Improve Agility in Contact Centers with SOA

Executive Summary

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<th>Decision Point:</th>
<th>Contact Center Performance: Striking the Right Balance Between People, Processes and Technology</th>
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<td>The Bottom Line:</td>
<td>Customer service applications can be assembled using components from both packaged and custom-built applications that can be interconnected around a business process breaking down silos and providing agility for future change management.</td>
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<td>Key Concepts:</td>
<td>Service-oriented architectures, composite applications, agent desktop improvements, low TCO</td>
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<td>Who Should Read:</td>
<td>CIO, IT managers, customer care managers, contact center managers</td>
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In today’s environment of heightened customer expectations, fast-changing industry dynamics, megamergers and acquisitions, and increased use of outsourced call centers, enterprises must be adaptable and responsive to changing demands. The contact center—the single most important point of contact for responding to customer needs—must become more agile, provide a consistent customer experience and be optimized for improved performance.

Although investments in enterprise applications such as ERP and CRM have enhanced efficiency, they have also reduced long-term effectiveness because of the creation of many data silos, thick-client interfaces and inflexible architectures. However, contact centers cannot rip and replace existing IT investments. Instead, any contact center initiative must not only extend and leverage investments, but also provide flexibility for future projects and enable adoption of newer technologies such as VoIP and analytics.

That is the promise of service-oriented architectures (SOA). As Exhibit 1 shows, with SOA, customer service applications can be assembled using components from both packaged and custom-built applications that can be interconnected around a business process breaking down silos and providing agility for future change management.

Exhibit 1.
SOA Lets Contact Centers Assemble and Manage a Better Agent Desktop
Source: Yankee Group, 2005
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I. Superior Customer Service Is Essential in Today’s Competitive Markets

Providing superior customer service across all interaction channels is essential for all organizations. When a customer contacts the company, businesses must manage that customer interaction quickly and accurately across any touchpoint. A poor service experience will have a negative ripple effect on customer satisfaction. Over time, it could potentially:

- Increase costs by potentially forcing multiple interactions with different employees over multiple channels—customers will create multiple service requests through the phone, web, e-mail or chat
- Decrease potential wallet share by losing valuable cross-selling or up-selling opportunities
- Force the customer to look at competitive offerings
With customer service, sales and marketing technologies converging in the last few years, most agree that the call center is evolving into the contact center. The contact center, a single point of contact for all sales and service needs, gives the customer or customer service representative access to new services and customer care functionality, while acting as an individualized marketing channel that organizations can use to push new products and services. However, insufficient vendor interoperability, competing priorities and economic factors have combined to slow this evolution.

**Contact Centers Are a Critical Channel for Differentiated Service**

Strong customer relationships are critical to the success of many businesses. Businesses rarely have a second chance to make a quality first impression. Since 77% of today’s interactions are still being conducted by phone, it is still critically important that front-line customer service representatives can operate efficiently and effectively (see Exhibit 2). Enterprises leverage new technologies that enhance their productivity, such as a unified agent desktop, integrated IVR and contextual guidance, to optimize agent effectiveness.

![Exhibit 2. Phone Still No. 1 Customer Interaction Channel](image)

**II. Contact Centers Must Improve Operational Effectiveness and Transform to a Profit Center**

Contact center managers are expected to balance budgets, while maintaining excellent customer service levels. Nowhere else in an enterprise are costs and performance levels so closely scrutinized. However, many companies still struggle with increased service costs. Escalating costs are directly associated with the cost of maintaining and upgrading disparate systems and manual, disconnected business processes that increase agent call handling times and decrease customer satisfaction.
During the past year, Yankee Group discussed with many contact center managers their goals and future objectives. The recurring theme was the pressure to transform to a profit center. Although there are many projects underway to assist in the transformation such as agent training for cross-sell and improved self-service for call deflection, many contact centers are also focusing on agent desktop improvements as a high priority for improving agent performance and assisting in the profit center transformation. As seen in Exhibit 3, 78% of contact centers today are prioritizing future budget dollars toward improving the agent desktop through application consolidation. Such a high percentage represents a significant validation that unifying the agent desktop will have performance improvements. Although a large percentage was integrating the desktop for a common view, many contact centers were also improving the flow and navigation based on role and cross-channel processes.

Exhibit 3.
Priority of Allocation of Budget Dollars Toward Improving the Agent Desktop
Source: Yankee Group, 2005

![Chart showing priority of allocation of budget dollars toward improving the agent desktop]

Note: Consolidated results from surveys taken throughout 2003, 2004 and 2005

Although contact centers have already invested heavily in technology, current investments still don’t satisfy management’s desire for decreased costs and increased agent efficiency. CRM, billing systems and knowledge base investments contain valuable information about the customers for CSRs. However, CSRs often have to look at multiple systems to enter or find relevant customer information and step through business processes manually, which results in low first contact resolution rates and long call handling times.

**Current Agent Desktop Is Not Optimized for Process Improvements**

As seen in Exhibit 4, most contact centers have at least 10 and sometimes 20 different information sources, which make it difficult to find the correct information quickly.
Exhibit 4.
Current Agent Desktop Marred with Manual Processes
Source: Yankee Group, 2005

• CSRs must look at multiple applications to find the right information
• CSRs manually re-enter data in multiple locations
• CSRs struggle to find the right information
• Increasing average call handling time and decreasing first-contact resolution rates

Many contact centers agree that customers can remain on the call for 10 minutes to 15 minutes as the CSRs research the issue. In some cases, CSRs are forced to end the call, which requires a follow-up call to resolve the case. In most call center environments, CSRs typically have to access, manage and interact with a variety of packaged, custom and legacy applications running in a variety of environments that range from green-screen mainframe to Windows client/server applications to handle the different aspects of a single call. Navigating multiple applications and departmental silos creates the following issues:

• Redundant data entry and manual processes (including after-the-call processes (e.g., order fulfillment process) increase average handle time and decrease first contact resolution rates
• Multiple interfaces increase agent training needs
• Lack of actionable insight creates missed opportunities for cross-selling

Infusing Insight at the Point of Interaction Will Help Transform a Contact Centers into Profit Center

Some of the primary reasons why contact centers have struggled to truly affect agent performance and turn a cost center into a profit center are the lack of quality information, as well as the lack of actionable insight. As a result, contact centers will not fulfill their potential of maximizing profit and value until the foundational components of technology, data and process illustrated in Exhibit 5 are fully integrated and leveraged.
Exhibit 5.
Process Efficiency Plus Performance Effectiveness Plus Actionable Insight Equals Profit
Source: Yankee Group, 2005

- **The technology foundation must provide agility for process improvements and infusing insight:** An integrated, adaptable technology backbone that is service-enabled and ensures a consistent, complete and dynamic view of the customer across the entire organization is a critical challenge to address. The technology foundation must also provide user-centric portals that ensure the right information is delivered at the right time to optimize the customer experience during self-service and customer/CSR experience during assisted service.

- **Data must be unified for a seamless experience for the agent and the customer:** Enterprises need a meticulous data management and integration strategy for providing value-added information that is consistent and real-time across all channels. The data foundation needs to leverage both historical and real-time customer data to provide more contextual applications and drive more relevant communications to increase customer loyalty.

- **Process improvements must eliminate manual steps and improve agent effectiveness:** This includes human workflows and business processes that are optimized and tuned for customer interactions, a hierarchy of CRM metrics and key performance indicators (KPIs) derived from corporate performance objectives. It is critical that process improvements include both customer self-service and CSR interactions.

Improved agent performance, and therefore contact center profits, can only happen once a contact center has a solid technology foundation that is optimized for process improvements and leverages actionable insight. As much as possible, the user experience should be the focal point of integration for maximum effect. For example, understanding the point-to-point cross-channel behavior of customers as they move through the IVR and then subsequently into the “assisted” service/agent desktop will ensure that self services experience support not hinder the desired outcomes with the agent.
Integration of the Communications Platform Will Improve Contact Center Effectiveness by Enhancing the Cross-Channel Experience

Although it is valuable to apply intelligence about the customer at the point of interaction, it is practically impossible to achieve this without tight integration across all communications systems and enterprise applications. A seamless experience produces a more personalized service with automated routing of inbound communications based on a customer’s needs and agent availability to maximize first call resolution. Without a unified application and services infrastructure, businesses cannot easily:

- Segment customers to deliver premium service for their highest valued customers by prioritizing them and then reserving the most skilled agents for special customers
- Service other customers with lower cost alternatives, such as automated response using IVR technology
- Ensure that customers have a consistent experience across all channels
- Provide effective web self-service for all customers depending on the situation
- Enable real-time customer information to be displayed in-context on the agent desktop

Another benefit is improved analytics. Companies can then take superior service to the next level by incorporating traditional contact center metrics, such as average call handling times and first call resolution rates. Enterprises can then run analyses on the effect of these metrics on traditional CRM metrics, such as deal size, pipeline and close rates.

Additionally, analytics that allow you to follow and measure the customer step-by-step through all sequential touchpoints—for example, through the self-service IVR and then into the agent environment—ensure that your metrics are aligned with what really is happening to the customer. From the customers’ perspective, these touchpoints are already “integrated.”

Integrated contact center and CRM analytics enable companies to gain business insight by answering questions such as:

- Which toll-free number created the most opportunities and return on marketing investment?
- What communications channel leads to more sales?
- Will adding more agents during peak calling times increase sales?
- How does the IVR experience affect agent outcomes, for better or worse?

Integrated insight can improve performance by providing contact center managers with historical analysis of trends in KPIs over time, such as average handle time by agent, workgroup or division, to understand:

- Campaign effectiveness (converted to revenue)
- Channel effectiveness (channel converted to revenue)
- Service effectiveness (percent of first call resolutions, call handle times)
• Sales agent metrics (average talk time converted to opportunity generation)
• IVR metrics (containment, agent transfers, and hang ups)

III. How a SOA Improves Agility in Contact Centers

CRM software is in the midst of a significant evolutionary shift that is driving down the TCO, while at the same time improving user adoption. We are on the verge of a new era of applications resulting directly from the convergence of three trends: Service-oriented architectures, web services and XML. This new technology foundation enables the assembly, distribution and management of business solutions in a way not possible before—easier, faster and with a lower TCO. Commonly referred to as composite applications, these solutions leverage the best of existing packaged applications or in-house developed applications to deliver a process-oriented interaction to improve efficiency and effectiveness of the customer service representative.

Yankee Group interviewed IT executives’ use of SOA: 30% were not only replacing applications/business processes with SOA-based ones, but also 28% were augmenting existing applications and core business processes with SOA. When asking these executives which type of project the SOA initiative is addressing or will address, 65% are currently evaluating or deploying SOA for customer-facing initiatives.

True contact center enhancement demands seamless integration at the user-interaction level. SOA lets IT respond quickly to demands for new and improved contact center processes. SOA will not only assist in service enabling all existing IT investments, but also unify the underlying data silos and business processes across multiple applications with a combination of application middleware and portal technologies that call on web services to dramatically improve operations and create streamlined interactions.

SOA provides additional benefits to contact centers that also use in-house and outsourced agents. By service enabling the legacy applications and creating a thin-client unified agent interface, all outsourced agents can act as efficiently as in-sourced agents without affecting performance. Outsourced agents will also have the benefits of a truly integrated experience, ensuring customer expectations are being consistently met.

Yankee Group has been discussing the benefits of an “intelligent contact center” for many years. However, only recently through the power of SOA approaches have contact centers been able to empower front-line CSRs with actionable information through in-context applications that increase the profitability of each customer relationship while lowering costs.

Exhibit 6 shows by exposing critical applications as services into a single, tightly integrated desktop, a company can reuse components in existing application to create a unified agent desktop. Through the assembly of components and processes, IT complexity is eliminated and agents have the correct information for each customer interaction. Consequently, agent efficiency and effectiveness of the contact center increases.

Contact centers that effectively align technology with business goals achieve a competitive advantage. SOA is valuable to contact centers that need to solve business-critical problems using IT, including the ability to leverage existing investments and create a common interface to improve the CSR and customer experience.
For example, an enterprise contact center using SOA can leverage already built web services components from their existing CRM application such as Siebel or create web services for some legacy applications to build a personalized CSR portal that streamlines applications, data and processes to provide a real-time single view of the customer. SOA can also provide adaptability for future projects and new technologies such as VoIP.

Exhibit 6.
Leveraging Components to Improve Agent and Customer Processes
Source: Yankee Group, 2005

Contact Centers Should Enable Adoption of Future Technologies
A key IT benefit of SOA is the ability to not only adapt to future changes in business processes, but also to adopt new technologies such as VoIP and predictive analytics. As technologies and customers become more sophisticated, IT departments will need to respond accordingly. A unified agent desktop built on a service infrastructure will ensure that any changes to the IT layer will only enhance agent productivity and not deter effectiveness. SOA will enable contact centers to be future proof and reduce risk—as opposed to completely throwing away existing investments. For example, contact centers can ensure key future projects by using SOA in specific ways such as:
• Making cross-channel experience tighter across multiple channels, including phone, mobile, call center and the web

• Click-to-dial applications to meet customers’ demands for more urgent responses to their issues (e.g., a customer wants to check product availability, while browsing for products or responding to marketing offers). By using a click-to-dial application, the client can immediately reach a CSR who has real-time visibility into the customer’s online experience

Exhibit 7 illustrates the power of an SOA approach as it applies to contact center initiatives. Companies can take an incremental approach to continually realize business and IT benefits, while leveraging their existing IT investments. Companies can easily start at Stage 1 by creating a contact center foundation and enhancing the user experience through specific channels or applications. Then incrementally extend and augment that foundation to create new role-based composite applications.

By using an SOA approach, organizations can realize the following benefits:

• Boost customer loyalty by improving cross-channel experiences while reducing customer service costs

• Improve contact center performance and transform to a profit center using a unified agent desktop

• Leverage existing investments in packaged and legacy contact center applications to create a memorable and consistently superior customer service experience

Improve adaptability in the customer service architecture for easier business process change management and future technological advancements
### Exhibit 8.
**Vendors' SOA and Component Offerings**
*Source: Yankee Group, 2005*

<table>
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<th>Vendor</th>
<th>Offering</th>
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<tr>
<td>BEA</td>
<td>The BEA WebLogic Platform enables organizations to integrate traditionally siloed systems and data—CRM systems, ERP systems, billing systems, trouble-ticketing systems, knowledge bases, customer databases, support databases, product databases, etc.—to automate complex customer service processes and deliver personalized, real-time information to customer service agents desktop portal or customer self service sites. They have many customer self-service, and call center enhancement projects underway with substantial success.</td>
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<td>Chordiant</td>
<td>Chordiant provides a SOA based, thin-client suite of products for both the financial services and telecommunications market. The applications automate the operational business processes by integrating and managing the necessary data, applications, processes and systems. Appropriate servicing screens support the opening conversation with server-based CTI and back-end integration to core systems. Automated processes are delivered to the agent in a role-based, unified desktop. The necessary scripts, tasks, relevant product offers and other information guides the agent through the process required to complete customer servicing, make relevant offers and enable fulfillment.</td>
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<td>Jacada</td>
<td>Jacada Fusion provides a server-side, web service-enabling platform. The solution offering can “service-enable” any windows, mainframe and web application without interfering. Jacada Fusion is a process optimization platform that can easily deliver a single view of a customer or a single view of a process without requiring any change to the existing applications. Jacada WorkSpace is a customer service agent desktop environment that provides a variety of agent tools such as dynamic scripting, CTI integration, alerts and notifications, agent-definable portlets and tabs which can host any business application.</td>
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<tr>
<td>Microsoft</td>
<td>Microsoft offers a solution called Customer Care Framework (CCF). It is a client- and server-side offering. Microsoft leverages its .Net framework and smart client offering to offer a pre-built solution focused on the telecom market. The solution offers a CCF middle tier that combines both Windows Server and Sequel Server layer, and a data abstraction and aggregation layer for web services integration and presentation-layer integration to all business applications and communications channels.</td>
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<tr>
<td>Onyx</td>
<td>Onyx’s applications are all web-services components. The Onyx architecture features physically separate presentation Services, business Services and data services. The business services tier is where the Onyx Enterprise Application Server (OEAS) resides. OEAS is the data-driven component-based framework that provides key services to the Onyx portals. Onyx’s customer-centric data model companies manage various touchpoints that relate directly to the customer. The Onyx Enterprise Dictionary is an XML dictionary that serves as metadata for the application server.</td>
</tr>
<tr>
<td>SAP</td>
<td>MySAP CRM offers componentized applications on their enterprise service architecture and Netweaver platform. The platform is the technical foundation of all the mySAP Business Suite solutions, SAP xApps composite applications, partner solutions, and custom-built applications—including composite applications, which provides the ability to integrate all systems running SAP or non-SAP software.</td>
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Choosing the Right Approach for SOA

SOA is an IT strategy that organizes the discrete business functions contained in enterprise applications into interoperable, standards-based services that can be combined and reused in composite applications and processes to quickly meet business needs. There are primarily two approaches to SOA taken by various types of software vendors: traditional packaged application vendors and new prepackaged composite application vendors (see Exhibit 8 for a list of customer-management focused vendors offering SOA-based solutions). Consider:

- The traditional CRM packaged application vendors, are unbundling their suites and providing prepackaged SOA-compliant components. These components are complementary to service infrastructure and can be construed as services that still need to be assembled into composite applications. See Exhibit 8 for Siebel, SAP, Chordiant and Onyx.

- To avoid an application vendor approach and manage a portfolio of heterogeneous technologies, organizations should consider a unified, independent process optimization platform to successfully deploy SOA for easy service reuse and composite application assembly as well as improve business efficiency, agility and productivity. See Exhibit 8 for BEA, Jacada, Microsoft.

Critical Success Factors for SOA

Although there are many considerations for successfully deploying an SOA, it is important to highlight a few success factors:

- Successful companies have a 2-to-3-year architectural vision of what they are creating. Start with a single core contact center process as a complete range of shared service opportunities is defined

- Build toward your future architectural vision of the contact center by using a project-by-project, incremental approach; it doesn’t require a big bang to get there

- Use SOA to better align IT to the business strategy and ensure project success

Business Benefits Examples of Composite Applications

Organizations that effectively align technology with business goals for contact centers can achieve a competitive advantage. Composite applications leveraging SOA are valuable to contact centers that need to solve business-critical problems using IT, while leveraging existing investments.

By exposing critical applications as services into a single, unified role-based desktop, contact centers:

- Improve agent effectiveness by creating user-centric navigation based on real-time customer interaction as compared to static siloed, application-centric user interfaces

- Reduce contact center costs by streamlining processes, which would eliminate redundant data entry, minimize errors and lower agent training costs

- Improve sales by not only using cross-channel marketing campaigns but also making it easier for the CSR to identify cross-selling opportunities by matching real-time customer needs with additional products and services.

- Enhance customer experience across all channels by providing the best possible service and quickly resolving customer issues
A Unified Agent Desktop Reduces Average Call Handling Time from 13 Minutes to 4 Minutes

The business benefits are also clearly illustrated in Exhibits 9 and 10 through the fictional representation of a call in the life of a CSR. The scenario that exists before tight integration forced the CSR to spend the majority of the interaction time shuffling between different systems to resolve the call equating time elapsed to roughly 13 minutes. Not only is this especially difficult while troubleshooting a product or resolving a billing dispute, but also during simple routine tasks such as an address change request.

However, a tightly integrated desktop reduces the elapsed time to 4 minutes by consolidating information, providing dynamic navigation based on context sensitive information and reducing call wrap-up. The new process also enables the ability to provide real-time recommendations to support customer retention and marketing programs.

A Look at a Successful Telecommunications Provider Using a Composite Application and SOA to Keep Valuable Customers

At Vodafone UK, the goal was to improve the agent's experience and ultimately improve the customer's experience. The existing process was cumbersome and time consuming. Agents were required to access two separate computing systems to complete a call. HERMES, a proprietary DEC VAX legacy system, handles inventory and hardware orders. CSM, an Amdocs PowerBuilder Windows application, maintains customer information, tariff and price plan schedules, and billing history. Agents spent considerable time hand writing notes during a call because accessing the disparate systems made building a new customer deal difficult and time consuming with the customer still on the line. A 5- to-10-minute manual call wrap-up process then followed each successful retention call.

The project used Jacada Fusion to non-invasively create web service-enabled CSM and HERMES applications to provide the foundation for a composite application delivered using a BEA WebLogic 8.1 client. This created a single user interface over the CSM and HERMES applications. The project took 10 weeks from initial design, development and implementation of the platform.

Through the new composite application called Single User Interface (SUI), an agent now looks up the customer's information, performs a security check and builds a deal with the customer. The agent can also check handset stock and order the handset real-time through the same application. The wrap-up process, which previously took 5 to 10 minutes after the call, has been completely eliminated as the customer/tariff data entry process was completely automated. Total time on the call was reduced from 10 to 20 minutes to 4 to 8 minutes—a total savings of 6 to 12 minutes per call.

The new composite application was built and delivered quickly, without any change to the existing business systems.

IV. Conclusions and Recommendations

Although many contact centers have invested in technologies for enhancing agent performance and productivity, many still struggle with improving traditional contact center statistics such as average call handling time, first contact resolution rates and call deflection percentages. The key is to extend existing contact center investments by using an SOA. However, even though 85% of IT executives agree that single web services tools are nice, the real benefit comes from unified application and service infrastructure suites that enable SOA.
Recommendations

Contact centers must do the following to dramatically improve agent effectiveness:

- **Create a unified agent desktop that operates as a veneer layer, hiding IT complexity.** One approach is to build user-centric portals that can connect to multiple applications, guiding agents through a business process. Agents need to understand the correct process, not all the underlying systems. Even if business processes change, the user interface can remain consistent limiting the need for agent retraining.

- **Plan for the benefits of multichannel communications.** Use of web-based communications will continue to rise with the increased deployment of broadband. However, as contact centers off-load simpler interactions to web self-service, it is crucial to have a single unified agent desktop that captures and makes the complete history of interactions across channels available to agents.

- **Leverage business insight to drive efficiency and effectiveness.** To continuously monitor operations and look for both efficiency and effectiveness improvements, enterprises are demanding comprehensive real-time and historical analytics. To create an intelligent contact center, the information for actionable insight must be leveraged and provide in-context information and guidance for the CSR.

- **Use thin-client applications for improved outsourced operations.** Many contact centers need to manage a combination of captive and outsourced agents since they need access to the same applications and data that captive agents use. As a result, a thin-client portal will not only increase the effectiveness of the outsourcer, but also provide the ability to move toward the future trend of using home agents.
V. Further Reading

Yankee Group DecisionNotes

*CRM Analytics Can Increase Revenue Potential*, August 2005

*Top 10 Ways to Refresh and Leverage an Existing CRM Solution*, June 2005
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