

# Integration Services

Seamlessly integrate your Contact Center to backend database systems or third party Customer Relationship Management (CRM) applications.



Empower your customer service representatives with tools that enable them to offer a personalized level of service.

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## Introduction

The integration of information systems and communications technology has become one of the most sought after ways to automate customer service applications. The combination of these technologies increases efficiency and improves service quality without increasing operating expenses or requiring additional staff.

Computer Telephony Integration (CTI) is the seamless blending of voice and data resources into a work flow process. A CTI link between a customer management system and a telephone system allows software to control call-switching functions, while at the same time ensuring that all available information about each customer is routed with the call in the form of a screen pop to the agent's PC.

Integrated voice and data solutions improve services levels in a number of ways; for example:

1. Callers are greeted by an agent who knows whom they are speaking with and possibly how they might help before they answer the call
2. Customers do not need to repeat information to an agent, since it has already been captured by the CTI application. As a result, integration can significantly reduce call talk times resulting in agent productivity gains, as well as improving the customer service levels experienced by the caller.

## UCB's Integration Solutions

There are a number of ways to display or screen pop caller information to an agent's desktop. If a contact center is using Caller ID (CLI), the incoming call can trigger the sending of appropriate data to the agent's PC screen as each call is delivered. Alternatively, customer information can be obtained by prompting the caller for their PIN or client number. This information can then determine how the call is processed. NEC's Unified Communications for Business (UCB) offers several options to customers who want to integrate their contact center environment with a third party database application.

For clients who want an "off-the-shelf" integrated solution, UCB has a range of Systems Integration

Plug-ins to some of the most popular third party customer database, CRM, help desk, voice logger and workforce management applications. These "packaged" modules offer customers the benefits of a proven solution at a fixed price.

If a customized integration is required, UCB's Integration Software Development Kit (ISDK) has been designed for easy integration with most database contact management, helpdesk software packages and Microsoft Windows® based applications. The ISDK is the foundation of our customized integration solutions which, when combined with UCB's proven expertise and methodologies, ensure a successful implementation. UCB's ISDK also lets customers build their own applications or use third party developers.

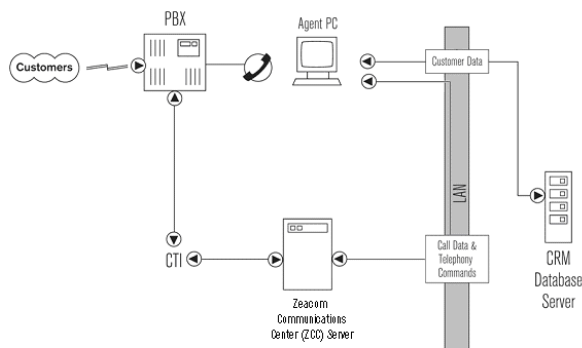
UCB also has a more powerful Software Development Kit, the ISDK Plus that provides more extensive information on the call center.

No matter which approach you take, UCB's integration solutions can shave valuable seconds off every call, saving money and improving the response to customers.

## Technology Overview

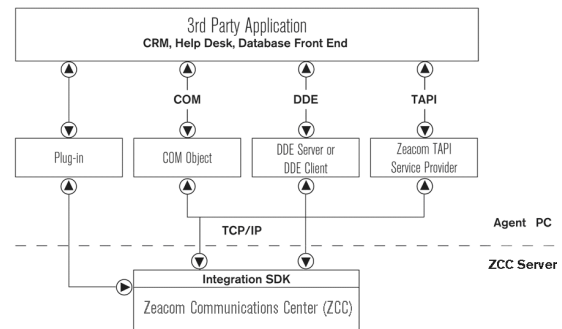
The following diagrams illustrate how UCB Communications Center (UCB) interacts with both the agent's PC and the in-house customer database application in order to screen pop relevant caller information to the agent.

When an incoming call to the contact center reaches the telephone system (PBX), status information including caller ID is passed over the CTI link to UCB (see Figure 1).



**Figure 1** Overview of UCB Screen pop and Dial

The UCB provides intelligent call routing control capabilities to the contact center and is also connected to the customer's computer network (LAN). As the call arrives at the target agent's extension, the caller ID information is automatically used to query the customer database on behalf of the caller, displaying the result of the data query on the agent's PC as the call is received. If the agent transfers the call, the relevant screen information is also transferred. Communication between UCB and the third party application is achieved using a Systems Integration Plug-in or via a customized integration using UCB's ISDK (see Figure 2).



**Figure 2** Detail of UCB Screen pop and Dial

## Benefits of UCB's Integration Solutions

Organizations can gain a number of significant benefits from the introduction of UCB's Plug-in or customized integration solutions, such as:

- **Improved Agent Efficiency** – screen pops automatically provide the agent with the details of who is calling and all relevant caller information. This reduces agent talk times by an average of 15 seconds per call<sup>1</sup> as all relevant information is immediately available to service that caller.
- **Lower Network Costs** – shorter talk times also assist in reducing wait time in the queue for other callers. Both these factors have a compounding effect on your network and telecommunications costs.
- **Personalized Service** – customer services representatives know who is calling and can offer a more personalized level of service. Caller ID with UCB Phonebook means that customers are recognized by their name and not as a number.
- **Generate More Revenue** – screen pops can be designed to display not only customer details but also any other information that might be of interest to that caller. This could include special pricing information, promotional offers and other services that the agent can then relay to the caller.
- **Improved Customer Service** – having caller information immediately available allows

<sup>1</sup> CCR 1999

agents to service callers more professionally and accurately – improving their perception of the contact center.

- Improved Customer Information – the customer database is screen popped to the agent every time the customer calls in, allowing the agents to check relevant customer information on an ongoing basis (such as address details). This significantly improves the accuracy and value of customer database records, as they are always up to date.
- A Complete Solution – UCB provides the intelligent call delivery functionality required by the contact center and the integration services needed to link this with a third party application. A single solution from one supplier significantly reduces project costs and simplifies ongoing support and administration issues.

## Features and Functionality

Regardless of whether an “off-the-shelf” or customized approach is taken, each integration project can include the following features and functionality:

- Screen pops – give agents quick access to customer data and applications on the one screen. Customer data is represented in a logical format that can be customized to meet specific contact center requirements.
- Rerouting of calls – adjust the priority of incoming calls and ensure VIP callers get the care they deserve by querying an external database and adjusting the routing rules based on customer information. This feature is only available with the Enhanced Routing Plug-in
- Telephone Control from the Agent’s Desktop – empowers your customer service representatives with the means to perform telephony functions such as answer a call, transfer a call, make a call, hang up a call from their PC.
- Real Time Statistics – available to supervisors and specified agents for both the contact center and the third party

applications. This feature is only available using the DB Reporting Plug-in.

- Use of Standard Communication Protocols – reducing project complexity and simplifying administration. Protocols include DDE, COM, TCP/IP, and ODBC.
- Wrapup Codes – can be utilized and reported on to provide more detailed information on the status of each completed call.

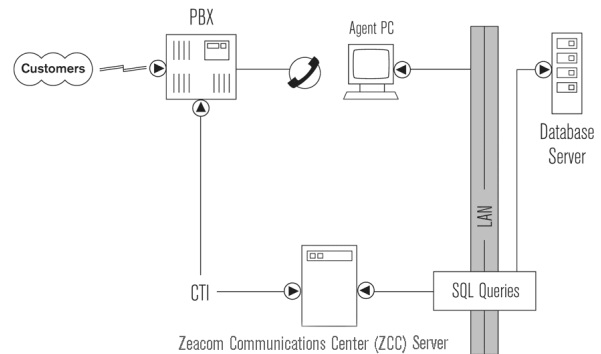


Figure 3. Overview of UCB Enhanced Routing Plug-in

## UCB's Plug-In Integration Modules

UCB's range of Plug-in modules can be used to integrate your telephone system with some of the most popular database, CRM, voice logger and workforce management applications on the market. These integration solutions can be implemented "straight from the box", or combined and customized to meet a specific customer requirement.

- Client Access Plug-in – captures the caller ID (CLI) or Customer Number associated with the incoming call and passes the customer data to the Client Access application. This in turn requests full customer information from the AS/400 database and automatically screen pops the Client Access terminal emulation screen to the agents desktop.
- Activity Queuing Plug-in – maximizes your agents' productivity by automatically queuing and delivering activity items such as work orders, trouble tickets and reference numbers within the UCB solution. Depending on the client application or database to be accessed, UCB Integration Services can integrate UCB with it directly or use an API.
- Enhanced Database Routing Plug-in – receives information from the customer's database before the incoming call is delivered to the customer service representative. This can result in a change in priority of the call, transfer of the call to another queue, additional information provided in the screen pop or transfer to queue for their preferred agent (see Figure 3).
- Goldmine Plug-in – supplies call information to the Goldmine client running on the agent's PC, which allows screen pops to be presented to the agent when a call is delivered. The caller can be identified either by the CLI or by an account number that is entered by the caller. The ability to dial from the Goldmine screen is also supported.
- Heat Plug-in – captures the caller ID (CLI) or Customer Number associated with the incoming call and uses it to 'pop' the HEAT Customer Profile screen complete with the customer's details from your database. The HEAT Plug-in also allows agents to dial a contact from within the HEAT Call Logging screen.
- ISDK Plug-in – the standard ISDK supplies contact center events and data to a CRM application at the client level via a COM or DDE interface. It is easily integrated with most database contact management, help desk and Microsoft Windows based applications to enable screen pop of, or dialing from these types of applications.
- ISDK Plus Plug-in – provides an enhanced level of integration by allowing developers to link third-party applications to UCB at the server level. The ISDK Plus provides information and event notification for multiple extensions, queues and agents.
- Remedy Plug-in – supplies call information to the Remedy client running on the agent's PC, which allows screen pops to be presented to the agent when a call is delivered. The caller can be identified either by the CLI or by an account number that is entered by the caller. The ability to dial from the Remedy screen is also supported.
- RightNow Plug-in – supplies call information to the RightNow client running on the agent's PC, which allows screen pops to be presented to the agent when a call is delivered. The caller can be identified either by the CLI or by an account number that is entered by the caller. The ability to dial from the RightNow screen is also supported.
- SalesLogix Plug-in – provides UCB functionality to the SalesLogix CRM Sales Client graphical user interface. This allows agents to process calls more efficiently and provide better customer service. The SalesLogix Plug-in has three main functions: (1) it will search the SalesLogix Database to find the customer associated with the CLI (2) it will pop the SalesLogix Sales Client to the front of the screen (3) it enables agents to dial numbers from the SalesLogix Sales Client.

- SAP Plug-in – provides contact center agents with UCB functionality on their SAP CRM screens. This allows agents to process calls more efficiently (less time will be required for each incoming call) and provide better customer service (each caller can be personally greeted).
- SendKeys Plug-in – is used where the CRM application has no standard API or other means of integrating with the contact center system. As the call arrives at an agent's extension, the data identifying the caller is converted into simulated keystrokes by UCB's SendKeys Plug-in. This information is then sent to the CRM application. Upon receiving the correct key sequence, the CRM application will automatically populate the contact screen with the caller's information from your database.
- Siebel Plug-in – CTI integration between UCB and Siebel ERP system (using Classic Client). This enables screen pops on incoming calls and also enables initiation of an outbound call from the Siebel Classic Client applications. Other 'SoftPhone' telephony and Agent Control functionality, such as call transfer, are also supported.
- Symitar Plug-in – supplies call information to the Symitar client running on the agent's PC, which allows screen pops to be presented to the agent when a call is delivered. The caller can be identified either by the CLI or by an account number that is entered by the caller.
- TAPI 2 Plug-in – provides call information to the TAPI 2 compliant application, triggering it to pop the customer contact screen to the front of the desktop and display the caller's details. The TAPI 2 Plug-in also streamlines outbound calling by allowing agents to dial a contact from within the customer contact screen in the client application.
- Third Party IVR Link – provides integration with the customer's existing IVR enabling the IVR to answer the incoming call and pass it onto UCB with the associated details attached to the call. The call will then be delivered to the contact center agent and information can be screen popped to the agent's PC.
- Voice Logger Plug-in – used to present the call information received from the CTI Link between the PBX and UCB. This module provides the relevant telephony functions to enable the Voice Logging system to search and report on specific queue and agent information. A number of voice loggers are supported including Eyretel, Nice and MiAudio loggers.
- Web Browser Plug-in – the CLI or Customer Number associated with the incoming call will be combined with a URL which is used to populate the agent's browser with the caller's details from the customer's database. On delivery, the agent receives a screen pop with the customer's details, allowing them to provide better service to the customer.
- Work Force Management Plug-in – enables the transfer of the UCB statistics and agent adherence information to a variety of Work Force management applications including Blue Pumpkin, Aspect, Open Wave, TCS and Symon on an automated basis. The application enables the scheduler to forecast rosters based on previous contact center traffic and compares the general activity with the agent roster produced.

UCB is continually adding to its list of standard Plug-in modules, ensuring that contact centers can quickly and conveniently access the industry's very latest developments in CRM and 3rd party support application.

## Customized Integration

Where a Plug-in module is not available or additional functionality is required, UCB provides customers with access to a full complement of customized Systems Integration services to ensure that your project is a success. The exact nature and level of integration depends upon the following criteria:

1. What is the name of your CRM / Help Desk application?
2. Is the CRM / Help Desk application run on a mainframe or a Microsoft Windows server? If it is run on a main frame, do you operate Terminal Emulation software on your agents'?

PCs? If so, what is the name of the Terminal Emulator and who produces it?

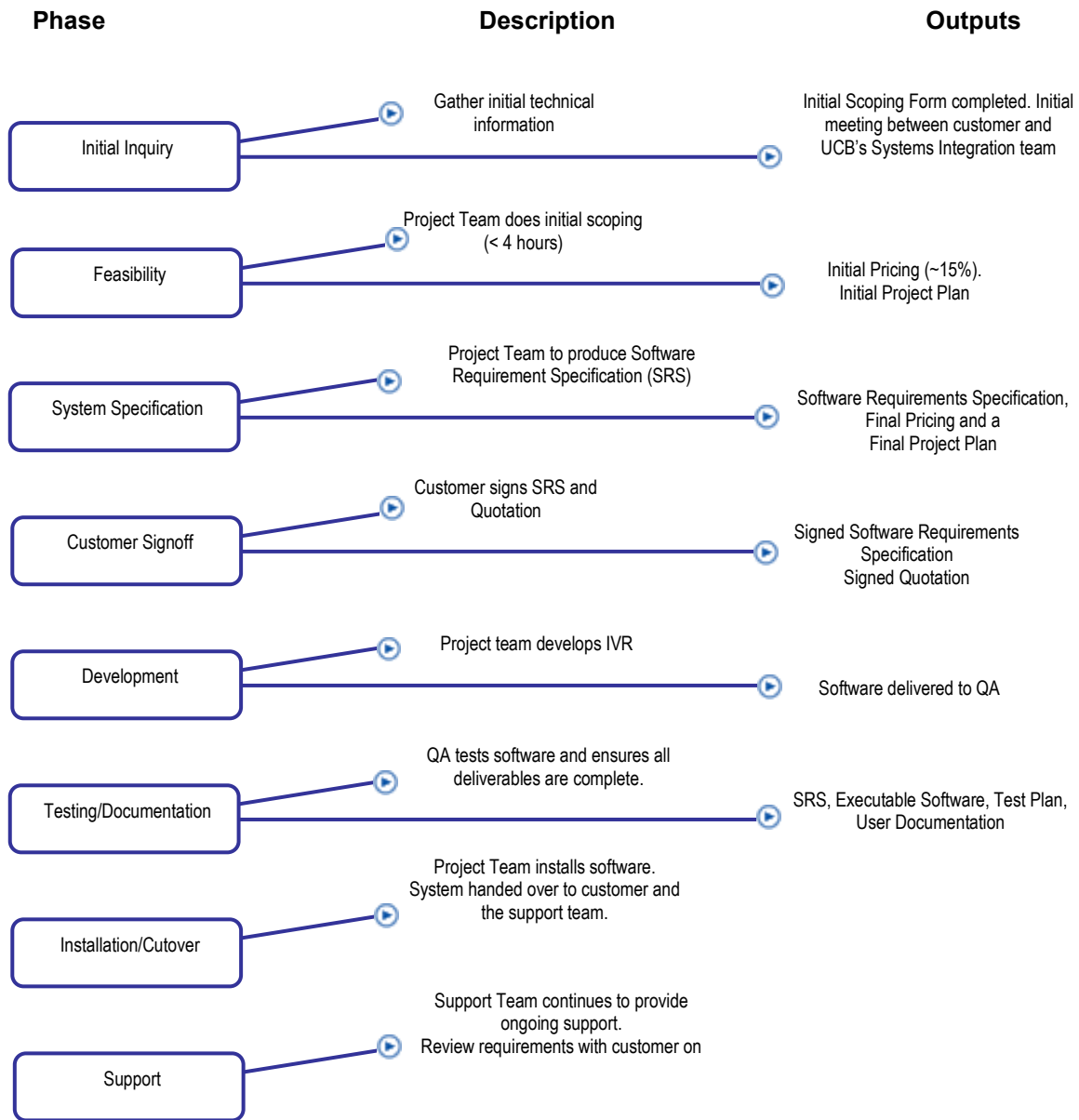
3. If the CRM / Help Desk application runs on a Windows server, does the client application that your agents use on their PCs have a COM, DDE, TAPI, or proprietary API that allows other applications to communicate and control the CRM's Client GUI application?
4. If there is no API associated with the Client GUI application, is there an interface / API for an application to communicate with the CRM server application?
5. If there is an API for communication to the server, is it possible for the CRM server to 'push' a screen pop out to the client application when it is notified of an incoming call?
6. Does the CRM / Help Desk application have a Web Browser interface used by the contact center agents? If so, can the browser screen be populated by posting a URL to the browser?
7. Is the CRM / Help Desk application an 'in-house' development application? If so, what environment was used to develop the client application (e.g., Microsoft Access, Microsoft Excel, etc.)? Is it possible to make modifications to the client application?

Regardless of the customized application you may require, UCB has the in-house expertise to utilize a variety of protocols when developing customized integration solution. These include:

1. ODBC (Open Database Connectivity) – most databases support ODBC as a standard method of database access.
2. TCP/IP (Transmission Control Protocol/Internet Protocol) – TCP/IP is a commonly used method of communication between applications that are running on hardware in different physical locations. Using TCP/IP UCB communicates at messaging level with the external application.
3. DDE (Dynamic Data Exchange) – allows information to be shared or communicated between programs on a Windows platform. This method is very common and is used by thousands of applications.

4. COM (Component Object Model) – COM is Microsoft's framework for developing and supplying program component objects. COM provides a method for an application to expose functions and data to another application.
5. HLLAPI (High Level Language Application Programming Interface) – a method of accessing terminal based hosts using "terminal emulation".

The following diagram outlines the processes undertaken by UCB in developing and implementing a customized integration project.



## Integration Case Study

As a leading health care insurance provider, Southern Cross deals with nearly 1 million customers and handles over 5,000 calls daily. At these call volumes, having a contact center that runs efficiently and effectively is critical.

In order to improve customer service, Southern Cross investigated a number of technologies and vendors prior to establishing their contact center. They concluded that UCB would service their immediate requirements and allow for long-term growth and change. As part of the overall installation, UCB was also asked to provide and install interfaces between UCB and Siebel CRM, Blue Pumpkin work force management and a NICE voice logger.

### System Description

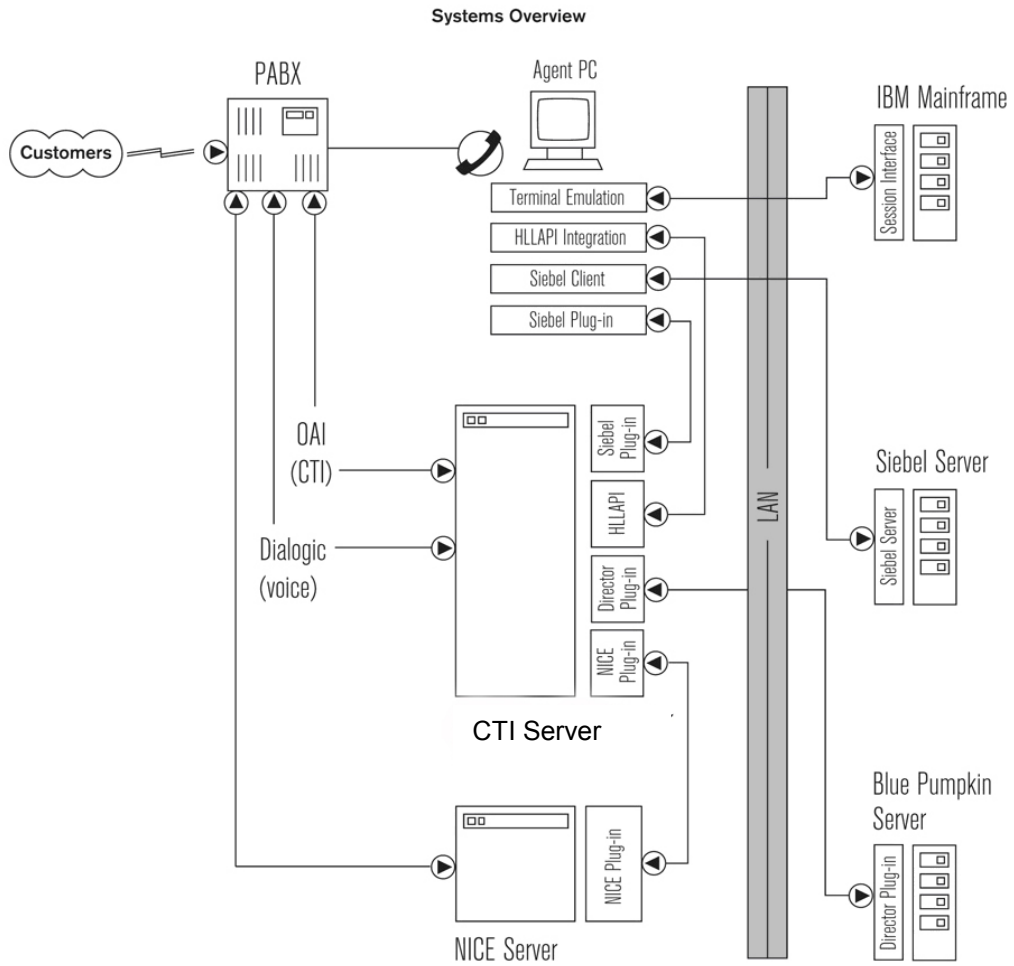
The Southern Cross contact center is tightly integrated with their customer database. Screens are popped to the front of the agent's PC and filled with relevant customer details when a call arrives. The screen pops use HLLAPI (High-Level Language Application Programming Interface) to communicate with the mainframe customer management system.

Southern Cross's Customer Services Manager is pleased with the results. "Our customer service consultants are able to be more efficient when dealing with customers, aided by facilities such as instant membership identification. Using caller ID, UCB interacts with our customer management system and our in-house database, instantly screen popping customer details to the customer service consultants even before the call is answered. Average caller wait times have been reduced by 44 per cent and talk time has also dropped by an average of 11 seconds per call".

### Benefits

The customer benefits of installing UCB with integration links to a number of 3rd party applications have been significant, "Our members come from across the whole spectrum of society, and we are very pleased with the positive response we have had to our improved customer service,".

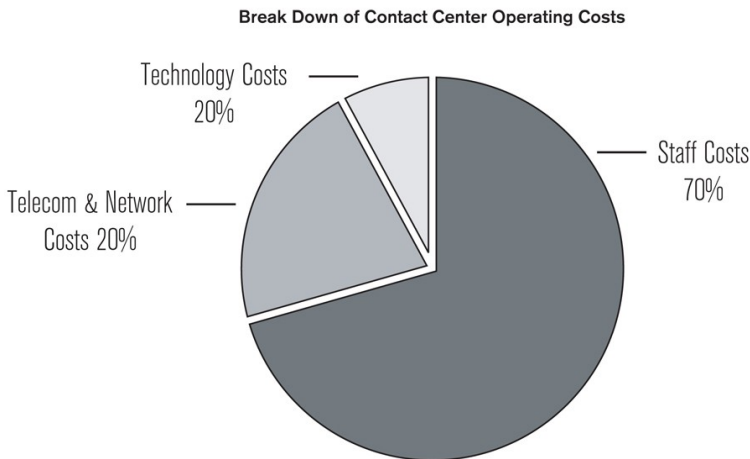
Southern Cross call processing has also been significantly improved as a result of the integration of backend customer databases and the introduction of desktop-based screen pops. Agents are able to process more calls in the course of the day and provide better service to the customers calling. In addition, the integration to Blue Pumpkin's workforce management application has automated a previously manual process, saving time and reducing the probability of errors.



**Figure 4.** System Overview

## Cost Justifying an Integration Project

As demonstrated by the graph below, labor costs represent the most significant expense in any contact center environment - so anything that is going to assist in making agents more efficient is great news for your bottom line.



The benefits of Systems Integration must be quantified in order to establish a cost justification for an integration project. A sample calculation has been provided below. Please note that when undertaking a cost justification for your project, these figures should be adjusted to reflect your contact center environment.

### Agent Productivity

With integration to third party systems, your contact center will see a marked improvement in agent productivity. This can be best calculated by using the following calculation:

Factors	Example
Percentage of calls providing the Caller line ID (CLI)	60%
Percentage of calls without CLI that know their account number	25%

Established screen pop hit rate	70%
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Monthly call volumes	50,000
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Total screen pops per month	35,000
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Assumed seconds saved per call (due to screen pops)	16
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Total seconds saved per month due to screen pops	560,000
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Total hours saved per month	155
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Average agent cost per hour (fully costed)	\$18.50
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<b>Total savings per month associated with screen pops</b>	<b>\$2,868</b>
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### Telecommunication Cost savings

A reduction in talk time has a flow-on effect in that caller wait times are also reduced as agents become available to deal with new callers more rapidly. This has a positive impact in lowering a contact center's telecommunications costs, particularly if those callers are waiting on toll free lines.

Factors	Example
Average reduction in wait times	10%
Variable telecommunications network costs/month	\$10,000
<b>Total monthly telecommunications cost savings</b>	<b>\$1,000</b>

### New Business Opportunities

Screen pops can be designed to display additional information to the agent such as special pricing, promotional offers and other services that may be of interest to the caller. This has been shown to increase sales volumes through the contact center.

Factors	Example
Total calls per month to contact center	50,000
Total sales related calls	50%
Established screen pop hit rate	70%
Total sales calls per month with screen pops	17,500
Average increase in business due to improved close rates and up selling as a result of screen pops	3%
Average \$ sales value per call	\$60
<b>Total monthly revenue increase associated with screen pops</b>	<b>\$31,500</b>

Using the three categories above for the example given, the dollar benefit to this organization for integrating their contact center to their backend customer databases and providing screen pops to their contact center agents is \$35,368 per month. This equates to over \$400,000 per year.

The above calculation does not take into account any bottom line impact that improvements in customer service levels would have on retaining customers and increasing business, as these are harder to quantify. However, this is a significant factor in considering the economic benefits of an integration project.

### Systems Integration Costs

Fixed cost per month	Variable cost per month
Fixed cost per month includes:	Variable cost per month include:
<ul style="list-style-type: none"> <li>• Capital cost of the integration project</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly hardware maintenance cost</li> </ul>
<ul style="list-style-type: none"> <li>• Application development</li> </ul>	<ul style="list-style-type: none"> <li>• Monthly software maintenance cost</li> </ul>
<ul style="list-style-type: none"> <li>• Installation of computers and telephony interfaces</li> </ul>	
Divide the above by the depreciation term (generally 36 to 60 months) to ascertain a monthly capital cost figure.	This typically can range between 15 – 18% per annum.
Fixed cost per month equals:	Variable cost per month equals:
<ul style="list-style-type: none"> <li>• Capital cost + Application development + Installation [divided by] Number of months in your depreciation term</li> </ul>	<ul style="list-style-type: none"> <li>• Projects capital cost x % maintenance fees [divided by] 12</li> </ul>

## About UCB Systems Integration

With UCB Systems Integration you open the door to a wealth of contact center expertise. Our team is made up of a group of specialists dedicated to the development and implementation of your customized Computer Telephony Integration (CTI) solution. Whether you are looking to create an Interactive Voice Response system, or simply want to integrate your contact center to a third party CRM package, UCB's Systems Integration team has the skills to design, develop and install your project on time, every time. The UCB Systems Integration team includes:

**Tim Seabrook, Systems Integration Manager** – with over twelve years of experience in the development and integration of CTI and software applications, Tim has an extensive knowledge of IVR, Voice Messaging and Fax-on-Demand systems. As UCB's Technical Manager from 1996 to 1999, Tim played an integral part in directing and guiding the development of UCB. Tim holds a Mechanical Engineering and a Post-Graduate Diploma in Computer Science.

**Grant Wright, Team Leader** – Grant has ten years of programming experience and a wide knowledge of programming languages including C, C++, Basic, FoxPro, and extensive operating system knowledge of Windows and UNIX. Computer Telephony has been a particular area of specialization, in particular Serial Communication, X.25 networking, TCP/IP, ODBC, PBX programming and Inter-Program Connectivity using protocols such as DDE, OLE, COM, HLLAPI. Grant holds an Advanced Certificate of Business Computing.

**Jonathan Wallis, Integration Specialist** – with a background in a number of CTI protocols and extensive knowledge of Apache web servers, Jonathan has been involved in the design, development and integration of web sites and databases using HTML, ASP and CGI scripting. Much of Jonathan's work has involved C++ development in object-oriented environments. Jonathan also has hands-on experience in DDE, TCP/IP, and COM. Jonathan has a Bachelor of Information Science.

**Paul Munro, Integration Specialist** – Paul has experience in C++ and in-depth knowledge of web programming languages such as PHP, Java, HTML and ASP. He also has experience in Linux, embedded systems design and development, and programming languages used in automation. Recent projects include IVR call flow development and CTI-Web integration for Microsoft CRM. Paul has a Bachelor of Engineering specializing in information.

**Sergio Markovic, Integration Specialist** – Sergio has some years of programming experience in Microsoft Windows/NT and Linux servers and operating systems, as well as Object Oriented Programming and databases. He has also worked as an IT Administrator and web programmer using HTML, .ASP, VB Script and JavaScript, and has experience with COM. Sergio has Associate Degrees in Computer Science and Law.

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