Table of Contents

Introduction .................................................................................................................................................. 5
Guidelines .................................................................................................................................................. 6
Field Definition Files ................................................................................................................................ 6
Format Time .............................................................................................................................................. 7
ReservedReported Report Parameters ...................................................................................................... 8
ReporterAgent Field Definitions ............................................................................................................... 8
ReporterCallflow ...................................................................................................................................... 9
Publishing ................................................................................................................................................ 10

Sample Reports ......................................................................................................................................... 11
A simple list ................................................................................................................................................ 11
Crystal Report Design ............................................................................................................................... 11
Custom Report ......................................................................................................................................... 11
Example B ................................................................................................................................................ 12
Crystal Report Design ............................................................................................................................... 12

Field Definitions for ReporterAgent ......................................................................................................... 17
Activity Details ......................................................................................................................................... 17
Activity Dates ......................................................................................................................................... 17
Activity measures ................................................................................................................................. 17
Time in State .......................................................................................................................................... 18
Activity Details ......................................................................................................................................... 18
Percentage Time In State .......................................................................................................................... 18
Activity Dates Measures ........................................................................................................................... 19
Activities and Calls .................................................................................................................................. 19
Agent Details .......................................................................................................................................... 19
Trunk Details ......................................................................................................................................... 20
Trunk Details .......................................................................................................................................... 20
Trunk Occupancy Measures .................................................................................................................... 20
Transferer ............................................................................................................................................... 21
VM Details ............................................................................................................................................... 21
Call Details ............................................................................................................................................... 22
Call Details .............................................................................................................................................. 22
Target Details .......................................................................................................................................... 22
Call Measures ......................................................................................................................................... 23
Call Measures .......................................................................................................................................... 23
All Call Measures ................................................................................................................................. 23
External Call Measure .............................................................................................................................. 25
Internal Call Measure ............................................................................................................................... 27
VM Call Measures .................................................................................................................................. 28
Interaction Manager ............................................................................................................................... 29
Interaction Manager ............................................................................................................................... 29
Time Breakdown ................................................................................................................................... 30
Cost Details .......................................................................................................................................... 30
Callback ............................................................................................................................................... 31
Measures ............................................................................................................................................... 31
External ............................................................................................................................................... 32
Internal ............................................................................................................................................... 34
All Transactions ................................................................................................................................... 36
Trunk Occupancy ................................................................................................................................. 38
PTA ...................................................................................................................................................... 39

PCA Measures ....................................................................................................................................... 39
Dates ...................................................................................................................................................... 41
Dates ...................................................................................................................................................... 41
Call Direction ......................................................................................................................................... 42
Call Direction - Incoming .......................................................................................................................... 42
Introduction

Custom reporting allows the user to create site defined reports providing flexibility in the presentation of traffic and agent information.

The reporting engine used is Crystal Reports version 9, all editions. The following is an overview of the types of Crystal products that can be used:

Application Development Solutions

- **Advanced Developer** - Web development and deployment bundle for integrating and deploying dynamic report creation and viewing capabilities into web applications

- **Developer Edition** – For integrating report viewing, printing, and exporting capabilities into applications.

Report Design Solutions

- **Professional Edition** – For report creation and maintenance based on a large variety of data sources plus out-of-the-box web report delivery for workgroups.

- **Standard Edition** – For basic report design based on PC-based data sources.

For more information on the key feature differences between the various Crystal Reports edition 9, go to www.businessobjects.com/products/reporting/crystalreports.
Guidelines

Field Definition Files
The Field Files need to be added as a data source. There are two files:

- Reporter Agent - contains fields for call and agent activity data.
- Reporter IVR Call Flow - contains fields for IVR Callflow as well as proactive campaign data.

Both of the above files contain numbers at the end of their names. DO NOT rename the files as the numbers contain codes referring to version, language and other data.

Note: Previous versions of CCC used the Business Objects Report Designer product for the creation of custom reports. The reports were constructed from a report Universe which contained “Objects”, named appropriately, which contained within them the relevant SQL queries to retrieve the required data from the SDXArchiver database. With the introduction of CCCv5 the report Universe is replaced by Crystal Decisions field definition data source. This enables reports to be designed without the need to connect directly to the CCC reporting database and, therefore, requires no knowledge of the database schema.

Two ‘field definition’ files are used which contain fields that are mappings of the class/object structure provided with the Business Objects universe in CCC version 4. The field definition file named ‘ReporterAgent’ contains fields for call and agent activity data whilst the field definition file named ‘ReporterIVRCallflow’ contains fields for IVR Callflow as well as proactive campaign data.

To add a data source.
When you start a new Crystal report you have to create a new connection. Select Field Definitions only and search for the `.ttx` file. When the software is installed the field definition files are located in the SDK (Software Development Kit) subdirectory of the CCC product directory.
**Format Time**

Field definitions that show time will be shown in seconds. The format used by CCC is Days:Hours:Minutes:Seconds.

Fields can be formatted to show Days:Hours:Minutes:Seconds by:

1. Select the Formula Field in the Field Explorer bar and click the New button.
2. Enter the required field name e.g. Answer Time.
3. Click on the Use Editor button.
4. Select the function 'CCReporter:ReporterDHMS (value)' which has been added during the CCC installation.
5. In the section Report Fields select the report field that needs to be formatted. In this example 'All Call Measures: Answer Time (Answered) was selected.
6. Save the changes and close the Formula Editor.
7. If the original field (All Call Measures:Answer Time (Answered)) has been used in the report it needs to be deleted and replaces with the formula field (Answer Time).
Reserved Report Parameters

When a report is being designed you can add a parameters field to allow filtering of the records. For example, a report showing Agents names could have a parameter added so that when it was run the user could select the agent to report on. When a parameter is created it can be given a Reserved Report Parameter name that can give the user a choice of current options from a list. The name should be entered exactly as shown and the field type should be the type as indicated in brackets.

The following reserved parameter names and data types MUST NOT be used:

- Date Range (Single Date) [Date]
- Date Range (Start Date) [Date]
- Date Range (End Date) [Date]
- Date Range [String]

ReporterAgent Field Definitions

Listed below are all the Reserved Report Parameter names that provide a choice list.

- Account Code From [String]
- Account Code To [String]
- Agent Group Name [String]
- Agent Name [String]
- Call Identifier Number [Number]
- CLI [String]
- CLI From [String]
- CLI To [String]
- Date Breakdown Value [String]
- DDI Number (All Media) [String]
- DDI Number [String]
- DDI Number From (All Media) [String]
- DDI Number From [String]
- DDI Number To (All Media) [String]
- DDI Number To [String]
- DDI Numbers (All Media) [String (multiselect)]
- DDI Numbers [String (multiselect)]
- Media Type [String]
- Minute Intervals Value [Number]
- Pilot Number (All Media) [Number]
- Pilot Number [Number]
- Pilot Number From (All Media) [Number]
- Pilot Number From [Number]
- Pilot Number To (All Media) [Number]
- Pilot Number To [Number]
- Pilot Numbers (All Media) [Number (multiselect)]
- Pilot Numbers [Number (multiselect)]
• Target Name (All Media) [String]
• Target Name [String]
• Time Breakdown 2 Value [String]
• Time Breakdown Value [String]
• Trunk Group Name [String]
• Trunk Group Names [String]
• VM Group [String]

The following Reserved Report Parameters should be used, though there will not be a list to choose from. The input field will be recognised and the data produced by the report will be accurate.

• Long call Duration [Number]
• Long Transaction Duration [Number]
• PTA Break [Number]
• PCA Break 1 [Number]
• PCA Break 2 [Number]
• PCA Break 3 [Number]
• PCA Break 4 [Number]
• PCA Break 5 [Number]
• PCA Break 6 [Number]
• Shift Start Time [Time]
• Shift End Time [Time]
• Short Transaction Duration [Number]
• Short Call Duration [Number]

ReporterIvrCallflow:
Listed below are all the Reserved Report Parameter names for that provide a choice list.

• Call Flow Name [String]
• Multimedia Agent Name [String]
• Multimedia Campaign Name [String]
• Topic [String]

The following Reserved Report Parameters should be used, though there will not be a list to choose from. The input field will be recognised and the data produced by the report will be accurate.

• Shift Start Time [Time]
• Shift End Time [Time]
**Publishing**

Once a report has been created, the output can be viewed and then added to the Reporter. This part of the process is done within Reporter. You can only publish/preview three reports unless you have a Designer licence. The licence will enable an unlimited number of reports to be created and published.

When a report is created you can provide summary information for each report (in the File drop down menu). Within the summary information there is a Title Field which can be completed with a descriptive title for the report. When a custom report is published within Reporter the text entered in the Title Field will be shown as the file name, not the actual name of the report. If this field is left blank then the report name will be used by Reporter.

**Warning:** Do not replace pre-defined reports with a custom reports.
Sample Reports

A simple list.
The following report example produces a list of Agents and the number of answered and unanswered calls.

Crystal Report Design.

Custom Report

<table>
<thead>
<tr>
<th>Agent Name</th>
<th>Unanswered</th>
<th>Answered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andy Alexander</td>
<td>133</td>
<td>492</td>
</tr>
<tr>
<td>Andy Kemp</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Andy Klimister</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Asif Mannin</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Bahader Mannair</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Ben Clodley</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Brad Trower</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Chris Booley</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CO Channel 19</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Darren Bakar</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Dave Blowett</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Dave Smith</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>E Writers DECT</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Emil Rathman</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Extra 8040</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Extra 8048</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Graeme Capes</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
Example B
The following example shows a report that has been created using a parameter to allow filtering of the records and a field that has the custom time format applied.

Crystal Report Design.
The report shown below will contain the time that a call arrives, the direction and length of the call.

The report was created by:

1. A new blank report within Crystal was started.
2. The data source 'ReportAgent' was selected.
3. The following fields were selected and placed in the details area of the report designer tab.
   - Dates: Call Arrival Date (dd/mm/yy)
   - Call Details: Call Direction
   - Call Measures: Call Duration
4. The header descriptions were amended. This was done by right clicking on the header field and selecting the option 'Edit Text'.
5. In the Field Explorer area the 'Parameter Fields' option was selected and the 'New' button clicked.
6. The name of the field (Agent Name) was from the ReporterAgent Field Definitions (see page 8). This is reserved parameter name that will give the user a choice of the current options from a list. In this example the listing will show all agents within the telephone switch. The Prompting Text will instruct the report user what to do and the value type is defined in the ReporterAgent Field Definitions listing. OK was clicked on completion.

7. The parameter field that has just been created was dragged into the report Header section of the Design Tab.

8. For the parameter field to work it needed to be linked to the correct field within the database.
   a. The 'Select Expert' button was clicked to show the following dialog. The field that the parameter needed to be linked to was selected. In this example the selected field was 'Agent Details:Agent Name'. Once selected OK was clicked.
b. From the Select Expert dialog the option 'is equal to' is picked from the drop down listing.

c. A new drop down list box appeared where the parameter field name was selected. The formula that was created could be viewed by clicking the 'Show Formula' button.

d. To close the dialog OK was clicked.
9. The call duration field needed to be amended so that it would show in the DHMS format instead of seconds.
   a. The 'Formula Field' in the Field Explorer bar was selected and the 'New' button clicked.
   b. The field name 'Duration' was entered then the button 'Use Editor' clicked.
   c. The function 'CCReporterCCDHMS(value)' was selected by double clicking it.
   d. In the section Report Fields the field Call Measures:Call Duration was selected by double clicking it.
   e. The changes were then saved and the Formula Editor closed.

10. The field 'Call Measures:Call Duration' was removed and the formula field 'Duration' inserted in its place.
11. The report was saved and then previewed from within the Reporter application. An example of the completed report is shown below.

```
Call Arrival Date (dd/mm/yyyy)  Call Direction       Duration
15/03/2004  00:00:00  Connection           0:09:11
15/03/2004  00:00:00  Incoming Answered     0:20:41
15/03/2004  00:00:00  Lost                 0:00:00
15/03/2004  00:00:00  Outgoing Answered     0:54:42
15/03/2004  00:00:00  Outgoing Failed       0:00:00
16/03/2004  00:00:00  Connection           2:37:52
16/03/2004  00:00:00  Incoming Answered     18:04:33
16/03/2004  00:00:00  Interflow In          1d 7:49:19
16/03/2004  00:00:00  Interflow Out         4:41:15
16/03/2004  00:00:00  Internal Made         0:52:45
16/03/2004  00:00:00  Internal Made (unanswered) 0:00:00
16/03/2004  00:00:00  Internal Received      0:52:45
16/03/2004  00:00:00  Internal Received (unanswered) 0:00:00
16/03/2004  00:00:00  Intraflow In          0:01:28
16/03/2004  00:00:00  Lost                  0:00:00
16/03/2004  00:00:00  Outgoing Answered     21:19:23
16/03/2004  00:00:00  Outgoing Failed       0:00:00
```
Field Definitions for ReporterAgent

Activity Details

Activity Dates
All fields start with Activity Details\Activity Dates: followed by:

- **Activity Start Date** - The date that the activity of the device was recorded.
- **Activity End Date** - The date that the end of the activity of the device was recorded.
- **Breakdown** - A range, selected by the user, to run a report of activities by day or 15, 30 or 60 minute intervals.
  - **15 mins** - A breakdown of data by 15 minute intervals for activity details.
  - **30 mins** - A breakdown of data by 30 minute intervals for activity details.
  - **60 mins** - A breakdown of data by 60 minute intervals for activity details.
  - **Day** - Returns the day that the information of the activity was recorded.
  - **Day 2** - Returns the date that the information of the activity was recorded.

Activity measures
All fields start with Activity Details\Activity Measures: followed by:

- **Time in Activity** - The total time in activity (including busy, logged on etc.).
- **No. of Times Busy** - A count of the number of times that the specified Trunk Group was in a busy state.
- **No. of Times Busy NA** - A count of the number of times that the specified agent was in a busy not available state.
- **Total Time Busy** - The total time that the specified Trunk Group remained in a busy state.
Time in State
All the fields start with Activity Details\Activity Measures\Time in State: followed by:

- **Logged On** - The total time spent logged on (secs).
- **Logged Off** - The total time spent logged off (secs).
- **Ready** - The total time spent time in ready (secs).
- **Incoming** - The total time spent time in an incoming state (secs).
- **Outgoing** - The total time spent time in an outgoing state (secs).
- **Holding** - The total time spent holding (secs).
- **Busy** - The total time spent in a busy state (secs).
- **Busy Wrap-Up** - The total time spent in busy wrap-up (secs).
- **Busy N/A** - The total time spent in busy not available (secs). Not currently supported.
- **Ringing** - The total time spent in a ringing state (secs).
- **Ringing Refused** - The amount of time in seconds than an agent was in the ringing state without answering.
- **Internal Made** - The total time spent in a internal made state (secs).
- **Internal Received** - The total time spent in an internal received state (secs).
- **Made** - The total time spent in an outgoing plus an internal made state (secs).
- **Received** - The total time spent in an incoming plus an internal received state (secs).

Activity Details
Details of all the activities of device types, from the time that the devices entered that activity, to the time it exited.

All fields start with Activity Details: followed by:

- **Trunk Group** - A description of the type of trunk device. Used specifically for queries filtering on trunk type devices.
- **Agent Group** - The group name to which the agent device belongs.
- **VM Group** - The name of the group to which the voice manager has been assigned.
- **Agent Name** - The agent name of all agent device types. The list of values shows the device description associated with each agent device.
- **Agent DN** - The device number of device types that are agents.
- **Trunk Device** - The device number of device types that are trunk devices.
- **Activity** - The code description for device activities.
- **Activity Code** - The activity code for device activities.
- **Busy NA Reason** - Description of the reason for the busy na activity. Not Currently Supported.
- **Minute Intervals** - Breakdown of date and time for querying on breakdowns of data by 15, 30 and 60 minute intervals.
Percentage Time In State
All the fields start with Activity Details\Activity measures\Percentage Time in State: followed by:

- Ready (%) - The percentage of time spent in a ready state.
- Incoming (%) - The percentage of time spent in an incoming state.
- Outgoing(%) - The percentage of time spent in an outgoing state.
- Holding (%) - The percentage of time spent in a holding state.
- Busy (%) - The percentage of time spent in a busy state.
- Busy Wrap-Up (%) - The percentage of time spent in a busy wrap-up state.
- Busy N/A (%) - The percentage of time spent in a busy not available state. Not Currently Supported.
- Ringing (%) - The percentage of time spent in a ringing state.
- Ringing Refused (%) - The percentage of total time logged on spent in the ringing state that ended with the call being refused.
- Internal Made (%) - The percentage of time spent in an internal made state.
- Internal Received (%) - The percentage of time spent in an internal received state.
- Made (%) - The percentage of time spent in an outgoing and internal made state.
- Received (%) - The percentage of time spent in an incoming and internal received state.

Activity Dates Measures
All fields start with Activity Details\Activity Dates\Activity Dates Measures: followed by:

- From Date - Report covers from date.
- To Date - Report cover to date.

Activities and Calls
All the fields start with Activities and Calls: followed by:

- Agent Name - The agent name taken from both call and activity records.
- Agent Group - The agent group name taken from both call and activity records.
- Trunk Group - The trunk group name taken from both call and activity records.
- VM Group - The voicemail group name taken from both call and activity records.
- Date - The date of an activity or call record.

Agent Details
All the fields start with Agent Details: followed by:

- Agent Super Group - The super group name which houses a collection of groups of agents.
- Agent Group - The name of the group to which the agent has been assigned.
- Agent Name - The agent name of all agent device types. The list of values shows the device description associated with each agent device.
- Agent DN - The device number of device types that are agents.
- Agent Device - A description of the device type that the agent is associated with.
Trunk Details

All the fields start with **Trunk Details**: followed by:

- **Trunk Super Group** - The super group name which houses a collection of groups of trunks.
- **Trunk Group** - The name of the group to which the trunk has been assigned.
- **Trunk Name** - The trunk name of all trunk device types. The list of values shows the device description associated with each trunk device.
- **Trunk DN** - The device number of device types that are trunks.
- **Trunk Device** - A description of the device type that the trunk is associated with.

Trunk Occupancy Measures

All the fields start with **Trunk Details**|**Trunk Occupancy Measures**: followed by:

- **Outgoing** - Trunk : Outgoing external calls that are successful and internal made calls that are successful plus external outgoing calls and internal made calls that were not answered.
- **O/G Answered** - Trunk : Outgoing external calls that are successful and internal made calls that are successful.
- **O/G Unanswered** - Trunk : External outgoing calls and internal made calls that were not answered.
- **O/G Ans. Call Length** - Total time spent by Trunks in the group on outgoing calls that were answered by their recipient. (Including external, internal and transfers).
- **O/G Ans. Short Call Length** - Total time spent by Trunks in the group on outgoing short calls that were answered by their recipient. (Including external, internal and transfers).
- **O/G Ans. Long Call Length** - Total time spent by Trunks in the group on outgoing long calls that were answered by their recipient. (Including external, internal and transfers).
- **O/G Calls** - Trunk : Outgoing completed external calls that are successful or failed and internal completed made calls that are successful or failed
- **O/G Call Length** - Outgoing call length measures device occupancy rather than Talk-time. Hence, the time from outgoing seize to trunk-clear.
- **O/G Short Calls** - Trunk : Outgoing completed external short calls that are successful or failed and internal completed made short calls that are successful or failed
- **O/G Short Call Length** - Outgoing call length measures device occupancy rather than Talk-time. Hence, the time from outgoing seize to trunk-clear.
- **O/G Long Calls** - Trunk : Outgoing completed external long calls that are successful or failed and internal completed long made calls that are successful or failed.
- **O/G Long Call Length** - Outgoing call length measures device occupancy rather than Talk-time. Hence, the time from outgoing seize to trunk-clear.
- **I/C Calls** - Trunk Incoming Calls.
- **I/C Presented** - Trunk incoming (external, internal) calls that are successful and (external, internal) incoming calls that were not answered.
- **I/C Answered** - Incoming external calls that are successful and successful internal calls that are received.
- **I/C Lost** - External incoming calls and internal received calls that were not answered.
- **I/C Ans. Call Length** - Total time spent by Trunks in the group on incoming calls that were answered by their recipient. (Including external, internal and transfers).
- **I/C Ans. Short Calls** - Trunk: Incoming completed external short calls that are successful and internal completed received short calls that are successful.
- **I/C Ans. Short Call Length** - Total time spent by Trunks in the group on incoming short calls that were answered by their recipient. (Including external, internal and transfers).
- **I/C Ans. Long Calls** - Trunk: Incoming completed external long calls that are successful and internal completed received long calls that are successful.
- **I/C Ans. Long Call Length** - Total time spent by Trunks in the group on incoming long calls that were answered by their recipient. (Including external, internal and transfers).
- **No. of calls transferred to PSTN** - Number of calls transferred to PSTN.
- **PSTN transfers via trunk group** - Number of times a PSTN call was transferred to lines in this group.

### Transferor
All the fields start with **Transferor**: followed by:
- **Transferor DN** - Transferor DN.
- **Transferor Group Name** - Transferor group name.
- **Transferor Type** - Transferor device type.
- **Transferor Name** - Transferor device name.
- **Transfer Destination Type** - Transfer destination device type.
- **Transfer Destination DN** - Transfer destination DN.
- **Transfer destination name** - Transfer destination name.
- **Transfer destination group** - Transfer destination group name.
- **Transfer Destination Supergroup** - Transfer destination supergroup name.

### VM Details
- **VM Details: VM Group** - The name of the group to which the voice manager has been assigned.
Call Details

Call Details
All fields start with Call Details: followed by:

- **Number Dialed** - Number dialled by originator.
- **CLI** - Originating line ID.
- **DDI Number** - Direct Dialled inwards number.
- **Pilot Number** - Pilot Number.
- **Pilot Name** - Pilot Name.
- **Call Direction** - The description of the call direction code.
- **Call Direction Code** - The direction code of the call. The list of values shows the code description associated with each call direction.
- **Account Code** - Last account code.
- **Call Identifier Number** - Call Sequence number.
- **End of Call Flag** - End of call flag (boolean).
- **Terminal Device** - The terminal device type and description.

Target Details
Last Target: The group or device to which the switch has 'decided' to present the call (not necessarily its first preference).

All fields start with Call Details!Target Details: followed by:

- **Target Name** - The last target is the group or device to which the switch has presented the call (not necessarily its first preference).
- **Target DN** - The last target directory number. The target is the group or device to which the switch has presented the call (not necessarily its first preference).
- **Target Type** - The device type of the last target. The target is the group or device to which the switch has presented the call (not necessarily its first preference).
Call Measures

Call Measures
All field start with Call Measures: followed by:

- **Call Duration Group by** - The duration of the call is the actual speech time of the call.
- **Call Duration Bandwidth** - The duration of the call is the bandwidth of 20 seconds.
- **No. of Calls** - A count of the number of calls recorded as having connected to the switch.
- **Call Duration** - The duration of the call is the actual speech time of the call.
- **Answer Time** - This part of the call spent queued and/or ringing.
- **Ring Time** - The period for which this phase of the call rang an agent.
- **Total Age of the Call** - This calculates the total age of the call to the point that the call was lost or answered.
- **Total Age of the Call (Answered)** - This calculates the total age of the call to the point that the call was answered.
- **Total Age of the Call (Lost)** - This calculates the total age of the call to the point that the call was lost.
- **ISDN Cost** - The cost of the call. Note: cost information is only contained in the last segment of each call.

All Call Measures
External: These are calls identified by the call directions: G, H, I, O, X, Y, F, N.
Internal: These are calls identified by the call directions: D, E, J, K, M, R, V, W.

For call direction details please refer to the glossary.

All the fields start with All Call Measures: followed by:

- **Calls Made** - Outgoing external calls that are successful and internal made calls that are successful.
- **Made Calls (Unanswered)** - External outgoing calls and internal made calls that were not answered.
- **Calls Made (Inc. Xfers)** - Outgoing external calls and transfers that are successful and made internal calls and transfers that are successful.
- **Short Calls Made** - Successful external and internal calls that are outgoing and internal made and the duration is less than or equal to the short call duration as entered by the user.
- **Long Calls Made** - Successful external and internal calls that are outgoing and internal made and the duration is greater than or equal to the long call duration as entered by the user.
- **Short Calls Made (Inc. Xfers)** - Successful external and internal calls, including transfers that are outgoing and internal made and the duration is less than or equal to the short call duration as entered by the user.
- **Long Calls Made (Inc. Xfers)** - Successful external and internal calls, including transfers that are outgoing and internal made and the duration is greater than or equal to the long call duration as entered by the user.
- **Duration of Made Calls** - The duration of outgoing external calls and internal made calls that are successful.
- **Duration of Made Calls (Inc. Xfers)** - The duration of outgoing external calls and internal made calls and transfers that are successful and the duration of successful internal calls and transfers that are made.
• **Calls Received** - Incoming external calls that are successful and successful internal calls that are received.

• **Received Calls (Unanswered)** - External incoming calls and internal received calls that were not answered.

• **Calls Received (Inc. Xfers)** - Incoming external calls and transfers that are successful and successful internal calls and transfers that are received.

• **Short Calls Received** - Successful external calls that are incoming and internal received calls and the duration is less than or equal to the short call duration as entered by the user.

• **Long Calls Received** - Successful external calls that are incoming and internal received calls and the duration is greater than or equal to the long call duration as entered by the user.

• **Short Calls Received (Inc. Xfers)** - Successful external calls, internal received; including transfers that are incoming and the duration is less than or equal to the short call duration as entered by the user.

• **Long Calls Received (Inc. Xfers)** - Successful external calls, internal received calls, including transfers, that are incoming and the duration is greater than or equal to the long call duration as entered by the user.

• **Duration of Received Calls** - The duration of incoming external calls and internal received calls that are successful.

• **Duration of Received (Inc. Xfers)** - The duration of incoming external calls, internal received calls and transfers that are successful.

• **Answer Time (Answered)** - Total time taken to answer all external and internal incoming answered calls.

• **Answer Time (Lost)** - Total time taken to waiting for all external and internal incoming unanswered calls.

• **Longest Waiting Answered** - The oldest call answered, measured as time from arrival to answer or time from transfer by voicemail to answer, as appropriate (external and internal).

• **Longest Waiting Lost Number** - The oldest call lost, measured as time from arrival to the time that the caller disconnected (external and internal).

• **Calls Within PCA** - Number of incoming calls answered before PCA Break (for external and internal).

• **Total Answered Calls** - Total external and internal calls that are successful.

• **Total Calls (Unanswered)** - External and internal calls that were not answered.

• **Total Calls (inc. Xfers)** - Incoming and outgoing external calls and transfers.

• **Total Short Calls** - Successful external and internal calls, the duration is less than or equal to the short call duration as entered by the user.

• **Total Long Calls** - Successful external and internal calls, the duration is greater than or equal to the long call duration as entered by the user.

• **Total Short Calls (Inc. Xfers)** - Successful external and internal calls, including transfers, the duration is less than or equal to the short call duration as entered by the user.

• **Total Long Calls (Inc. Xfers)** - Successful external and internal calls, including transfers, the duration is greater than or equal to the long call duration as entered by the user.

• **Total Duration** - The duration of outgoing external calls that are successful.

• **Total Duration (Inc. Xfers)** - The duration of outgoing external and internal calls and transfers that are successful.

• **Total Transfers Calls** - Count of transfers of external and internal calls.

• **Total Transfers Call Duration** - The duration of successful transfers of external outgoing calls. Connected parties have a different HNG.
- **Interflow To Number** - Count of successful transfers of external incoming calls.
- **Intraflow To Number** - Count if successful transfers of external outgoing calls. Connected parties have the same HNG.

## External Call Measure

These are calls identified by the call directions: G, H, I, O, X, Y F, N. For call direction details please refer to the glossary.

All the fields start with **External Call Measures**: followed by:

- **Outgoing** - Outgoing external calls that are successful and External outgoing calls that were not answered.
- **O/G Answered** - Outgoing external calls that are successful.
- **O/G Answered (Inc. Xfers)** - Outgoing external calls and transfers that are successful.
- **O/G Unanswered** - External outgoing calls that were not answered.
- **O/G Short Calls** - Successful external calls that are outgoing and the duration is less than or equal to the short call duration as entered by the user.
- **O/G Long Calls** - Successful external calls that are outgoing and the duration is greater than or equal to the long call duration as entered by the user.
- **O/G Short Calls (Inc. Xfers)** - Successful external calls, including transfers, that are outgoing and the duration is less than or equal to the short call duration as entered by the user.
- **O/G Long Calls (Inc. Xfers)** - Successful external calls, including transfers, that are outgoing and the duration is greater than or equal to the long call duration as entered by the user.
- **O/G Calls Duration** - The duration of outgoing external calls that are successful.
- **O/G Calls Duration (Inc.Xfers)** - The duration of outgoing external calls and transfers that are successful.
- **I/C Presented** - Incoming external calls that are successful and External incoming calls that were not answered.
- **I/C Answered** - Incoming external calls that are successful.
- **I/C Answered (Inc. Xfers)** - Incoming external calls and transfers that are successful.
- **I/C Unanswered** - Incoming external calls that are not answered.
- **I/C Lost** - External incoming calls that were not answered. (including voicemail connections).
- **I/C Short Calls** - Successful external calls that are incoming and the duration is less than or equal to the short call duration as entered by the user.
- **I/C Long Calls** - Successful external calls that are incoming and the duration is greater than or equal to the long call duration as entered by the user.
- **I/C Short Calls (Inc. Xfers)** - Successful external calls, including transfers that are incoming and the duration is less than or equal to the short call duration as entered by the user.
- **I/C Long Calls (Inc. Xfers)** - Successful external calls, including transfers that are incoming and the duration is greater than or equal to the long call duration as entered by the user.
- **I/C Calls Duration** - The duration of incoming external calls that are successful.
- **I/C Calls Duration (Inc. Xfers)** - The duration of incoming external calls and transfers that are successful.
- **I/C Short Call Duration(Inc. Xfers)** - Successful external call duration, including transfers that are incoming and the duration is less than or equal to the short call duration as entered by the user.
- **Answer Time (Answered)** - Total time taken to answer all external incoming answered calls.
- **Answer Time (Lost)** - Total time taken to waiting for all external incoming unanswered calls.
- **Answer Time (Lost) Inc. VM** - Total time taken to waiting for all external incoming unanswered calls, including calls to voicemail.
- **Longest Waiting Answered** - The oldest call answered, measured as the time from arrival to answer or the time from transfer by voicemail to answer, as appropriate.
- **Longest Waiting Lost** - The oldest call lost, measured as the time from arrival to the time that the caller disconnected.
- **Total Answered Calls** - Incoming and outgoing external calls that are successful.
- **Total Unanswered Calls** - External outgoing and incoming calls that were not answered.
- **Total Calls (Inc. Xfers)** - Incoming and outgoing external calls and transfers.
- **Total Short Calls** - Successful external calls that are outgoing and incoming and the duration is less than or equal to the short call duration as entered by the user.
- **Total Long Calls** - Successful external calls that are outgoing and incoming and the duration is greater than or equal to the long call duration as entered by the user.
- **Total Short Calls (Inc. Xfers)** - Successful external calls, including transfers, that are incoming and outgoing and the duration is less than or equal to the short call duration as entered by the user.
- **Total Long Calls (Inc. Xfers)** - Successful external calls, including transfers, that are incoming and outgoing and the duration is greater than or equal to the long call duration as entered by the user.
- **Total Duration** - The duration of outgoing and incoming external calls that are successful.
- **Total Duration (Inc.Xfers)** - The duration of outgoing and incoming external calls and transfers that are successful.
- **Total Transfers Calls** - Transfers of external calls. (Connected parties have a different HNG).
- **Interflow In** - The successful transfers of external incoming calls. (Connects parties with a different HNG).
- **Interflow Out** - The successful transfers of external incoming calls. (Connects parties with a different HNG).
- **Interflow To** - The successful transfers of external incoming calls.
- **Intraflow In** - The successful transfers of external incoming calls. (Connected parties have the same HNG).
- **Intraflow Out** - The successful transfers of external outgoing calls. (Connected parties have the same HNG).
- **Intraflow To** - The successful transfers of external outgoing calls. (Connected parties have the same HNG).
Internal Call Measure
These are calls identified by the call directions: D, E, J, K, M, R, V, and W. For call direction details please refer to the glossary.

All the fields start with **Internal Call Measures**: followed by:

- **Internal Made** - Successful internal calls that are made.
- **Internal Made (Inc. Xfers)** - Successful internal made calls and transfers.
- **Internal Made Refused Calls** - Internal made calls that were not answered.
- **Internal Made Short Calls** - Successful internal calls that are made and the duration is less than or equal to the short call duration as entered by the user.
- **Internal Made Long Calls** - Successful internal calls that are made and the duration is greater than or equal to the long call duration as entered by the user.
- **Internal Made Short (Inc. Xfers)** - Successful internal calls, including transfers, that are made and the duration is less than or equal to the short call duration as entered by the user.
- **Internal Made Long (Inc. Xfers)** - Successful internal calls, including transfers, that are made and the duration is greater than or equal to the long call duration as entered by the user.
- **Internal Made Duration** - The duration of successful internal calls that are made.
- **Internal Made Duration (Inc. Xfers)** - The duration of successful internal calls and transfers that are made.
- **Internal Received** - Successful internal calls that are received.
- **Internal Received (Inc. Xfers)** - Successful internal calls and transfers that are received.
- **Internal Received Refused Calls** - Internal received calls that were not answered.
- **Internal Received Short Calls** - Successful internal calls that are received and the duration is less than or equal to the short call duration as entered by the user.
- **Internal Received Long Calls** - Successful internal calls that are received and the duration is greater than or equal to the long call duration as entered by the user.
- **Internal Rcvd Short (Inc. Xfers)** - Successful internal calls, including transfers, that are received and the duration is less than or equal to the short call duration as entered by the user.
- **Internal Rcvd Long (Inc. Xfers)** - Successful internal calls, including transfers, that are received and the duration is greater than or equal to the long call duration as entered by the user.
- **Internal Received Duration** - The duration of successful internal calls that are received.
- **Internal Rcvd Duration (Inc. Xfers)** - The duration of successful internal calls and transfers that are received.
- **Internal Interflow Made** - The successful transfers of internal made calls. (Connected parties have a different HNG)
- **Internal Interflow Received** - The successful transfers of internal received calls. (Connected parties have a different HNG)
- **Internal Intraflow Made** - The successful transfers of internal made calls. (Connected parties have the same HNG).
- **Internal Intraflow Received** - The successful transfers of internal received calls. (Connected parties have the same HNG).
- **Total Internal Answered Calls** - Made and received internal calls that are successful.
- **Total Internal Calls (Inc. Xfers)** - Made and received internal calls and transfers.
- **Total Internal Unanswered Calls** - Internal made and received calls that were not answered.
- **Total Internal Short Calls** - Successful internal calls that are made and received and the duration is less than or equal to the short call duration as entered by the user.
• **Total Long Calls** - Successful internal calls that are made and received and the duration is greater than or equal to the long call duration as entered by the user.

• **Total Internal Short (Inc. Xfers)** - Successful internal calls, including transfers, that are made and received and the duration is less than or equal to the short call duration as entered by the user.

• **Total Internal Long (Inc. Xfers)** - Successful internal calls, including transfers, that are made and received and the duration is greater than or equal to the long call duration as entered by the user.

• **Total Internal Duration** - The duration of made and received internal calls that are successful.

• **Total Internal Duration (Inc. Xfers)** - The duration of made and received internal calls and transfers that are successful.

• **Total Internal Transfers Calls** - Count of transfers of internal calls.

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**VM Call Measures**

All the fields start with **VM Call Measures**: followed by:

• **Number of Transactions** - The number of connections made to the Voice Manager

• **Transaction Duration** - The duration of connections made to the Voice Manager.

• **Transaction Time (Answered)** - The ringing and queuing time of connections made to the Voice Manager.

• **Terminated Calls** - The number of unsuccessful connections made to the Voice Manager

• **Lost in VM** -
  1. Calls that were answered by the VM but cleared before being transferred or reached an answer flag in VM.
  2. Calls that failed to be answered after transfer by VM (without reaching answer flag).

• **Maximum Duration** - The maximum duration of connections made to the Voice Manager.

• **Minimum Duration** - The minimum duration of connections made to the Voice Manager.
Interaction Manager

All the fields start with **Interaction Manager**: followed by:

- **Media Type** - Lists the different types of Multimedia that a user interacts with eg. Email, Web Chat or Web Callback.
- **Direction** - The description of the transaction direction code.
- **Direction Code** - The direction code of the transaction. The list of values shows the code description associated with each transaction direction.
- **Destination** - The destination to which the transaction was sent.
- **Originating Line ID** - Originating Line ID.
- **DDI Number** - Direct dialled inwards number.
- **Pilot Number** - Pilot Number.
- **Pilot Name** - Pilot Name.
- **Account Code** - Last account code.
- **Identifier Number** - Call sequence number.
- **End of Transaction Flag** - End of transaction flag (boolean).
- **Terminal Device** - The terminal device type and description.
- **Time** - Time of transaction arrival.
- **Time 2** - Time of answered transaction.
- **Transaction Date (dd/mm/yy)** - Date of transaction arrival in format dd/mm/yy.
- **Transaction Date 2 (dd/mm/yy)** - Date of answered transaction in format dd/mm/yy.
- **Target Name** - The last target is the group or device to which the switch has presented the transaction (not necessarily it's first preference).
- **Target DN** - The last target directory number. The target is the group or device to which the switch has presented the transaction (not necessarily it's first preference).
- **Target Type** - The device type of the last target. The target is the group or device to which the switch has presented the transaction (not necessarily it's first preference).
- **Original Destination Name** - The destination name for which the transaction was originally intended.
- **Original Destination DN** - The target device number for which the transaction was originally intended.
- **Original Destination Type** - The target device type for which the transaction was originally intended.
Time Breakdown
All the fields start with Interaction Manager\Time Breakdown: followed by:

- **Breakdown** - A range, selected by the user, to run a report for transaction arrival details by Day or 15, 30 or 60 minute intervals.
- **5 mins** - A breakdown of data by 5 minute intervals for transaction arrival details.
- **15 mins** - A breakdown of data by 15 minute intervals for transaction arrival details.
- **30 mins** - A breakdown of data by 30 minute intervals for transaction arrival details.
- **60 mins** - A breakdown of data by 60 minute intervals for transaction arrival details.
- **Day** - Returns the day that the transaction arrival information was recorded.
- **Day 2** - The date that the transaction arrival information was recorded.

All the fields start with Interaction Manager\Time Breakdown 2: followed by:

- **Breakdown** - A range, selected by the user, to run a report for transaction details by Day or 15, 30 or 60 minute intervals.
- **5 mins** - A breakdown of data by 5 minute intervals for transaction details.
- **15 mins** - A breakdown of data by 15 minute intervals for transaction details.
- **30 mins** - A breakdown of data by 30 minute intervals for transaction details.
- **60 mins** - A breakdown of data by 60 minute intervals for transaction details.
- **Day** - The day that the transaction information was recorded.
- **Day 2** - The date that the transaction information was recorded.

Cost Details
All the fields start with Interaction Manager: followed by:

- **ISDN Units** - ISDN units of cost. Note: Cost information is only contained in the last segment of each transaction.
- **ISDN Cost** - ISDN cost (pence). Note: Cost information is only contained in the last segment of each transaction.
- **Max ISDN Cost** - The maximum ISDN cost (pence) Note: Cost information is only contained in the last segment of each transaction.
Callback
All the fields start with Interaction Manager\Callback: followed by:

- **Callback Code** - There are 3 values for this object:
  
  YES – Means that the call was successful
  
  NO – Means that the call was unsuccessful
  
  UNKNOWN / INITIALISED CALLBACK – means that the call was initiated as a callback but was not successful.

- **Successful Callback** - Returns 'YES' if the callback was successful.

- **Unsuccessful Callback** - Returns 'NO' if the callback was successful.

- **Unknown Callback** - Returns 'UNKNOWN' if the callback is unknown.

- **Initialised Callback** - Returns 'INITIALISED CALLBACK' if the callback is initialised.

- **No. of Successful Callbacks** - The number of successful callbacks.

- **No. of Unsuccessful Callbacks** - The number of unsuccessful callbacks.

- **No. of Unknown Callbacks** - The number of unknown callbacks.

- **No. of Initialised Callbacks** - The number of initialised callbacks.

Measures
All the fields start with Interaction Manager\Measures: followed by:

- **Duration Group By** - The duration of the transaction is the actual action time of the transaction.

- **Duration Bandwidth** - The duration of the transaction is the bandwidth of 20 seconds.

- **No. of Media Transactions** - A count of the number of media transactions recorded as having connected to the switch.

- **I/C Lost** - External incoming transactions that were not answered. (including voicemail connections)

- **Duration** - The duration of the transaction is the actual action time of the transaction.

- **Answer Time** - This part of the transaction spent queued and/or alerting.

- **Ring Time** - The period for which this phase of the transaction alerted an agent.

- **Total Age of the Transaction** - This calculates the total age of the transaction to the point that the transaction was lost or answered.

- **Total Age of the Trans (Answered)** - This calculates the total age of the transaction to the point that the transaction was answered.

- **Total Age of the Trans (Lost)** - This calculates the total age of the transaction to the point that the transaction was lost.
External
These are transactions identified by the directions; G, H, I, O, X, Y, F, N. For call direction details please refer to the glossary.

All the fields start with Interaction Manager\Measures\External: followed by:

- **I/C Presented** - Incoming external transactions that are successful and incoming external transactions that were not answered.
- **I/C Answered** - Incoming external transactions that are successful.
- **I/C Answered (Inc. Xfers)** - Incoming external media transactions and transfers that are successful.
- **I/C Unanswered** - Incoming external transactions that are not answered.
- **I/C Duration** - The duration of incoming external transactions that are successful.
- **I/C Duration (Inc. Xfers)** - The duration of incoming external transactions and transfers that are successful.
- **I/C Short Transactions** - Successful external transactions that are incoming and the duration is less than or equal to the short transaction duration as entered by the user.
- **I/C Short Transactions (Inc. Xfers)** - Successful external transactions, including transfers, that are incoming and the duration is less than or equal to the short transaction duration as entered by the user.
- **I/C Short Duration (Inc. Xfers)** - Successful external transaction duration, including transfers, that are incoming and the duration is less than or equal to the short transaction duration as entered by the user.
- **I/C Long Transactions** - Successful external transactions that are incoming and the duration is greater than or equal to the long transaction duration as entered by the user.
- **I/C Long Transactions (Inc. Xfers)** - Successful external transactions, including transfers, that are incoming and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Longest I/C Interaction Time** - Longest incoming duration time of transaction (Includes transfers).
- **O/G Answered** - Outgoing external transactions that are successful.
- **O/G Answered (Inc. Xfers)** - Outgoing external media transactions and transfers that are successful.
- **O/G Unanswered** - External outgoing transactions that were not answered.
- **O/G Short Transactions** - Successful external transactions that are outgoing and the duration is less than or equal to the short transaction duration as entered by the user.
- **O/G Short Transactions (Inc. Xfers)** - Successful external transactions, including transfers, that are outgoing and the duration is less than or equal to the short transaction duration as entered by the user.
- **O/G Long Transactions** - Successful external transactions that are outgoing and the duration is greater than or equal to the long transaction duration as entered by the user.
- **O/G Long Transactions (Inc. Xfers)** - Successful external transactions, including transfers, that are outgoing and the duration is greater than or equal to the long transaction duration as entered by the user.
- **O/G Duration** - The duration of outgoing external transactions that are successful.
- **O/G Duration (Inc.Xfers)** - The duration of outgoing external transactions and transfers that are successful.
- **Longest O/G Interaction Time** - Longest outgoing duration time of transaction (Includes transfers).
- **Longest Interaction Time** - Longest duration time of transaction (Includes transfers).
- **Longest Waiting Answered** - The oldest transaction answered, measured as time from arrival to answer or time from transfer by voicemail to answer, as appropriate.
- **Longest Waiting Lost** - The oldest transaction lost, measured as time from arrival to the time disconnected.
- **Answer Time (Answered)** - Total time taken to answer all external incoming answered transactions.
- **Answer Time (Lost)** - Total time taken to waiting for all external incoming unanswered transactions.
- **Interflow To** - The successful transfers of external incoming transactions.
- **Intraflow To** - The successful transfers of external outgoing transactions. (Connected parties have the same HNG).
- **Interflow In** - The successful transfers of external incoming transactions. (Connects parties with a different HNG).
- **Interflow Out** - The successful transfers of external outgoing transactions. (Connects parties with a different HNG).
- **Intraflow In** - The successful transfers of external incoming transactions. (Connected parties have the same HNG).
- **Intraflow Out** - The successful transfers of external outgoing transactions. (Connected parties have the same HNG).
- **Total Answered Transaction** - Incoming and outgoing external transactions that are successful.
- **Total Unanswered Transactions** - External outgoing and incoming transactions that were not answered.
- **Total Transactions (Inc. Xfers)** - Incoming and outgoing external media transactions and transfers.
- **Total Short Transaction** - Successful external transactions that are outgoing and incoming and the duration is less than or equal to the short transaction duration as entered by the user.
- **Total Short Trans (Inc. Xfers)** - Successful external transactions, including transfers, that are incoming and outgoing and the duration is less than or equal to the short transaction duration as entered by the user.
- **Total Long Transaction** - Successful external transactions that are outgoing and incoming and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Total Long Trans (Inc. Xfers)** - Successful external transactions, including transfers, that are incoming and outgoing and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Total Transfers** - Transfers of external transactions. (Connected parties have a different HNG).
- **Total Duration** - The duration of outgoing and incoming external transactions that are successful.
- **Total Duration (Inc.Xfers)** - The duration of outgoing and incoming external media transactions and transfers that are successful.
Internal
These are transactions identified by the directions: D, E, J, K, M, R, V, W. For call direction details please refer to the glossary.

All the fields start with Interaction Manager\Measures\Internal: followed by:

- **Internal Made** - Successful internal transactions that are made.
- **Internal Made (Inc. Xfers)** - Successful internal made transactions and transfers.
- **Internal Made Refused** - Internal made transactions that were not answered.
- **Internal Made Short Transactions** - Successful internal transactions that are made and the duration is less than or equal to the short transaction duration as entered by the user.
- **Internal Made Short (Inc. Xfers)** - Successful internal transactions, including transfers, that are made and the duration is less than or equal to the short transaction duration as entered by the user.
- **Internal Made Long Transactions** - Successful internal transactions that are made and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Internal Made Long (Inc. Xfers)** - Successful internal transactions, including transfers, that are made and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Internal Made Duration** - The duration of successful internal transactions that are made.
- **Internal Made Duration (Inc. Xfers)** - The duration of successful internal transactions and transfers that are made.
- **Internal Interflow Made** - The successful transfers of internal made transactions. (Connected parties have a different HNG)
- **Internal Intraflow Made** - The successful transfers of internal made transactions. (Connected parties have the same HNG).
- **Internal Received** - Successful internal transactions that are received.
- **Internal Received (Inc. Xfers)** - Successful internal transactions and transfers that are received.
- **Internal Received Refused** - Internal received transactions that were not answered.
- **Internal Received Short Trans** - Successful internal transactions that are received and the duration is less than or equal to the short transaction duration as entered by the user.
- **Internal Rcvd Short (Inc. Xfers)** - Successful internal transactions, including transfers, that are received and the duration is less than or equal to the short transaction duration as entered by the user.
- **Internal Received Long Trans** - Successful internal transactions that are received and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Internal Rcvd Long (Inc. Xfers)** - Successful internal transactions, including transfers, that are received and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Internal Received Duration** - The duration of successful internal transactions that are received.
- **Internal Rcvd Duration (Inc. Xfers)** - The duration of successful internal transactions and transfers that are received.
- **Internal Interflow Received** - The successful transfers of internal received transactions. (Connected parties have a different HNG)
- **Internal Intraflow Received** - The successful transfers of internal received transactions. (Connected parties have the same HNG).
- **Total Internal Answered** - Made and received internal transactions that are successful.
- **Total Internal Trans (Inc. Xfers)** - Made and received internal transactions and transfers.
- **Total Internal Unanswered** - Internal made and received transactions that were not answered.
- **Total Internal Short Trans** - Successful internal transactions that are made and received and the duration is less than or equal to the short transaction duration as entered by the user.
- **Total Internal Long Trans** - Successful internal transactions that are made and received and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Total Internal Short (Inc. Xfers)** - Successful internal transactions, including transfers, that are made and received and the duration is less than or equal to the short transaction duration as entered by the user.
- **Total Internal Long (Inc. Xfers)** - Successful internal transactions, including transfers, that are made and received and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Total Internal Duration** - The duration of made and received internal transactions that are successful.
- **Total Internal Duration (Inc. Xfers)** - The duration of made and received internal transactions and transfers that are successful.
- **Total Internal Trans** - Transfers of internal transactions.
- **Alert Time** - The period for which this phase of the transaction alerted an agent.
All Transactions
These measures combine external and internal transactions. For call direction details please refer to the glossary.

External: These are transactions identified by the directions: G, H, I, O, X, Y, F, N.
Internal: These are transactions identified by the directions: D, E, J, K, M, R, V, W.

All the fields start with interaction Manager\Measures\All Transactions: followed by:

- **Transactions Made** - Outgoing external transactions that are successful and internal made transactions that are successful.
- **Transactions Made (Unanswered)** - External outgoing transactions and internal made transactions that were not answered.
- **Transactions Made (Inc. Xfers)** - Outgoing external transactions and transfers that are successful and made internal transactions and transfers that are successful.
- **Short Transactions Made** - Successful external and internal transactions that are outgoing and internal made and the duration is less than or equal to the short transaction duration as entered by the user.
- **Long Transactions Made** - Successful external and internal transactions that are outgoing and internal made and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Short Trans Made (Inc. Xfers)** - Successful external and internal transactions, including transfers, that are outgoing and internal made and the duration is less than or equal to the short transaction duration as entered by the user.
- **Long Trans Made (Inc. Xfers)** - Successful external and internal transactions, including transfers, that are outgoing and internal made and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Duration of Transactions Made** - The duration of outgoing external transactions and internal made transactions that are successful.
- **Duration of Trans Made (Inc. Xfers)** - The duration of outgoing external calls and internal made calls and transfers that are successful.
- **Transactions Received** - Incoming external transactions that are successful and successful internal transactions that are received.
- **Transactions Received (Unanswered)** - External incoming transactions and internal received transactions that were not answered.
- **Transactions Received (Inc. Xfers)** - Incoming external transactions and transfers that are successful and successful internal transactions and transfers that are received.
- **Short Transactions Received** - Successful external transactions that are incoming and internal received transactions and the duration is less than or equal to the short transaction duration as entered by the user.
- **Long Transactions Received** - Successful external transactions that are incoming and internal received transactions and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Short Trans Received (Inc. Xfers)** - Successful external transactions, internal received, including transfers, that are incoming and the duration is less than or equal to the short transaction duration as entered by the user.
- **Long Trans Received (Inc. Xfers)** - Successful external transactions, internal received transactions, including transfers, that are incoming and the duration is greater than or equal to the long transaction duration as entered by the user.
- **Duration of Transactions Received** - The duration of incoming external transactions and internal received transactions that are successful.
• **Duration of Trans Rcvd (Inc. Xfers)** - The duration of incoming external transactions, internal received transactions and transfers that are successful.

• **Answer Time (Answered)** - Total time taken to answer all external and internal incoming answered transactions.

• **Answer Time (Lost)** - Total time taken to waiting for all external and internal incoming unanswered transactions.

• **Longest Waiting Answered** - The oldest transaction answered, measured as time from arrival to answer or time from transfer by voicemail to answer, as appropriate. (external and internal)

• **Longest Waiting Lost** - The oldest transaction lost, measured as time from arrival to the time the initiator disconnected. (external and internal)

• **Total Answered** - Total external and internal transactions that are successful.

• **Total Unanswered** - External and Internal transactions that were not answered.

• **Total Transfers** - Transfers of external and internal transactions.

• **Total Transactions (Inc. Xfers)** - Incoming and outgoing external transaction and transfers.

• **Total Short Transactions** - Successful external and internal transactions, the duration is less than or equal to the short transaction duration as entered by the user.

• **Total Short Trans (Inc. Xfers)** - Successful external and internal transactions, including transfers, where the duration is less than or equal to the short transaction duration as entered by the user.

• **Total Long Transactions** - Successful external and internal transactions, the duration is less than or equal to the long transaction duration as entered by the user.

• **Total Long Trans (Inc. Xfers)** - Successful external and internal transactions, including transfers, where the duration is greater than or equal to the long transaction duration as entered by the user.

• **Total Duration** - The duration of outgoing external transactions that are successful.

• **Total Duration (Inc. Xfers)** - The duration of outgoing external and internal transactions and transfers that are successful.

• **Total Transfers Duration** - The duration of successful transfers of external outgoing transactions. (Connected parties have a different HNG).

• **Interflow To** - The successful transfers of external incoming transactions.

• **Intraflow To** - The successful transfers of external outgoing transactions. (Connected parties have the same HNG).
Trunk Occupancy
All fields start with Interaction Manager\Measures\Trunk Occupancy: followed by

- **Outgoing** - Trunk: Outgoing external calls that are successful and internal made calls that are successful plus external outgoing calls and internal made calls that were not answered.

- **O/G Answered** - Trunk: Outgoing external calls that are successful and internal made calls that are successful.

- **O/G Unanswered** - Trunk: External outgoing calls and internal made calls that were not answered.

- **O/G Ans. Trans** - Total duration of outgoing internal and external answered transactions (including transfers).

- **O/G Ans. Short** - Total duration of answered outgoing external and internal short calls (including transfers).

- **O/G Ans. long Trans** - Total duration of answered outgoing external and internal long calls (including transfers).

- **O/G Transactions** - Count of outgoing completed transactions that are successful or have failed and outgoing internal completed made transactions that are successful or have failed.

- **O/G Transactions Length** - Outgoing transaction duration measuring device occupancy rather than Talk-time. Hence the time from outgoing seize to clear.

- **O/G Short Transactions** - Count of outgoing completed external short transactions that are successful or have failed and outgoing internal completed made short transactions that are successful or have failed.

- **O/G Long Transactions** - Count of outgoing completed external long transactions that are successful or have failed and outgoing internal completed made short transactions that are successful or have failed.

- **O/G Long Trans Length** - Outgoing long transaction duration measuring device occupancy rather than Talk-time. Hence the time from outgoing seize to clear.

- **I/C Transactions** - Count of incoming external completed transactions that are successful or have failed and incoming internal completed transactions that are successful or have failed.

- **I/C Presented** - Count of incoming (external and internal) transactions that are successful and (external and internal) incoming transactions that failed.

- **I/C Answered** - Count of incoming (external and internal) transactions that are successful.

- **I/C Lost** - Count of incoming (external and internal) completed transactions that are successful.

- **I/C Ans. Trans Length** - Total duration of incoming transactions that were answered (including external, internal and transfers).

- **I/C Ans. Short Trans** - Count of incoming completed external short transactions that are successful and completed internal received short transactions that are successful.

- **I/C Ans. Short Trans length** - Total duration of incoming short transactions that were answered (including external, internal and transfers).

- **I/C Ans. Long Trans** - Count of incoming completed external long transactions that are successful and completed internal received long transactions that are successful.

- **I/C Ans. Long Trans Length** - Total duration of incoming long transactions that were answered (including external, internal and transfers).

- **No of trans. transferred to PSTN** - Number of transactions transferred to PSTN.

- **PSTN transfers via trunk group** - Number of times a PSTN transaction was transferred to lines in the trunk group.
PTA
The field starts with Interaction Manager\Measures\PTA: followed by:

- **Transactions within PTA (I/C Answered)** - Number of incoming transactions answered before PTA Break.

PCA Measures
All the fields start with PCA Measures: followed by:

- **Calls Within PCA - (I/C Answered)** - Number of incoming calls answered before PCA Break
- **Calls Within PCA - (Inc. Xfers)** - Number of incoming and transferred calls answered before PCA Break
- **Calls Within PCA - (Transfers)** - Number of transferred calls answered before PCA Break
- **Calls Outside PCA - (I/C Answered)** - Number of incoming calls answered before PCA Break
- **Calls Outside PCA - (Inc. Xfers)** - Number of incoming calls answered before PCA Break
- **Calls Outside PCA - (Transfers)** - Number of incoming calls answered before PCA Break
- **Calls Within PCA 1 - (I/C Answered)** - Number of incoming calls answered before PCA Break 1
- **Calls Within PCA 1 - (Inc. Xfers)** - Number of incoming and transferred calls answered before PCA Break 1
- **Calls Within PCA 1 - (Transfers)** - Number of transferred calls answered before PCA Break 1
- **Calls Outside PCA 1 - (I/C Answered)** - Number of incoming calls answered before PCA Break 1
- **Calls Outside PCA 1 - (Inc. Xfers)** - Number of incoming calls answered before PCA Break 1
- **Calls Outside PCA 1 - (Transfers)** - Number of incoming calls answered before PCA Break 1
- **Calls Within PCA 2 - (I/C Answered)** - Number of incoming calls answered between break 1 and break 2
- **Calls Within PCA 2 - (Inc. Xfers)** - Number of incoming and transferred calls answered between break 1 and break 2
- **Calls Within PCA 2 - (Transfers)** - Number of transferred calls answered between break 1 and break 2
- **Calls Outside PCA 2 - (I/C Answered)** - Number of incoming calls answered between break 1 and break 2
- **Calls Within PCA 3 - (I/C Answered)** - Number of incoming calls answered between break 2 and break 3
- **Calls Within PCA 3 - (Inc. Xfers)** - Number of incoming and transferred calls answered between break 2 and break 3
- **Calls Within PCA 3 - (Transfers)** - Number of transferred calls answered between break 2 and break 3
- **Calls Outside PCA 3 - (I/C Answered)** - Number of incoming calls answered between break 2 and break 3
- **Calls Within PCA 4 - (I/C Answered)** - Number of incoming calls answered between break 3 and break 4
- **Calls Within PCA 4 - (Inc. Xfers)** - Number of incoming and transferred calls answered between break 3 and break 4
- **Calls Within PCA 4 - (Transfers)** - Number of transferred calls answered between break 3 and break 4
• **Calls Outside PCA 4 - (I/C Answered)** - Number of incoming calls answered between break 3 and break 4

• **Calls Within PCA 5 - (I/C Answered)** - Number of incoming calls answered between break 4 and break 5

• **Calls Within PCA 5 - (Inc. Xfers)** - Number of incoming and transferred calls answered between break 4 and break 5

• **Calls Within PCA 5 - (Transfers)** - Number of transferred calls answered between break 4 and break 5

• **Calls Outside PCA 5 - (I/C Answered)** - Number of incoming calls answered between break 4 and break 5
**Dates**

**Dates Measures**
All the fields start with **Dates\Dates Measures**: followed by:

- **From Date** - The earliest date for the recorded being reported on.
- **To date** - The latest date for the records being reported on.

**Dates**
All the fields start with **Dates**: followed by:

- **Call Arrival Date (dd/mm/yy)** - Date of call arrival in format dd/mm/yy.
- **Time of Call Arrival** - The time of the call arrival.
- **Breakdown** - A range, selected by the user, to run a report for call details by day or 15, 30 or 60 minute intervals.
- **5 mins** - A breakdown of data by 5 minute intervals for call details.
- **15 mins** - A breakdown of data by 15 minute intervals for call details.
- **30 mins** - A breakdown of data by 30 minute intervals for activity details.
- **60 mins** - A breakdown of data by 60 minute intervals for activity details.
- **Day** - Returns the day that the call information was recorded.
- **Day 2** - Returns the date that the call information was recorded.
Call Direction

Call Direction - Incoming
All fields start with Call Direction\Incoming: followed by:

- **Incoming** - All incoming answered and lost and internal and external.
- **Received** - All incoming answered external and internal.
- **Incoming Answered** - External incoming answered.
- **Internal Received** - Internal received answered.
- **Lost** - All lost and external and internal.
- **Incoming Lost** - External lost.
- **Internal Received (Unanswered)** - Internal received and not answered.

Call Direction - Outgoing
All fields start with call Direction\Outgoing: followed by:

- **Outgoing** - Outgoing external calls that are successful and internal made calls that are successful. External outgoing calls and internal made calls that were not answered.
- **Made** - Outgoing external calls that are successful and internal made calls that are successful.
- **Outgoing Answered** - Outgoing external calls that are successful.
- **Internal Made** - Internal made calls that are successful.
- **Made (Unanswered)** - External outgoing calls and internal made calls that were not answered.
- **Outgoing Failed** - External outgoing calls that were not answered.
- **Internal Made (Unanswered)** - Internal made calls that were not answered.

Callback
All the fields start with Callback: followed by:

- **Callback Code** - There are 3 values for this object:
  - YES – Means that the calls was successful
  - NO – Means that the call was unsuccessful
  - UNKNOWN / INITIALISED CALLBACK – means that the call was initiated as a callback but was not successful.

- **Successful Callback** - Returns 'YES' if the callback was successful
- **Unsuccessful Callback** - Returns 'NO' if the callback was successful.
- **Unknown Callback** - Returns 'Unknown' for a call that is initiated as a callback and has no known result.
- **Initialised Callback** - Returns 'Initialised Callback' for a call resulting from a callback initialisation.
- **No. of Successful Callbacks** - The number of successful callbacks
- **No of Unsuccessful Callbacks** - The number of unsuccessful callbacks
- **No of Unknown Callbacks** - The number of unknown callbacks
- **No of Initialised Callbacks** - The number of initialised callbacks.

SLA
- **SLA: SLA Call time** - The time of transaction arrival in the format hh:mm:ss.
Field Definitions for ReporterIVRCallflow

ReporterIVRCallFlow

- **Callflow Date ID** - The date and time that the call was received/answered by the voice manager.
- **Success Flag** - There are two values for this object: 'S' (successful) and 'U' (unsuccessful) and indicates whether or not the call was connected to the voice manager.
- **Flag Description** - A description of whether or not the call was connected to the voice manager.
- **Annotation Description** - Comments given by the voice manager.
- **Topic Description** - A description of the options available to the caller that are set up in the voice manager.
- **Call Flow Name** - The group that the call was answered by.
- **Day of Month of Call Arrival** - Returns the day of the month that the information of the call was recorded.
- **No. of Calls** - The total number of calls receive / answered by the voice manager.
- **No. of Successful Calls** - The number of calls received / answered by the voice manager that were connected to the voice manager.
- **No. of Unsuccessful Calls** - The number of calls received / answered by the voice manager that were not connected to the voice manager at that point in the call flow.
- **Multimedia Transaction Date ID** - The date and time that a proactive transaction occurred.
- **Multimedia Transaction Success Flag** - There are 2 values for this object: 'M' (successful) and 'F' (unsuccessful), and indicates a proactive transaction result.
- **Multimedia Transaction Flag Description** - A description for the success of a proactive transaction.
- **Multimedia Transaction Result** - A transaction result comment defined in MMM proactive dialler.
- **Multimedia Agent Name** - The name of the agent that participated in the proactive transaction.
- **Multimedia Campaign Name** - The proactive dialler campaign name as defined in MMM.
- **Month Day of Multimedia Transaction Arrival** - The day of the month that the information for the transaction was recorded.
- **No. of Successful Multimedia Transactions** - The number of proactive transactions that were successful.
- **No. of Unsuccessful Multimedia Transactions** - The number of proactive transactions that were unsuccessful.
- **No. of Multimedia Transactions** - The total number of proactive transactions that have occurred.
- **Min Date** - Report covers from date for call flow.
- **Max Date** - Report covers to date for call flow.
Glossary

**Abandoned Time:** Abandoned time relates to lost calls and is the total age of a new incoming call at the point it was lost.

**ARS:** Automatic Route Selection Call Segment A part of a call for which a pair of devices were connected i.e. inbound call from ringing to transfer is a segment, from transfer to next transfer is a segment, from answer or transfer to end of call (if no further transfers occur) is a segment.

**C:** Connection - Incoming transactions (e.g. calls) connected to voicemail but not answered. e.g. Never been answered by agent or received answered flag from voicemail.

**D:** Internal made and not answered.

**DDI:** Direct Dial Inwards A number that is associated to an incoming call through it's lifecycle. This number gets translated to call an agent or a group. This number is presented by the PSTN when an incoming call rings: if the facility has been bought by the subscriber.

**DN:** Directory Number The number that is associated with each agent name Failed Calls Unanswered Calls. (E.g. Agent dials external number and does not receive connect message from the PSTN.)

**E:** Internal transactions (e.g. calls) received and not answered, e.g. an internal transaction from another extension and it is not answered.

**F:** Outgoing failed, e.g. user makes an outgoing external transaction (e.g. call) and it is not answered by the receiving party.

**G:** Intraflow In - The transfer of an external incoming media type (e.g. calls) delivered to the switch by a PSTN trunk or tie line (permanent link between two switches). For reporting purposes this transfer connects two parties with the same highest numbered group.

**GOS:** Grade of Service Similar to PCA. GOS = No. of calls answered within target / total of calls answered+ lost calls. (Always less than or equal to PCA).

**H:** Intraflow Out - The transfer of an external media type (e.g. calls) carried away from the switch by a PSTN trunk or tie line (permanent link between two switches). For reporting purposes this transfer connects two parties with the same highest numbered group.

**HNG:** Highest Numbered Group An agent may be a member of a number of groups. The report will only show the information of the agent in the highest numbered group to which the agent belongs. (HNG is relevant for collective reports).

**I:** Incoming Answered - Incoming media type (e.g. calls) answered by voicemail/agent or an incoming media type answered.

**J:** Intraflow Received - The transfer of internal transactions (e.g. calls) where both connected parties have the same highest numbered group and the device in the agent field is not the initial originator.

**K:** Interflow Received - The transfer of internal transactions (e.g. calls) where the connected parties have a different highest numbered group and the device in the agent field is not the initial originator.

**Lost Calls:** Incoming calls that neither connected to voice mail nor agent Calls that were answered by VM but cleared before being transferred or reaching an answer flag in VM Calls that failed to be answered after transfer by VM (without reaching answer flag).

**M:** Internal made transactions (e.g. calls), excluding transfers, where the device in the agent field is the originator.

**N:** Lost - Incoming lost transaction (e.g. calls) that is unanswered by either voicemail or agent. Lost is where the originator of the transaction terminates the incoming transaction before it is answered or connected to voicemail and excludes lost redirected transactions.

**O:** Outgoing Answered - e.g. User makes a successful outgoing transaction (e.g. calls) and it is answered by the called party or a successful outgoing transaction and it is answered by the transaction device.
PBX: Private Branch Exchange (switch)

PCA: Percentage Calls Answered. A popular quality metric to show the frequency with which calls are being answered within the user selected target answer time. PCA = No. of calls answered within target / total of calls answered. This is for a group/agent/trunk/trunk group. (NB:- This calculation does NOT take lost calls into consideration)

PSTN: Public Switched Telephone Network Target Target is the group or device to which the switch has 'decided' to present the call (not necessarily its first preference). (E.g. The device which was targeted when the call was last queued, answered or alerting). Notes: 1. Calls which are targeted at a group will have the group name as the last queued, answered or alerting, and NOT the individual agent or device. 2. Where TARGET is using LOST CALLS as the context, it is the device that was originally targeted by the switch. Note 3, In systems front ended by the VM where no answer flag is issued and the VM transfers the call. The original target is re-assessed as that device to which the call is first transferred.

R: Internal received excluding transfers, where the device in the agent field is the recipient.

Tie Line: Notes: 1. Calls which are targeted at a group will have the group name as the last queued, answered or alerting, and NOT the individual agent or device. 2. Where TARGET is using LOST CALLS as the context, it is the device that was originally targeted by the switch. Note 3, In systems front ended by the VM where no answer flag is issued and the VM transfers the call. The original target is re-assessed as that device to which the call is first transferred.

Total Answer Time: The time between arrival at switch or point of transfer (whichever is appropriate to this call segment), and point of answer (or call clear in case of unanswered segments).

Trunk: A connection to either another PBX or the PSTN.

V: Intraflow Made - The transfer of internal transactions (e.g. calls) where both connected parties have the same highest numbered group for reporting purposes and the device in the agent field is the initial originator.

W: Interflow Made - The transfer of internal transactions (e.g. calls) where the connected parties have a different highest numbered group and the device in the agent field is the initial originator.

X: Interflow In - The transfer of an external media type (e.g. calls) delivered to the switch by a PSTN trunk or tie line. This transfer connects two parties with a different highest numbered group for reporting purposes.

Y: Interflow Out - The transfer of an external media type (e.g. calls) carried away from the switch by a PSTN trunk or tie line. This transfer connects two parties with a different highest numbered group for reporting purposes.
Index

A
Activities ............................................................... 17, 18, 19
Activity Dates ....................................................... 17
Activity Dates Measures ........................................ 19
Activity Details ...................................................... 18
Activity measures .................................................. 17
Agent Details .......................................................... 19
All ............................................................................. 23
All Call Measures ................................................... 23
All Transactions ...................................................... 36

C
Call Details ............................................................... 22
Call Direction ............................................................ 42
Call Measures ......................................................... 23
Callback ................................................................. 31
Calls ................................................................. 19, 22, 23, 28, 42
Cost Details ............................................................. 30

D
Dates ........................................................................... 17, 19, 41
Dates Measures ....................................................... 41

E
Example ................................................................. 11
External ................................................................. 25, 32
External Call Measure ............................................. 25

F
Field Definition Files ............................................... 6
Format time ............................................................ 7

I
Incoming ................................................................. 42
Interaction Manager ................................................. 29

M
Measures ............................................................... 17, 19, 20, 23, 28, 31, 39, 41

O
Outgoing ................................................................. 42

P
PCA Measures ........................................................ 39
Percentage Time In State ........................................ 19
PTA .......................................................................... 39

R
ReporterIVRCallFlow .............................................. 43
Reserved Report Parameters .................................... 8

S
SLA ........................................................................... 42
State ........................................................................ 18

T
Target Details .......................................................... 22
Time ........................................................................... 18, 30
Time Breakdown .................................................... 30
Transferor ............................................................... 21
Trunk Details ............................................................ 20
Trunk Occupancy .................................................... 20, 38
Trunk Occupancy Measures ................................... 20

V
VM ............................................................................ 28
VM Call Measures ................................................... 28
VM Details ............................................................... 21
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