



## Report Data Collection

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## Real Time Data Collection

Every 15 seconds (by default), both the Unified CCE Peripheral Gateway and the Call Router produce data that is forwarded and stored in the databases. This current (real time) data includes data about agents, skill groups, services, call types, Precision Queues, and other entities. Unified Intelligence Center queries the database periodically to retrieve the data stored in the Administrative Workstation (AW) database and presents it to clients, such as reports and message boards. Old real time data is constantly overwritten by new real time data. No history is kept. Real time data is stored in data fields that reflect four time increments, as described in the following table:

**Table 1: Real Time Data Time Increments**

Real time data time increments	Description
Half	<p>“Half” values contain a value for the current half-hour. Real time half-hour values are not affected by Interval configuration. That is, if you set the historical reporting interval to 15 minutes, the Half values in real time tables represent the current half-hour time period falling between xx:00:00 and xx:29:59, or xx:30:00 and xx:59:59.</p> <p>For example, if it is currently 09:18:33, the CallsOfferedHalf column in the Call_Type_Real_Time table contains a value that reflects the first 18 minutes and 33 seconds of the specific half-hour. When a new half-hour begins, at time 09:00:00 or 09:30:00, the database element is reset to zero.</p>
Now	<p>“Now” contains a snapshot of the activity at a particular instant (the last check).</p> <p>For example, CCE software tracks CallsQNow, which is the number of calls currently in queue for a route. When a call is answered, the CallsQNow count is reduced immediately by one (-1) because the call has left the queue. This change is seen at the next real time update for reports that query for that value.</p>

Real time data time increments	Description
To5	The “To5” values track data on a rolling five-minute basis. The rolling five-minute data employs a “sliding” five-minute window. The To5 data is updated every ten seconds in the database.
Today	To arrive at values for “Today”, Unified CCE software adds the values at the end of each interval since midnight. It also counts the values for the current half-hour. At the end of each half hour, half-hour data (for example CallsOfferedHalf) is summed into the Today data. At midnight, the real time Today count is cleared in the database. Midnight is defined using the time of the peripheral.

## Live Data Collection

In contrast to Real Time data collection, in which reporting data is written to the database and queried periodically by the Unified Intelligence Center, Live Data continuously processes agent and call events from the peripheral gateway and the router, and publishes data directly to Unified Intelligence Center. Live Data continuously pushes only changed data to the reporting clients without the delay of writing to, and reading from the database. Individual state values, such as agent states, refresh as they happen, while other values, such as calls in queue, refresh approximately every 3 seconds.

The Live Data report templates take advantage of the Live Data service.

The Real Time data flow is still used to support other stock and custom reports.

Live Data is a stream processing system which aggregates and processes the events in-stream and publishes the information. Unified Intelligence Center subscribes to the message stream to receive the events in real-time and continuously update the Live Data reports.

## Historical Data

Historical data is stored in *Interval* tables, and Outbound Option data is stored in *Half-Hour* tables. For both Half-Hour and Interval tables, historical data is written to database at the end of the completed interval. Interval tables contain 15 or 30 minute summaries, depending on which interval is set.




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**Note** The Half Hour database tables available in the database are not populated because these tables are not supported. These tables are replaced by the Interval database tables.

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For half-hour intervals, the completed interval is the time period falling between xx:00:00 and xx:29:59, or xx:30:00 and xx:59:59. For 15 minute intervals, the completed interval is the time period falling between xx:00:00 and xx:14:59, xx:15:00 and xx:29:59, xx:30:00 and xx:44:59, or xx:45:00 and xx:59:59.

Consider this example for half-hour intervals. It is now 15:50:00. An error occurred at 15:47:00. The half-hour interval reported on right now is for the 15:00:00 to 15:29:59 interval. The error that occurred at 15:47:00 will be written to the database at 16:00:00, when the 15:30:00 to 15:59:59 half-hour interval is complete.

Table 2: Interval and Half-Hour tables

Historical data	Description
Interval	Interval tables are: <ul style="list-style-type: none"> <li>• Agent_Interval</li> <li>• Agent_Skill_Group_Interval</li> <li>• Skill_Group_Interval</li> <li>• Call_Type_Interval</li> <li>• Call_Type_Skill_Group_Interval</li> <li>• Campaign_Query_Rule_Interval (30-minute data only)</li> <li>• Dialer_Interval (30-minute data only)</li> <li>• Router_Queue_Interval</li> </ul>
Half-Hour (Outbound Option only)	Half-Hour tables are: <ul style="list-style-type: none"> <li>• Campaign_Half_Hour</li> <li>• Campaign_Query_Rule_Half_Hour</li> <li>• Dialer_Half_Hour</li> <li>• Dialer_Skill_Group_Half_Hour</li> </ul>

## Reasons for Data Discrepancies

You may notice discrepancies in report data if you are comparing counts between real time and historical reports or comparing counts across interval boundaries.

Counts in real time data (for example CallsHandledTo5) do not match counts in the historical interval records (for example, CallsHandled) because the real time data is moved to the historical database at the end of each interval.

Consider this example: at 8:55 a call comes into the contact center and is answered by an agent.

- The real time count for CallsAnswered increases by one (+1).
- Between 8:55 and 9:00, the real time data shows the answered call.
- The answered call does not populate the interval data until 9:00, when the 8:00 to 8:59:59 interval ends.

Counts that would typically match for a day, such as CallsOffered and CallsHandled, might not always match over specific intervals. This discrepancy occurs because the counts for some data elements might be increased across boundaries.

Consider this example: at 8:55, a call comes in to the contact center and is answered by an agent. The agent completes the call at 9:05.

- In the historical database, the call is counted as offered in the 8:30:00 to 8:59:59 interval.

- The call is counted as handled in the 9:00:00 to 9:29:59 interval.
- If you run a report for the 9:00:00 to 9:29:59 interval, it appears that tasks handled does not equal tasks offered for the interval.

You also might notice that tasks offered does not equal task abandoned + tasks handled for an interval. Tasks offered reflects the number of calls and tasks that were offered to agents in this interval, while tasks handled and tasks abandoned might include calls that were offered in the last interval and completed in this interval. Some historical report templates group statistics into "Completed Tasks" to indicate that the statistics represent all calls and tasks that completed in this interval.

In general, interval boundary issues are reduced if you run daily reports. However, if your contact center runs 24 hours a day, you might still notice discrepancies for intervals such as the 11:30:00 to 11:59:59 and 12:00:00 to 12:29:59 intervals.