

A Success in Business Intelligence

Xtivia was approached by a major telecommunications company to create an intelligence infrastructure around their Interactive Voice Response (IVR) and contact management systems that would enable them to capture user behavior and customer usage information. Integrating existing customer and transactional knowledge with how customers are acting inside their IVR system provides this organization with valuable intelligence used to drive IVR customer satisfaction and profitability improvements.

Background

For many years, interactive voice response (IVR) technology has been used as a solution to resolve routine customer service tasks. IVR systems siphon more complex customer service calls to live agents, saving significant cost.

Though many companies have now deployed self-service Web applications, Gartner states that 92 percent of all customer transactions still take place over the telephone. Customers are three times more likely to call a toll-free number than use self-service Web applications. Further, using new technologies such as speech recognition, today's IVR systems have the potential to allow organizations to automate a wide variety of complex customer interaction tasks at a much lower cost than an agent-handled transaction. As such, improving the IVR system would provide this organization with a valuable return on their investment.

Additionally, integrating an intelligence infrastructure around IVR with customer interactions and marketing programs would optimize customer value, helping the organization achieve more critical customer assurance functions such as:

- Profitability Assessment: Tying costs and revenues to specific customer segments to ensure products yield maximum profits
- Churn & Loyalty Management: Predictive modeling & other techniques to proactively retain and increase the revenues of profitable customers
- Business Intelligence/Analytics: Data warehouse & mining techniques to enhance decision making and uncover profitable data patterns
- Self-Care: Web- and IVR-based techniques for lowering call center and billing costs, keeping customers informed, and making customer interactions more efficient
- CRM/Customer Care: Personal interaction techniques and policies that improve the effectiveness of the call center, trouble desk, and field sales
- Campaign Management: Coordinating and measuring advertising, direct marketing, and sales programs
- Data Integrity: Detecting, correcting, and maintaining the accuracy of data used in customer assurance

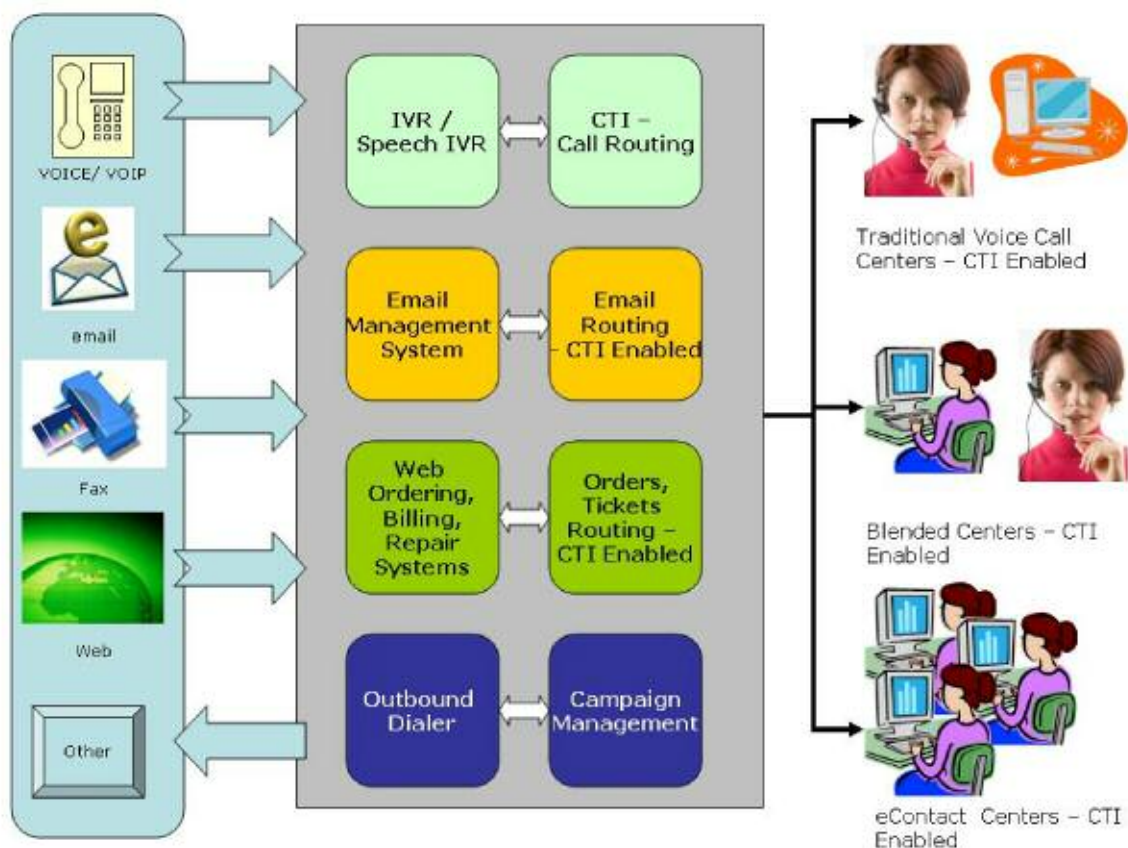
The various technologies used by the organization to facilitate customer contact included:

- For the inbound environment: IVR (Natural Language Speech Recognition and Touch Tone); CTI enabled desktops to facilitate the information delivery to the agent handling the contact; click to chat and email functionality for the Web users; and a workflow tool to handle orders and repair ticketing systems
- For the outbound environment: Outbound Predictive Dialer, agent connectivity through IVR and CTI enabled desktops

Challenge

Over the years, the data sources grew in number and complexity. Until recently, managers and supervisors along with the executive teams obtained key information about the initiatives and various system components from many applications, including Microsoft Excel, Microsoft Access, and CICS. Due to the complexity of the processes needed to extract data, users often faced a lengthy wait for the information to be available. Inconsistency of data was also a problem, due to the variety of sources and ways in which the data could be obtained.

To overcome these challenges, the customer contact management group launched the Reporting and Planning Portal project. Its core objective was to implement a new system that would cover all planning and reporting activities performed by its operations. It needed a single solution that would 1) automate and speed up the processes that aid management, 2) measure the effectiveness of business initiatives for customer contact applications and call center operations like forecasting and long-term planning, and 3) enhance the retrieval of other key data.



Understanding User Behavior

Understanding user behavior was the missing link. There was a need to have visibility into the “black box” of what customers want to accomplish in the IVR system and how they want to accomplish it. Thus, translating user behavior into new design strategies was nearly impossible, and making system improvements became a game of guesswork.

Today, all IVR systems are modified on gut feelings, subjective guesses, or anecdotal, random information about what customers want—not hard data about the users’ behavior and desires. Millions of dollars are spent on new technology to improve the IVR system, such as speech recognition, in an attempt to “fix” the problem. However, since they do not have a way of factoring in actual users’ behavior systematically, the new technology falls short of its potential.

Understanding Systems Performance

Understanding systems performance was as critical as understanding user behavior. There were several factors that needed to be monitored, such as system load and making sure that the quality of the user interactions was not affected, for example, calls getting dropped, callers getting routed to the wrong centers, etc.

Solution

A Business Intelligence (BI) solution was developed to assess customer usage of the IVR system and determine how it aligned with the company's business objectives and user goals, resulting in cost savings and increasing the company's bottom line. This solution helps organizations measure user behavior, analyze user behavior measurements, and make critical decisions on system improvements. Integrating existing customer and transactional knowledge with how customers are acting inside their IVR system provides this organization with valuable intelligence used to drive IVR customer satisfaction and profitability improvements.

Xtivia developed an operations portal that provides senior management with an insight into customer contact channels. Now, they can view this information by region, lines of business, and contact channels, giving regional force managers more precise information about daily performance in their areas.

Xtivia developed customized data analytics and reporting solutions designed specifically for call center operations. With them, call center and customer support managers are able to monitor and analyze customer contact data. End-users from around the organization can run their own reports and analyses – regardless of their level of technical expertise.

Xtivia's solution also included predefined Key Performance Indicators (KPIs) to focus on call center operations, agent analysis, customer profiles, and customer satisfaction. These KPIs were developed by industry specialists to help measure and analyze all aspects of call center operations. Results are displayed as charts and graphs in an intuitive dashboard over the Web.

Some of Xtivia's custom KPIs included the following:

Performance Statistics	<ul style="list-style-type: none">• Call Volumes• Forecasts• Abandon Rates• Call Handling Times• Average Resolution Times
Channel Details	<ul style="list-style-type: none">• Channel Volumes• Customer Channel Preferences• Call Resolution
Customer Interactions	<ul style="list-style-type: none">• By Customer Segment• By Geographical Location
Agent Performance	<ul style="list-style-type: none">• ACD Statistics• Monitoring Evaluations• Customer Satisfaction Rates
Quality Performance Metrics	<ul style="list-style-type: none">• Response Time• Service Level• Cycle Time

Benefits

By implementing a BI solution, the organization received the following benefits:

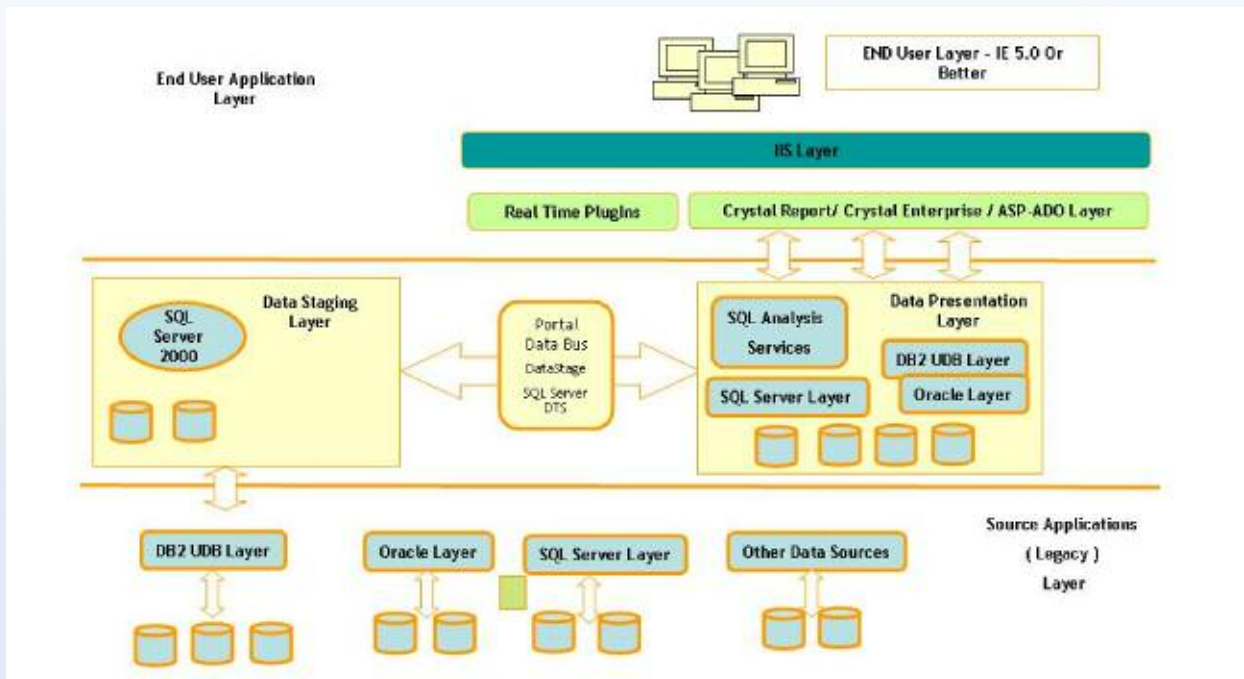
- With the new solution's ability to download the On Demand and the Analysis (OLAP) reports to Microsoft Excel, Call Center Managers can now quickly and easily retrieve, organize, aggregate, and present multidimensional data in any way they want, depending on their requirements.
- Some 800 users, principally senior managers, supervisors, and executives access the portal. Since it is Web-based, users needed minimal training to get started, and they can access online help to better understand information provided on the portal.
- The operations portal has a much wider range of information, including daily customer interactions with many variables, and an exhaustive analytical capacity, which far outweighs information that was generated manually.

Conclusion

The key to optimizing business performance is to turn meaningful observation and analysis into new, value-driving action. As self-service options continue to proliferate for consumers, companies are finding it essential to create interactive user experiences that are both helpful and meaningful. At the same time, these experiences must meet bottom line business objectives—cost savings, revenue generation and customer retention. Reinvigorating the IVR system with an overlaying intelligence infrastructure is one cost-effective way to improve customer satisfaction and profitability.

Xtivia's custom Business Intelligence & Technologies (BIT) solutions have delivered this strategic business advantage efficiently and effectively. Call Xtivia now to meet your business intelligence challenge

Architecture Diagram



Architecture Overview In Numbers

Servers	16 Compaq Servers (DL 760 and DL 580 – 8x8 and 4x4)
Total Storage	4 TB
Daily Data Churn	68 GB
Contact Volume	1 Million contacts Per Day
Data Centers	5 Total, Handling various different system components and callers calling from various locations across the nation
Data Transport / ETL	Ascential Data Stage and SQL Server DTS
Data Presentation	Crystal Reports 8.5/10; Crystal Enterprise; IIS
Data Presentation Components	On-demand reports, ah-hoc reports, Dashboards, Analytical (OLAP) reports, Call flow analytical tools (Custom Built); Online Form and reports to capture data and measure calls that are monitored manually
Databases	SQL Server 2000, Oracle 9i, DB2 UDB EE

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