

Synchrony Solution Architecture:

A Technical Overview

WHITE PAPER

Cincom In-depth Analysis and Review



SIMPLIFICATION THROUGH INNOVATION®



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Introduction

In today's economy, companies are universally searching for ways to build customer advocacy and stay ahead of the competition. The interactions businesses have with their customers continuously become more complex as the proliferation of new communication channels makes an impact. Plus, contact centers are striving to create positive and high-impact customer experiences by being consistently responsive to inbound inquiries as well as reach out with proactive outbound interactions – such as fulfillment, scheduling reminders, relevant offers, alerts, and notifications.

Businesses struggle to bring new communication modes, such as web chat, e-mail, self-service and multimedia into operation. Most have done so by attempting to realign their business processes, integrate the channels into their current system and train employees on each communication channel point solution, all of which are costly and time-consuming. And the challenge isn't over once the channels are integrated. Businesses need to determine how to integrate transaction activity, and prioritize and route both interactions and transactions through the system – for both inbound and outbound.

Cincom Systems, Inc., a leading provider of customer experience solutions, provides extensive activity management capabilities across an integrated communications platform (phone, fax, e-mail, chat/collaboration and self-service) – across both inbound and outbound communications – through its Synchrony solution. Synchrony enables clients to optimize the lifetime value of each customer by effectively managing interactions and associated workflow occurring throughout the business value chain.



Leveraging the internet's power, Synchrony's architecture facilitates rapid deployment, extensibility and seamless integration.

Architecture Philosophies

“Hosted Anywhere” Delivery for the Extended Enterprise

To allow for ultimate flexibility for every client type and demand, Synchrony’s software needed to be available as a remote-hosted/subscription, in-house/licensed application, and as an application for reselling and outsourcing. To deliver these various models efficiently and cost-effectively, the following architectural foundations are required:

- **Internet-Based Architecture** – As a global delivery mechanism, the internet offers unprecedented internal and external connectivity capabilities across the enterprise. The Synchrony desktop and backend integration modules were built to adhere to this web-spanning architecture for maximum flexibility and accessibility.
- **Multi-Tenant Architecture** – To deliver software via the internet, the application and data model must securely support multiple clients, with multiple groups and campaigns, accessing a single application instance. This architecture provides valuable infrastructure and operational savings by enabling clients to span the Synchrony application across their enterprises without additional technology. This technology also facilitates a shared deployment platform across the extended enterprise to support multiple business units, suppliers and partners to truly generate a single, unified view of the customer.
- **Remote User Model** – To effectively manage customers across the extended enterprise, an organization’s customer service, sales and marketing professionals will need to access Synchrony in remote, mobile and home-based locations. Coupled with the internet delivery and multi-tenant capabilities, this “Agent Anywhere” model is critical to help customers leverage their distributed, global operations.

“Enterprise-Class” Functionality, Interoperability and Performance

By design, Synchrony addresses single, multi- and cross-enterprise deployment as a fundamentally distinct discipline. The architecture was uniquely defined to meet the following requirements of an “enterprise-class” solution:

- **Mission-Critical Capabilities**
 - Reliability and stability ensuring day-to-day business operations are supported.
 - Product scalability is critical as the number of users increases, without losing performance capabilities.
- **Rapid Deployment** – Allows businesses to reap the application’s benefits quickly by seeing results measured in days rather than months or years.
- **Extensibility and Seamless Integration Into the Enterprise** – Every business has unique processes, applications and systems. It is paramount that Synchrony’s architecture allows businesses the ability to quickly extend and integrate the Synchrony application across existing and/or future business structures.

This paper provides an overview of Synchrony’s core architecture, encompassing common and fundamental technical requirements. It also offers insight into Synchrony’s architectural components, offering a unique and differentiating benefit.

Core Architecture

Synchrony's solution is built on a robust and efficient platform leveraging standardized, modular components and, through the internet, provides a complete set of services to those components.

Enterprise JavaBeans™ and J2EE™

Synchrony's core architectural foundation is based completely on Enterprise JavaBeans (EJB) with adherence to J2EE standards. Leveraging the EJB model facilitates a true Distributed Component solution. Distributed Components or Objects are software components designed to work together at run-time without prior linking or pre-compilation as a group. Regardless of the source language or network used, the objects interoperate through the messages passed between them, providing structural flexibility.

Enterprise JavaBeans™, or EJB, components give web pages and other applications interactive capabilities. Additionally, via the EJB model, an enterprise can control changes at the server level rather than updating each individual client computer whenever a new program component is changed or added. This is critical for Synchrony's multi-enterprise deployment process as it enables us to reuse code, easily identify code errors, isolate issues and add components quickly.

Internet-Native Architecture

Unlike several internet-based architectures that essentially offer an HTML-based solution around traditional client/server architecture, Synchrony's desktop and backend integration modules are 100 percent internet-native. As such, Synchrony supports the following:

- Optimized thin-client deployment with complete internet delivery through a browser-based application. Upgrades are transparent, as no reloading of software needs to occur on the user desktops.
- A central application cluster, available only through HTTP/HTTPS, houses the distributed business components that are accessible via a traditional web browser and web services.
- Enhanced interoperability across the enterprise utilizing Web Service Integration. This internet-native architecture allows organizations to streamline existing processes and minimize costs by taking advantage of previous system investments.

N-Tiered Application Architecture

Synchrony, built upon an increasingly popular three-tier architectural style, facilitates an n-tiered architecture that allows businesses to support many concurrent users, meet uptime requirements and keep installation, upgrade and integration costs low. The n-tiered framework distributes the processing load across all tiers, segments functionality to appropriate layers and overlays common interfaces across the entire application.

Synchrony's n-tiered architecture is designed as a network-optimized variant of the traditional Model View Controller (MVC) paradigm. In this distributed MVC paradigm, the visual user interface, the modeling of the external world and the internet-based user delivery are explicitly separated and handled by three or more independent tiers, each specialized for its task, including:

- The **Presentation Tier** adopts the responsibilities for the view and manages the graphical and/or textual output to the Synchrony desktop, within a browser, over an HTTP protocol.
- The Controller is a logical set of entities, within the **Web Deployment Tier** and the **Multi-Channel Communications Tier**, that intermediates data and business logic from the remote user and optimizes these interactions for internet delivery.
- The **Business Logic, Data and Analytics Tiers** manage the behavior and data of the application domain, respond to requests for information about its state (usually from the view) and apply instructions to change state and content (usually from the controller).

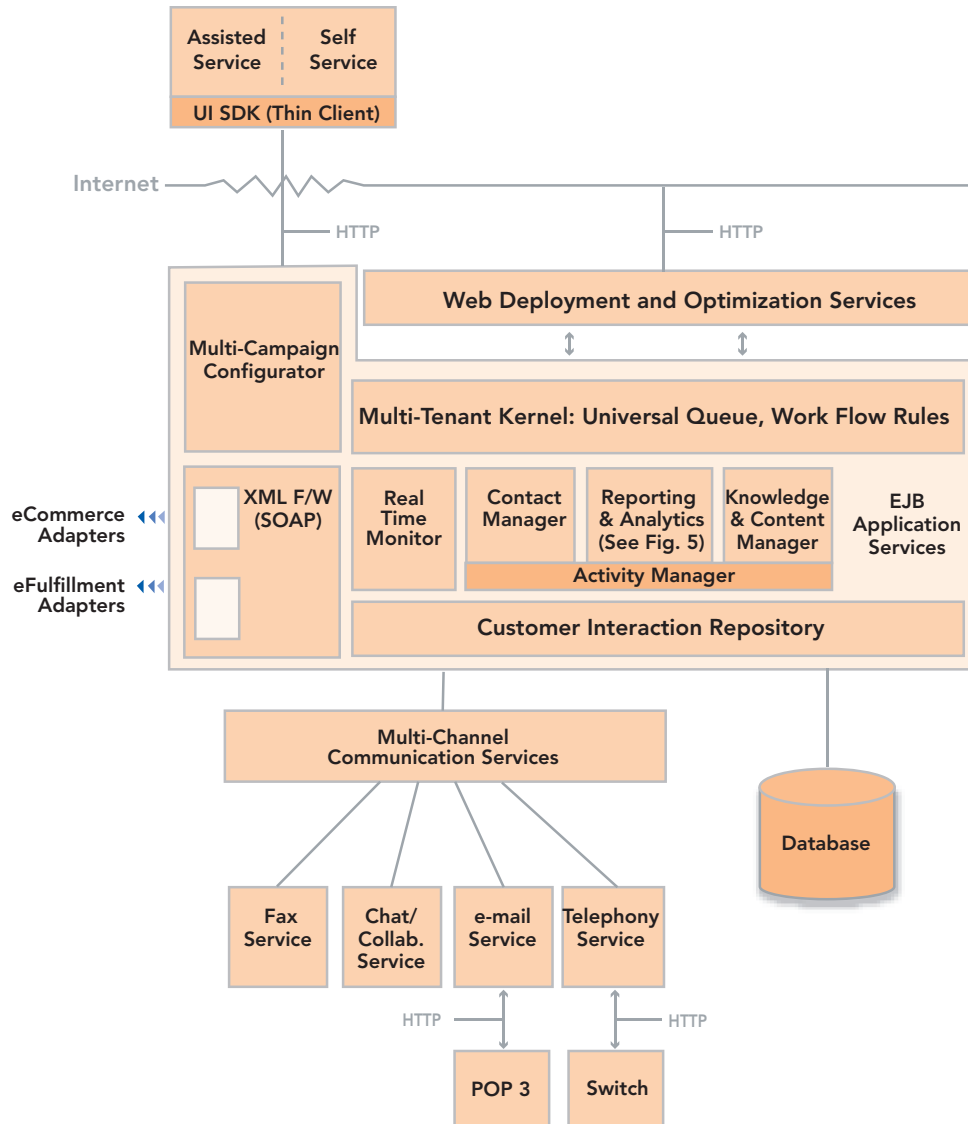


Figure 1: N-Tiered Architecture

Presentation Tier

Synchrony employs a configurable thin-client as its User Interface (UI) that allows customers to access the Synchrony application, either internally or externally, through a browser. The client browser allows the user to interact with the application without the need to install software or store data locally. This eliminates user desktop software installation, maintenance, upgrades and service while increasing the user's processing speed and eradicating remote-user data synchronization.

The presentation tier essentially drives the Synchrony desktop which is developed on a thin-client UI shell, as well as a browser-based, client-side SDK with individual graphical interface components for respective functionality that is being delivered on demand over the internet. The thin-client user interface leverages Java, JavaScript™, DHTML, and CSS. Application data is delivered to and accepts input from the user via a web-browser interface. If required, presentation content could be translated into

WML for access by WAP-enabled devices. Finally, the Synchrony desktop supports HTTP/HTTPS as the guaranteed wire protocol to work through firewalls and proxies. Agents local to the Synchrony server, and/or with network access that allows outbound connections on proprietary ports, will enjoy even faster UI response times, due to the use of advanced communication technology embedded in the thin-client.

The user interface is generated based on tenant, campaign group, or even campaign associated UI templates. Each tenant, campaign group, and/or campaign may customize these UI templates, hiding unused data fields, or adding integrated fields that may be mapped to another legacy web server, for instance. Further, the UI customization facilities allow each tenant to customize the desktop UI in order to provide a similar look-and-feel to the surrounding organization's image. For example, logos, fonts, and colors can be customized to create unique and specialized desktop experience.

Multi-Channel Communications Tier

The Multi-Channel Communications Tier consists of a set of multimedia adaptors to support interaction management over phone, fax, e-mail and chat/collaboration. Each set of adaptors is architected to leverage a device (for example a phone switch), server or protocol (for example POP3/SMTP) independent interface to the Synchrony Universal Queue. The rules and logic for queuing and routing are separated from the individual channel adaptors.

Application Business Logic Tier

Synchrony's Application Business Logic Tier handles application logic, routing and server processing, and provides a functional framework for enterprise-class distributed applications. This tier delivers the enterprise application architecture that supports multi-tasking, connection management, load balancing and fault tolerance.

Synchrony objects, or JavaBeans, can reside anywhere on the network and can be invoked from anywhere. This is useful for redundancy purposes. For example, several copies can be created, and if one fails, another copy of the object is called instead.

The Synchrony application tiers are capable of handling large volumes of transaction requests through a highly optimized **Multi-Tenant Kernel**.

Data and Analytics Tier

Synchrony's data tier offers business-object persistence, with a relational data schema for transactional data storage and retrieval. Synchrony is certified with both Oracle and SQL Server databases.

This data tier is optimized for high-volume processing for both transactional and business intelligence requirements. Based upon a relational data model, this data tier provides immediate retrieval of data from a user desktop. This is critical for users to manage real-time interactions and transactions and quickly view enterprise-wide data. Real-time monitoring, also provided through this data schema, allows users to effectively understand what is occurring with their queues, interactions and agents in order to make better business decisions.

The n-tiered framework distributes the processing load across all tiers, segments functionality and overlays common interfaces across the entire application.

Security

Security is intrinsic to all tiers within the Synchrony solution and is implemented as a logical set of services within the Synchrony multi-tenant kernel. The various services provide the following levels of security:

- **Access-level** – Various authentication and authorization policies for access control.
- **Wire-level** – Data encryption for communications over the Internet.
- **Application-level** – Business objects can only be accessed utilizing a "smart-security" mechanism where a series of Access Control Lists (ACL) are configured on a per-campaign, per-tenant basis to ensure that the "sandbox" environment within a multi-tenant environment is enforced.
- **Data-level** – Each table and component of the data model schema has the notion of users, groups and security levels associated with it. The database itself is recommended to be set up in a "hardened" format wherein no other application can access that database machine other than the application and systems management services.

The security services support the propagation of key security information from client browser to the application servers so the information can be used for authentication, authorization and audit trail/logging. In addition to its embedded security features, Synchrony provides a complete SSL implementation. SSL or Secure Sockets Layer is a secure communication protocol that ties encryption, authentication and key exchange together into one communication layer that sits on top of a standard TCP/IP communication. The combination of these features provides robust, system-wide security allowing clients to focus on the application and its uses rather than the security infrastructure.

Synchrony utilizes a combination of security measures providing robust, system-wide reliability.

Integration Framework

A core architectural philosophy of the Synchrony solution is to facilitate a deep legacy/enterprise integration capability that allows organizations to leverage existing application and system investments. The focus of the integration framework is to enable an organization to span multiple systems in order to see a single view of a customer. Providing this single customer view across their enterprise helps in effectively managing and reporting against any interaction, transaction or transaction exceptions while meeting the following goals:

- Enable customers and partners to integrate Synchrony with existing IT infrastructure without expensive and time-consuming systems integration work.
- Facilitate secure and seamless integration across firewalls.
- Provide minimal impact on customer and/or partner systems.
- Leverage the EAI/B2B integration tools that are available in the market.

Synchrony's modular integration architecture allows an externalized Applications Programming Interface (API) to integrate with the Synchrony application through the Synchrony Web Service Adapter (WSA). Synchrony's Web Services Adapter (WSA) provides access to Synchrony's API over the internet. These API or web services are based on standards (HTTP, XML, SOAP) and are available remotely through a company's firewall. They provide a powerful set of functions to facilitate integrations between Synchrony and other Enterprise Software Systems. WSA provides flexibility in implementing integrations ranging from:

- Simple system to system real-time or batch exchange of data, to
- Sophisticated event driven business processes.

These services provide out-of-the-box access to Synchrony data structures in the form of Java objects available over the internet.

User Interface (UI) Integration

User Interface (UI) integration framework is a JavaScript-based, client-side SDK that allows HTML/ActiveX/Java-enabled interfaces to launch and be encapsulated within Synchrony's UI shell. The UI shell provides the ability for these external application interfaces to be viewed within tabs that only display when an interaction is processed for relevant campaigns. For example, a particular campaign can require order management capabilities by leveraging existing e-commerce and ERP systems. Rather than mandate the use of expensive enterprise application integration (EAI) software, the appropriate HTML-based interfaces or forms to these ERP or commerce systems can be launched within the Synchrony Desktop leveraging the UI integration framework. Another common use of this framework is to expose key capabilities within an organization's website to facilitate common workflow with minimal investment.

The UI SDK provides a data sharing mechanism via dynamic tag replacement for these external interfaces within these tabs to communicate to each other as well as for enhanced external system details. Legacy system integration and customized forms and activities are also created within a custom tab through an encapsulated HTML interface or form. This unique encapsulation approach enables organizations to very rapidly leverage an existing business-process application and seamlessly integrate it into the Synchrony Desktop while providing appropriate usability ergonomics.

Application-Level Integration

Synchrony Web Service Adapter(WSA) utilizes XML interfaces to seamlessly integrate its application with other applications. These XML interfaces are primarily used to import data from legacy systems and integrate complementary business process applications such as order fulfillment or e-procurement without replication, security or data storage concerns.

The WSA Framework consists of two main components:

- Synchrony Server Layer—resides on the Synchrony server
- Client layer—resides on your server

Synchrony's integration framework offers powerful business process-level integration giving a consistent, holistic view of customers.

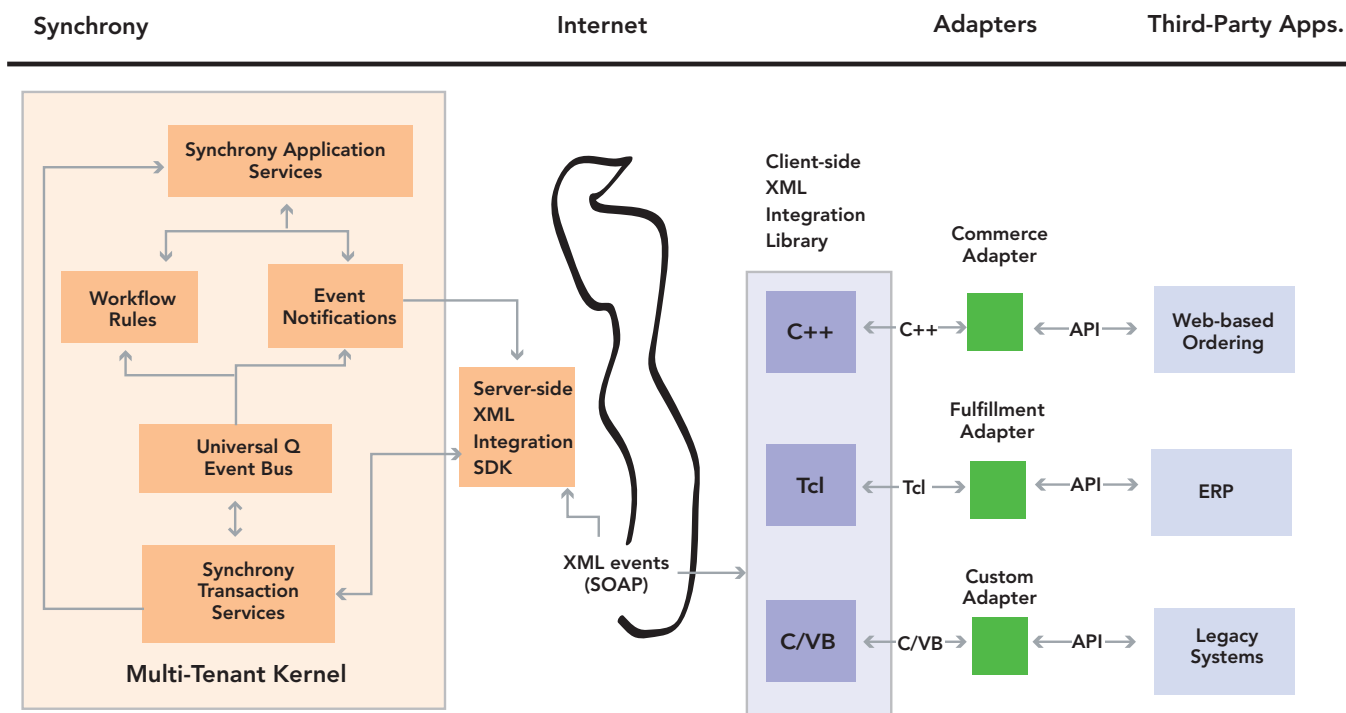


Figure 2: Application Level Integration

Synchrony Server Application Integration SDK – This layer resides on the Synchrony server and consists of a set of server-side APIs wrapped around the Workflow Rules Engine exposed through EJBs, Servlets and HTTP. This layer allows external applications to invoke and request appropriate business components within Synchrony via a secure, authenticated layer with business logic encapsulated as a set of workflow rules. For instance, an external website can invoke HTTP-POST requests directly to the Synchrony solution to add order information while sending an outbound e-mail as part of a workflow rule, or alternately invoke a JSP or Servlet to get detailed customer information data.

Synchrony Client Integration Library and Adapters – This layer resides on the server and consists of a set of client-side APIs and adapters to popular commerce and fulfillment systems. Additionally, the client integration library provides a simple but powerful API to creating custom adapters to legacy and other enterprise systems. The XML adapters can also be used to lookup and retrieve Synchrony's interaction data prior to being sent out to other systems.

Each inbound "real-time" event sent to Synchrony's system is mapped to an appropriate workflow rule that leverages the Universal Queue and Contact and Activity management system. Outbound event notifications are also delivered as a combination of workflow rules and mappings into appropriate adapters. The Application Integration Framework is used for bi-directional event notification (between application and Synchrony,) integration with XML/B2B middleware for life-cycle information (such as orders, returns, information, etc.) and integration with workflow (such as an exception requires work to be done or notification to another application.)

Next-Generation Architectural Capabilities

Enterprises are rapidly spanning operational boundaries to leverage cross-functional, cross-business capabilities for customers, partners and other stakeholders in the value chain. However, enterprise solutions have only scratched the surface to offer architectural capabilities to support this extended vision. Enterprise Application Integration (EAI) and B2B Integration (B2Bi) technologies are the first step to help converge multiple systems, within the enterprise and across trading partner networks, to deliver a uniform transaction view across the enterprise. While these technologies help consolidate transaction information, a plethora of information is still missed in the convergence since it resides only in customer conversations, interactions and other exception-management policies. Moreover, these offline and online interactions are diffused within an enterprise as multiple business units, functional areas or partners/suppliers treat this interaction as a siloed customer conversation.

To facilitate a “true universal view of the customer,” it is imperative to converge all offline and online interactions, significant transactions and exceptions across multiple business units, partners, suppliers and other stakeholders in the value chain. Synchrony’s next-generation architecture addresses this real pain by delivering the following breakthrough capabilities:

- Multi-Tenant architecture
- Extensible, rules-driven architecture
- Convergence architecture for interactions and transactions: Universal Queue
- Customer insight and analytics framework

Multi-Tenant Architecture

Synchrony’s unique, “multi-tenancy” architecture is inherently designed to support multiple client or campaign implementations on a single application and database instance while leveraging a web-based architecture for rapid deployment, customized functionality and improved scalability¹.

This capability is delivered through Synchrony’s **Multi-Tenant Kernel**. Intrinsic to every component of the solution, the Multi-Tenant Kernel virtually stripes the user interface, application logic and data schema to provide a secure, performing sandbox for each individual client or campaign implementation. It also facilitates an inheritance mechanism for sharing rules, business components, content and data across multiple business units and clients to meet the requirements for delivering a universal view of customers.

Synchrony’s multi-tenant solution is uniquely designed and implemented, following a simplified process:

- Procure and install a “single instance” of Synchrony’s multi-tenant software.
- Set up a multi-tenant business process hierarchy for tenants, campaign groups within tenants and a series of campaigns within a logical campaign group, and assign appropriate resources such as agents, rules and data to this logical structure.
- Configure the tenants and campaigns as a completely customized set of application implementations for specific business units, partners or suppliers while leveraging the single application and database instance.
- Maintain a simplified infrastructure across client accounts without compromising client data or application security.
- Leverage, on demand, the convergence architecture to share information across clients/campaigns for tracking common customer contact data and unified “customer history” or activities across multiple campaigns. This facilitates real-time, cross-sell/up-sell and other relationship management capabilities.



Multi-tenant architecture supports multiple client or campaign implementations on a single application and database instance.

¹ See the Synchrony Multi-Tenant Architecture White Paper.

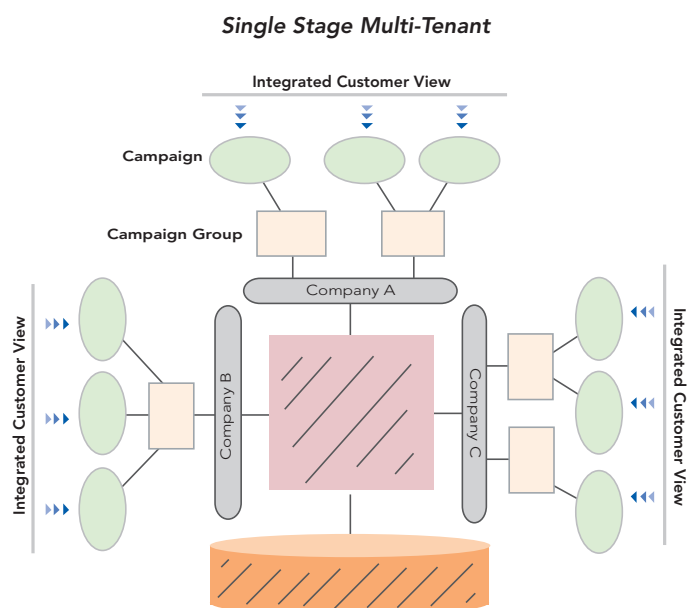


Figure 3: Multi-Tenant Architecture

The example shown in Figure 3 depicts the inherent strength of a multi-tenant solution. From a central office, the company handles business operations and communications for clients, partners, suppliers or business units A, B and C. With the multi-tenant architecture, the company is able to operate and manage a single database and application server instance for many clients. This offers a variety of business benefits, including:

- Technical operations efficiency
- Improved client solution performance
- Scaled operations by adding new clients without incurring traditional labor-intensive infrastructure, configurations and implementation costs
- Effectively utilize technical personnel by leveraging existing systems and code when setting up and managing client operations

Software updates, script changes, routing definitions, workflow rules and content management for client programs, using the internet and traditional functions, can be managed via a single, web-based interface.

It was key from an architectural standpoint to have Synchrony developed to include multi-tenancy capabilities. Other vendors have data models and application logic based on single-tenancy and make attempts to retrofit existing client-server applications for the web. To transition from their single to multi-tenancy, would require reconstruction of the entire application logic, user interface and data model.

Extensible Rules-Driven Architecture

Synchrony's architecture contains a robust extensibility framework so each implementation can meet each organization's unique business and customer processes. The following extensibility capabilities are delivered at the data, application and user-interface tiers:

- Workflow rules
- Knowledge engine
- Custom attribute framework
- Swappable components

Synchrony's robust extensibility framework allows each client to meet their unique business and customer processes.

Workflow Rules

To provide customization and personalization in a multi-tenant solution, Synchrony's application is architected with native workflow capabilities. Workflow rules are decision-tree-based logical components comprised of service and decision nodes. Decision nodes receive inputs and instantaneously redirect them to an appropriate node for a further decision or work. The service nodes receive inputs and create outputs in the form of a definable work item. Synchrony's entire queuing and routing service is implemented as a series of workflows so customers can customize routing and queuing rules to the granularity of an individual campaign. Facilitating independent interaction management, each campaign, campaign group or tenant is assigned its own workflow rules. If necessary, the workflow rules can be shared among multiple client implementations because of Synchrony's inheritance structure between campaigns and tenants. Even the actions triggering workflows can be customized, including:

- **Activity Management** – New activity is created, or changes to an activity.
- **Session Management** – New interaction (e-mail, analog telephone call, chat or fax) or transaction (web event, sales call, backorder exception, etc.) is received, status of interaction or transaction or session changes.
- **External Messages or Activities** – In conjunction with the Integration Framework to accomplish bi-directional event notification.

Knowledge Engine

In addition to supporting traditional knowledge management features such as dynamic content management, intelligent knowledge acquisition and distribution capabilities, the Knowledge Engine is used as the intelligent layer to drive interactions and transactions via the workflow rules. The workflow rules are captured within the knowledge engine so that they can be customized easily and can be changed dynamically at runtime based on a series of learning and self-adjusting policies. For example, if a workflow rule checks for customer-profile data before routing to the appropriate agent, the knowledge engine can provide appropriate cross-sell content during the screen pop or automatically recommend issue/resolution procedures.

Custom Attribute Framework

To facilitate true personalization across multiple campaigns, the custom attribute framework exposes the “virtual striping” capabilities of the multi-tenant kernel. The contact, activity and interaction elements within Synchrony can be customized per implementation via custom attributes that manifest as additional UI elements, custom forms or links into existing systems. The data model can also be extended via this framework allowing for flexibility in storing process-specific information according to client needs.

Swappable Components

While the ease of extending the Synchrony application is applicable in many scenarios, in some situations, customers need the flexibility to leverage and integrate with existing first-generation CRM and interaction management systems such as e-mail management systems and trouble-ticketing applications. Through the swappable components layer, the multi-channel communications tier segregates the application logic from the individual communications delivery, thus providing the flexibility for e-mails or trouble tickets from traditional ERMS and CRM systems to be sent into the Synchrony Universal Queue.

The most essential benefit Synchrony provides is converging customer interactions and transactions – delivering a complete life-cycle view of every customer.

Convergence of Interactions and Transactions: Universal Queue

Multi-Channels

From its inception, Synchrony’s communication channels have been completely integrated into the comprehensive solution. Each of the various channels – phone, fax, e-mail and chat – is built with industry standards in mind. Every channel is displayed to the user desktop in the same manner and follows identical clickstream processing. Additionally, all workflow rules, queuing, event logging and reporting are integrated in the application’s structure to provide a unified process for consistent management and analysis of the interactions occurring in the various channels.

Synchrony brings together traditional PSTN services (phone and fax) and IP services (e-mail, chat, collaboration, web self-service) to form its integrated offering and includes these specific channels:

- **Telephony** – Synchrony’s differentiating telephony architecture enables an agent to log in to the application remotely and take phone calls. Synchrony supports traditional PSTN switches from Avaya and Nortel as well as VoIP for Cisco Call Manager. VoIP offers a cost-effective alternative to the traditional public switch telephone network (PSTN) by enabling organizations to leverage high-bandwidth data connectivity to link disparate locations and eliminate the need for site-specific servers and phone lines, resulting in reduced operating costs. Synchrony communicates with the switch via Java RMI. This HTTP communication allows an organization with an existing switch to also leverage the subscription-based application without losing an investment in a switch.
- **E-mail** – Synchrony’s e-mail tool is based on SMTP (Simple Mail Transfer Protocol), an industry-standard e-mail server protocol, used for both incoming and outgoing e-mail.
- **Chat and Collaboration** – Synchrony’s proprietary chat application manages server and client chat communication and collaboration. Contacts connect to the Chat Server through a Chat Applet, which sends a URL with a query string parameter that indicates the specific campaign. The URL that the client is viewing is also sent through to the Agent Applet so the agent can view what the contact is looking at (Page Tracking). Chat Applet can receive URLs from the agent (Page Pushing). Synchrony’s real-time collaboration capability allows agents to track customer forms, push pages to customers and co-author forms.
- **Fax** – As a fax enters the system, it is transformed into a digital file and distributed to the user in the same process as e-mail.

Synchrony’s application is available as an “Agent Anywhere” solution. This unique capability allows users to access the application from virtually anywhere, at anytime. Agents can be in a single contact center, at home or across multiple contact centers, providing employee hiring and retention benefits.

Universal Queue – Interactions, transactions, exceptions, and events

A predominant requirement for interaction management is to be able to integrate all interaction channels into a single funnel and process subsequent routing of activities and communication. Standard routing includes the ability to take interactions, funnel them through a universal queue and deliver a screen pop with customer information. Extending beyond this base-line requirement, Synchrony can also process transactions and events just as interactions are processed.

Universal Queue handles transactions, exceptions and events with the same processing as interactions.

Figure 4 illustrates the process through which an interaction, transaction or other event would enter the Synchrony application and flow through Synchrony’s Universal Queue to the Synchrony Desktop.

1. Events enter the Synchrony application. These events, including analog and IP channels, transactions, web events and exceptions, all follow the same flow for entering the application.
2. Universal Queue – The events pass through Synchrony’s Universal Queue, which extracts the relevant information from each interaction, transaction or other event and passes the information to the application. Relevant information might include phone numbers, e-mail addresses, account/customer numbers, tenant/campaign, etc.
3. Normalization Layer – The normalization layer of the Universal Queue “normalizes” all of the events for consistent handling
4. Customized Workflow – Applies the appropriate customized workflow, based on predetermined rules you set for decision-making and work intelligence. (See Extensible Rules Architecture section for more information about Workflow Rules.)
5. Previously compiled customer details are pulled from the database.
6. Event Router – The event router delivers the session and the customer’s history to the user via the internet. This process is fully extensible and can be customized on a campaign basis. Filters, predetermined by the customer, are applied to assign priority and escalation points. Such filters might include: geography, user skill level, length of time interaction was in queue or customer value.

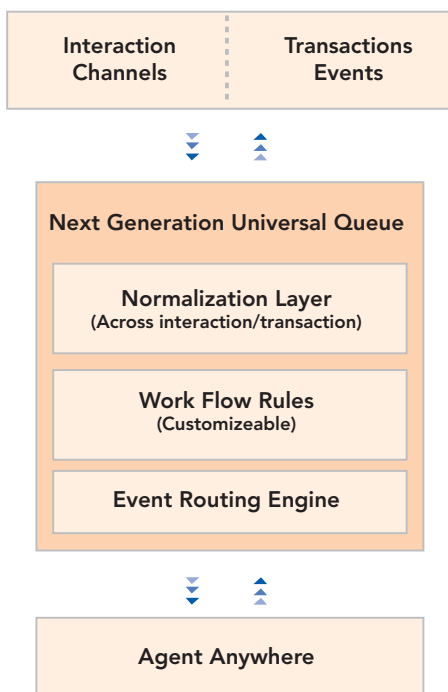


Figure 4: Universal Queue for Convergence of Interactions and Transactions

Customer Insight and Analytics Framework

Synchrony delivers a robust and scalable data capture and analytics platform within its Interaction Management solution. Synchrony Analytics allow users to visualize the information captured regarding a customer relationship and interaction history. This robust analytic and reporting infrastructure enables you to measure business performance and improve strategic decision-making. The powerful business intelligence platform leverages both Cognos® ReportNet and Cognos® PowerPlay.. The platform's primary components include: a Metadata/Data Modeling Framework, online analysis, standard reporting, ad-hoc report creation capabilities as well as and delivery and report management features.

Figure 5 depicts Synchrony's overall Business Intelligence Platform. The user connects to the business intelligence tools through a web portal, accessible via a standard web browser. From the portal, the user can create, manipulate and analyze the standard reports and analytical (OLAP) reporting capabilities. These reporting tools connect to groups of information, or cubes, with specific points of information from the Synchrony application, such as interaction data, user activity, results and campaign contacts.

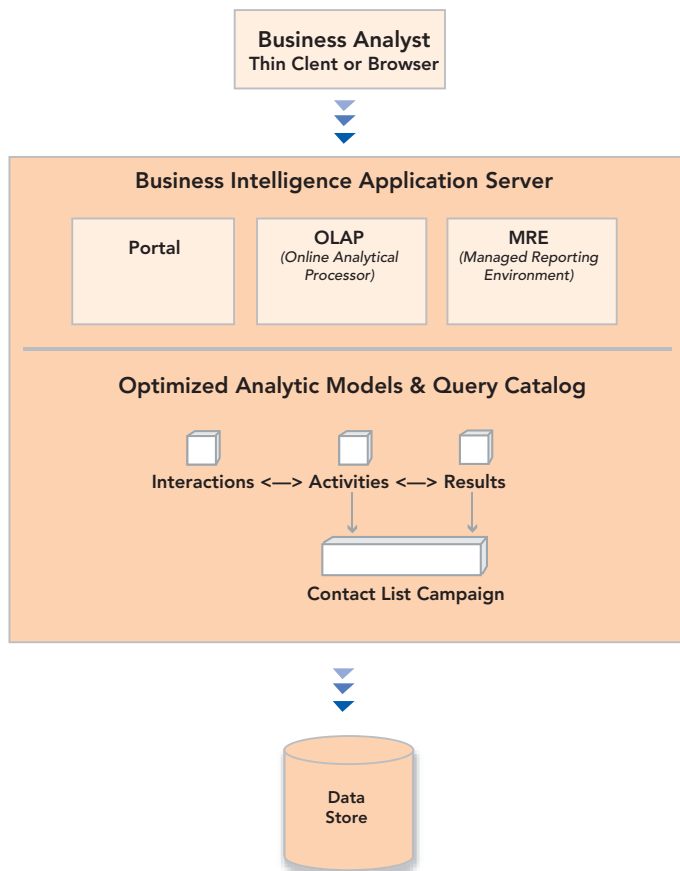


Figure 5 Business intelligence.

In-Depth Analysis and OLAP Reporting

Synchrony's powerful analytic engine and the extensible analytic models built from Synchrony's data collection environment allow business analysts to perform robust, ad hoc analysis to provide rapid answers to complex queries on key performance indicators that impact the overall business operations. All processing takes place on the server-side components with zero client administration, allowing the analytics to scale throughout the enterprise, as well as be easily shared. Synchrony offers prepackaged analytic models based on interactions, activities and results, so you can solve your critical business problems or better understand your critical business processes for optimizing both top-line growth and bottom-line efficiencies.

Standard Reporting

A robust managed reporting engine powers Synchrony's standard reports. These reports are critical for CRM managers and operations personnel to effectively and efficiently understand their business and monitor progress against plans. The reports reflect all system areas and are integrated with the analytical components to help users find problem areas and drill into the underlying details. Additionally, they provide immediate and real-time data access to the operations or composition of any given campaign running within the Synchrony environment.

Delivery Portal

A browser-based portal provides end-users with single access to business intelligence information from Synchrony and other enterprise-wide applications. As a web-based application service, it offers a single management point and easy distribution to everyone in your organization.

Synchrony's robust analytic infrastructure enables you to measure business performance and improve strategic decision-making.

Conclusion

Synchrony relies on the inherent strength and flexibility of its architecture and is designed to meet the ever-changing needs of businesses. Several factors differentiate Synchrony's architecture and provide a framework for delivering unique, leading-edge functionality.

Critical Architectural Differentiations and Derived Functional Benefits

Web Native Architecture

Synchrony can be quickly deployed and is easily accessible via the internet. Software does not need to be installed and maintained on each user desktop, as it can be managed from the central application server. Synchrony's Agent Anywhere capability allows users to log in to the system from anywhere they have a regular web browser. The internet's flexibility also allows several components of Synchrony's application to be readily available to end-customers in a self-service environment.

Multi-Tenant Architecture

Synchrony's unique multi-tenant architecture – allowing multiple clients, departments, divisions or campaigns to run from a single application and database instance – provides significant infrastructure and operational savings without sacrificing security and stability. This framework also offers the opportunity for enterprises to gain a complete view of their organization as business processes and data can be easily shared across multiple functions, such as marketing, sales, service and fulfillment.

Convergence of Transactions and Interactions for a Complete View of Your Customers

With Synchrony's powerful integration framework, rules-based extensibility and universal queue technology, companies can truly leverage every customer touch point. All customer interactions occurring within Synchrony's multiple channels and transactions from outside Synchrony's application can be managed and processed in a single view. This convergence provides a complete view of your customer, allowing you to successfully strengthen every customer relationship and increase the organization's overall profitability.

*For more information on Cincom Synchrony,
visit www.cincom.com/synchrony*

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