconds while call was on hold
Talk Duration	Duration in seconds from the time the call is answered by a person until it is disconnected (EndTime minus time when call was answered by human minus HoldDuration ; see Table 4, "CDRMAIN," on page 61 for details)
Record Duration	Duration in seconds of recording
Exit State	State of call when in this stage or disconnects (see Table 4, "CDRMAIN," on page 61 for details)
URL	URL when "call" is initiated by AltWeb user clicking the make-call button
User Data	Agent input

WG Statistics Search Results Windows

Agent Statistics Window	
Shown in “Statistics (WG Statistics)” on page 20	
Field	Definition
	Upper half of window
ID	Number assigned by AltWare to this record
Date	Date of call
Time	Time interval for these call statistics
In Call Ans	Count of incoming calls that were answered by an agent; if a single call is routed to several agents, the counter is increased
In Talk Time	Sum of duration of incoming call time
Out Call Ans	Count of outgoing calls
Out Talk Time	Sum of duration of outgoing call time
	Lower half of window (Totals, Averages, and Percentages)
Total Inbound Calls Answered	Total of all inbound answered calls
Total Talk Time	Total duration of Calls Answered and Outgoing Calls . For Calls Answered, duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG; for Outgoing Calls, duration lasts from the time a call enters “Connected” state until it is disconnected
Average Talk Time	Total Talk Time divided by (Total Calls Answered plus Total Outgoing Calls)

Agent Statistics Window	
Shown in “Statistics (WG Statistics)” on page 20	
Field	Definition
Total Connected Outbound Calls	Total of Connected Outbound Calls
Total Talk Time	Total duration of Calls Answered and Outgoing Calls . For Calls Answered , duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG; for Outgoing Calls , duration lasts from the time a call enters “Connected” state until it is disconnected
Average Talk Time	Total Talk Time divided by (Total Calls Answered plus Total Outgoing Calls)
Total Number of Wrap-up	Total number of Wrap-up calls
Total Wrapup Time	Total of Wrapup Duration
<u>Average Wrapup Time</u>	Total of Wrapup time after call (time that user enables “Allow Wrapup Time” in AltAdmin/ACM Admin) and Wrapup time.

Agent Statistics per Workgroup Window	
Shown in “Statistics (WG Statistics)” on page 18	
Field	Definition
	Upper half of window
ID	Number assigned by CDR Search to this record
Date	Date of time interval

Records and Data Schema

Agent Statistics per Workgroup Window

Shown in “Statistics (WG Statistics)” on page 18

Field	Definition
Time	Time interval for these call statistics
In Call Ans	Count of incoming calls that were answered by an agent; if a single call is routed to several agents, the counter is increased by one
In Talk Time	Sum of duration of incoming call time
Out Call Ans	Count of outgoing calls
Out Talk Time	Sum of duration of outgoing call time
Login Time	Time agent logged in to WG
Logout Time	Time agent logged out of WG
Logout Reason	Logout Reason
Lower half of window (Totals, Averages and Percentages)	
Total Logged In Time	Total of Logged In Time
Total Inbound Calls Answered	Total of Inbound Calls Answered
Total Talk Time	Total duration of Calls Answered and Outgoing Calls . For Calls Answered, duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG; for Outgoing Calls, duration lasts from the time a call enters “Connected” state until it is disconnected
Average Talk Time	Total Talk Time divided by (Total Calls Answered plus Total Outgoing Calls)
Total Connected Outbound Calls	Total of Connected Outbound Calls

Agent Statistics per Workgroup Window	
Shown in “Statistics (WG Statistics)” on page 18	
Field	Definition
Total Talk Time	Total duration of Calls Answered and Outgoing Calls . For Calls Answered, duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG; for Outgoing Calls, duration lasts from the time a call enters “Connected” state until it is disconnected
Average Talk Time	Total Talk Time divided by (Total Calls Answered plus Total Outgoing Calls)
Total Number of Wrapups	Total number of Wrapup Calls
Total Wrapup Time	Total of Wrapup Duration
Average Wrapup Time	The average of Wrapup time after call (time that user enables “Allow Wrapup Time” in AltAdmin/ACM Admin)

Workgroup Statistics Window	
Shown in “Statistics (WG Statistics)” on page 20	
Field	Definition
	Upper half of window
ID	Number assigned by CDR Search to this record
Date	Date of the time interval
Time	Time interval for these call statistics

Records and Data Schema

Workgroup Statistics Window

Shown in “Statistics (WG Statistics)” on page 20

Field	Definition
Calls in Queue	Count of calls in queue; if a call is recycled into the queue after RNA, the counter is increased
Calls Answered	Count of calls that were answered by an agent; if a single call is routed to several agents, the counter is increased by one
Calls Answered Duration	Sum of duration of Calls Answered , where duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG
Outgoing Calls	Count of outgoing calls
Outgoing Calls Duration	Sum of duration of Outgoing Calls , where duration lasts from the time the call enters “Connected” state until the time the call is disconnected
Calls Transferred to Voice Mail	Count of calls transferred to VM (by caller pressing # or by being automatically transferred to VM after RNA for every agent), where caller leaves a message
Calls Abandoned in Queue	Count of calls in queue that were disconnected or transferred out of the WG (to VM or by caller pressing 0 for operator) without being answered by an agent
Calls Abandoned during Ring	Count of calls abandoned by caller while ringing workgroup agents PLUS queue overflow count; (counts all calls to any destination device, except VM)
Calls Abandoned during VM	Count of calls disconnected after being transferred to VM (by caller pressing # or by being automatically transferred to VM after RNA for every agent), where the caller did not leave a message
Queue Overflow	Count of calls that overflowed the queue
Wait Time for Answered Calls	Sum of time Calls Answered waited before being answered

Workgroup Statistics Window

Shown in “Statistics (WG Statistics)” on page 20

Field	Definition
Wait Time for Abandoned Calls	Sum of time Calls Abandoned in Queue waited in queue before being abandoned
Lower half of window (Totals, Averages, and Percentages)	
Group Inbound Calls Summary	
Group Total Inbound Calls	Total of all inbound calls, including Answered , Transferred to VM , and all Abandoned calls
Total Calls Without Queueing	Total of calls not queued
Total Calls in Queue	Total of Calls in Queue
Total Calls Answered	Total of Calls Answered
Total Calls Overflowed	Total of Calls Overflowed
Total Calls Abandoned	Total of Calls Abandoned
Abandoned in Queue	Total of Calls Abandoned in Queue
Abandoned during Ring	Total of Calls Abandoned during Ring
Abandoned to Voice Mail	Total of Calls Abandoned during Voice Mail

Records and Data Schema

Workgroup Statistics Window

Shown in “Statistics (WG Statistics)” on page 20

Field	Definition
Leave VM	Total of Calls Abandoned leaving voice mail
Without VM	Total of Calls Abandoned not leaving voice mail
Abandoned to Others	Total of Calls Abandoned to Others
Historical Service Level	
Total Calls Answered Within SL	Total of Calls Answered within the established service level parameters
Group Outbound Calls Summary	
Total Outbound Connected Calls	Total of Outbound Connected Calls (All outbound calls are considered workgroup calls, unless the agent logs out of the workgroup.)
Total Inbound Talk Time	Total duration of Calls Answered and Outgoing Calls . For Calls Answered , duration lasts from the time an agent answers the call until the time the call is disconnected or transferred to VM, to another agent, or out of the WG; for Outgoing Calls , duration lasts from the time a call enters “Connected” state until it is disconnected
Average Inbound Talk Time	Total Talk Time divided by (Total Calls Answered plus Total Incoming Calls)
Average Queue Time	Total Queue Time divided by Total WG Calls Answered .
Average Wait Time for Answered Calls	Total Wait Time for Answered Calls divided by (Total Calls in Queue minus Total Calls Abandoned in Queue)

Workgroup Statistics Window

Shown in “Statistics (WG Statistics)” on page 20

Field	Definition
Average Wait Time for Overflowed Calls	Total Wait Time for Overflowed Calls divided by (Total Calls in Queue minus Total Calls Abandoned in Queue)
Average Wait Time for Abandoned Calls	Total Wait Time for Abandoned Calls divided by Calls Abandoned in Queue
Total Wait Time for Answered Calls	Total of Wait Time for Answered Calls
Total Wait Time for Abandoned Calls	Total of Wait Time for Abandoned Calls
Total Outbound Wait Time	Total of Outbound Wait Time
Average Outbound Wait Time	Total Outbound Wait Time divided by Total Calls

Data Schema

This section describes the data schema used in CDR and RTM records

Table 1: AGENTACTIVITY

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1–100
TimeStamp	Time of activity. Seconds since GMT 1970/01/01 00:00:00	ULONG	
LocalTimeStamp	Time of activity.	CHAR	Format: yyyymmddHHM MSS
AgentNum	Agent Extension Number	CHAR	
WGNum	Workgroup Number	CHAR	
Activity	Activity of the Agent	ULONG	1=Staff; 2=UnStaff; 3=Login; 4=Logout; 5=Ready; 6=Not Ready; 7=RNA; 8=Not Ready for All
Reason	Reason of Activity. (For logout, it is logout reason)	ULONG	
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	

Table 2:AGENTPERWGSUMMARY

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1-100
StartTime	Start time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
EndTime	End time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyymmddHHM MSS
EndStartTime	End time of record's period.	CHAR	Format: yyymmddHHM MSS
AgentNum	Agent Extension Number	CHAR	
WGNum	Workgroup Number	CHAR	
NumInWG Call	Total inbound WG call during interval	ULONG	
NumInWG CallAnswered	WG calls answered; if a call is rerouted to ant answered by the same agent, the count is incremented	ULONG	
NumInWG RNA	Total of RNA workgroup calls	ULONG	
DurInWGAnsRing	Duration of answered calls' rings. (Rings of RNA will not be included)	ULONG	
DurInWGTalk	Duration of incoming calls (NumInWGAnswered), starting from the time the agent answers a call until the call is disconnected, transferred, held or parked	ULONG	
NumInWG WrapUp	Number of times agent entered Incoming Wrap-up	ULONG	
DurInWG WrapUp	The amount of time for Incoming Wrap-up	ULONG	
NumInWG VM	Count of WG calls to agent's VM with message	ULONG	

Search Results

Database Element	Definition	Type	Specification
DurInWGM	Total duration of voicemail message	ULONG	
NumInWG Hold	Count of calls holding (One call hold multiple times count just one)	ULONG	
DurInWG Hold	Total duration of workgroup hold calls	ULONG	
NumOutWG Connected	All outgoing trunk and station-to-station calls that entered "Connected" state	ULONG	
DurOutWG Talk	Duration of outgoing calls (NumOutWGConnected) from the time the call enters "Connected" state until disconnected	ULONG	
NumOutWG WrapUp	Number of times agent entered Wrap-up after outbound WG calls	ULONG	
DurOutWG WrapUp	The amount of time for outbound Wrap-up	ULONG	
NumOutWG Hold	Count of outbound WG calls on hold (Once call on hold multiple times will count just one hold)	ULONG	
DurOutWG Hold	Total duration of outbound workgroup hold calls	ULONG	
DurLogin	The total time agent was logged in	ULONG	
DurLogout	The total time agent was logged out	ULONG	
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	
ReservedFieldNum3	Reserved number field for future use	ULONG	
ReservedFieldNum4	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	

Database Element	Definition	Type	Specification
ReservedFieldTxt3	Reserved text field for future use	CHAR	
ReservedFieldTxt4	Reserved text field for future use	CHAR	

Table 3:AGENTSUMMARY

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1–100
StartTime	Start time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
EndTime	End time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyymmddHHM MSS
EndStartTime	End time of record's period.	CHAR	Format: yyymmddHHM MSS
AgentNum	Agent Extension Number	CHAR	
NumAgentWG	Count of workgroups agent is logged into workgroup	ULONG	
NumInDirCall	Direct (non-workgroup) incoming call	ULONG	
NumInDirAnswered	Direct (non-workgroup) incoming call answered	ULONG	
DurInDirTalk	Total duration of direct (non-workgroup) incoming calls	ULONG	
NumInDirVM	Count of direct inbound voicemail message	ULONG	
DurInDirVM	Total duration of direct inbound voicemail message	ULONG	

Search Results

Database Element	Definition	Type	Specification
NumInDir Hold	The number of direct call put on hold (One call on hold multiple times will count just one)	ULONG	
DurInDirHold	Total duration of direct hold calls	ULONG	
NumOutDir Connected	Number of direct (non-workgroup) outgoing connected calls	ULONG	
DurOutDir Talk	Total duration of direct (non-workgroup) outgoing connected calls	ULONG	
NumOutDir Hold	Count of non-workgroup outbound calls on hold (One call on hold multiple times will count just one)	ULONG	
DurOutDir Hold	Total duration of non-workgroup outbound calls hold time	ULONG	
NumAgent DND	Number of times agent entered DNDFWD (Attention: DNDFWD is different from FWD)	ULONG	
DurAgentDND	Total duration of the DNDFWD period (Attention: DNDFWD is different from FWD)	ULONG	
NumAgent FWD	Number of times agent enable extension forward and enter FWD state	ULONG	Reserved
DurAgentFWD	Duration of agent in FWD state	ULONG	Reserved
NumAgent Error	Number of times agent enter Error State which is different from extension in error	ULONG	
DurAgentError	Duration of agent in Error State	ULONG	
NumNotReady	Count of Agent Not-Ready	ULONG	
DurNotReady	Duration of Agent Not-Ready	ULONG	
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	

Database Element	Definition	Type	Specification
ReservedFieldNum3	Reserved number field for future use	ULONG	
ReservedFieldNum4	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	
ReservedFieldTxt3	Reserved text field for future use	CHAR	
ReservedFieldTxt4	Reserved text field for future use	CHAR	

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltWare system in AltAdmin/ACM Admin	ULONG	value: 1–100
StartTime	Start time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
EndTime	End time of record's period. Seconds since GMT 1970/01/01 00:00:00.	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyymmddHHMMSS
EndStartTime	End time of record's period.	CHAR	Format: yyymmddHHMMSS
SessionID	Session ID: a unique number, usually 9 digits or larger, assigned by AltWare to a call	ULONG	
SequenceID	A unique number to identify multiple records of same call (same Session ID), beginning with 0	ULONG	

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
InternalCall	Internal or external call	UBYTE	0=External 1=Internal
Direction	Direction of the call (incoming or outgoing)	UBYTE	1=None (logon/off) 2=Incoming 4=Outgoing (includes silent monitor, barge-in)
StartPriority	Call priority at start time (1-9)	ULONG	
EndPriority	Call priority at end time (1-9)	ULONG	
CallerType	Type of line for an incoming call	UBYTE	0=Unknown 1=Ext analog 2=Ext IP 3=Ext PHS (not used) 4=Ext virtual 5=Ext WG 11=trk analog 12=trk T1 13=trk IP 14=trk PRI 15=trk PHS (not used)
CallerPad	Line's physical address for an incoming call	UCHAR (5)	E.g. "0004", where "00"=slot, "04"=channel Always "-1-1" for WG or virtual extension
CallerNum	Caller phone number of an incoming call (extension number or off-net PSTN)	UCHAR (41)	

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
CallerName	Caller name for an incoming call (provided by CO for trunk calls; as entered in AltAdmin/ACM Admin for extension calls)	UCHAR (65)	
CallerTenant	Tenant name for trunk	UCHAR	
TargetType	Type of line for an outgoing call	UBYTE	0=None 1=Ext analog 2=Ext IP 3=Ext PHS (not used) 4=Ext virtual 5=Ext WG 11=trk analog 12=trk T1 13=trk IP 14=trk PRI 15=trk PHS (not used)
TargetPad	Physical address of line for an outgoing call	UCHAR (5)	E.g. "0004," where "00"=slot and "04"=channel
TargetNum	Target phone number of an outgoing call (extension number or off-net PSTN)	UCHAR (41)	
TargetName	Target name for an outgoing call (as entered in AltAdmin/ACM Admin for extension calls)	UCHAR (65)	
TargetTenant	Tenant name for trunk	UCHAR	
TargetWGNum	Workgroup number of the target	UCHAR	
WGSessionID	A unique Session ID for workgroup call (works with TargetWGNum)	ULONG	

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
OutGoing WG	Workgroup number for an outgoing call, as set in AltAdmin/ACM Admin or by agent at logon	UCHAR (8)	
DNIS	DNIS number for incoming call	UCHAR (33)	
AccountCode	Account code	UCHAR (11)	1—10 digits in length
AADuration	Duration in seconds an incoming call is connected to the Auto Attendant/IVR; multiple connections to AA/IVR in a single session produces multiple records	ULONG	
RingDuration	Duration in seconds a call is ringing and in workgroup queue	ULONG	
QueueDuration	Duration in seconds when a call stays in a queue.	ULONG	
VMDuration	Duration in seconds after a call goes into a voicemail box; includes greeting, false attempts at messages, successful message, and review of message	ULONG	
VMRecDuration	Duration in seconds of recording time for a VM message that was completed	ULONG	
HoldDuration	Duration in seconds while a call is on hold	ULONG	
TalkDuration	Duration in seconds of talk time	ULONG	
RecordDuration	Duration in seconds of NOVO recording	ULONG	
AnswerWithinSLT	Call is answered with in Service Level Time	ULONG	1=yes; 0=no

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
ExitState	State when call is terminated	ULONG	(see boxed inset)
<p>Specification</p> <p>[documented (HEX)] - [data output (Decimal)] - [exit state definition]</p> <p>“0x0001” - 1 - Auto Attendant</p> <p>“0x0002” - 2 - Ring No Answer</p> <p>“0x0003” - 3 - Queue</p> <p>“0x0004” - 4 - Voice Mail (no VM recorded)</p> <p>“0x0005” - 5 - VM (VM recorded)</p> <p>“0x0006” - 6 - Connect</p> <p>“0x0007” - 7 - Logon</p> <p>“0x0008” - 8 - Logoff</p> <p>“0x0009” - 9 - All Trunks Busy</p> <p>“0x000A” - 10 - No session</p> <p>“0x000B” - 11 - VM Access</p> <p>“0x000C” - 12 - Forward</p> <p>“0x000D” - 13 - Transfer</p> <p>“0x000E” - 14 - VM Notify</p> <p>“0x000F” - 15 - WG Abandoned</p> <p>“0x0010” - 16 - Park</p> <p>“0x0011” - 17 - System Park</p> <p>“0x0012” - 18 - Conference</p> <p>“0x0013” - 19 - Call Monitor</p> <p>“0x0014” - 20 - Transfer Cancel</p> <p>“0x0015” - 21 - Call Redirect</p> <p>“0x0016” - 22 - Call Pick Up</p> <p>“0x0017” - 23 - Dial Cancel</p>			
AbnTarget Type	Type of abandon forward target (IVR/AA, Operator, Ext, Outside, VM, App and other)	ULONG	
AdvQAppT type	Type of Advanced Queue Management	ULONG	

Records and Data Schema

Table 4: CDRMAIN

Database Element	Definition	Type	Specification
IVRExitPoint	Exit Point of IVR/AA	UCHAR (63)	
IVRData	Data of IVR/AA	UCHAR (255)	
UserData	Agent input	UCHAR (255)	
URLData	Last URL	UCHAR (255)	
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	
ReservedFieldNum3	Reserved number field for future use	ULONG	
ReservedFieldNum4	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	
ReservedFieldTxt3	Reserved text field for future use	CHAR	
ReservedFieldTxt4	Reserved text field for future use	CHAR	

Table 5: WGRTSUMMARY

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltWare system in AltAdmin/ACM Admin	ULONG	value: 1–100
StartTime	Timestamp when workgroup logs on, logs off, is ready or not ready	ULONG	value
EndTime	Timestamp when call is disconnected	ULONG	

Database Element	Definition	Type	Specification
LocalStartTime	Start time of record's period.	CHAR	Format: yyyymmddHH MMSS
EndStartTime	End time of record's period.	CHAR	Format: yyyymmddHH MMSS
WGNum	Workgroup Number	UCHAR (8)	
CurNumAgentCfg	Total Agent Configuration (Snapshot at End Time)	ULONG	
CurNumAgentUnStaff	Total Agents Un-Staffed (Snapshot at End Time)	ULONG	
CurNumAgentLogout	Total Agents Logged Out (Snapshot at End Time)	ULONG	
CurNumAgentError	Total Agents Error (Snapshot at End Time)	ULONG	
CurNumAgentBusy	Total Agents Busy (Snapshot at End Time)	ULONG	
CurNumAgentNotReady	Total Agents Not Ready (Snapshot at End Time)	ULONG	
CurNumAgentWrapUp	Total Agents Wrap-up (Snapshot at End Time)	ULONG	
CurNumAgentDND	Total Agents DND/FWD (Snapshot at End Time)	ULONG	
CurNumAgentAvailable	Total Agents Available (Snapshot at End Time)	ULONG	
CurLongestQTime	Longest Queue Time (Snapshot at End Time)	ULONG	
CurQLength	Number of calls in Queue (Snapshot at End Time)	ULONG	
CurNumCallOverSLT	Number of calls exceed SLT (Snapshot at End Time)	ULONG	
CurServiceLevel	Service Level % for WG Queue (Snapshot at End Time)	ULONG	

Search Results

Database Element	Definition	Type	Specification
IntvMaxNumAgentUnStaff	Maximum Agents Un-Staffed in record's period	ULONG	
IntvMaxNumAgentLogout	Maximum Agents Logged Out in record's period	ULONG	
IntvMaxNumAgentError	Maximum Agents Error in record's period	ULONG	
IntvMaxNumAgentBusy	Maximum Agents Busy in record's period	ULONG	
IntvMaxNumAgentNotReady	Maximum Agents Not Ready in record's period	ULONG	
IntvMaxNumAgentWrapUp	Maximum Agents Wrap-up in record's period	ULONG	
IntvMaxNumAgentDNDFWD	Maximum Agents DND/FWD in record's period	ULONG	
IntvMaxNumAgentDNDFWD	Maximum Agents DND/FWD in record's period	ULONG	
IntvMaxNumAgentAvailable	Maximum Agents Available in record's period	ULONG	
IntvMaxLongestQTime	Maximum longest queue time in record's period	ULONG	
IntvMaxQueueLength	Maximum queue length in record's period	ULONG	
IntvMaxNumCallsOverSLT	Maximum calls exceed SLT in record's period	ULONG	
IntvMaxServiceLevel	Maximum Service Level % for WG Queue in record's period	ULONG	
IntvMinServiceLevel	Minimum Service Level % for WG Queue in record's period	ULONG	

Database Element	Definition	Type	Specification
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	
ReservedFieldNum3	Reserved number field for future use	ULONG	
ReservedFieldNum4	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	
ReservedFieldTxt3	Reserved text field for future use	CHAR	
ReservedFieldTxt4	Reserved text field for future use	CHAR	

Table 6: WGSUMMARY

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1–100
StartTime	Timestamp when wrap up starts	ULONG	
EndTime	Timestamp when wrap up stops	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyyymmddHH MMSS
EndStartTime	End time of record's period.	CHAR	Format: yyyymmddHH MMSS
WGNum	Workgroup Number	UCHAR (8)	
NumInWGCall	Total inbound WG call during interval	ULONG	

Database Element	Definition	Type	Specification
NumInCallInQ	Total calls in queue during interval	ULONG	
DurInCallQ	Total queue time during time interval for all WG inbound calls	ULONG	
NumInAnswered	Total WG inbound calls answered by agents during interval. If a call is forwarded to and answered by multiple agents, the count is increased (Call transferred to other agent is not a WG call anymore and does not increase the number.)	ULONG	
DurInTalk	Duration of incoming calls (NumInAnswered), starting from the time an agent answered a call until the call is disconnected, transferred out the group	ULONG	
DurInAnsQ	Total Queue time for answered inbound WG calls	ULONG	
DurInAnsRing	Total ring time for answered inbound WG calls	ULONG	
NumInXfer	Count of transferred incoming call	ULONG	
NumInWrapUp	Count of incoming Wrap-up	ULONG	
DurInWrapUp	Total Incoming Wrap-up time	ULONG	
NumInAbnInQ	Count of calls abandoned while waiting in queue	ULONG	
DurInAbnQ	Total queue time for all abandoned calls	ULONG	
NumInAbnDuringRing	Count of calls abandoned while ring an agent	ULONG	
DurInAbnRing	Total Ring time for all abandoned calls	ULONG	
NumInAbnVmmMsg	Count of voicemail messages (calls transferred to VM from queue by caller pressing # or configured DTMF option, and calls automatically transferred to WG VM after RNA for every agent)	ULONG	

Database Element	Definition	Type	Specification
NumInAbnVmNoMsg	Number of calls abandoned without leaving VM	ULONG	
NumInAbnToApp	Number of calls abandoned to add-on applications	ULONG	
NumInAbnToOthers	Number of calls abandoned to other option like Ext/WG/External/AA/IVR	ULONG	
NumInOverflow	WG calls overflowed to other target	ULONG	
DurInOverflowQ	Total Queue time for overflowed calls	ULONG	
DurInOverflowRing	Total ring time for all overflowed calls	ULONG	
NumInAnsweredWithinSLT	Total calls answered with wait time less than or equal to Service Level Threshold within report interval (QueueTime+RingTime <= SLT)	ULONG	
NumInHold	Number of inbound WG calls were ever hold by agent (One call on hold multiple times will count just one time)	ULONG	Reserved
DurInHold	Duration of inbound WG calls were hold by agent	ULONG	Reserved
NumInRecord	Number of inbound WG calls were recorded	ULONG	Reserved
DurInRecord	Duration of inbound WG calls were recorded	ULONG	Reserved
NumOutConnected	All outgoing trunk and station-to-station calls that entered "Connected" state	ULONG	
DurOutTalk	Duration of outgoing calls (NumOutConnected); from the call enters "Connected" state until disconnect	ULONG	
NumOutHold	Number of outbound WG calls were ever hold by agent (One call on hold multiple times will count just one time)	ULONG	Reserved

Records and Data Schema

Search Results

Database Element	Definition	Type	Specification
DurOutHold	Duration of outbound WG calls were hold by agent	ULONG	Reserved
NumOutRecord	Number of outbound WG calls were recorded	ULONG	Reserved
NDurOutRecord	Duration of outbound WG calls were recorded	ULONG	Reserved
NumOutXfer	Count of transferred outgoing call	ULONG	
NumOutWrapUp	Count of outgoing Wrap-up	ULONG	
DurOutWrapUp	Total outgoing Wrap-up time	ULONG	
ReservedFieldNum1	Reserved number field for future use	ULONG	
ReservedFieldNum2	Reserved number field for future use	ULONG	
ReservedFieldNum3	Reserved number field for future use	ULONG	
ReservedFieldNum4	Reserved number field for future use	ULONG	
ReservedFieldTxt1	Reserved text field for future use	CHAR	
ReservedFieldTxt2	Reserved text field for future use	CHAR	
ReservedFieldTxt3	Reserved text field for future use	CHAR	
ReservedFieldTxt4	Reserved text field for future use	CHAR	
LocalEndTime	Timestamp when wrap up stops	String	yyyymmddhhmmss

Table 7:EXTINFORMATION

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1–100
ExtNum	Extension number	CHAR	
FirstName	First name of the extension	CHAR	
LastName	Last name of the extension	CHAR	
StartTime	Timestamp when wrap up starts	ULONG	
EndTime	Timestamp when wrap up stops	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyyymmddHHM MSS
EndStartTime	End time of record's period.	CHAR	Format: yyyymmddHHM MSS

Table 8:WGMEMBER

Database Element	Definition	Type	Specification
NodeID	Server ID (System ID) assigned to an AltiWare system in AltiAdmin/ACM Admin	ULONG	value: 1–100
WGNum	Workgroup Number	CHAR	
StartTime	Timestamp when wrap up starts	ULONG	
EndTime	Timestamp when wrap up stops	ULONG	
LocalStartTime	Start time of record's period.	CHAR	Format: yyyymmddHHM MSS
EndStartTime	End time of record's period.	CHAR	Format: yyyymmddHHM MSS

RTM Data Schema

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
Workgroup Data			
NodeID	Server ID (System ID) assigned to an AltWare system in AltAdmin/ACM Admin	ULONG	value: 1–100
Date	Day information	ULONG	* Time value
Time	Time interval	short	minutes * Period value
WGNum	Workgroup Number	UCHAR (8)	
MaxWaitTimeInQ	Longest waiting time in queue during searched time interval	short	*Queue is not an accumulated value; it is recorded at a specific point in time.
PeakQLength	Maximum queue length since midnight	short	
PeakWaitTimeInQ	Maximum queued time since midnight	ULONG	
QLength	Number of calls routed into the queue; if a call is recycled into the queue after RNA, the count is increased	short	* Calls in Queue
DurationInQ	Time calls waited in queue during searched time interval before being abandoned or answered	ULONG	*It is not an accumulated value, it is recorded at a specific point in time.

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
NumInCall	Calls answered by an agent; if a call is forwarded to and answered by multiple agents, the count is increased	short	* Calls Answered
InCallDuration	Duration of incoming calls (NumInCall), starting from the time an agent answers a call until the call is disconnected or transferred out of the WG	ULONG	* Calls Answered Duration
NumOutCall	All outgoing trunk and station-to-station calls that entered “Connected” state	short	* Outgoing Calls
OutCallDuration	Duration of outgoing calls (NumOutCall); from the time the call enters “Connected” state until disconnect	ULONG	* Outgoing Calls Duration
NumCallTo VM	Count of voicemail messages (calls transferred to VM from queue by caller pressing #, and calls automatically transferred to WG VM after RNA for every agent)	short	* Calls Transferred to Voice Mail
NumCallAbandonedDuringRing	Count of calls abandoned while ringing an agent	short	A * Calls Abandoned During Ring
NumCallAbandonedInQ	Count of calls abandoned while waiting in queue	short	B * Calls Abandoned in Queue
NumCallAbandonedBeforeAnswer	Total abandoned calls (during VM, queue, and RNA)	short	C C-A-B= * Calls Abandoned during VM

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
NumQueue Overflow	Calls routed to the WG but not queued due to AltAdmin/ACM Admin settings that specify acceptable queue length and/or wait time	short	* Queue Overflow
BeforeAnswerDuration	Time calls waited in queue before being answered	ULONG	* Wait Time for Answered Calls
DurationInQOfCallAbandoned	Total wait time of all calls abandoned in queue (NumCallAbandonedInQ)	ULONG	* Wait Time for Abandoned Calls
ServiceLevel	<p>Service Level</p> <p>*ServiceLevel is not an accumulated value, it is recorded at a specific point in time.</p> <p>Note: There are 2 service levels in Altisupervisor:</p> <p>Service Level = (# of calls in Q - # of calls in Q over SL threshold) / # of calls in Q</p> <p>Service Level since midnight = (# of answered calls - # of answered calls over SL threshold) / # of answered calls</p>		<p>number of calls in queue - X / # of calls in queue</p> <p>X = number of calls in queue exceeding threshold</p>
LocalDate	Day information	String	yyyymmdd
Agent Data			
NodeID	Server ID (System ID) assigned to an AltWare system in AltAdmin/ACM Admin	ULONG	value: 1–100
Date	Day information	ULONG	* Time value
Time	Time interval	short	minutes * Period value
AGNum	Agent extension number	UCHAR (8)	

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
NumInCall	Calls answered; if a call is rerouted to and answered by the same agent, the count is incremented	short	* Calls Answered
InCallDuration	Duration of incoming calls (NumInCall), starting from the time the agent answers a call until the call is disconnected or transferred out of the WG	ULONG	* Calls Answered Duration
NumOutCall	All outgoing trunk and station-to-station calls that entered “Connected” state	short	* Outgoing Calls
OutCallDuration	Duration of outgoing calls (NumOutCall); from the time the call enters “Connected” state until disconnect	ULONG	* Outgoing Calls Duration
NumWrapUp	Number of times agent entered Wrapup, where Wrapup lasts from agent-set “Not Ready” to “Ready” status	short	* Wrapup
WrapUpDuration	The amount of time for Wrapup, where Wrapup lasts from agent-set “Not Ready” to “Ready” status	ULONG	* Wrapup Duration
NumCallToVM	Count of voicemail messages	short	* Voice Mail
VMDuration	Total duration of voicemail messages	ULONG	* Voice Mail Duration
nGroups	Count of workgroups agent is logged in to	short	
NumHold	The number of call put on hold in this workgroup	short	
HoldDuration	Total duration of workgroup hold calls	ULONG	
extNumInCall	Personal (non-workgroup) incoming call	short	* Calls Answered

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
extInCallDuration	Total duration of personal (non-workgroup) incoming calls	ULONG	* Calls Answered Duration
extNumOutCall	Number of personal (non-workgroup) outgoing calls	short	* Outgoing Calls
extOutCallDuration	Total duration of personal (non-workgroup) outgoing calls	ULONG	* Outgoing Calls Duration
extNumCallsoVM	Count of non-workgroup voicemail messages	short	* Voice Mail
extVMDuration	Total duration of voicemail messages	ULONG	* Voice Mail Duration
extNumHold	Count of non-workgroup calls holding	short	
extHoldDuration	Total duration of non-workgroup hold count	ULONG	
NumNotReady	Number of not ready, not including wrap up	short	
NotReadyDuration	Total duration of the not ready period	ULONG	
LocalDate	Date	String	yyyymmdd
DND Times	Number of times agent entered DND	ULONG	
DND Duration	Total duration of the DND period	ULONG	
Agent Per Workgroup			
NodeID	Server ID (System ID) assigned to an AltWare system in AltAdmin/ACM Admin	ULONG	value: 1–100
Date	Day information	ULONG	* Time value
Time	Time interval	short	minutes * Period value

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
AGNum	Agent extension number	UCHAR (8)	
WGNum	Workgroup number	UCHAR (8)	
Login	Log state	UBYTE	0=Logout 1=Login
LogTimeStamp	Login/logout time stamp	ULONG	
ReasonCode	Logout reason code	UBYTE	
NumInCall	Calls answered; if a call is rerouted to and answered by the same agent, the count is incremented	short	* Calls Answered
InCallDuration	Duration of incoming calls (NumInCall), starting from the time the agent answers a call until the call is disconnected or transferred out of the WG	ULONG	* Calls Answered Duration
NumOutCall	All outgoing trunk and station-to-station calls that entered "Connected" state	short	* Outgoing Calls
OutCallDuration	Duration of outgoing calls (NumOutCall); from the time the call enters "Connected" state until disconnect	ULONG	* Outgoing Calls Duration
NumWrapUp	Number of times agent entered Wrapup, where Wrapup lasts from agent-set "Not Ready" to "Ready" status	short	* Wrapup
WrapUpDuration	The amount of time for Wrapup, where Wrapup lasts from agent-set "Not Ready" to "Ready" status	ULONG	* Wrapup Duration
NumCallToVM	Count of voicemail messages	short	* Voice Mail
VMDuration	Total duration of voicemail messages	ULONG	* Voice Mail Duration

Table 9: RTM Data Format

Database Element	Definition	Type	Specification/ * CDR Client Field
NumHold	Count of calls holding	short	
HoldDuration	Total duration of workgroup hold calls	ULONG	
LoginDuration	The total time agent was logged in since midnight	ULONG	
LogoutDuration	The total time agent was logged out since midnight	ULONG	
LocalDate	Date	String	yyyymmdd

Reporting Fields Glossary

CDR Timestamps and Dates

The CDR data schema is provided with basic definitions. As with past OE releases, the StartTime, EndTime, and other timestamps in the OE 4.0 CDR database are in seconds and are offset numbers from a standard industry reference point of January 1, 1970 UTC. A reporting tool must compute the actual date and time for use in reports. When writing a program from C, the standard function call would be to: `ctime (<ime)` where `<ime` points to the UTC value (for example, 768027063). The call returns the Unix time and date (Wed May 04 04:51:03 1994).

Start time

- Start time can vary depending on the use and configuration of AltWare for CO trunks.
- Start time will be a few seconds (typically two) after incoming trunk seizure if the incoming trunk type is a tie trunk or an analog or T1 C.O. trunk not supporting Caller ID or ANI signaling.
- Start time will be seven (7) seconds or more if the incoming analog or T1 trunk supports Caller ID/ANI since the Central Office (CO) first sends these digits between the first and second ring cycles before the target device is to be connected. This is good, since carrier billing does not start until the target device answers.

- Start time for outgoing trunks is immediately when AltiWare **attempts to seize** an outgoing trunk; hence even for outgoing calls that hit an all trunks busy signal.

Reporting Fields Glossary

Glossary

A

Abandonment - Incoming call where the caller decides to disconnect *before completing* a call processing state in the phone system: listening and handling auto attendant, while waiting in queue, or while in voice mail. (*See also* short calls.)

Account Code - A number entered by a caller to represent how the call should be tracked or billed.

Agent - A service representative who consistently handles customer inquiries of all types.

Agents Signed On - Number of agents, signed on to the phone system to be agents, using their phone to sign-on.

All Trunks Busy - An All Trunks Busy record should have dialing extension in party1, dialing number in *Trunk Remote Number*. If the call is made by out call routing, out call route and overflow routes should be set.

All Trunks Busy means that there were no free outgoing trunks available for a given route.

Analog - Telephone lines going to the central office (trunks) and/or telephone lines going to the phone system desktop phonesets using standard analog communication; voltage variations represent voice signals.

ANI (Automatic Number Identification) - The phone number of the person or site making a phone call to the system. ANI is provided on T1/PRI circuits only, and represents the billing number of the caller, not necessarily the phone number. For example, ANI for people calling from a company.

ASA (Average Speed of Answer) - The amount of time, on average, that a company wishes to answer incoming calls. Also, the actual average amount of time it takes before a caller is answered by an agent.

Auto Attendant Duration - The amount of time a caller is listening and responding to call processing steps in the phone system auto attendant process.

Average Call Duration - The average amount of time calls are taking from phone system answer to phone system disconnect.

C

CallerID - The phone number of the calling party. CallerID differs from ANI in that CallerID is the phone number of the phone from which the caller is calling as opposed to the billing number for the phone. If a caller is calling from a business, the CallerID will be different from the ANI number, in most cases.

Calls in Queue - The number of calls waiting in a queue for an agent or answering device.

Carrier - Voice telephone network provider such as AT&T, MCI, and Sprint.

Carrier # - The 10XXX dialed number which is used by a caller or the system to inform the local switching system which Carrier has been selected to handle the phone call. For example, AT&T is 10288.

CLID (Caller Line Identification) - European term for CallerID.

D

Disconnect - When a call disconnects from the phone system; if an extension disconnects first, then...; if an incoming caller disconnects first, then...

DNIS (Direct Number Inward Service) - The phone number dialed by the caller. Usually companies purchase a block of DNIS numbers from the local central office so they may give customers direct access to key employees. DNIS numbers can be 800 numbers, which represent specific types of service offered to the public by a company. DNIS numbers, in call centers, therefore, can conceptually be regarded as applications.

Call Duration (Duration) - Average the amount of time a call takes from phone system answer to phone system disconnect.

E

Exit State - The state of the call in the phone system when the caller decided to disconnect. The nominally correct exit state is when a caller disconnects during conversation with a person or after leaving a voice message. Exit state numbers help reporting tools describe and total calls which early abandon as well as normal calls.

ExitQ - When the call exited a workgroup queue.

ExitVM - When the call exited voicemail.

Extension - The phone number of a phone on the phone system. AltiWare has extension numbers representing phonesets (analog, IP), virtual extensions (logical locations), and workgroups (queues for agents).

H

Handled Calls - The number of calls actually processed successfully to a normal disconnect exit state. For example, answered by a person, or the person completed a voice message or listening to a prompt.

Handled WG - The number of calls handled by a workgroup in the phone system.

I

In WG Average Duration - The amount of time, on average, calls spent waiting for a free agent while in a queue.

Inbound - Calls arriving into the phone system over trunks, either public or private tie trunk lines.

IP (Internet Protocol) - IP is used to represent the concept and practice of encapsulating voice into data packets carried on data networks, both private and public, including the Internet.

IP Extension - An extension within the AltiWare phone system based on encapsulated voice connections (IP voice) as opposed to analog phonesets. AltiGen supports physical and IP phone sets.

IP Trunk - A digital connection to a LAN or Wide Area Network (WAN) that can handle IP encapsulated voice transmissions.

L

Line - Pairs of wires that carry voice over analog circuits to the central office (i.e., trunks). Sometimes also used as station lines (extensions) and trunk lines (trunks).

Log-off with reason code - An agent can log out of a workgroup because they have a lunch break, classes, or other reasons. The manager establishes the meaning of numeric codes, and the system records them when used.

M

MaxWaitTime - The maximum amount of time a call has waited in queue to be handled.

Minutes (outbound) - While many fields may represent duration in minutes or seconds, in this case the use of minutes is the number of billable minutes for phone calls. This is particularly of interest for outbound phone calls, and is useful for billing comparisons.

N

NodeID - The AltiWare system number (from 0–128) that was assigned to a given system in AltiAdmin/ACM Admin. The number is used to separate CDR records from different AltiServ systems when the records are collected jointly at one site using one database server for consolidated reporting.

O

Outbound - Calls placed by users of the phone system to the outside world over public or private trunk circuits within the AltWare system including analog, digital, and IP types.

Outbound Workgroup - Outgoing calls placed by a workgroup agent who is assigned and logged in to an Outgoing Workgroup.

OutCall Routing - Calls dialed on the system can be processed by the system using routing tables. The routing tables and their configuration options are referred generically as outcall routing. Outcall routing permits companies to restrict the types of outbound calls, change their dialing pattern, determine the type of trunk to be used, and determine the type of carrier to be used.

Overflow Calls - Calls that cannot be handled by a primary service and spill over to an alternative service. In the case of AltWare, this applies to outgoing calls finding all trunks busy for a given route table.

P

PAD - A Physical Address generalized to represent the physical slot on the processor chassis where an interface board is located, and the channel assigned on that interface board represents an extension or trunk port.

Party1 - Party1, found in the database schema, represents the first extension originating an outbound call or answering a incoming call from a trunk. In a call center, Party1 is typically the first agent to answer the caller.

Party2 Party2, found in the database schema, represents the second extension answering an incoming call as the result of receiving the call via a call transfer or call pick-up. In a call center, Party2 is typically the second agent (often a supervisor) who answered the call.

Note: Party2 accumulates the call handling time for any additional successive call transfers or call processing. Therefore, the times shown for Party2 can represent more than one additional extension to have handled an incoming call. The "MoreThan2WG" CDR field will indicate if the Party2 field represents multiple extensions handling the call after the first Party1 agent.

PRI - ISDN Primary trunks

Project OutCalls - AltWare provides some, not all, of the features businesses find useful in shared project environments.

One supported area is tracking who placed an outbound call by business name or dialing plan. This name is called the project name, is configured in AltWare under each extension, and is placed in the CDR record each time that particular extension places an outbound call. The field is multi-purpose, so it can also be used by businesses wanting to track calls by department for bill-back purposes. Mixed use is not supported, for example, project and department.

Q

Queued Call - A call that has entered the queue as a result of not finding any free agents in a workgroup or for an extension and must now wait for an extension to become free. The queue duration associated with a queued call includes the ringing time of the target extension.

R

Reason Code - A number, from 0–255, that was entered by a workgroup agent using AltAgent application to indicate the reason they made themselves unavailable to receive calls even though they may be scheduled for work. For example, code 20 could represent a lunch break.

RNA (Ring No Answer) - the condition when a call reaches an extension and the called extension does not answer. This can be true for any type of call to any extension. However, within a call center, failure to reach an agent whose phone is in the “signed-on and idle” state, getting an RNA is a problem. Calls getting an RNA from an agent phone will be sent back to the queue (this is configurable) in most cases. The agent's phone will then be taken out of service.

Route Name - The name of an outbound (outcall) route table entry. This is useful to identify the type of routing treatment that was given to a call.

Route Table - A set of outbound call routing choices, provided by AltWare within outcall routing, are defined within a route table. The route table identifies the trunks that should be used for calls assigned this route table. It also provides for how the dialed number should be modified, if at all, and whether the number needs to be preceded by a carrier code such as 10XXX.

Route Table Name - Same as Route Name. Route Table Name is the name assigned to the route, and Route Name is the same name shown in reports under the title Route Name.

Routes - Route is the selected trunk to carry a phone call to the outside world. Route Tables determine which routes should be used and how to use them. If one route is too busy (no trunks available), then the Route Table can be configured with an alternative choice. Ultimately, the call takes a single, final route.

S

Score - This may or may not be found in the reports created within Call Analyst depending on applications created by the customer, not Call Analyst or AltiGen. Score is a number that represents how well a supervisor believes an agent has handled a particular call that the supervisor has silently monitored. Using the UserDefined fields provided in AltiWare's ActiveX AltiLink protocol and in its CDR data schema, a customer can associate a score with a call.

Note: This is a custom implementation.

Service Level% - The percentage of calls meeting the expectation for service set by the owner of the call center system.

When reported in the AltiClient screens, Service Level% is a real time snap shot of any given exact moment in the workgroup queue of calls meeting or exceeding performance.

When reported in other custom reporting packages based on historical CDR data, the service level will represent the average over a given time interval defined by the program.

Service level is the number of calls waiting less than a threshold time interval divided by the total number of calls in queue over the same interval. The threshold, which is the maximum amount of time the company would like a caller to have to wait for an agent, is configurable in AltiAdmin/ACM Admin.

Note: See also data schema descriptions.

Session ID Number - A unique number, usually 9-digits or larger, assigned by AltiWare to a call. This number uniquely identifies a call. If an incoming call is transferred by an agent to an outside trunk, then an additional new CDR record is created, however, this additional record retains the same SessionID. This permits reporting programs to combine CDR records for the same call.

SignOff - The timestamp when a workgroup agent signed off from the workgroup.

SignOn - The timestamp when a workgroup agent signed on to the workgroup.

SignOn Duration - The difference between Sign-on and Sign-off pairs; times in closest proximity. An agent can sign-on and off more than once each day, so there may be multiple such pairings in the CDR database.

Spillover - Overflow from one route table to the next.

T

T1 - T1 is a digital facility from the phone system (customer premise) to the central office, or from one CPE site to another between systems (T1 tie trunks). Voice is encoded as zeros and ones on a channel (i.e., conceptual trunk) using industry standard encoding.

Talk Duration - The amount of time, totaled or averaged, that an extension services an incoming or outgoing call. Average talk durations are useful in call centers to measure how well an agent handles callers.

Threshold - The maximum amount of time a company wants an incoming caller to wait before they are serviced by an extension (i.e., an agent). This is related to service level, and is expressed as “we want calls be serviced 90% of the time (service level) in less than 20 seconds (threshold).”

Transferred Calls - Calls transferred to an extension, another workgroup, AutoAttendant, voice messaging, or an outgoing trunk.

Trunk - The conceptual term for a voice connection to the outside world, such as the central office or another site. When analog circuits are involved, the physical wire pair is called a trunk.

When digital circuits are involved, the trunk is a logical, dedicated channel on the digital connection.

When IP trunks are mentioned, it means a data packet with a specific destination IP address, being sent out on a LAN or WAN network.

Trunk PAD Number - The board and channel numbers respectively: “0102.”

Trunk Remote Number -

- The target phone number of an outgoing call, or
- The CALLID/ANI for an incoming call, or
- The IP address of the target far-end system for either incoming or outgoing IP calls.

Note: The use of “trunk” is a misnomer.

Transfer-Trunk Number - If a call is *transferred* by an extension to a phone number outside the phone system, then the target phone number is placed in this field.

U

URL - If a caller enters the system via the Internet using AltiGen’s AltiWeb software (Web Button) then this field will contain the URL address for the caller accessing the system.

User Data -

- If a call comes in from the Web via AltiWeb, then this field *may* contain form data from the web page if you designed your web page to do so.
- If a call is processed via auto-attendant and information is collected and offered to an external application using the DDR function in auto-attendant, then the external application can populate this field with information about the call, collected or otherwise.

- The structure of user data is an array or buffer of name-value pairs. You can have as many pairs as you wish, but the total buffer is only 128 bytes long. A name-value pair is your own field name followed by the field value. Each name-value pair is separated from others by an @ character.
- User data can be loaded into messages sent to the system via AltiGen's ActiveX control, AltiX.
- User Data can be received within messages sent by AltiServ to an external application via the auto-attendant DDR step and received by an application using AltiGen's ActiveX control, AltiX.
- User data is preserved when calls are transferred between extensions, and between extensions across multiple AltiWare systems.
- User data is useful for screen pops and automated processing application.

The customer needs to employ a system integrator in order to implement the use of User Data.

V

VM Box Extension - The voice message mailbox is an extension number where calls are sent to leave messages. VM box extensions are used for workgroups in call centers as well as the standard uses for individuals.

VM Start Time - The time a call enters the voice mail system to potentially record a message.

W

WorkGroup - The workgroup is an extension representing a collection of individual extensions, such that each of these individual extensions can service a call arriving at the workgroup extension number. If none of these extensions is available at the time a call arrives, then the call is queued for this particular workgroup—a workgroup queue.

In the call center sense, the workgroup can be configured for longest available agent queuing.

Wrapup Duration - The amount of time an agent takes to handle transaction information on another system or on paper after handling a caller. Once the caller disconnects, the agent's phone can be configured to be "unavailable" to the workgroup queue for a fixed or variable period of time even though the agent's extension is still signed onto the queue. This allows the agent time to wrapup.

The wrapup time can be a fixed number of minutes after which the agent is forced back into taking calls, or it can be variable, controlled by AltiAgent, where the agent "releases" their phone for the next call. The settings can be designed to allow agents to control the wrapup time until a limit occurs (the fixed time).

Index

A

address
 AltiGen Communications, Inc. 2
 AGENTACTIVITY 56
 AgentActivity 73
 AGENTPERWGSUMMARY 57
 AGENTSUMMARY 59
 AltiGen Communications
 phone numbers 2
 AltiGen Communications, Inc.
 address 2

C

call
 detail 23
 sequences 40
 call reports, external 26
 CDRMAIN 61

D

dates 80
 downgrade procedure 3

E

external logging 26
 EXTINFORMATION 73

G

glossary 28, 83

I

inbound call scenarios 40

L

link session ID number 62
 login 29
 logout 29

M

Microsoft SQL 26
 multi-project naming 28

N

node ID 56, 57, 59, 61, 73, 74, 76,
 78

P

Party1PAD 74

R

ring no answer 29
 route name 28

S

session ID number 61, 74
 SMDR 28
 SQL 26
 start time 80
 Stop button 16

T

timestamps 80
 trunk
 type 63

W

warranty iii
 how to get service iii
 WGRTSUMMARY 66
 WGSUMMARY 69
 wrapup 29