Presentation Storyboard

Author John Tengström, Business Solutions Manager

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Abstract

A storyboard is the combination of presentation and script associated with the requirements and components required for real time demonstration.

This presentation highlights the Mobile Thin Client technology. As the benefits of packet based technologies continue to advance, wireless operators will begin to migrate portions of their existing Circuit based Radio Access Networks and Core Infrastructure to Packet based technologies.

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Presentation Objectives

Mobile Thin Client

- In today's fast-paced global marketplace, the ability to provide a work force with access to the right applications and data-whenever and wherever they are needed-is indispensable for maintaining a competitive edge. Currently there are over 140 million PCs, workstations and servers installed on networks worldwide.

  The Internet community has increased from 15.3 million to 68.6 million in the last two years. We have seen the introduction of numerous new computing devices from powerful servers, desktops and notebooks to Java™-based network computers, Windows®-based terminals and hand-held information appliances. And workers are now spread around the world in branch offices, homes, hotels, customer sites and many other places. The complexity and cost of delivering business-critical applications to today's worker at the right times and in the right places have become overwhelming.

- Specially enabled Thin Clients give users the ability to access and run applications over the Internet or an Intranet using a Web Browser as a client and a Web Server as the user's point of entry. Citrix provides the tools to become an application portal.

Key Objective of Demo

- Mobile Thin Client enables the Carrier as an ASP.
- As an ASP the Carrier is able to collect new sources of revenue while enhancing the brand awareness with their Customer base.
- Mobile Thin Client was designed to work over bandwidth constrained wireless links.
- Mobile Thin Client is the next step toward enabling a mobile work force by an enterprise already using Citrix.

What Customer should know at the end of the demo.

- Mobile Thin Client is based on the Citrix Thin Client technology.
- Applications and access to Intranet Databases are hosted by a remote Server.
- This solution is a key component of an overall wireless portal and integration strategy.

Equipment Set-up

Required Equipment

Hardware:

Windows 2000 Laptop (for Slide Presentation)

Windows 2000 Laptop (for GPRS & EDGE/Thin Client/Net Medic Demonstration)

IrA PDA with Bluetooth

Secure I.D. Card

Radio access:

Any Cingular GSM: GPRS & EDGE Packet Handset

Nokia D311 (GPRS-Wi-Fi)

Cingular GSM: GPRS and/or EDGE handset with bluetooth

Software:

- Windows 2000 Operating System
- Word, Excel, Powerpoint, Streets and Trips 2003
- Citrix MetaFrame Thin Client vers. 1.8
  - CE and HTML
- NetMedic Monitoring Software version 1.2.2

Account Information

Cingular GSM, GPRS & EDGE handset registered on commercial network.

User1-5: Account programmed into the Citrix Connect Icon (Login and Password are the same).

Slide #1

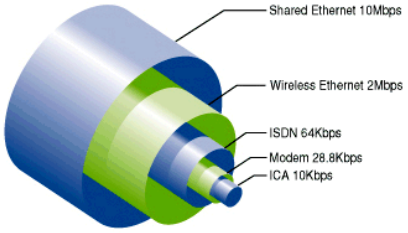
Mobile Thin Client

User access to multiple applications on operating systems (OS) without the download, execute or store on the mobile or tethered device.

Discussion Points

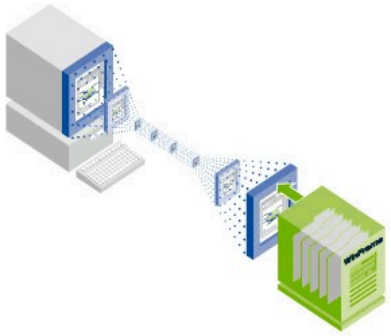
Cingular Wireless understands that our customers are looking to differentiate themselves from their competitors while stream lining production costs by incorporating new data strategies that effectively enable the mobile enterprise. The customer base which Cingular serves is also changing, in that, wireless users are no longer looking for just voice communications but access to feature rich Internet content, applications, and Intranet Database access….all over a wireless bearer. Mobile Thin Client has been developed to address the needs of our clients by providing timely access to applications and databases over our comprehensive GPRS and EDGE networks. Cingular Wireless recognizes the growing need of many of the Mobile Professionals and Consumers who utilize wireless networks to gain quick efficient access to needed corporate/industry and lifestyle information.

The Mobile Thin Client Application utilizes a Thin Client technology developed by Citrix to allow virtual access to this information by utilizing Citrix' Server and Thin Client computing products. Applications/Internet Web Servers/Intranet Databases are all accessible from or on the Citrix Server through use of a Citrix Thin Client software. The Thin Client software resides on the remote wireless Notebook, PDA or tethered laptop of the Consumer/Mobile Professional. The Citrix Server communicates with the Citrix Thin Client through the use of the ICA Protocol. ICA stands for Independent Computing Architecture. On the Citrix server, ICA has the unique ability to separate application logic from the user interface. On the client, users see and work with the application's interface, but 100% of the application executes on the server. And with ICA, applications consume as little as one-tenth of their normal network bandwidth.



ICA is optimized for connections as low as 14.4 Kbps. Only mouse clicks, keystrokes and screen updates travel the network to generate exceptional performance, even for 32-bit applications.

The ICA protocol sends only keystrokes, mouse clicks, screen updates and audio across the network. Applications consume just a fraction of the network bandwidth usually required.



ICA separates the user interface from the application while keeping 100% of the logic on the server. By doing this, only screen updates, mouse clicks and keystrokes travel the network.

This efficiency enables the latest, most powerful 32-bit applications to be accessed with exceptional performance from existing PCs, Windows-based terminals, network computers and a new generation of business and personal information appliances.

Key ICA Differentiators

Thin resources.
ICA requires the equivalent of an Intel 286 processor and access to a minimum of 640k of RAM to operate. This is dramatically thinner than X-terminals and proposed PC alternatives (eg. Java PCs.)

Thin wires.
The ICA protocol consumes an average 20kb of bandwidth. This allows it to operate consistently -- even over dial-up and ISDN connections -- without regard to the robustness of the executing application. The execution performance of "download and run" objects will be variable based upon a combination of network bandwidth and object size.

Universal application client.
ICA works with any Win16 or Win32 application. This allows applications to be developed with off-the-shelf Windows tools and deployed with only one piece of ICA-based client software.

Platform Independent.
ICA is inherently platform independent and has already been incorporated into UNIX, OS/2, Macintosh, and other non-DOS devices to deliver Windows applications to non-Windows and specialized ICA devices.

Slide #2

Value Proposition

• Much of the processing takes place on the resulting in higher speed performance with low connection

• Easier to deploy and manage vital support mobile users-all from one

•Applications have the same look
- •Desktop Applications - Microsoft Office
- •Corporate Applications - Remote Metering, Order Entry, Sales Acct. Mgmt.
- •Intranet Database Access - Expense, Parts, Engineering, PIM, Documentation

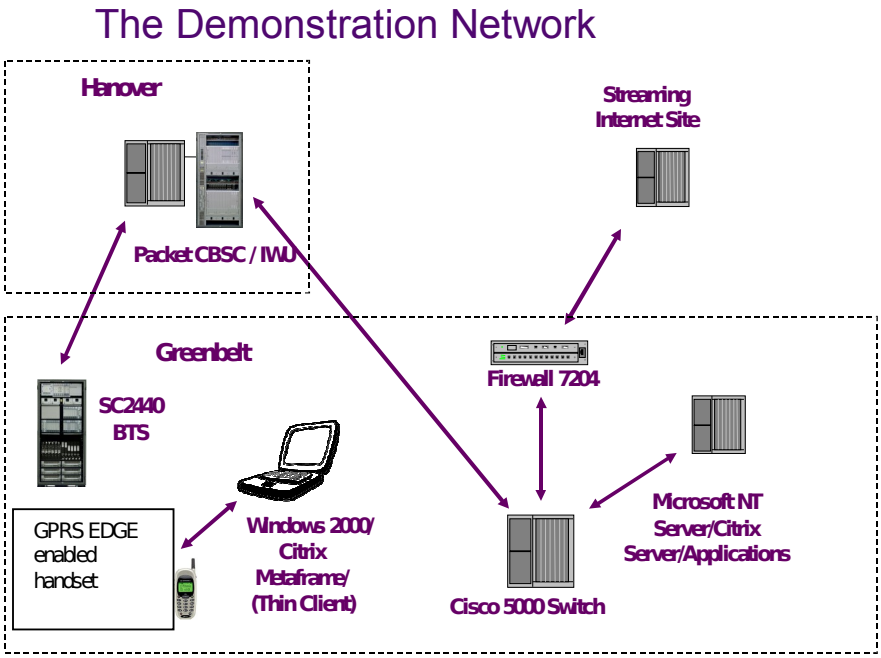
•Specially enabled Thin Client Application - access to over the Internet / Intranet using a Web Browser and a Web Server as the user's point

•Provides the tools to become an

Discussion Points

- Carriers now have the capability of becoming an ASP(Applications Service Provider). Allowing for greater control of the information accessed over their network and thus their Customer's use of that network.
- Greater stimulation of the Carrier's brand equity and awareness with their Customers because the Carrier is seen as an integrated host for this new access to applications and database content.
- Access to an explosion of new applications and services in both the private and commercial sectors.
- Begins to position the Carrier as a true Wireless Portal from which Customers can access Personalized content and services through bundled applications and gateways.
- Opens new models for subscriber billing and third party advertising revenue.

Slide # 3



Discussion Points

- A Windows 2000 Laptop connected to a Cingular Wireless packet handset or modem card capable of 44kbps is used to launch a Citrix MetaFrame Client. The Client establishes an ICA(Independent Computing Architecture) protocol connection over the GPRS and/or EDGE bearer, through the Cingular commercial GPRS/EDGE packet infrastructure, over the Cingular CoreIP in Greenbelt, MD to a Citrix Thin Client server running on an NT computer also in Greenbelt.
- Any number of applications can reside on the NT computer. For our demonstration we have selected Microsoft Outlook Express, Word, Excel, Powerpoint and Streets and Trips 2003.
- A HTML Browser is also accessible through the Thin Client Interface. We can demonstrate a connection to the Internet through the Thin Client over the GPRS/EDGE bearer.
- The Browser could be run directly over the GPRS/EDGE Bearer to show enhanced speed/access to Internet/Intranet sites and bandwidth for heavy HTML/FTP file downloads with the 44kbps channel.
- Multimedia content will also be demonstarted via supporting devices.

Slide #4

Demonstration Points

- Thin Client Server
  - Relative Speed of Login
  - Relative Throughput
  - Applications Switch
- Virtual Secure Client
  - User Interface
  - Data Processed
- Netscape Browsing
  - Browser Usage
  - Browser Appearance
  - Speed/Functionality
- Microsoft Windows

  Application
  Email Interface
  Speed/Functionality

Discussion Points

- Speed with which Applications load
- Speed with which you can switch between applications
- Speed with which you can launch the Thin Client Application
- Accessibility to a corporate VPN.

Slide #5

Overall Benefits

Subscribe - Virtual
- Virtual Applications less intensive
- Increased Productivity and
- Mobile

Carrier - Mobile Corporate Intranet

- Reduces the need for Training/Support
- Wireless Applications utilize less throughput
- Scale Growth by controlling # of clients
- Value Add as ASP or Simple Access

Slide #6

Professional Services Integration Capability

- We possess the skills, resources and commitment to assist our clients at each stage of transition

We can deliver:

- Pre-configured ip-based application and services solutions
- Strategic partnerships with third parties
- Well-defined, repeatable SI and business consulting methodologies
- Local skills and staffing, with access to global resources
- Commitment to knowledge transfer to client staff
- Strong project management with in-depth understanding of entire transformation process

Discussion Points

- XXXXX possesses the talent and skills to enable Mobile Thin Client as an End to End solution on a Wireless network.
- We can work with your organization to Design, Develop, Integrate, Deploy, Provision and Support all aspects of this solution to match the competencies of your own organization.
- We have positioned this solution with the intent that it create new sources of revenue and brand recoginition for your company with your Consumers.
- We stand ready to rapidly deploy services and solutions that will enable your mobile work force will profitable ROI in minimal time.

Demonstration Script

Connect to Network (IWU)

a) Connect PC using GPRS/EDGE handset using commercial Packet Data network.

Discussion Points

- Speed of connect is a serious improvement over landline dialing and circuit switched data experience.

Launch NetMedic application

b) Launch NetMedic application on the Window's 2000 Desktop.

c) Identify key aspects of the NetMedic program which allow for throughput between the packet handset and the demonstration laptop to be identified.

Discussion Points

- Make sure the audience pays attention to this utility during the course of the rest of the demonstration.
- The 44Kbps available on the wireless pipe fits the traffic load presented by both the Thin Client application and the Web Browser. Most traffic spikes encountered during the demonstration do not spike above the bearers maximum capacity.

Connect to Citrix Thin Client Server

d) Click on Citrix ICA client icon on the Desktop of the Windows 2000 laptop.

e) Login ocurrs automatically(if pre-configured to do so).

f) Move the mouse around and select and highlight various icons on the desktop.

Discussion Points

- Ease and speed with which the login occurrs.
- The consistent look and feel of the desktop.
- The speed with which icons can be highlighted.

Launch a Virtual Desktop Application

g) Launch an application like Microsoft Outlook Express from the Desktop.

h) Manipulate items within it to demonstrate speed with which the interface works and the fact the the application behaves just as is should.

Discussion Points

- Speed of launch of the application.
- Look and Feel of the Application

Launch a Virtual Secure Client

i) Launch a Secure Client from the virtual desktop.

j) Login and subsequent connection to Intranet and Intranet Database/Application

Discussion Points

- Speed of launch of the Client
- Ease with which you can navigate once within the Intranet

Launch of a Virtual Internet Browser

k) Launch Microsoft Internet Explorer from the virtual desktop.

l) Steer the Browser to www.CNN.com to demonstrate access to Internet site.

Discussion Points

- Speed of launch of the virtual Browser.
- Speed with which the Internet site loads within the virtual browser

Launch of a Internet Browser on the Laptop Directly

m) Launch Microsoft Internet Explorer from the Windows 2000 desktop.

n) Steer the Browser to www.CNN.com to demonstrate access to Internet site.

Discussion Points

- Speed of launch of the Browser directly over the GPRS/EDGE bearer.
- Speed with which the Internet site loads within the browser directly over the GPRS/EDGE bearer.