



# Telecom Contact Centers – Complexity Simplified

This case study examines the implementation of a Jacada® Workspace unified desktop within four of the world’s leading telecommunications companies’ contact centers. Collectively, these companies service over 4.12 million customers worldwide with presence in Eastern Europe, Africa, Latin America, Germany, and the United States. Each organization operates large contact centers with numbers of agents ranging from 750 to 6000 agents.



**A US-based telecommunication company providing cable, local phone and wireless services.**



**Telefónica O2, A UK-based telecommunication company providing fixed line, broadband and mobile phone services.**



**A Poland-based telecommunication company providing fixed line, broadband and mobile phone services.**



**A German-based cable operator providing TV, broadband, fixed line phone services via cable, as well as mobile services.**

## Business Situation – A Complex Issue

In a customer-centric industry such as telecommunications, efficiently delivering a quality customer experience while increasing employee effectiveness is crucial to the bottom line. The customer’s experience and the results a company achieves on a given call are almost totally dependent on the agent’s ability to access and communicate information from various sources to the customer quickly and effectively. In this study of four telecommunication company contact centers, all agents are faced with the issue of desktop complexity.

Over the development of these telecommunications company contact centers, a growing number of information systems had been built, purchased, or deployed. This resulted in complicated mosaics of screens and system tools on the agents’ computer desktops requiring them to deal with complex and often manual call processes. These complex desktops become a bottleneck of productivity: lengthening call handle times, requiring extensive system navigation and increasing error rates.

Each telecom in the study shared the goals of implementing a unified agent desktop that would simplify the agents’ access to mission-critical applications and tools and as a result would increase agent efficiency, agent productivity, and customer satisfaction ratings.

In order to turn their strategic goals into reality, the companies had to take an in-depth look into their agent processes. Financially speaking, a total overhaul of a telecom’s current systems is not economically feasible and in all cases herein, reduction of operational expenses was part of the goal. The common objective was achieving a way for agents

*“This is one of those rare cases where both IT and business leaders recognized an urgent need and began to address the matter as a team. The advisors and their managers were clear that the current desktop environment was limiting their ability to drive an excellent customer experience, and IT recognized something new and innovative was needed”*

– Telecom B Executive

to use existing applications – which were segregated, redundant, and somewhat disconnected – and use them more intelligently and more efficiently. In summary, the agent needed to be empowered to better service the customer through a more automated and streamlined system.

## Corporate Overview

This company is one of the largest US-based cable providers. This company also provides services as a competitive local-exchange carrier and provides wireless in some markets.

## Project Summary

This solution consists of this company's applications built upon Jacada's Workspace framework and Jacada Agent Scripting Products.

From the beginning, the goal was to create a "Universal Agent" that can handle ANY request initiated by a customer without the need to transfer the call to a specialized agent. The sleek and modern look of the interface allows the agents to easily navigate through the complex web of data, and service the customers in a more efficient manner. Standard technologies such as web services, AJAX, XML over HTTP, JDBC, and LDAP combine to provide the CSR with a "360 degree view" of the customer in a matter of seconds after receiving the call via Jacada's CTI System (Screen-pop). Leveraging Jacada Agent Scripting (JAS), and information from the "360 degree view" such as Contact History, the business can easily tailor call flows to accurately guide the CSR through call handling procedures, while the solution components provide up to the minute information on system status, availability, and alerts to any trouble located in the area of the caller.

The solution codebase integrates with a large number of touch-points within this company's environment. The application has grown over the last 6 years from 4 applications (on Workspace 3.X) being integrated onto the solution platform to integrating over 16 applications (on Workspace 5.2). These applications range from custom applications to standard Knowledge



Management applications, to large CRM systems. Using standard methodologies for handling large amounts of data, the application has successfully reduced the amount of redundant requests and traffic to high use systems, causing an increased response time from those same systems.

Administration of the application and tools used have made maintenance and troubleshooting easier than previous systems. Application security is provided by Workspace via Spring 2.0, but leverages the roles and privileges that previously existed within the enterprise. Using proper logging techniques, and rich run-time troubleshooting information, CSR's who experience any problems while using the application can easily open a ticket and report the problem with exacting information to identify the issue. Run-time errors and exceptions are properly tracked in the cluster with this information, and using monitoring tools, any system outages are reported in real time to the administrative staff.

Through two Workspace upgrades, and many more client application upgrades, the application platform has evolved into the central focus for delivery of CSR services throughout the entire enterprise. The application platform allowed this company to consolidate their National Call Centers down to 23 locations from over 30 total in 2005.

# TECHNOLOGY & PROJECT KEY FACTS

<b>Organization</b>	A domestic, US-based telecommunication company providing cable, local phone and wireless services
<b>Industry</b>	Telecommunications
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>To create a “Unified Agent” that can handle ANY request initiated by a customer without the need to transfer the call to a regional / specialized agent.</li> <li>Create consistency and efficiency over 6000 agents across all call centers while trying to downsize from 30 to 23 call centers.</li> <li>Simplify agents’ access to mission-critical applications and tools</li> </ul>
<b>Number of Agents Using the System</b>	Over 3000 agents across all call centers (that are regionally driven)
<b>Number of Input Sources</b>	Integrating with over 60 sources
<b>Methods of Integration</b>	Database calls    Web Services    XML over HTTP
<b>Feature Summary</b>	<ul style="list-style-type: none"> <li>Standardization Using Workflows</li> <li>Billing Inquiries</li> <li>Handling Calls Related to Outages</li> <li>Troubleshooting Equipment</li> <li>Schedule Work Orders</li> <li>Product Offering and Bundle Handling</li> <li>Creating Tickets</li> <li>Provide 360 Degree View of Customer</li> <li>Integration with IVR Phone System</li> <li>Integration with Contact History System</li> <li>Roles and Permissions Managed through Jacada</li> <li>Created Admin Module to Allow Features for Certain Groups or Users</li> <li>Integration with Green Screen Façade Application</li> <li>Provided Real Time System Data Updates for Customer Equipment</li> <li>Desktop adapts and morphs depending on the call type</li> </ul>
<b>Technical Summary</b>	<ul style="list-style-type: none"> <li>Integration with over 60 Web Services both in-house and external</li> <li>Standardized Workflows over all Call Centers utilizing Jacada Agent Scripting</li> <li>Directly integrated in-house databases</li> <li>Aggregated decentralized Web Services from across the different Call Centers into a centralized SOA platform as a result of creation of unified desktop</li> <li>Service integration with Siebel CRM</li> <li>Built an asynchronous interface that provided a 360 Degree View of the customer using AJAX and ExtJS</li> <li>Leveraged Spring 2.0 Security to manage authentication, roles, and permissions</li> </ul>
<b>Approach</b>	Use customized Workspace 5.2 to present a unified view of the customer by integrating many different information sources and data in order to present a feature rich UI with a small footprint.
<b>Outcome</b>	<p>Implementation of the Jacada WorkSpace platform allowed this Telecom to consolidate the number of National call centers down to 23 from over 30 in 2005, a 20% reduction! Average Handle Times (AHT) were reduced by 10% in the initial 6 month project, and training times were reduced by 30%.</p> <p>This Telecom went through many client application upgrades and Jacada WorkSpace allowed them to maintain a uniform and unified agent desktop interface through the multiple upgrades, minimizing agent training.</p>

## Corporate Overview

Telefónica O2 is the leading communications company for consumers and businesses in the UK, with more than 22 million customers and over 700,000 fixed broadband customers. The company is part of Telefónica Europe plc, a business division of Telefónica S.A., which uses O2 as its commercial brand in the UK, Ireland, Slovakia, Germany and the Czech Republic, with more than 56 million customers across these markets.

## Project Summary

As the business has grown, so have the costs to support it. Telefónica O2 has hired thousands of customer service advisors to support the growing customer base. And, to support the wide variety of product offerings and customer contracts, a multitude of information systems have been built or purchased, and deployed in the call centers. This has resulted in a complicated mosaic of screens, systems and tools on the advisors' computer desktops.

In the Pay As You Go call center in Bury, England, the 850 advisors struggled with the growing complexity of the numerous systems and processes. Certain



call types, such as Data Settings (correcting issues with data services on the customer's mobile device), became so complex that specialization was required. Only 100 advisors were trained and equipped to handle these call types, causing customer calls to be transferred and resulting in cumbersome IVR menus and call routing. To turn chaos into a competitive advantage, in 2006, Telefónica O2 established the Transformation Team and tasked it with some mighty objectives: improve operational effectiveness and continue to lead the market in customer service, while reducing the cost of operations. One of the key initiatives identified by the team was the need for a strategic call center desktop.

*“What we found in Jacada was a company who didn't just want to sell us a technical solution ... we found a company who actually talked to us about the business problem we were trying to resolve.*

*Jacada took the time to understand our business, understand the problem we were trying to solve, rather than simply try to sell us another technical application -- and that to me has really been a huge part to this success on the project.*

*We felt we could reduce the length of every call by 35 seconds but in fact we reduced the length of every call by 48 seconds. We handle 45 million calls a year and that soon adds up to a lot of time and money. So ... we accelerated the program to roll out the Jacada unified desktop in all of our contact centers - so that we get that benefit on every one of those 45 million calls – what a fantastic achievement!”*

**- Cheryl Black**  
Customer Service Director  
for Telefónica O2 UK (Telecom B)

# TECHNOLOGY & PROJECT KEY FACTS

<b>Organization</b>	A UK-based telecommunication company providing fixed line, broadband, and mobile phone services
<b>Industry</b>	Telecommunications
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Creation of a simplified but sophisticated Unified Agent Desktop. Implemented approximately 3 years ago, this involved integrating with 18 Telefónica O2 Windows and Web applications including CRM, accounts, billing, payments, and provisioning</li> <li>• Increase Customer Satisfaction ratings, CSAT</li> <li>• Implement a solution that was non-disruptive to the enterprise</li> <li>• Meet Telefónica O2 objectives by aligning integration technology with 3-5 year SOA transformation project</li> </ul>
<b>Number of Agents Using the System</b>	Telefónica O2 employs approximately 11,000 people in the UK and has 450 retail stores. Customer service is made up of Telefónica O2 and third party outsourcers and totals about 8,500 staff
<b>Information Interfaces</b>	Initially 18 systems were integrated into the Unified Agent Desktop, and over the course of time more and more systems were added
<b>Integration Solutions</b>	Web Services      Application API's, where available      Database calls
<b>Jacada Products Utilized</b>	<ul style="list-style-type: none"> <li>• Jacada WorkSpace</li> <li>• Jacada Fusion</li> <li>• Jacada Agent Scripting</li> </ul>
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• Provide 360 Degree View of Customer</li> <li>• Billing Dashboard</li> <li>• Account Dashboard</li> <li>• Creation of a deal bundle/bolt-on</li> <li>• Broadband diagnostics tool for agents created using Jacada products to reduce calls escalated from 1st line to 2nd line support</li> <li>• Roles and Permissions Managed through Jacada</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Increased Customer Satisfaction Index scores and improved agent satisfaction</li> <li>• Reduced operational costs. Nearly \$8 million of savings were realized in the first year of implementation</li> <li>• Streamlined working processes</li> <li>• Automated processes</li> <li>• Initial implementation time of only 4 months</li> <li>• Reduced Average Call Handle Times by 12%</li> <li>• Reduced after call work</li> <li>• 30% reduction in call backs to customers</li> <li>• Reduced the need for specialist teams</li> <li>• Data settings now happen in real time</li> </ul>
<b>Outcome</b>	<p>Powering over 45 million calls per year, Jacada WorkSpace Agent Desktop is deployed to multiple business units within Telefónica O2, including pre-pay, post-pay, retentions and business consumers.</p> <p>The result is an AHT reduction of 12% in the initial 4 months of the project alone. Moreover, customer call backs have been reduced by 30%</p> <p>Each project centred on the delivery of a unified agent desktop solution integrated to multiple existing and back office systems and delivered via J2EE Application Servers in a high availability clustered environment.</p>

## Company Overview

This company was founded in 1995 as a limited liability company. A global telecommunication company is currently its sole owner and also one of the world's leading integrated telecommunications companies with around 128 million mobile customers, 36 million fixed-network lines and approximately 17 million broadband lines.

This company commenced its commercial activity in 1996 and rapidly became one of the largest telecommunications companies in Poland, and the first Polish operator to introduce GPRS data transmission services, UMTS technology and video-calls via the mobile phone. It enabled customers' access to the HSDPA and HSPA+ technology for broadband data transmission. With its range covering almost 100% of the area of Poland, the operator provides its services to over 13.2 million customers.

This company employs approximately 5,500 people and is ranked among the top Polish employers.

## Project Summary

This solution consists of a Unified Desktop frontend built using Jacada's Workspace framework and includes automation of 13 applications using Jacada WinFuse, a Java based desktop application, SAP modules, some proprietary applications, and some web applications.

The customer's main goal was to create an auto populating single view of the customer and to drive sales related processes/flows dynamically for the agent in order to simplify the processes in general. The solution has been named "SFE" from the abbreviation Single Front End, and provides the main front end of approximately 750 stores distributed nationwide across Poland.



The project has been delivered and is being maintained by one of the largest integration companies worldwide, Accenture. Providing Accenture with the right level of consultancy, and getting their local resources on site (Polish speakers), has simplified the delivery task.

The sleek and modern look of the interface allows the agents to easily navigate through the complex web of data and service the customer more efficiently. Standard technologies such as Web Services, AJAX, XML over HTTP, JDBC, and LDAP combine to provide the stores agents with a "360 degree view" of the customer in a matter of seconds and lead the agent through the complex processes involved with every customer request. In addition, processing mistakes have been minimized dramatically and frequent typing mistakes that previously happened due to repetitive data entry to multiple systems have been solved.

The solution codebase integrates with a large number of touch-points within this company's environment. The application has been maintained and extended over the past 3.5 years with additional processes and features.

Approximately 3.5 years after the initial release, this company has chosen to initiate a platform upgrade to benefit from the additional out-of-the-box features introduced in Workspace 5 and WinFuse and to introduce the new Jacada products including Jacada Interface Server and also Jacada Agent Scripting.

# TECHNOLOGY & PROJECT KEY FACTS

<b>Organization</b>	A Poland-based telecommunication company providing fixed line, broadband and mobile phone services
<b>Industry</b>	Telecommunications
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Creation of a simplified but sophisticated Unified Agent Desktop. Implemented about approximately 3.5 years ago, this involved integrating with 13 Windows and Web applications including CRM, accounts, billing, payments, and provisioning</li> <li>• Increase retail stores productivity and overall Customer Satisfaction ratings, CSAT</li> <li>• Implement a solution that was non-disruptive to the enterprise</li> </ul>
<b>Number of Agents Using the System</b>	This company employs around 5,500 people in Poland and has 750 retail stores and multiple agents in each store.
<b>Information Interfaces</b>	Initially 13 systems were integrated to the SFE Unified Desktop and over the course of time more and more process flows were added
<b>Integration Solutions</b>	<ul style="list-style-type: none"> <li>• Web Services</li> <li>• Application API's, where available</li> <li>• Database calls</li> <li>• SFE Auto Authentication using desktop credentials (SPNEGO)</li> <li>• Single Sign On</li> </ul>
<b>Jacada Products Utilized</b>	<ul style="list-style-type: none"> <li>• Jacada WorkSpace</li> <li>• Jacada WinFuse</li> <li>• Jacada JIA (to be used for the upgrade)</li> <li>• Jacada JAS (to be used for the upgrade)</li> </ul>
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• Provide 360 Degree View of Customer</li> <li>• Orchestrate flows and simplify tasks</li> <li>• Automate applications and minimize typing errors</li> <li>• Easily maintain agent roles and support regional supervisors</li> <li>• Admin Module to Allow Features for Certain Groups or Users</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Increased retail stores agent's productivity and Customer Satisfaction Index scores</li> <li>• Improved agent satisfaction</li> <li>• Dramatically reduced processing errors</li> <li>• Reduced operational costs</li> <li>• Streamlined working processes</li> <li>• Automated processes</li> <li>• Initial implementation time of only 5 months</li> <li>• Trained a local integrator that can support the customer future expansion needs</li> </ul>
<b>Outcome</b>	<p>Servicing over 13 million customers, the Jacada software suite powers this Telecom's unified desktop solution. Multiple back-office systems were integrated into a highly available Unified Agent Desktop, presenting a consolidated view to Agents. Requiring scalability and high availability, Jacada WorkSpace is deployed to a clustered J2EE environment.</p>

## Company Overview

This company is one of Germany's largest cable operators. The company offers its customers digital, high definition (HD) and analogue TV, Pay TV and DVR offerings, Video-on-Demand, broadband Internet (up to 100,000 Kbit/s), and fixed line Phone services via cable, as well as mobile services in co-operation with an industry leading communications partner. The publicly listed company operates the cable networks in 13 out of 16 German federal states and supplies its services to approximately 8.7 million connected households.

## Project Summary

This solution consists of providing an SOA environment and some additional services employed by a Unified Desktop frontend built using Jacada's WorkSpace framework with application automation provided by Jacada WinFuse.

The main goal of this company's project was to create an auto populating single view of the customer (aptly named "CRM Cockpit") divided into groups of subject related information in separated tabs. The sleek and modern look of the interface (built using EXTJS) allows the agents to easily navigate through the

complex web of data and service the customers in a more efficient manner. Standard technologies such as web services, AJAX, XML over HTTP, JDBC, and LDAP combine to provide the CSR with a "360 degree view" of the customer in a matter of seconds after receiving the call via Jacada's CTI System (Screen-pop). The user interface leverages information from the "360 degree view" to easily operate task management and activity submissions as well as give the agent direct visual indications for up selling, special offers, and more.

The solution codebase integrates with a large number of touch-points within this company's environment. The application has grown over the last 2 years from 4-5 dashboards to over 15 dashboards layered in multiple levels. The amount of complexity involved with operating the custom made CRM system has been reduced dramatically and the agents work primarily in the Cockpit with some exceptions in which they deal directly with the CRM application embedded in the Cockpit.

Two years after the initial implementation, the customer has chosen to initiate a platform upgrade to benefit from the additional standard features introduced in Workspace 5.



# TECHNOLOGY & PROJECT KEY FACTS

<b>Organization</b>	Germany's largest cable operator offers its customers digital, high definition (HD) and analogue TV, Pay TV and DVR offerings, Video-on-Demand, broadband Internet and fixed line Phone services via cable as well as mobile services in co-operation with an industry leading communications partner.
<b>Industry</b>	Telecommunications
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• The creation of a simplified but sophisticated Unified Agent Desktop. Implemented 2 years ago, this involved integrating with SOA based customer database access, marketing information through SAP, and automation of the customer's main CRM application for simplification.</li> <li>• Shorten call handling time</li> <li>• Increase account visibility through a 360 degree view of the customer and enable up selling</li> <li>• Increase Customer Satisfaction ratings, CSAT</li> <li>• Implement a solution that was non-disruptive to the enterprise</li> </ul>
<b>Number of Agents Using the System</b>	This company has approximately 2,700 employees and has 4 internal call centers and another 2 outsourced centers totalling together about 1,200 staff in each shift.
<b>Information Interfaces</b>	Initially one main system was integrated with access to the SOA environment and over the course of time more and more systems were added.
<b>Integration Solutions</b>	<ul style="list-style-type: none"> <li>• CTI Screen Pop</li> <li>• Web Services</li> <li>• Automation of Applications over Citrix sessions</li> <li>• Web Applications integration and navigation.</li> <li>• SSO</li> </ul>
<b>Jacada Products Utilized</b>	<ul style="list-style-type: none"> <li>• Jacada WorkSpace</li> <li>• Jacada Fusion</li> </ul>
<b>Functional Requirements</b>	<ul style="list-style-type: none"> <li>• Provide 360 Degree View of Customer</li> <li>• Account Dashboard &amp; Billing Dashboard</li> <li>• Fraud Management</li> <li>• Marketing Dashboard</li> <li>• Contracts management</li> <li>• Customer Activity management</li> <li>• Roles and Permissions Managed through Jacada</li> <li>• Support of different views for external (outsourced) call centers</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Increased Customer Satisfaction Index scores and continuous improvement of agent satisfaction</li> <li>• Reduced operational costs</li> <li>• Streamlined working processes</li> <li>• Automated application navigation</li> <li>• Reduced Average Call Handle Times by nearly 30%</li> <li>• Improved First Call Resolution rate (FCR)</li> <li>• Simplified Agent (CSR) training plan, shortened new recruits time to productivity</li> </ul>
<b>Outcome</b>	<p>The Jacada Platform handles over 6 million calls per year, servicing multiple business units included pre-pay, post-pay, retentions and business consumers.</p> <p>With over a half million calls per month, this unified desktop required high availability and is deployed into a highly clustered J2EE environment</p>

# The Telecom Contact Center Solution – Jacada Workspace Agent Desktop

Jacada was selected by each of the telecoms in this study to design and deploy an agent based solution that would integrate with existing systems and would not require significant changes to the established business process. The projects centered on the delivery of a unified agent desktop solution integrated into multiple existing and back office systems and delivered via J2EE Application Servers in a high availability clustered environment. That solution was the **Jacada Workspace Agent Desktop**.

*“Our key goals for this project focus on satisfaction levels among our CSRs. Ultimately, Jacada Workspace assists us in streamlining many of our contact center processes.”*

– Telecom A Executive

By non-invasively integrating with existing systems through the use of open standard APIs and web services, Jacada solutions assisted the telecommunications providers by delivering a platform for managing and integrating all tools and applications into one unified contact center desktop. The open standards-based architecture of Jacada Workspace Agent Desktop, together with **Jacada Fusion** was key to Jacada solutions being selected by the telecoms.

## Summary of Results and Benefits

Through deployment of Jacada Workspace solutions, the telecoms included in this study were able to provide contact center agents an intelligent view of all relevant data and processes required to effectively and efficiently complete a customer interaction. The task-based user interface provided navigation assistance and scripting capabilities along with support for multiple channels of communications.

In each case throughout the study, Jacada solutions met and exceeded customer goals. The Jacada Workspace Agent Desktop simplified tasks for contact center agents, reduced new hire training time and keystroke errors, and automated workflows and redundant processes. A dynamic scripting environment provided navigation for agents and “in-call intelligence” helped to automate such tasks as call disposition and wrap-up. As a result, in addition to improved agent satisfaction and performance, contact centers met or exceeded their goals of improved customer satisfaction ratings.

### Implementation Highlights across the Study:

- Reduced Operational Cost of nearly \$8 Million
- 10%, 12%, and 30% Reductions in Average Handling Times
- A 30% Reduction in Training Time
- A 30% Reduction in Call Backs
- Reduction In Number of Call Centers to 25 from over 30

### Jacada Solutions Utilized

- Jacada Workspace Agent Desktop Suite
- Jacada Fusion
- Jacada Agent Scripting
- Jacada WinFuse
- Jacada Integration Automation

# Individual Telecom Results



- The platform has evolved into the central focus for delivery of CSR services throughout the enterprise
- Allowed the company to consolidate their National Call Centers down to 23 locations from over 30 in 2005
- Reduced Average Call Handle Times by 10% in the initial 6 month project
- Training times were reduced by 30%



- Jacada solution has been deployed assisting agents in handling over 45 million calls per year into multiple business areas including pre-pay, post-pay, retentions, and business consumers
- Reduced Average Call Handle Times by 12% in the initial 4 month project
- 30% reduction in call backs to customers



- Helped increase retail stores agent's productivity and Customer Satisfaction Index scores
- Improve agent satisfaction
- Dramatically downsized processing errors
- Reduced operational costs
- Streamlined working processes
- Automated processes



- Agents enabled to handle multiple business areas including pre/post-pay, retentions, and business consumers
- Increased Customer Satisfaction Index
- Reduced operational costs
- Streamlined working processes
- Automated application navigation
- Reduced AHT by nearly 30%
- Improved First Call Resolution rate (FCR)
- Simplified Agent (CSR) trainings plan
- Shortened new recruits time to productivity

*Jacada Workspace Agent Desktop unified desktop solution simplified tasks for contact center agents, reduced new hire training time and keystroke errors, and automated workflows and redundant processes.*

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