



# ULTRA IntelliMiner Performance Analytics

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A Verint Systems Application Overview

April 2007

For ULTRA Version 10

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## Preface

When tasked with reducing costs and improving quality of service, there is no shortage of data available to today's contact center manager. Measuring agent performance, contact center quality, and customer satisfaction requires tracking the traditional Key Performance Indicators (KPIs), or metrics, as well as keeping up to date on the latest performance measurement tools. However, the quantity of data is overwhelming, and quite often tells you more than you might care to know about WHAT is happening in your contact center with very little insight about the root cause of WHY these outcomes occur. What good is a number if it cannot be translated into actionable intelligence?

ULTRA IntelliMiner™ leverages Verint's patented data mining technology to surface specific call scenarios that are either helping or hurting overall performance. IntelliMiner uses all of the data associated with a call in order to build relationships between data and metrics to help determine the root cause of contact center performance. Instead of simply measuring a KPI, such as average talk time, IntelliMiner can tell you what *drives* average talk time. It could be a type of customer at a certain time of the day or month, an agent group, or even a specific agent that is abnormally inflating the overall score. IntelliMiner will bring that previously hidden knowledge to the surface, and give you the ability to act upon it. IntelliMiner even includes estimation tools that help you model the impact of corrective action, so that you can establish a priority for your actions.

IntelliMiner is fully integrated with the ULTRA™ recording platform and is designed specifically for non-technical business users with no prior data mining experience. Findings are presented in simple tables, visual scorecards, and straightforward text, guiding users, rather than forcing them to find relevant information within a complicated spreadsheet or web-based report.

With ULTRA IntelliMiner, you can:

- Uncover hidden service and quality issues in the contact center.
- Discover star performers and underachieving agents.
- Reduce costs by pinpointing actions that harm productivity.
- Increase revenue by uncovering conditions favorable to up-selling and cross-selling.
- Increase first call resolution by detecting key reasons why customer issues are not resolved.
- Establish a return on investment for initiatives to improve performance.

## Verint. Powering Actionable Intelligence.®

Verint® Systems Inc. is a leading global provider of analytic software-based solutions for security and business intelligence. Verint solutions help organizations make sense of the vast voice, video, and data available to them, transforming this information into *actionable intelligence* for better decisions and highly effective performance.

Since 1994, Verint has been committed to developing innovative solutions that help global organizations achieve their most important objectives. Today, organizations in over 50 countries use Verint solutions to enhance security, boost operational efficiency, and fuel profitability.

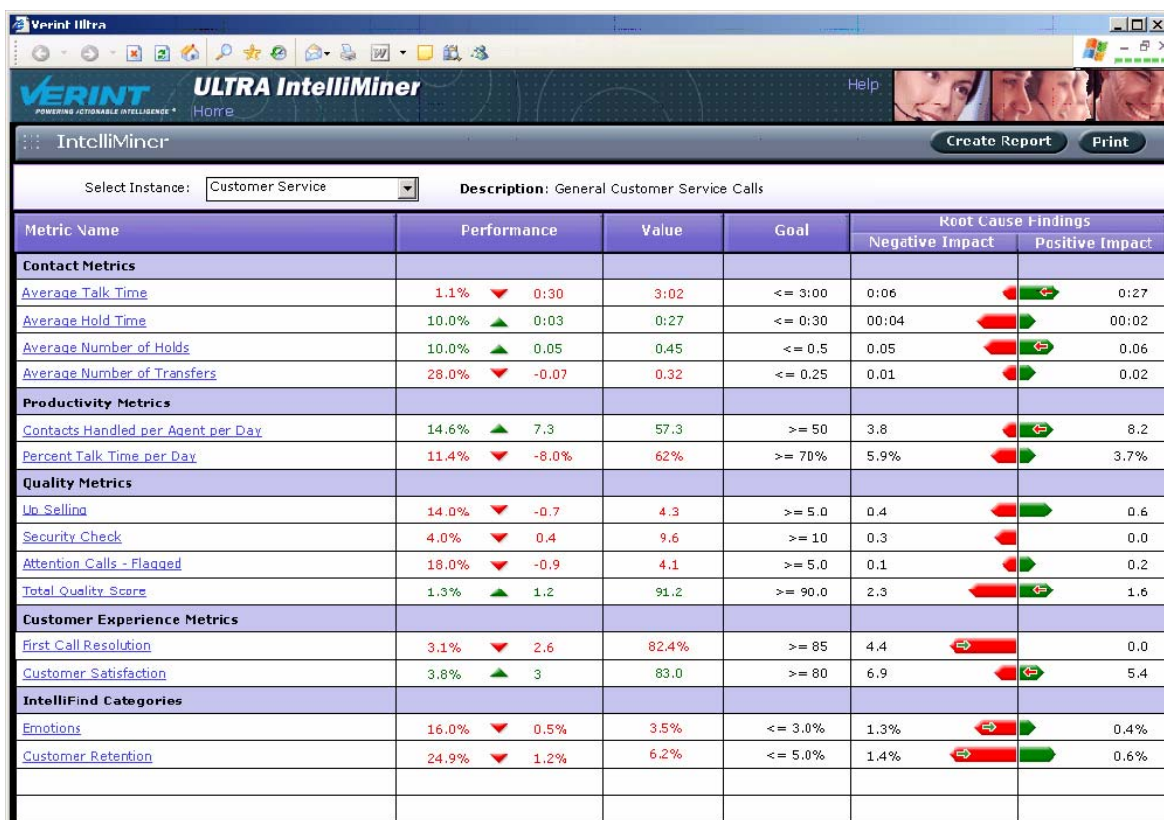
## IntelliMiner Scorecards

ULTRA IntelliMiner presents contact center KPIs on a graphical scorecard, as shown in Figure 1, which makes it easy to determine how well a contact center is performing against call handling goals and other business objectives, such as increasing up-sell offer rates, reducing average talk time, or increasing customer satisfaction.

The scorecard displays *what* the contact center's performance is, relative to the set goal for a specific metric, by providing the KPI goal and its current value. This data can quickly tell a manager how the contact center is performing against baseline goals.

The scorecard also provides insight into *why* performance is at a given level by indicating if IntelliMiner has uncovered call scenarios, or findings, that are positively or negatively impacting metrics. Negative findings shift overall performance away from set goals. Positive findings contribute to strong performance. An indication is also made when findings have a significant impact, to the extent that if these behaviors were changed, performance would either fall above or below set goals.

For example, in Figure 1, we see a scorecard for a customer service group. The group is not meeting an average talk time goal of 3:00. In the sections that follow, we see how IntelliMiner determines and presents what the root cause of underperformance may be.



Metric Name	Performance	Value	Goal	Root Cause Findings	
				Negative Impact	Positive Impact
<b>Contact Metrics</b>					
Average Talk Time	1.1% ▼ 0:30	3:02	<= 3:00	0:06	0:27
Average Hold Time	10.0% ▲ 0:03	0:27	<= 0:30	00:04	00:02
Average Number of Holds	10.0% ▲ 0.05	0.45	<= 0.5	0.05	0.06
Average Number of Transfers	28.0% ▼ -0.07	0.32	<= 0.25	0.01	0.02
<b>Productivity Metrics</b>					
Contacts Handled per Agent per Day	14.6% ▲ 7.3	57.3	>= 50	3.8	8.2
Percent Talk Time per Day	11.4% ▼ -8.0%	62%	>= 70%	5.9%	3.7%
<b>Quality Metrics</b>					
Up Selling	14.0% ▼ -0.7	4.3	>= 5.0	0.4	0.6
Security Check	4.0% ▼ 0.4	9.6	>= 10	0.3	0.0
Attention Calls - Flagged	18.0% ▼ -0.9	4.1	>= 5.0	0.1	0.2
Total Quality Score	1.3% ▲ 1.2	91.2	>= 90.0	2.3	1.6
<b>Customer Experience Metrics</b>					
First Call Resolution	3.1% ▼ 2.6	82.4%	>= 85	4.4	0.0
Customer Satisfaction	3.8% ▲ 3	83.0	>= 80	6.9	5.4
<b>IntelliFind Categories</b>					
Emotions	16.0% ▼ 0.5%	3.5%	<= 3.0%	1.3%	0.4%
Customer Retention	24.9% ▼ 1.2%	6.2%	<= 5.0%	1.4%	0.6%

Figure 1

An IntelliMiner scorecard that is tracking contact, productivity, quality, customer experience, and IntelliFind™ call content category metrics

## Metric Types

IntelliMiner analyzes a wide variety of metrics associated with a call, from contact and productivity data to quality or customer experience scores. IntelliMiner can also data mine the spoken dialog of customer interactions, when integrated with IntelliFind, Verint’s speech analytics application.

IntelliMiner Metric Type	Description
Contact Metrics	Data attributes of contact. Common contact metrics are <i>average talk time</i> , <i>average hold time</i> , <i>number of holds</i> , and <i>number of transfers</i> .
Productivity Metrics	Data about agent/contact center service levels. Common productivity metrics are <i>contacts handled per agent per day</i> and <i>percent talk time per day</i> .
Quality Metrics	Evaluation scores, form components, and flagged contacts. Common quality metrics are <i>total quality score</i> and specific components of a quality form, such as <i>performance in the opening</i> , <i>closing</i> , <i>security check</i> , etc.
Customer Experience Metrics	Assessment scores and customer surveys. Common customer experience metrics are <i>first call resolution</i> and <i>customer satisfaction scores</i> .
IntelliFind Categories (See the IntelliFind sidebar later in this document.)	Business issues that have been categorized by speech analytics. Common IntelliFind categories are <i>emotional</i> , <i>customer complaints</i> , and <i>customer retention calls</i> .

## Instances: Customizing IntelliMiner for Multiple Business Users

IntelliMiner scorecards are easily customized so that managers can focus on the subset of data that is most relevant for them. Contact data can be partitioned based on line of business, geographical location, call center responsibility, supervisor team, and many other business criteria. Each subset is known as an *instance*. Enabling several instances helps ensure that the various groups within an organization have access to the metrics, goals, and data mining findings that are specifically relevant to them. Instances are created via an easy-to-use wizard. This tool provides contact center managers with the customization options necessary to empower each supervisor or team leader to find the information that is relevant to their team.

For example, a custom instance can be created to track performance by a line of business, as shown in Figure 2. Here, we see a new instance with slightly different metrics and very different results than those shown in Figure 1. This is the instance for the collections group. The collections manager has decided to track a different set of quality components, such as information handling and knowledge. Each metric can also have different goals per instance. The collections group instance has different expectations for service delivery, which are represented within the instance goals. For example, average talk time has a goal of 5:00, as opposed to 3:00 for the customer service group instance. By drilling into the root-cause findings of each metric, the collection manager may pinpoint unique scenarios that impact his group's performance.

Metric Name	Performance	Value	Goal	Root Cause Findings	
				Negative Impact	Positive Impact
<b>Contact Metrics</b>					
<a href="#">Average Talk Time</a>	1.3% ▲ 0:04	4:56	<= 5:00	00:15	00:13
<a href="#">Average Hold Time</a>	10.0% ▲ 0:03	0:27	<= 0:30	00:12	00:19
<a href="#">Average Number of Holds</a>	10.0% ▲ 0.05	0.45	<= 0.5	0.4	0.1
<a href="#">Average Number of Transfers</a>	28.0% ▼ -0.07	0.32	<= 0.25	0.01	0.05
<b>Productivity Metrics</b>					
<a href="#">Contacts Handled per Agent per Day</a>	1.4% ▼ -0.7	49.3	>= 50	3.6	9.2
<a href="#">Percent Talk Time per Day</a>	10.0% ▼ -7.0%	63%	>= 70%	5.9%	3.7%
<b>Quality Metrics</b>					
<a href="#">Information Handling and Knowledge</a>	17.3% ▼ -1.3	6.2	>= 7.5	0.6	0.6
<a href="#">Customer Interaction and Relationship</a>	32.0% ▼ -1.6	3.4	>= 5.0	1.4	0.6
<a href="#">Telephone Etiquette</a>	8.0% ▼ -0.4	4.6	>= 5.0	0.2	0.7
<a href="#">Requires Attention Flag</a>	25.0% ▼ 0.5%	2.5%	<= 2%	0.6%	0.1%
<b>Customer Xperience Metrics</b>					
<a href="#">Customer Complaint Flags</a>	50.0% ▼ 0.5%	1.50%	<= 1%	0.4%	0.0%

Figure 2

Another IntelliMiner instance is created for the collections group. This instance has different metrics and different goals for each metric than the customer service group instance shown in Figure 1.

## Findings

When the metric is selected (clicked on) for further investigation, IntelliMiner presents the data as a prioritized list of the specific call scenarios that are positively or negatively impacting performance. These call scenarios are known as *findings* and can point to the root cause of an underlying business problem. These root causes are quite often unexpected and typically undetected by traditional data assessment tools.

To uncover these hidden root causes, IntelliMiner uses proprietary data mining algorithms to process all possible combinations of call scenarios that have occurred in the contact center in order to detect any statistically significant findings that may be affecting a metric value. By automatically detecting the key call scenarios that affect performance, IntelliMiner eliminates the need for users to know which questions to ask.

### Common Findings

IntelliMiner provides users with a natural language description of call scenarios that contribute to the overall value of a specific metric. A call scenario is made up of any number of specific call attributes. Call scenarios can include any combination of data that is being tracked by a contact center, such as CTI data, quality scores, custom data fields attached to the call, and even IntelliFind Categories.

For example, the metric *Contacts Handled per Agent per Day* could be significantly affected by a call scenario such as *Incoming Contacts Handled by Sales Service Group on Saturday Mornings*. IntelliMiner may determine that these types of calls are driving call volumes up in a statistically significant manner.

If a specific type of call as categorized by IntelliFind is affecting call volumes, IntelliMiner should detect the relationship. The IntelliFind category might be added to the previous finding and returned as part of the result set. For example, *Incoming Contacts Categorized as Complaint Calls Handled by Sales Service Group on Saturday Mornings* illustrates how speech analytics can add a new dimension to the call scenario.

IntelliFind speech analytics automatically categorize calls according to business-specific activities and issues and provide root cause analysis to uncover the reasons behind customer calls.

These categories can be imported into IntelliMiner as a metric for data mining. For example, IntelliMiner can analyze calls that are classified as *customer complaints* and uncover hidden data relationships that help explain why customers are calling.

Categories can also be utilized by IntelliMiner as a possible attribute of a finding. For example, IntelliMiner may find that calls that have been classified as *customer complaints* may be a significant factor in increasing call volume.

## Interpreting a Findings Screen

A sample findings page is shown in Figure 3. IntelliMiner has automatically generated a prioritized list of root cause findings that are driving the value of the average talk time metric higher than the stated goal of 3:00. Here, we find that IntelliMiner has classified *Incoming contacts categorized as web services related conducted in the evening* as the primary root cause negative finding because calls that match this description are increasing overall contact center average talk time by thirty seconds. It also identified how many calls exist with this set of conditions — in this case 18,602 out of a total number of 180,664.

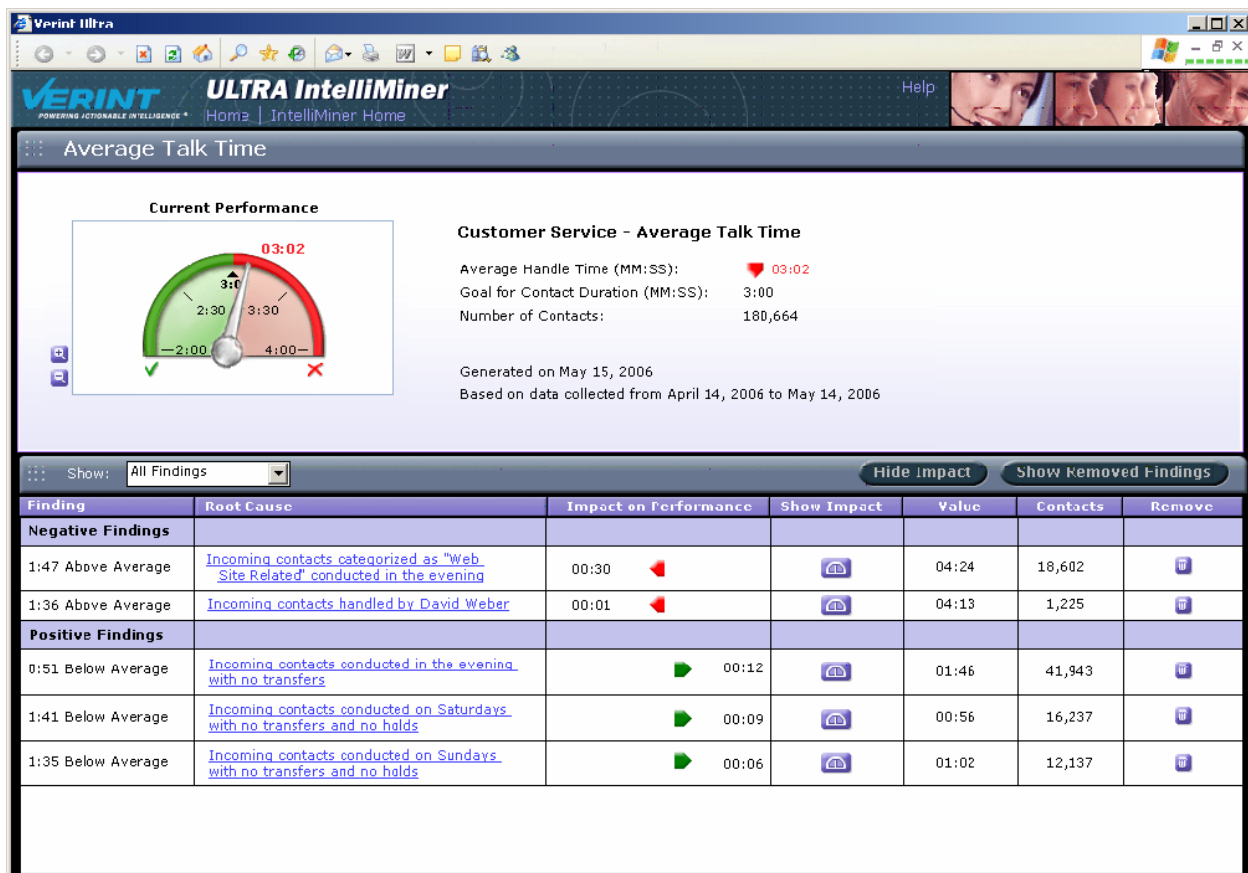


Figure 3

An IntelliMiner findings page shows that certain call scenarios, such as web site related calls, influence the overall average talk time metric in a significant way.

For each finding presented, IntelliMiner determined that:

- The finding has affected the metric significantly above or below the baseline behavior.
- The finding has sufficient supporting data.
- The finding is optimal, meaning that if any additional circumstances are added to the finding or any circumstances are removed, the resulting combination will be less interesting than the finding.

## Modeling Corrective Action

With this information in hand, managers need a way to prioritize the impact of each potential initiative in order to effectively direct resources. While most information systems do not provide insight into the effect of taking correcting action, IntelliMiner offers a set of tools that allow managers to estimate the impact of implementing activities that will improve performance under the specific condition.

For example, in the finding previously presented in Common Findings (*Incoming Contacts categorized as Complaint Calls Handled by Sales Service Group on Saturday Mornings*), a manager can develop a plan for training this group of agents to handle irate customers and weigh the cost savings impact of handling these calls more efficiently versus the cost of implementing the program.

With one mouse click, IntelliMiner provides a visual representation of how taking a certain action will impact overall contact center performance for a given metric. In Figure 4 below, the group is not meeting expectations for average talk time with a performance of 3:02. IntelliMiner shows that by eliminating the calls classified as *Incoming Contacts categorized as Complaint Calls Handled by Sales Service Group on Saturday Mornings*, average talk time is estimated to shift to 2:32 which exceeds the goal. The manager now has the confidence that this course of action is warranted.

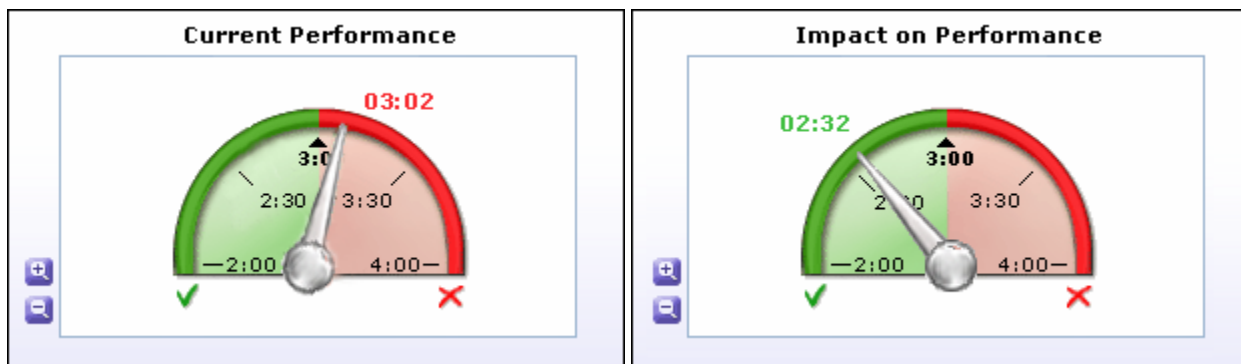


Figure 4

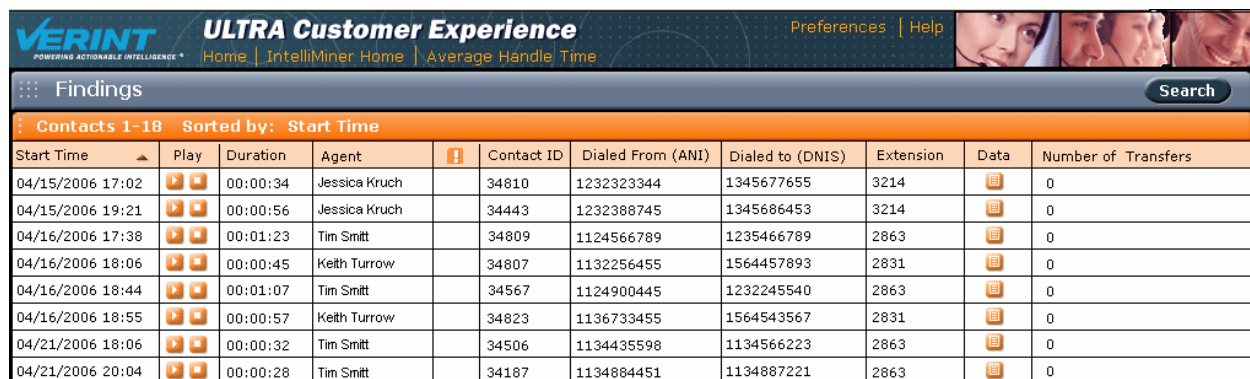
IntelliMiner has estimated the impact of corrective action that remedies the call scenario that is negatively impacting performance.

Using the functionality described above, a contact center manager can develop initiatives designed to eliminate the factors that IntelliMiner has identified as the key drivers of excessive talk time. If implemented, this center could see an improvement of 30 seconds in average talk time, reducing expenses and increasing customer satisfaction.

## Taking Action

IntelliMiner helps managers uncover a variety of issues within the contact center. If the finding is pertinent and IntelliMiner’s modeling tools indicate that corrective action will provide significant benefit, managers can begin to address the situation. If quality issues are uncovered, ULTRA’s quality monitoring, training, and coaching applications can be utilized to enhance an organization’s quality initiatives. If a procedural issue is detected, IntelliMiner can help management determine which processes need to be revised. Similarly, if there is a performance management or workforce optimization gap, management can focus their resources appropriately by focusing on the specific conditions that are leading to underperformance.

IntelliMiner is integrated with the ULTRA platform, allowing managers to examine the set of calls in which the call conditions exist by simply clicking on the finding name within the findings screen. When clicking on incoming contacts categorized as *website related conducted in the evening*, a representative sample of the calls that are being stored on the recording platform that best fit the criteria is generated in the ULTRA application for qualitative review.



Start Time	Play	Duration	Agent	Contact ID	Dialed From (ANI)	Dialed to (DNIS)	Extension	Data	Number of Transfers
04/15/2006 17:02		00:00:34	Jessica Kruch	34810	1232323344	1345677655	3214		0
04/15/2006 19:21		00:00:56	Jessica Kruch	34443	1232388745	1345686453	3214		0
04/16/2006 17:38		00:01:23	Tim Smitt	34809	1124566789	1235466789	2863		0
04/16/2006 18:06		00:00:45	Keith Turrow	34807	1132256455	1564457893	2831		0
04/16/2006 18:44		00:01:07	Tim Smitt	34567	1124900445	1232245540	2863		0
04/16/2006 18:55		00:00:57	Keith Turrow	34823	1136733455	1564543567	2831		0
04/21/2006 18:06		00:00:32	Tim Smitt	34506	1134435598	1134566223	2863		0
04/21/2006 20:04		00:00:28	Tim Smitt	34187	1134884451	1134887221	2863		0

Figure 5

IntelliMiner delivers the calls that define a call scenario, so you can listen to the interactions that are driving your metrics.

IntelliMiner also supports contact center quality initiatives by detecting statistically significant differences between evaluators from the entire population of evaluations completed. This powerful feature allows managers to pinpoint variance between supervisors in a more realistic manner. For example, IntelliMiner can detect if certain evaluators score agents consistently higher during a specific time of the month, or on a specific section of the form. These trends may not be apparent when calibrating supervisors monthly with a single call. However, they may exist in the aggregate and have been undetectable until now.

To help ensure that contact centers obtain the highest level of benefits from IntelliMiner, every deployment includes a workshop and expert business consulting. A Verint business consultant works with users inside and outside the contact center to define the initial set of metrics and corresponding scorecards, and also trains users on the instance building process. This helps ensure that the performance metrics defined are correctly aligned with contact center and enterprise business goals.

## Conclusion

IntelliMiner provides contact center managers with the most advanced tools available for assessing and understanding the root cause of contact center performance. Via an easy-to-use interface, managers can quickly determine performance in metrics that matter most to the contact center, and the key factors that contribute the overall value of those metrics.

Fully integrated with the ULTRA recording platform, IntelliMiner requires no prior data mining experience and can be customized for several different users or lines of businesses. Findings are presented in natural language format and it is easy to model the impact of corrective action.

IntelliMiner not only provides data; it uncovers the hidden root causes that drive that data. This actionable intelligence helps contact center managers make decisions that can truly help the contact center become more efficient, while also increasing customer satisfaction.