SSO and Call Center

An Evidian White Paper

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- A Mobile Telephony Operator's Call Center
- Business Process
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SSO and Organization

An organization may decide to introduce secure Single Sign-on (SSO) for several reasons.

Single Sign-On

User efficiency

Information system security

Help-desk team productivity
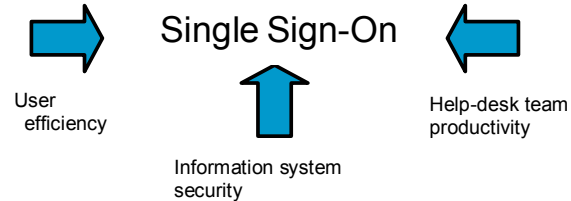
User efficiency

User efficiency can be measured either in terms of the time saved at each connection, or the time saved because the user no longer loses his logins and passwords.

Help-desk team productivity

It is a generally accepted fact that without SSO, 20% to 30% of help-desk requests are related to the problem of loss of password. The inherent expenses can be optimized with the help of an SSO system.

Information system security

SSO is also used to apply an enterprise access security policy on a workstation: password policy, application access control, or even access tracking.

A Special Case: SSO in a Customer Call Center

In a "Customer Call Center" the intensive use of workstations to access different customer data gives a special dimension to the introduction of SSO.

SSO then becomes a tool for improving productivity and working conditions. However, it should not be a source of additional complexity that may block access to applications.

User productivity becomes the key decision factor for implementing such a project.

A Mobile Telephony Operator's Call Center

Let us take the example of a mobile telephony operator's call center.

This call center is at the heart of the operator's activities because it is in charge of relations with customers which have signed a prepaid or postpaid contract. It also handles contract modification requests, delivery follow-up, contract termination or even disputes.

The agents, who represent about 20% of the company's workforce, must provide a 24x7 service.

An agent must install his environment each time he occupies a workstation; he must, therefore, start a set of applications to which he must identify himself.

The main applications are:

Business Applications

CRM System: the main CRM System containing customer, product, and price-related information. This is the departure point of the main business process.

CTI (Computer Telephony Integration): manages incoming call center calls. It is directly connected to the CRM System in order to automatically display a customer's data when he calls.

External Call: dials an external phone number from a PC.

Sales Planning System: plans appointments for sales representatives in the field.

Invoicing - Follow-up: presents invoices to display the same information as the one presented to customers (private customers, or companies).

Net-Alarm: presents high-level alarms affecting the working of the service to the agents.

Block-Tel: blocks a mobile telephone (for instance, if it has been stolen).

WKF-BKOF: a workflow system used to initialize requests to the back-office that will process them asynchronously.

Telephone Order: manages mobile phone orders placed by private customers.

Business Databases

Client-First: database of the most important customers, for offering a customized service.

Internal **Information Portal**: a website containing all the information that may be useful during a customer call: product, prices, internal processes, application user's guides, etc.

Document base: database of all the documents (letters or faxes) sent to customers or received from customers.

Operator's Websites

My- Mobile-Telephones: a website for big customers. It enables them to directly order new mobile phones, obtain a copy of invoices, etc. The agents offer support services on the use of this website.

Customer-Service-Portal: an e-commerce site where a private customer can modify his subscription, order new telephones, or even view the status of his bills.

Partner-Site: extranet site for partners

Applications Provided By External Service-Providers

Track&Trace: a website for tracking parcels sent to customers. This site belongs to the postal service.

BlackBerry Support: the website of RIM BlackBerry, which provides agents with the information given to customers and prospective customers.

Business applications

CRM
Tel-PC integration
Displaying invoices
and alarms
…

Business databases

Clients-First
Customer
exchanges

Management applications

Vacations
Expenses
…

External applications

Monitoring parcels
BlackBerry info
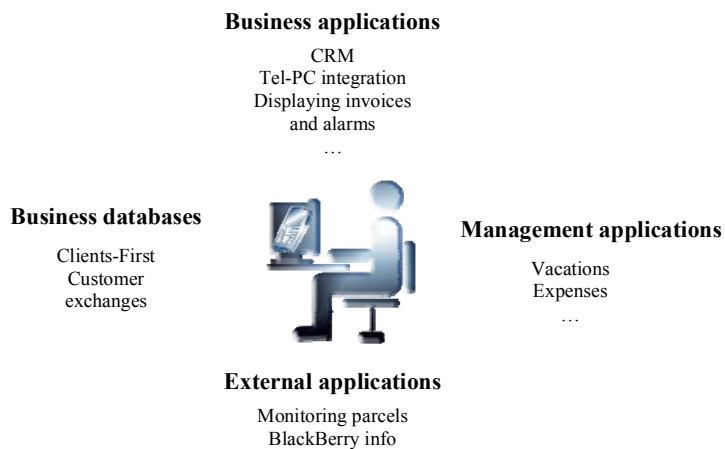
Agent Cost Factor (ACF)

A call center is a service production center; it must generate income, either directly by invoicing calls or offering a prepaid service, or indirectly by signing new contracts.

Measuring and analyzing the cost of this service are important criteria for analyzing turnover and its evolution. A derived criterion, the Agent Cost Factor, is defined as the cost of an agent per second. For the call center of our example, the ACF is equal to 1.5 euro cents per second.

Business Process

An Example of a Customer Call

Let us take the example of a customer call handled by agent Thomas.

Step 1> When he arrived at his workstation, agent Thomas started his basic applications: CRM System and CTI (Computer Telephony Integration).

Step 2> Mr. John Smith calls from his personal mobile. The CTI system recognizes the incoming call number and sends it to the CRM System application, which automatically displays the customer information attached to it.

Step 3> Mr. John Smith is complaining that he has not yet received a new mobile phone he ordered a few days ago through the Customer-Service-Portal.

Step 4> Thomas connects to the Customer-Service-Portal website to obtain the exact order number. This information is not available in the CRM System because the order was initially placed through the Customer-Service-Portal.

Step 5> Thomas then connects to the Telephone Order application to obtain the status of Mr. John Smith's order. The telephone had been dispatched the previous day.

Step 6> Thomas connects to the Track&Trace web server of their postal service provider to obtain the status of the parcel.

Step 7> Thomas can tell Mr. John Smith "Your new mobile phone has arrived in your town. It will be delivered to you tomorrow morning".

Information Contained in Different Applications

The information required to handle customer requests is located in several different applications. Unfortunately, the central CRM system cannot contain all the updated information about all the customer operations.

The agent must be able to connect to a large number of applications at the heart of the agent activity.

The agent must even be able to connect to external web applications managed by third-party suppliers.

Urgency of Customer Call Processing

The agent handles these operations under double pressure.

- Productivity pressure, since he has to process the customer's request as quickly as possible.

- Pressure from the customer, who is calling because he is unhappy and therefore expects a quick and adequate response.

The agent, in a situation of stress, must be able to quickly access the information contained in several applications.

SSO: A Tool that Accelerates Access to Information

SSO accelerates access to applications and, thus, to the sought data:

In step 1, when Thomas arrived at his workstation, he was able to start all his basic applications without having to enter a login and password each time.

In step 4, Thomas was able to automatically connect to the Customer Service Portal to obtain the order number while the customer was on line and expressing his dissatisfaction.

In step 5, Thomas was able to connect to the specific application used to manage mobile phone orders.

In step 6, while the customer was getting impatient, Thomas was able to automatically connect to the external parcel tracking application.

SSO improves the integration of applications into his workstation. Thomas can thus quickly switch from one application to the other without having to go through an identification phase each time.

Enhancing Productivity

Improving working conditions is not a sufficient reason to introduce an SSO system. The financial dimension is also a determining factor. SSO also brings in productivity gains, which can be calculated using a simple model based on the ACF.

This model focuses on 12 basic applications which the agent starts when he or she arrives at his or her workstation. SSO allows the automation of these connections. The measured mean time per application thus saved multiplied by the ACF, the number of agents and the number of working days gives a financial equivalence of productivity gains per year:

$Time\_saved * Nb\_app * ACF * Nb\_agent * Working\_day$.

The numerical values for this call center are:

Time_saved	16.5 seconds
Nb_app	12 applications
ACF	1.5 euro cents
Nb_agent	2,200 agents
Working_days	220 days

The result is productivity gains of **1,437,480 euros** per year.

Tools for Handling Emergency Situations

Service Continuity

The SSO solution must be used to support the call center's activity. A system failure should never prevent the agents from connecting to their applications.

In addition to the standard security measures inherent in a SSO solution – hiding files on workstations and servers, replicating the databases containing all the logins and passwords, duplicating the authentication servers, etc. – the call center has introduced a system of printing out logins and passwords. This system is equivalent to the manual commands of an airplane which can always continue to work even in case of failure of the airplane's entire electronic systems.

This printing procedure is not in line with the standard security rules because they lead to security breach. However, the decision between security, on the one hand, and service continuity and productivity enhancement, on the other hand, was taken in favor of "business".

Recognition of Identification Screens

The SSO system must be able to recognize the applications' authentication windows even when the applications are upgraded.

For internal applications, a procedure was introduced in order to:

- inform the development teams about the standards to comply with for automated user authentication

- validate the interface between the SSO system and the applications during the validation phases of the applications.

For external applications, such as the one used to track parcels, an emergency procedure has been introduced in order to be able to immediately distribute the configuration files so as to take account of identification screen modifications.

Some Advantages not Identified Initially

SSO also changes the way an agent uses his workstation.

Without SSO, an agent had to start all his basic applications when he arrived in the morning. Some client/server applications, such as the Sales Planning System, consume a lot of resources even when they are in standby mode on the PC. This rich and complex PC environment requires the deployment of workstations and servers with a high memory and CPU capacity.

With the new SSO system, if the agents wish, they can launch a limited number of applications when they start their workstations. Heavy applications can then be launched on demand and then closed quickly later. Therefore, the agents can work in a new fashion that saves resources on clients and servers and shows overall a better performance.

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SSO at the Service of Mobile Telephony Operators

Within a call center, improving application access security is not at all one of the reasons for using an SSO solution. Other benefits are expected:

- Improving the agents' working conditions by facilitating their work tools. They are more at ease to handle customer requests in the most stressful situations.

- Enhancing the agents' productivity (1.4 million euros per year for 3,000 employees, in the case of this call center) and thus the company's performance.

The call center is one of the cases in which it is possible to quantify beyond dispute a user's cost per second. This quantification obviously illustrates the value of an SSO system for a user.

Dr. Gerald Baumann is an independent IT consultant and works for several years as project manager and enterprise and software architect with focus on telecommunication. He initiated and manages the referred project.

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Evidian has been assisting this mobile telephony operator in the implementation of its project. The SSO modules of AccessMaster, an identity and access management software suite, makes it possible to deploy a comprehensive and reliable solution, and attain operational objectives in terms of productivity gains and improvement of working conditions.

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