



LS ServicePoint™ for Financial Institutions

White Paper

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Introduction

This white paper describes the LiteScape ServicePoint for Financial Institutions and Multi-Modal Application Platform (MAP)™ strategy and how these products can be used by financial institutions to leverage their VOIP architecture to improve business processes and provide a common face to customers accessing the institution’s financial services.

LiteScape ServicePoint for Financial Institutions takes convergence to the next level by enabling business applications to fully integrate with the IP Telephony infrastructure. Financial Institutions will be able to create solutions that leverage cost effective IP devices (such as phones), securely integrated with enterprise financial applications and finally integrated with pre-existing customer service center applications to provide a ServicePoint for Financial applications to customers. Such solutions could leverage the organizations investment in IP telephony infrastructure and seamlessly add new ways to do business with customers.

Overview of Modern Financial Institutions

Financial institutions today have changed from being just banks, brokerage houses, insurance companies, etc. into a business model that is more like a retail establishment. This change came about when the Gramm-Leach-Bliley act freed all financial service organizations to compete with each other in all products and services. The corresponding affect of the act was to bring brokerage houses and other institutions into providing banking services. As an example, today a bank can not only provide their standard services of checking, savings and loans, they also provide a complete suite of financial and related services as shown by the changes in Figure 1 Effect of Competition (see below).

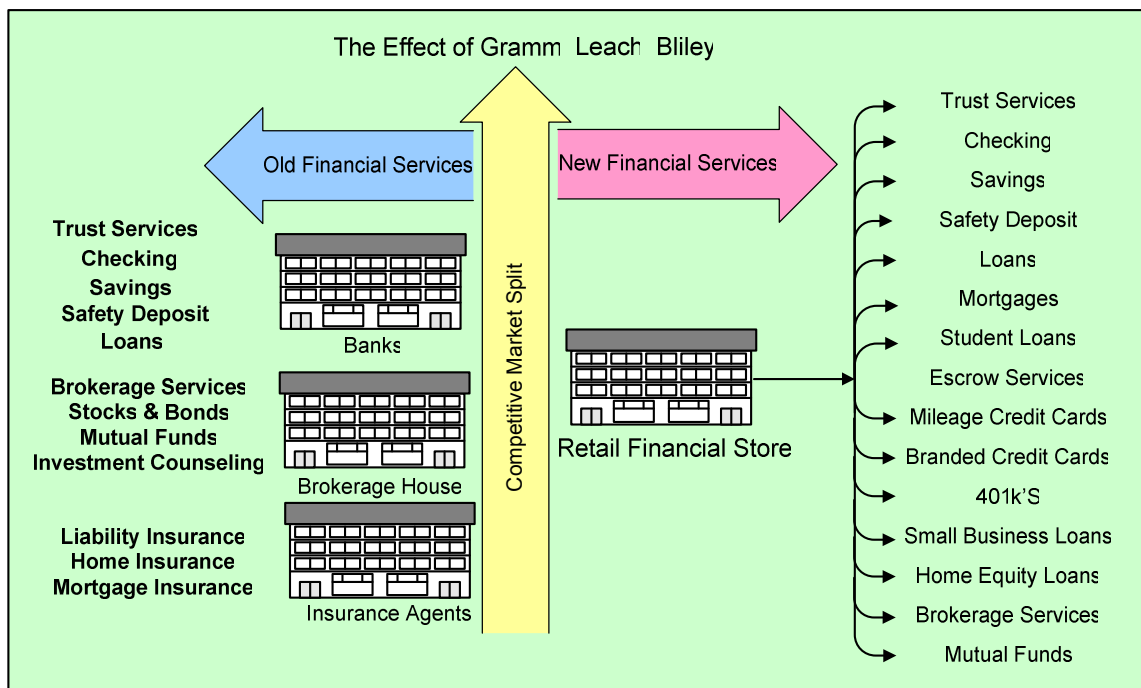


Figure 1 Effect of Competition

Introducing a wide range of services has given financial service firms more areas of opportunity but at the same time increased their competition not only from other banks but from brokerage firms, insurance companies, refinance companies and anyone that provides a financial service. Coming with this competition has been diminishing revenues for products and services as various fees for loans, closing,

annual services, etc., are reduced and/or eliminated. A recent study¹ showed that to maintain the past profit margins, a retail financial store must sell two to three times more mortgages in the same period. The current reductions in trading fees can be traced to the increased competition in brokerage services.

Issues of the Modern Financial Institution

With such a wide array of products, many customers feel estranged as they must navigate through departments, phone numbers and other contacts when they need assistance. Self service IVR applications have become overburdened and sometimes unworkable as the number of decisions increases with more products being offered. Many times customers are referred to separate locations, told to dial a separate customer service center or asked to provide redundant information causing the process to be difficult and strained. The problem becomes more confusing as we look at the ways the customer connects to the institution through the traditional retail financial store, ATM, phone call or web interface.

As financial institutions reduce costs to cope with falling margins, more emphasis is placed on having customers use self service options.

For the financial service employees, the wide array of services means that personnel are faced with having to understand and support many complex products. Employees need access to assistance and information on how to sell a product or service or they need to collaborate with other knowledge workers to assist them. This problem becomes more difficult when we see that many new products are not provided directly by the institution but are contracted through third parties. This places a burden on the financial institution to capture the customer while speaking intelligently to set up the sale, and then seamlessly handing the customer to the third party to complete and support the deal.

Currently financial institutions are finding it difficult to provide a consistent process for customer sales or support across all of their product lines. In summary the issues facing financial institutions can be summarized as:

1. **Customer Frustration** - Customers are frustrated with the time it takes to navigate phone menus and service centers adding to dissatisfaction and the cost of support. Customers also feel estranged from the institution as they are handed off to different departments and telephone centers for each request.
2. **Large Portfolio of Products & Services** – Retail financial stores are selling a wide variety of products and services requiring a large breadth of knowledge and training for each employee.
3. **Collaborating with Service Providers** - The products and services are sold from both internal and third party resources requiring institutions to hand off customers or collaborate with partners elegantly.
4. **Decreasing Margins due to Competition** - Managers are under pressure to deliver more sales to meet margins either at the retail financial stores or the telemarketing and customer service centers.
5. **Inconsistent Processes** - Customers have too many interfaces with different experiences (e.g., Web, ATM, Retail Financial Store Teller, Branch Manager, phone kiosk, home phone).

¹ “Transforming Retail Banking Processes” Boston Consulting Group, December, 2004.

The Impact of Network Convergence

Voice Over IP has now been accepted by businesses as a viable alternative to their standard telephone networks. The initial problems of poor voice quality and interconnection with the legacy telephone networks have been solved and businesses are rapidly adopting the technology. This had led to the “convergence” of the voice and data networks onto a common infrastructure.

Originally financial institutions data and voice networks were separate and based on different technologies which made it difficult to integrate them into the business processes. Most telephone systems were built on proprietary protocols and technology that made it difficult to tie them into business applications. In some cases technologies such as CTI (Computer-Telephony Interfaces) or IVR (Interactive Voice Response) expanded the capability of telephones but these interfaces were mainly used to improve the call handling capacity and not to improve the customer experience. A good example is that IVR systems have become a labyrinth that have to be navigated with time consuming and confusing audio menus that deliver an exhausted customer to the service agent.

Financial services organizations are rapidly embracing “convergence” of their voice and data networks using IP Telephony products. The first generation of such services are specifically embraced to lower the cost of intra-enterprise communication using common TCP/IP networks serving the data, voice and multimedia requirements of the financial institution through single digital pipelines.

The visionary financial institutions realize that the cost savings of convergence is only the first step toward a goal that uses the VOIP phones to deliver voice and media rich content while linking business applications and businesses processes into call handling, routing and presentation.

VOIP Phones are network devices that can be accessed directly by a business application which can interact with the audio components, the buttons and the display. This richer interface allows a customer to see visual menus and to provide faster navigation and responses while still maintaining the voice telephone capability. In most current installations the full function of these VOIP phones is not being utilized.

At the telephone carrier level, the major telecommunications companies are converging their networks as they face declining revenues for switched telephone services. The old switched circuit systems and transmission services will eventually be replaced by IP based packet services. The carriers will also be deploying new extensions to these services such as global network based “SIP” and “Presence” to allow an enterprise to extend any voice or data service transparently across the globe. The intelligence of the new “converged” network will allow users to:

- Look up a phone number and also know where the person can be contacted at this time.
- Make a call from a single device that can be voice, video, data or other modes.
- Link users and business applications in a media rich collaboration of voice, video, text and graphics.

Financial Institutions that are moving their voice networks to VOIP are building the base to allow them to take advantage of the full technology of the new converged networks. For these institutions the LiteScape ServicePoint provides the perfect link to enable the convergence of the business applications and business processes on the new networks.

LiteScape ServicePoint for Financial Institutions

LiteScape ServicePoint for Financial Institutions takes convergence to the next level by enabling business applications and processes to fully integrate with the VOIP Telephony infrastructure. With LiteScape ServicePoint, Financial Institutions will be able to create solutions that leverage the low cost and rich multi-media capability of the IP phones and infrastructure by securely integrating them with their applications, business processes and customer service applications. The new converged applications are provided to customers through the LiteScape ServicePoint for Financial applications (see Figure 2 below). Such solutions will leverage the financial service organization’s investment in IP telephony infrastructure and seamlessly add new ways to do business with customers.

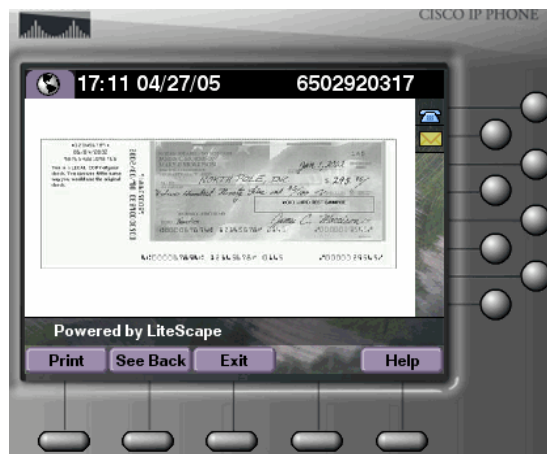


Figure 2 LiteScape ServicePoint for Financial Institutions and Magnetic Card Reader

The convergence of applications is delivered to the customers through the “ServicePoint” for Finance as shown in Figure 2 above where customers can use their magnetic card to access services with the screen and function buttons guiding them through a process similar to an ATM. The functionality of ServicePoint provides multi-media source of voice, text, graphics and video along with adjunct card readers and other devices to add new ways of doing business with Financial Services Customers through the telephone.



Customer Account Menu



Check 21 Image



Stock or Fund Quote

Figure 3 Example ServicePoint Menus

Examples of the types of services that could be provided are shown in the screens in Figure 3 (above) which are:

- Customer Account Menu – When the customer uses their ATM, Credit or Debit card to log into ServicePoint, they are presented with personalized menus based on their account configuration. In current IVR applications, the customer would have to listen through a standard set of menus before choosing an option.
- Check 21 Image – Since the phones have graphic presentation screens, financial institutions can use the phones to display check images on request as part of Check 21 compliance. This is a valuable feature to allow customers to view and print their own check copies without going to bank tellers.
- Stock or Fund Quote – Phones in branch installations can be used to get stock or fund quotes including providing graphical price data. Using their magnetic card customers could initiate a self-service trade from the LiteScape ServicePoint.

An important aspect of the LiteScape ServicePoint for Financial Institutions is the capability to provide adjunct devices to improve the methods of customer interaction:

- Magnetic Card Readers
- SmartCard readers
- Fingerprint readers
- RFID readers
- Bar Code readers
- Printers

ServicePoint Transaction Scenario

An easy example of how the LiteScape ServicePoint for Finance can help a financial institution is in the replacement of the standard telephone kiosk in a bank with a LiteScape ServicePoint enabled IP Phone. This allows customers to authenticate themselves through the ServicePoint Terminal using their Debit, Credit or SmartCard. ServicePoint working with the LiteScape MAP (See Multi-Modal Application in this paper), would authenticate the user with the financial applications and then provide personalized menus on the IP Phone screen.

The ServicePoint Terminal would reduce the amount of time spent keying in authentication data, while the screen menus would provide expedited routing replacing the standard IVR applications (and the resultant customer frustration). Simulations of the LiteScape ServicePoint being used to check a simple account balance have shown that a customer can perform transactions in as low as 40% of the time required to do the same transactions with IVR and a standard telephone kiosk (see Figure 4 below).

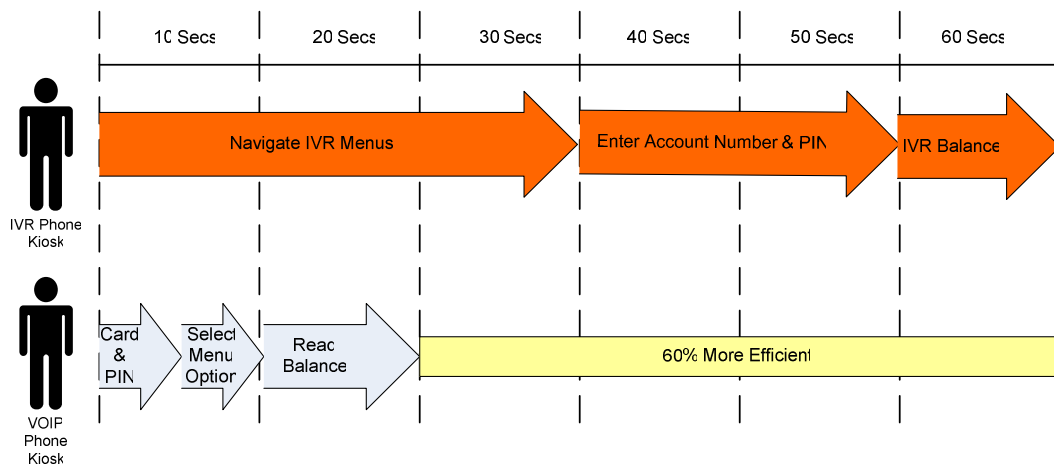


Figure 4 Comparison of IVR version VoIP Phone Menus

This integration of the customer into the process is possible because the LiteScape ServicePoint has the capability to combine various media types to personalize and speed the transactions. ServicePoint also supports card readers and other peripheral devices into the process of the authenticating the customer and reducing the time to connect them to the required financial institution business application.

LiteScape Multi-Modal Application (MAP)

The enabling technology for the LiteScape ServicePoint Terminal is the Multi-Modal Application Platform (MAP). When the full capability of MAP is applied it joins the IP Telephony system into the financial institution’s business applications, see Figure 5 below. This means that it can perform advanced call routing and handoffs in concert with the business applications that would move customers elegantly and transparently across the financial applications. Customers could be handed off to employees, service centers and points while carrying with the call any personalization and data so that each representative can begin handling the request rather than requesting and re-keying data from the ServicePoint Terminal.

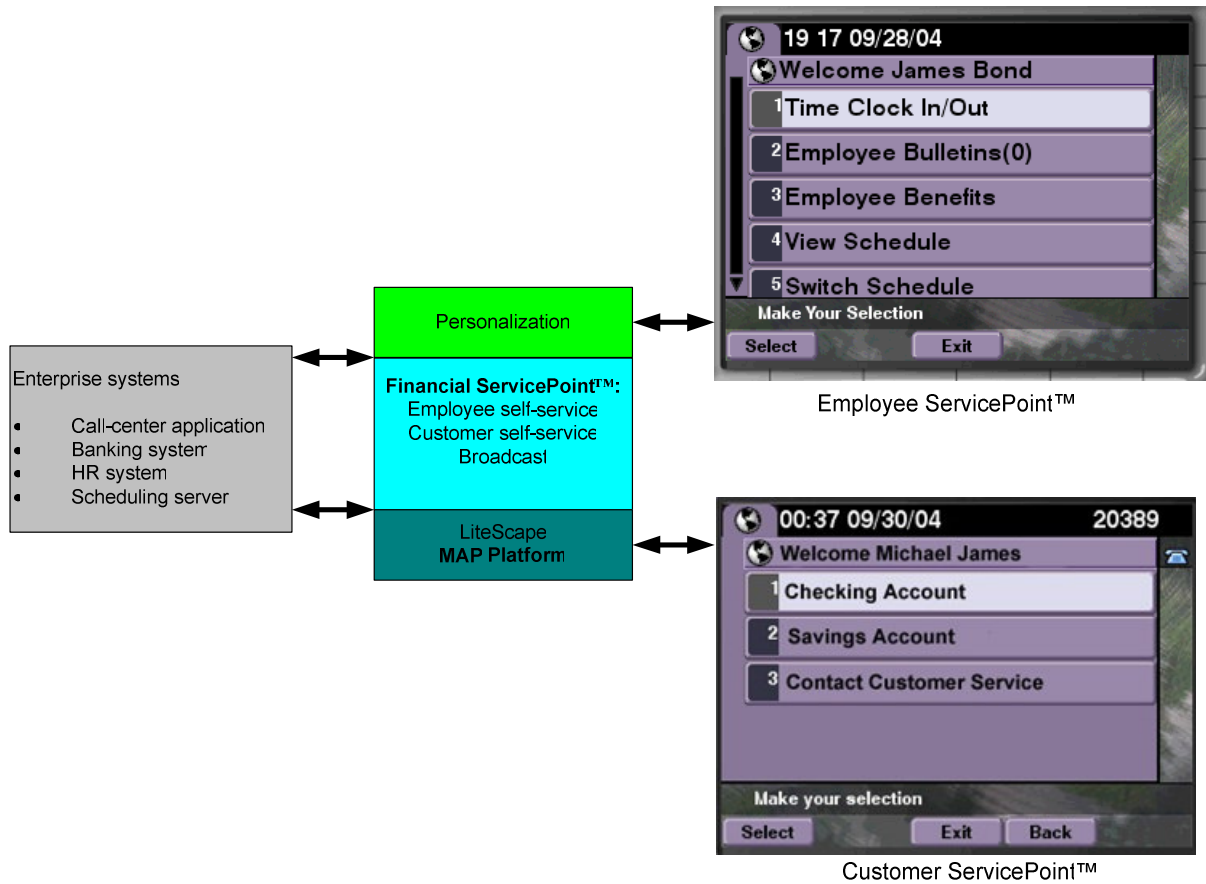


Figure 5 How MAP integrates VoIP to Business Applications

Through MAP the financial institution can converge applications and communications to give customers and employees a consistent look and feel no matter where they are dealing throughout the financial institution. As financial institutions deploy the necessary infrastructure for converged applications for their employees and customer service centers, a new generation of solutions can be introduced directly for the customers as well that enables the seamless and secure offering of financial solutions directly from IP devices.

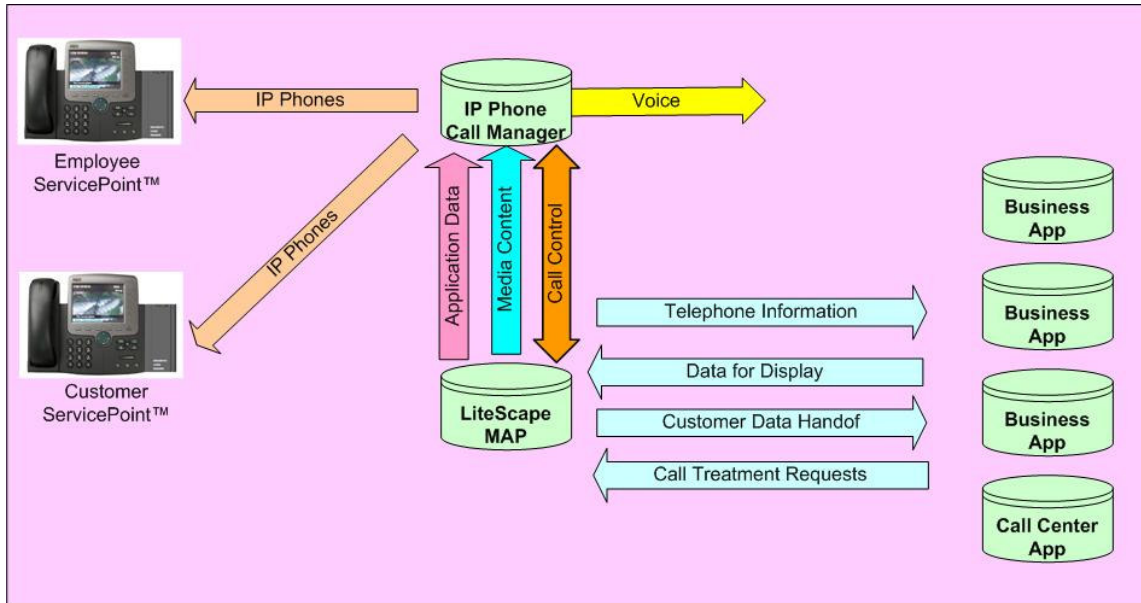


Figure 6 Overview of LiteScope ServicePoint Terminal and MAP

Solution Architecture Overview

LiteScope MAP enables the rapid creation of multi-modal business solutions. The platform connects to IP PBX infrastructure and delivers a variety of media types to communication devices. In addition, the platform integrates with various point-of-service authentication systems (such as magnetic card-readers).

MAP maintains relative customer's session information while transferring and relaying this information to customer service center agent applications and phones, illustrate the high-level architecture of the financial ServicePoint solution.

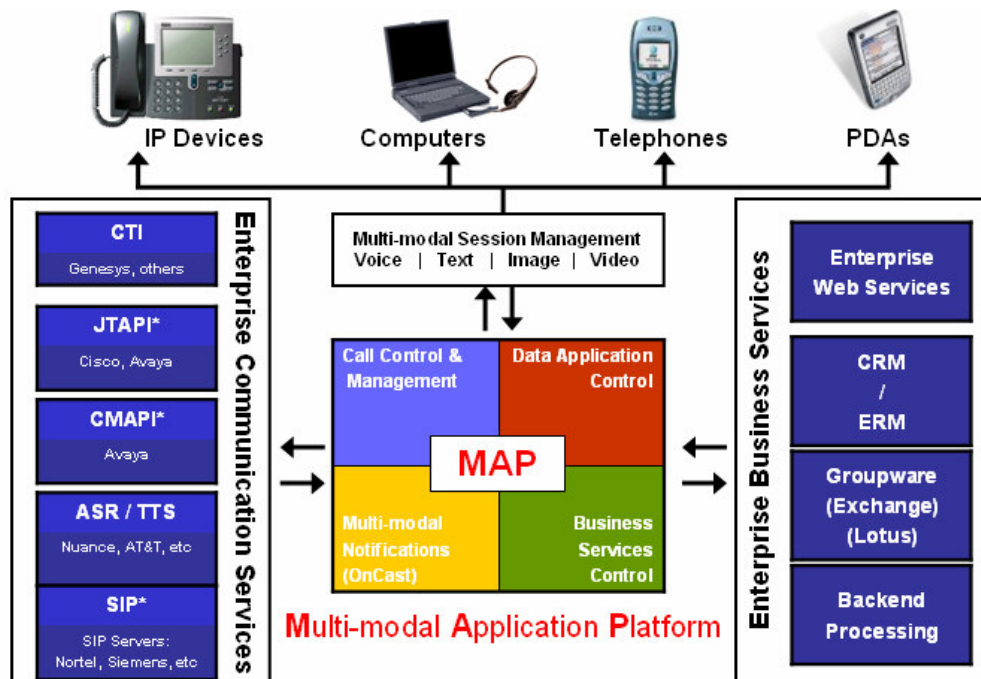


Figure 7 MAP Architecture Overview

Typical Applications of the LiteScape ServicePoint Solution

Financial Service Store ServicePoint Kiosk Replacement

Most financial institutions today have a voice kiosk which is a simple telephone that accesses an Interactive Voice Response (IVR) application and can initiate simple transactions or connect the customer to the correct service center. The kiosk is usually available for tasks that don't require a teller and for after hours assistance in the vicinity of the 24 hour ATM enclosure. This kiosk arrangement can be replaced with a VOIP Phone with the LiteScape ServicePoint for Financial terminal and the add-on magnetic card or SmartCard Reader.

A comparison of using the LiteScape ServicePoint and the standard IVR phone kiosk is shown below in which a customer transfers money between accounts. Because ServicePoint uses menus and lists to access options, it much faster for the customer to navigate through the application reducing not only equipment usage time for the financial terminal but the customer's personal time.

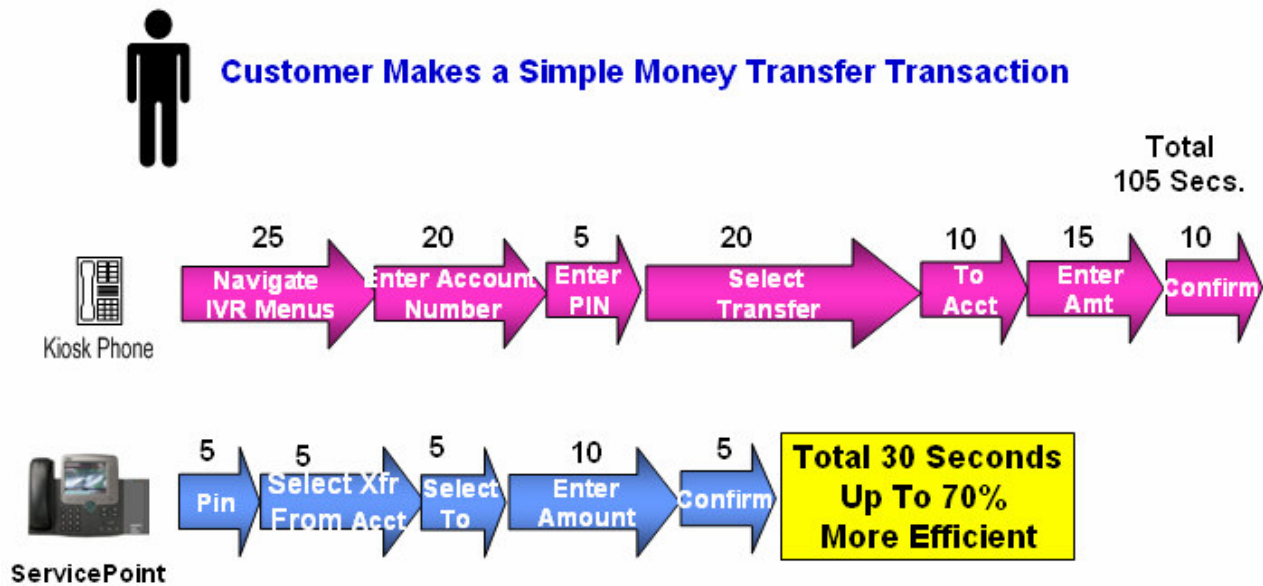


Figure 8 ServicePoint IVR Comparison Money Transaction

The actions in Figure 8 show that using the ServicePoint for Financial provides a vast improvement in transaction time because:

1. When the customer begins, they identify themselves with their ATM & PIN which allows the ServicePoint device to personalize the screen and show only the options that pertain to the customer's accounts.
2. The customer is given the menus on a display which can be scanned more quickly than having to listen to each spoken list item in IVR.
3. The balance can be displayed on the screen rather than being spoken through IVR.

In almost every case where a transaction can be performed through the kiosk, the ServicePoint will improve the customer response. In the case of our example, every 1000 customers who request an account balance will save a total 8.3 hours in time on-line.

LiteScape platform enables various modes of authentication for the customer at the edge of the network. Magnetic card readers, touch key screens, and smart-chip card-readers can be used to determine the authenticity of the customer requesting service at the IP-phone service points. This enables rapid and

secure authentication personalization of the user compared to the current methods (keying in information manually, or announcing credit-card and other personal information out loud in a public place).

The ServicePoint for Financial Institutions terminal has many benefits for the customer and the financial institution over the standard kiosk:

- Authentication uses the financial institution's Debit, Credit or SmartCard, which is preferred method of identifying customers today.
- Once authenticated, the systems know the customer accounts and do not require the keying in of long numbers.
- Information displayed is personalized to the customer based on their types of accounts and services.
- Single button "Help" can default the customer to a live customer service representative at any time.
- "Follow-Me" transfers all screens and information to customer service representative.
- The ServicePoint visual menus are much easier and faster to negotiate than IVR, reducing customer confusion and ultimate dissatisfaction.
- A "Service Directory" function allows the customer to find and connect with institution personnel based on a product or service.
- Customers can still default to use the IVR audible menus which provides options for visually impaired.
- In addition to non cash transacted services, some of the services a customer can use:
 - Check Balance
 - Change PIN Number
 - Transfer money
 - Issue a payment
 - Change PIN codes for Debit cards
 - Print Checks & Statements

Customers could come into the branch and print a copy of a check or a statement. They would use their Credit, Debit or SmartCard to access the service and print on a local printer.
- When the kiosk is not being used for customer service, it can be used to display:
 - Financial institution advertising of new products and services
 - Public service announcements such as Amber Alerts.
 - Provide an interface for stock quotes, mutual fund quotes, etc.

For the financial institution, the ServicePoint for Financial terminal improves their customer service while reducing their infrastructure cost:

- Authentication with Debit, Credit or SmartCard reduces time spent on CTI or IVR ports thereby reducing the number of ports required.
- Menu driven selections are easier to maintain and configure than IVR applications.
- "Follow-Me" transfer of data with calls reduces customer service handling time by eliminating the need to request and key in account numbers.
- Dramatically improves the users confidence in the security and reliability of the system.
- Since every user is authenticated with their card, the financial institution can collect data on the kiosk usage by customers to use in cross selling.

Almost any point where a telephone call can be placed, a LiteScape ServicePoint for Finance access point can be provided.

Institution-wide Applications of the LiteScope ServicePoint Solution

The MAP infrastructure that is the enabler for the LiteScope ServicePoint for Financial Institutions solution provides the links that allows financial institutions to tie their customer and back office applications into their IP Telephones.

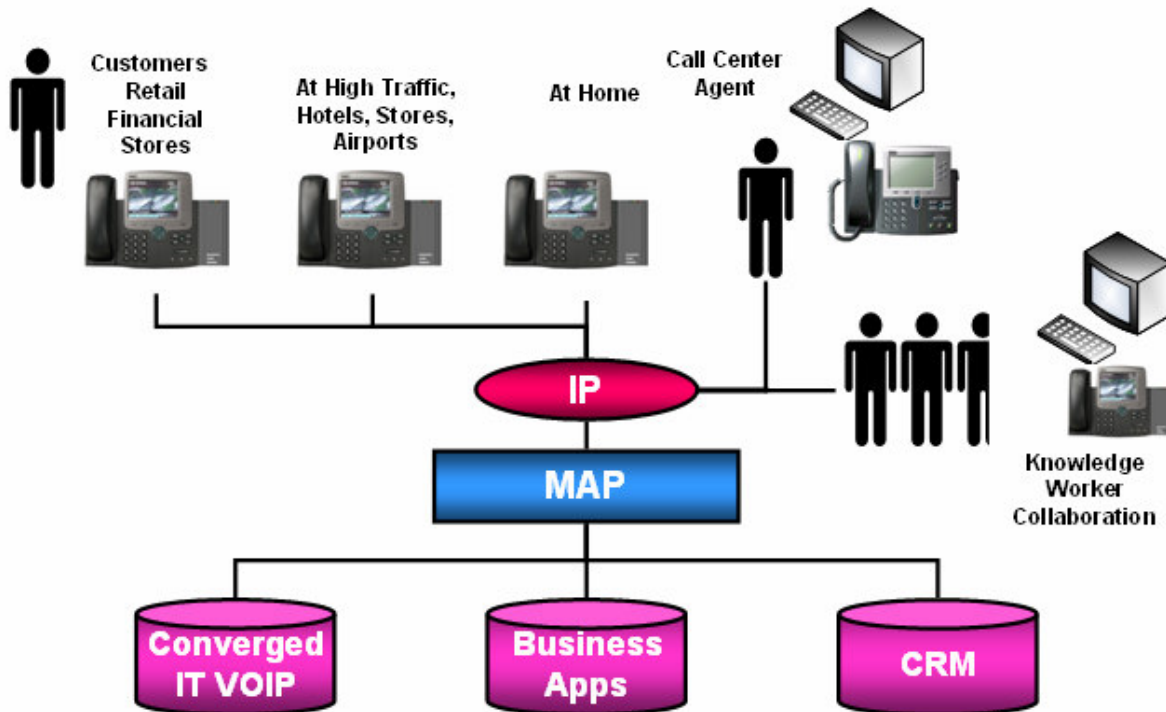


Figure 9 LiteScope MAP and Financial Systems Overview

As shown in Figure 9 above, the LiteScope MAP application ties the ServicePoint concept into the financial institution's systems and customer service centers. Through the MAP application the customer can be provided with a consistent and common customer experience as they move across the institution's systems and departments.

The combination of MAP and the ServicePoint for Finance Terminal takes many functions of the branch and automates the processes.

- Customer may need to talk real-time with bank representative (knowledge workers, customer service center agents).
- The MAP platform can transfers the exact screens and information that the customer is viewing to the customer service agents phone screen.
- The customer service agent is provided with critical information needed to provide service to the customer. Importantly enough, MAP integrates with most of the existing 3rdparty enterprise customer service center applications.
- Since the MAP application uses XML data, it can transfer information to bank partners who support special products or services.
- In addition, if and when the customer service agent 'transfers' the call to yet another knowledge worker without the needed customer information, MAP empowers the customer to resend already entered information to the customer service center agent using a single key press to the new knowledge worker.

- This helps avoid the frustrating practice of having customers enter and announce personal information multiple times.
- MAP leverages multi-modal broadcast capabilities to deliver targeted and content rich information to the customers on the IP screens. Examples of such services are:
 - Media rich marketing content
 - e-learning via IP devices (leveraging multi-media broadcast capabilities to deliver training information to customers)
 - New product information announcement to customers (multi-media broadcast of new offerings).
 - Mutual Funds – Customers could connect to a broker to buy mutual funds or do a self service transaction to purchase.
 - Stock Quotes – Customers waiting in the branch could use the phones to get quotes and access their brokerage accounts to buy or sell stock. This may be a way to increase branch traffic.
 - During idle times, messages on loan rates, etc can be displayed.

LiteScape Corporate Overview

LiteScape is a privately held company founded in 2003 by a team of seasoned telecom and IP veteran's. In 2004, the company acquired Circle 24 Technologies, a premier application vendor in the VoIP and wireless markets. In January of 2005, LiteScape secured \$7.5 million from top-tier investors including SOFTBANK Capital and Telesoft Partners.

LiteScape is a certified ISV and markets its products globally through value-added distributors and resellers including Cisco and Avaya. With an extensive list of customers already using LiteScape software, the company is poised for long-term success.

Market Opportunity

- 2007 Estimated Application Market \$2.95 Billion (Info Tech)
- VoIP Enterprise PBX to \$7.8B by 2008 (IDC)
- Business process applications is the primary driver of Enterprise VoIP Adoption (IDC 2004)

Converged IP Telephony solutions from LiteScape ...it's more than just talk!™

Visit Cisco to see a video on the Branch of the Future:

http://www.cisco.com/images/industry_solutions/fin_ptsol_ip_telephony.swf

For further information or to see a demo on products:

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