

UNITE 2009 Annual Conference

Updated User Case Studies - Building Real Time Applications with Web Services

Guy Bonney
MGS, Inc.

Session GE4027

1:30pm – 2:30pm

Tuesday, November 10, 2009

MGS, Inc.

- Software Engineering, Product Development & Professional Services firm founded in 1986
- We provide products and services to solve business problems:
 - **Software Engineering Services**
 - **Professional Services**
 - ❖ **Management Support Services**
 - ❖ **Consulting and Technical Services**
 - ❖ **Application Development Services**
 - **Product Development**
 - ❖ **Performance/Capacity Management**
 - ❖ **Web Services**
 - ❖ **MCP Terminal/Client Access with encryption**
 - ❖ **MCP service utilities**

Web Services - Case Studies

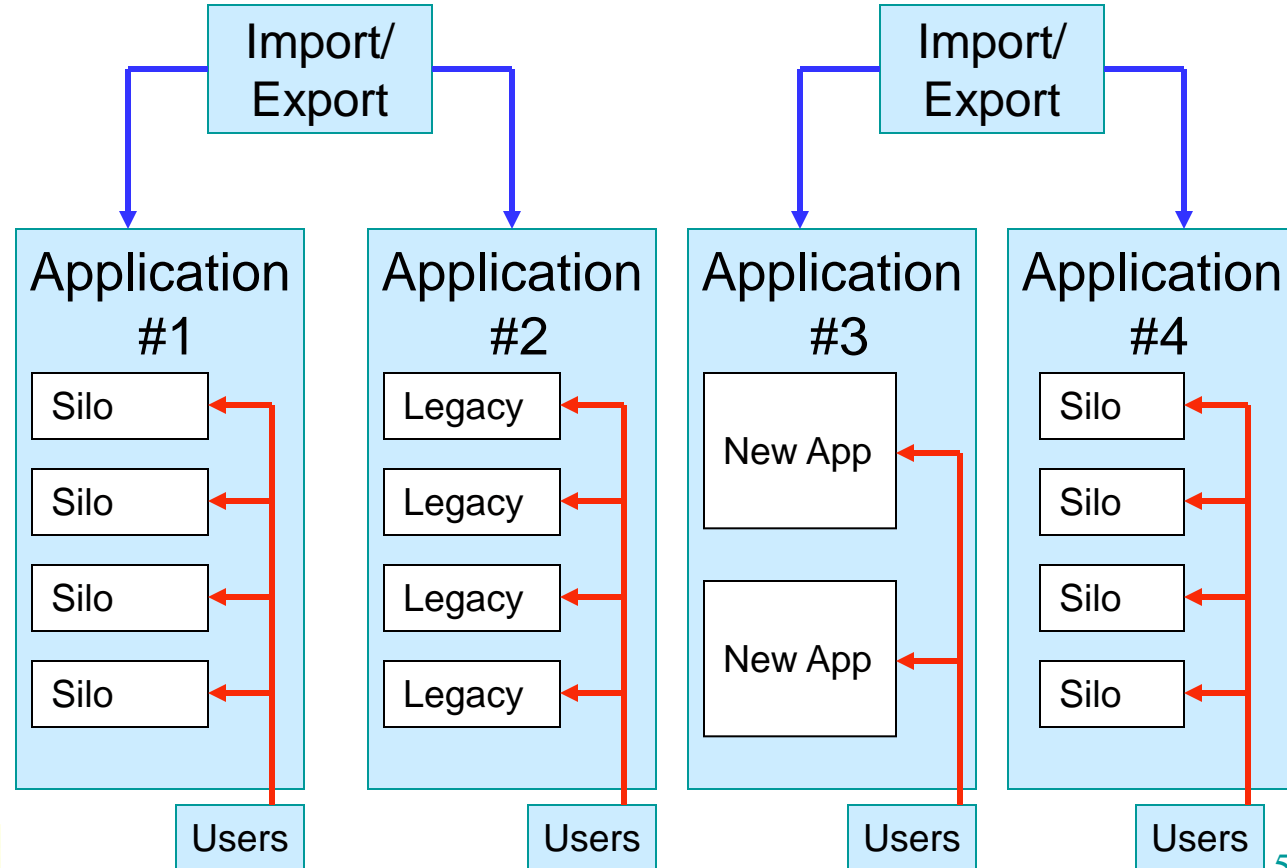
- In this presentation you will learn about ...
 - Services Oriented Architecture based on Web Services
 - MCP systems participation in an SOA
 - Examples of actual solutions
 - ❖ Customer examples of MCP based Web Services servers
 - ❖ Customer examples of MCP applications accessing data from external Web Services

Services Oriented Architecture

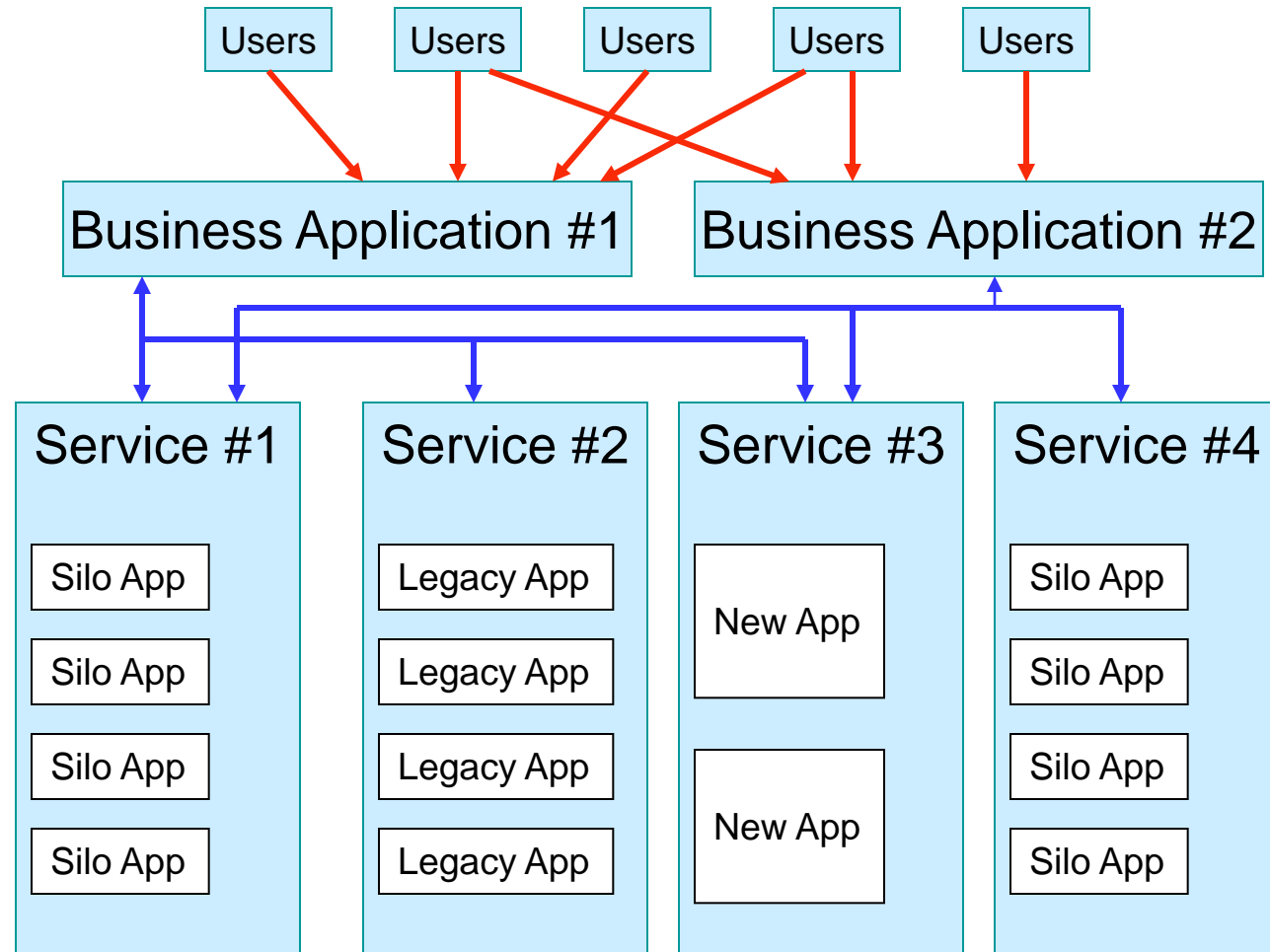
- Services Oriented Architecture (SOA)
 - Componentize new Enterprise business functions
 - Encapsulate existing business functions for easier access
 - IT Functionality now available as a set of objects that can be mixed and matched as needed
 - Application development done by architecting service consumers
 - Avoids tying a user to a specific application implementation
 - Avoids tying data to a specific application implementation

Services Oriented Architecture

- Traditional IT Architecture



Services Oriented Architecture



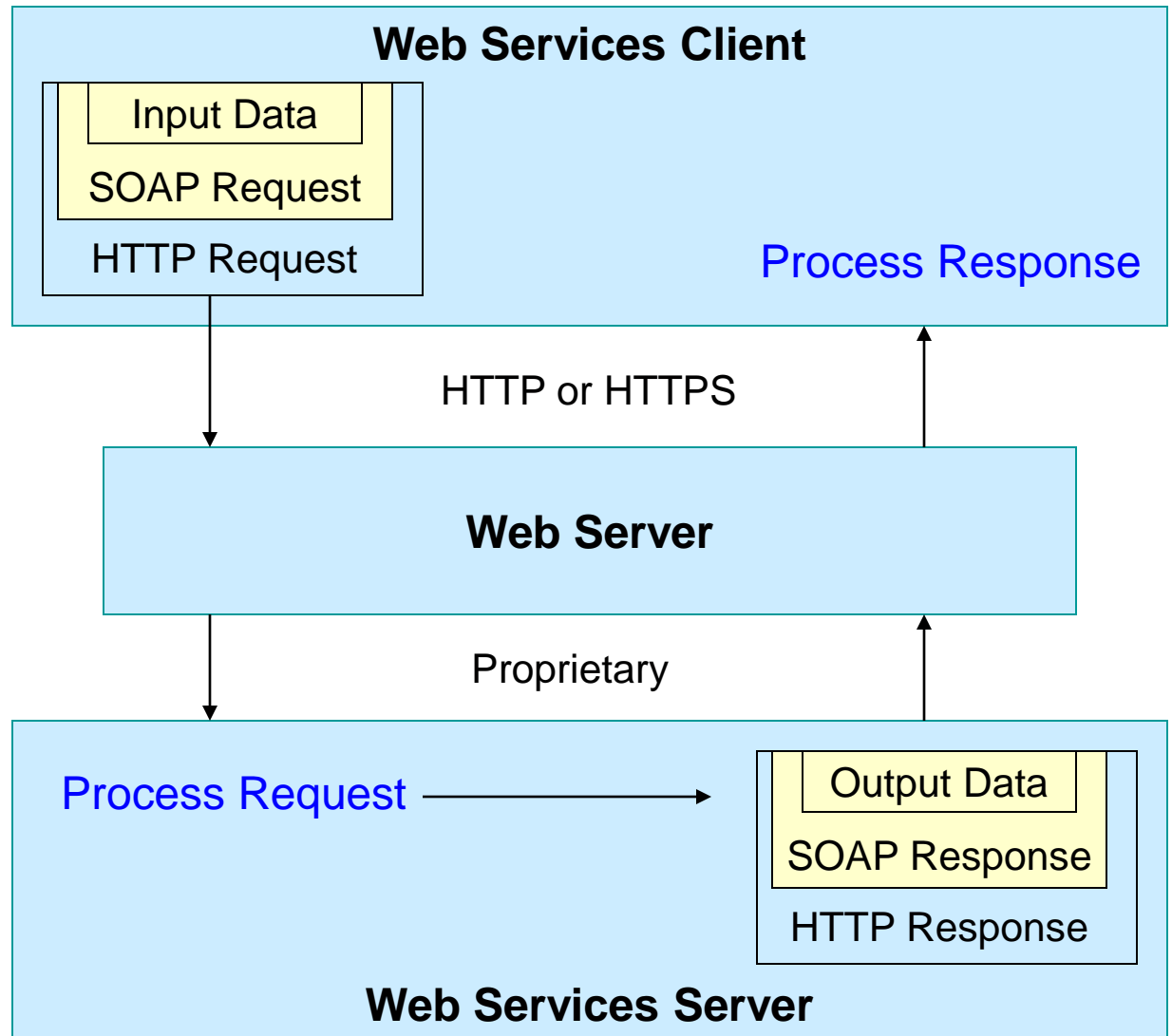
Web Services - Technology

- Web Services is built on Internet communications standards
 - **HTTP** – HyperText Transfer Protocol
 - **SOAP protocol**
 - **XML** – eXtensible Markup Language
- Server and Client communication done by generated/managed code synchronized through the **WSDL**
 - Web Services Description Language
- Web service is addressed with the server's URI obtained from the WSDL

Web Services - Technology

Indicates
XML
Encoding

Indicates
User
Logic



Web Services - MCP

- **MCP Web Services Server**
 - Allow MCP functionality to be easily accessed from the rest of the Enterprise
 - Can be done with minimal/no MCP application code changes
 - Extends value of corporate investment in MCP environment
 - Allows MCP applications to directly participate in a Service Oriented Architecture (SOA)

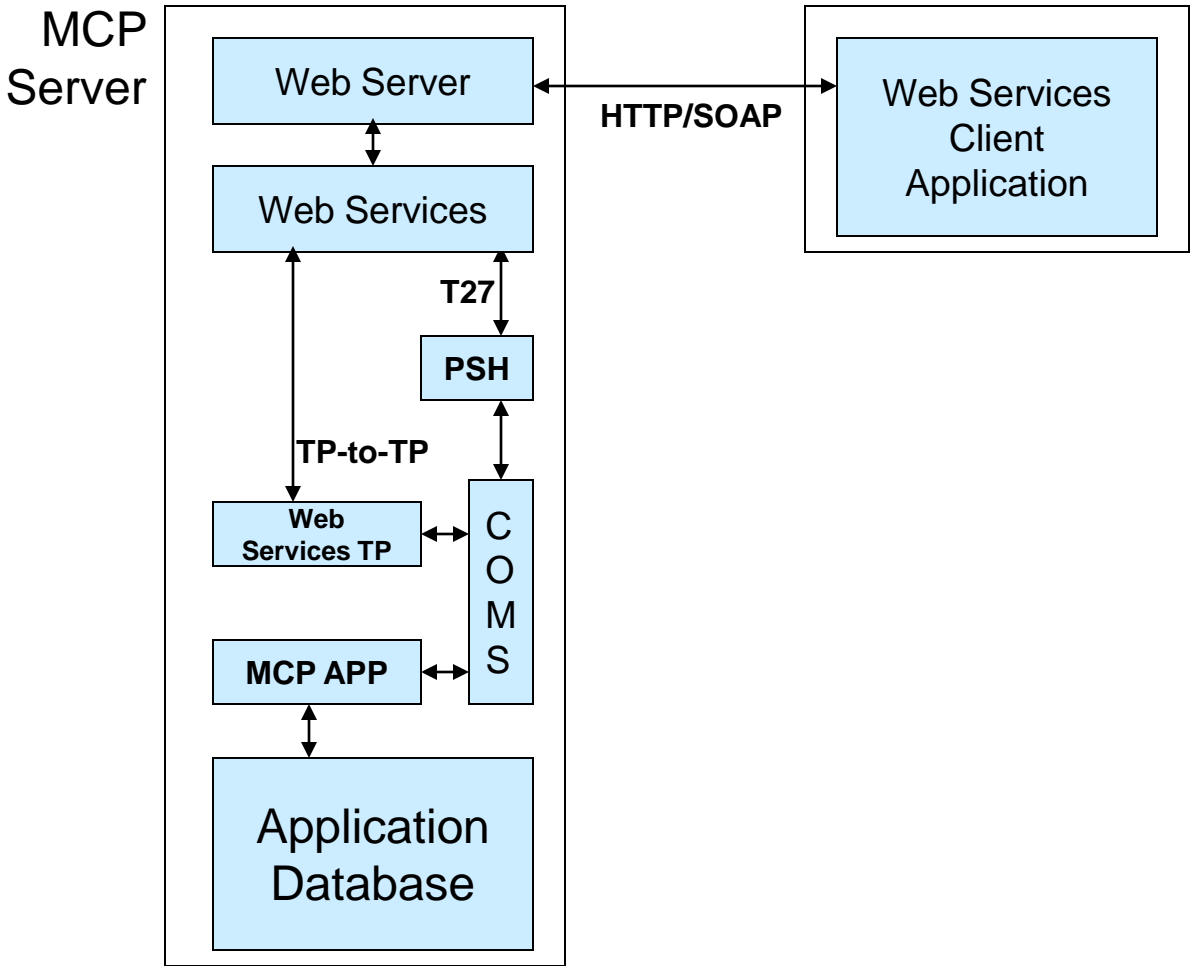
- **MCP Web Services Client**
 - Web Services Client interface allows MCP environment to use existing or new Enterprise SOA functionality

Web Services - MCP Server

- MCP Based Web Service
 - Web Service Server runs under MCP control
 - Routes to MCP App via COMS station or COMS TP-to-TP
 - T27 interface (COMS station) requires no changes to existing code
 - TP-to-TP is more efficient (no screen scraping), allows for larger data interchange, fosters transaction recombination

Web Services - MCP Server

- MCP Based Web Service

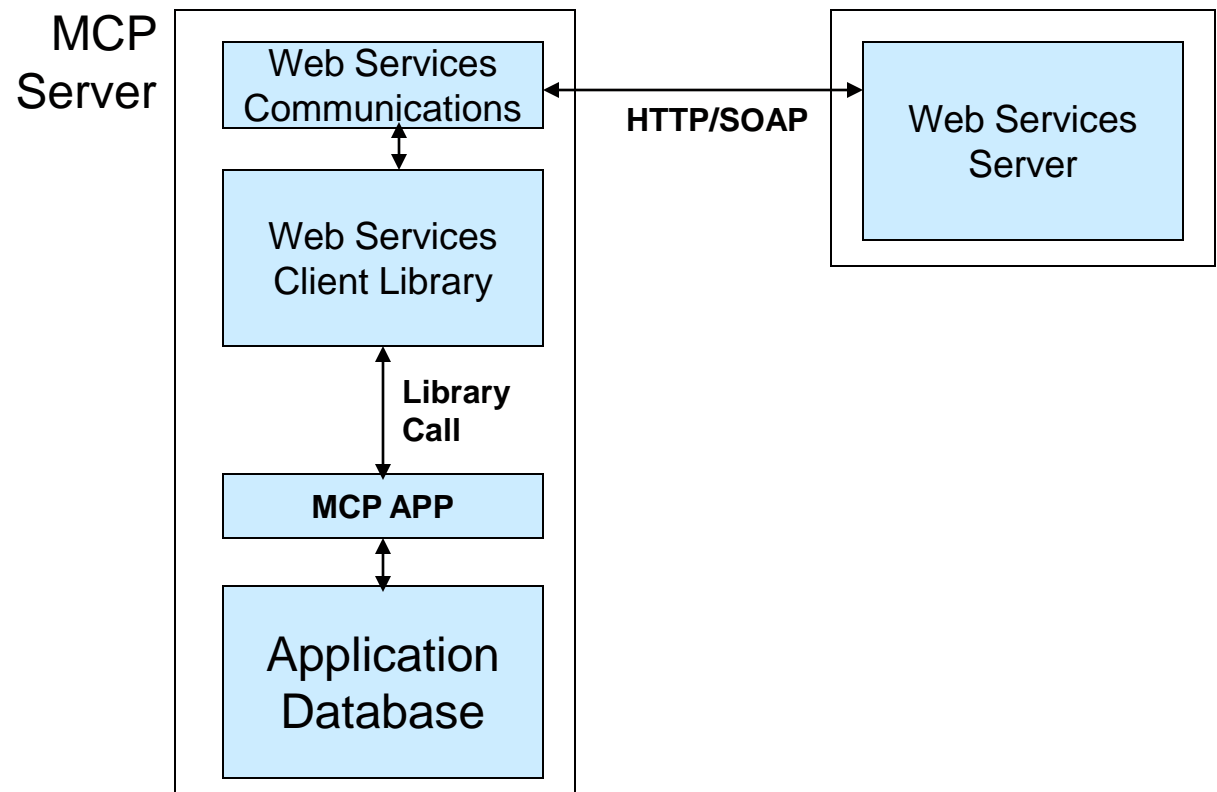


Web Services - MCP Client

- MCP Based WS Client
 - Allows MCP applications to make a Web Services call on another server
 - MCP Application does a simple library call to make the outbound WS Client call

Web Services - MCP Client

- MCP Based WS Client



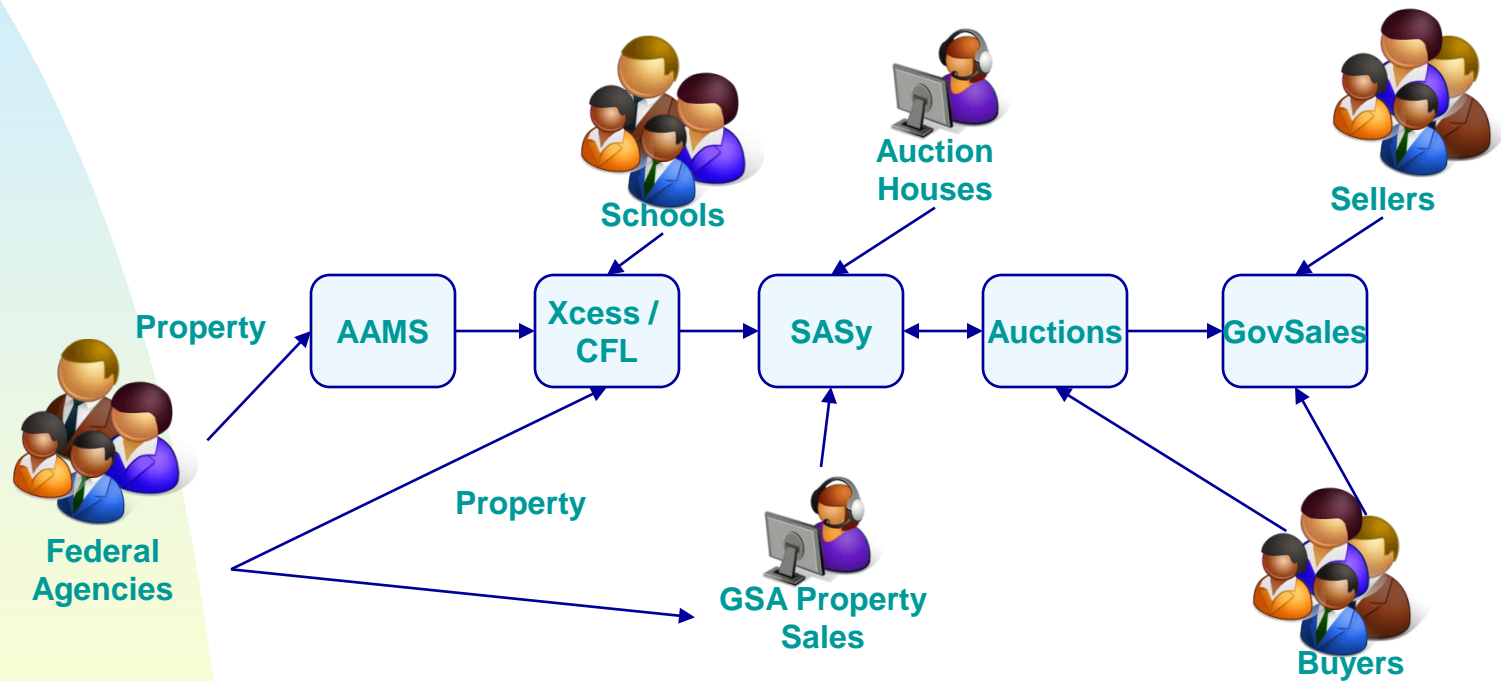
Web Services – Case Studies

- **GSA - Federal Acquisition Service**
 - Property Disposal
 - Transportation
- **Harmon**
 - Auto Claim Entry System
 - On-Line Invoicing
- **Global Companies**
 - Product Distribution Data
 - Trade Orders
- **IRD NZ**
 - Call Out Adapter

GSA – Federal Acquisition Service

- Property Disposal Solutions
 - Helps GSA and other Federal agencies dispose of property that is no longer needed
 - Property can be reused by other Federal agencies, State agencies, schools, etc or public auction
 - Property can be entered and inventory accessed via Web Services

GSA – Property Disposal



GSA – Property Disposal

■ Components

- AAMS: Federal agency internal screening and transfer of property for reuse
- GSAXcess: Federal agency external screening and transfer of property for reuse by federal agencies, state agencies, and qualifying organizations
- Computers for Learning: Agencies can donate excess computer equipment to schools
- Sales Automation System: GSA sells surplus property to the public via internet auction, sealed bid, live sales, etc...
- GSA Auctions: Internet auction web site used to sell surplus government property
- GovSales: A portal that lists all of the surplus personal property for sale by the government

GSA – Property Disposal



Manheim Auctions
Government Services



HOME PRE-SALES CONTACT US FAQs ABOUT MANHEIM

Vehicle Detail

Vehicle Details (1995HUMMER H1 4 PASSENGER WAGON DSL)

[« Back to Search Results](#)



Additional Images



1995 HUMMER H1 4 PASSENGER WAGON DSL

Seller Information
US Treasury

Location/State
Manheim San Antonio

Lane & Run
51 / 11

Sale Date
20081022 - 01:00 PM Eastern
Time

[Condition Report](#)

Year: 1995	VIN: 137DA8337SE165779
Make: HUMMER	Seizure No.: 2007233000003201030
Model: H1	Body Style: 4SUV
Trim Level:	Vehicle Type: S
Odometer: 72916	Vehicle Location: Manheim San Antonio
Engine: 8D	Title State:
Transmission: A	Title Status: X
Drive Train: 4 Wheel Drive	Condition Report: View Condition Report
Int Color: TAN	Ext Color: GREEN
Top Type: HT	Int Type: L
Airbags: D	Stereo: C

Options: Air Conditioning, Cruise Control, Power Brakes, Power Locks, Power Windows, Power Steering, Tilt Steering,

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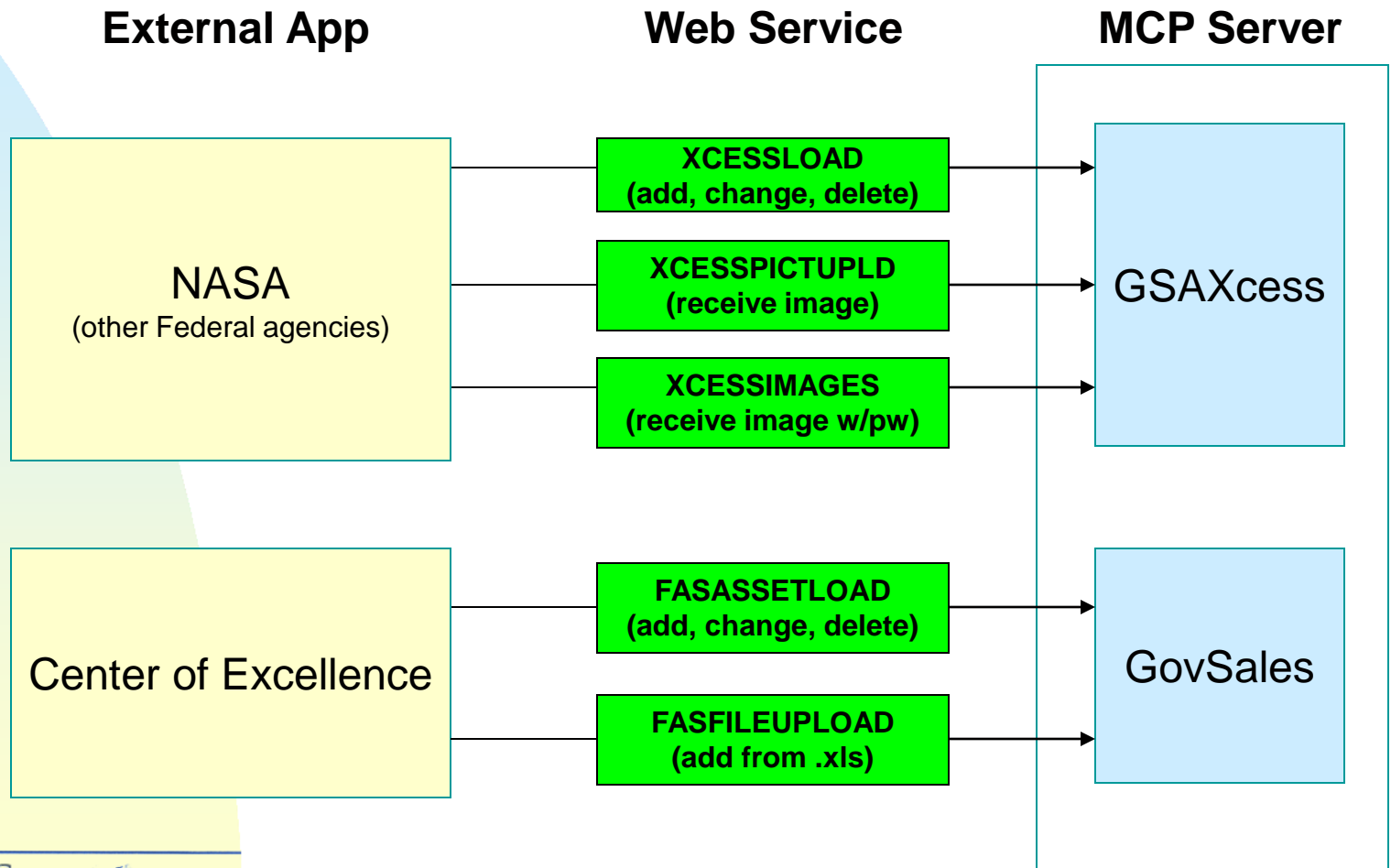


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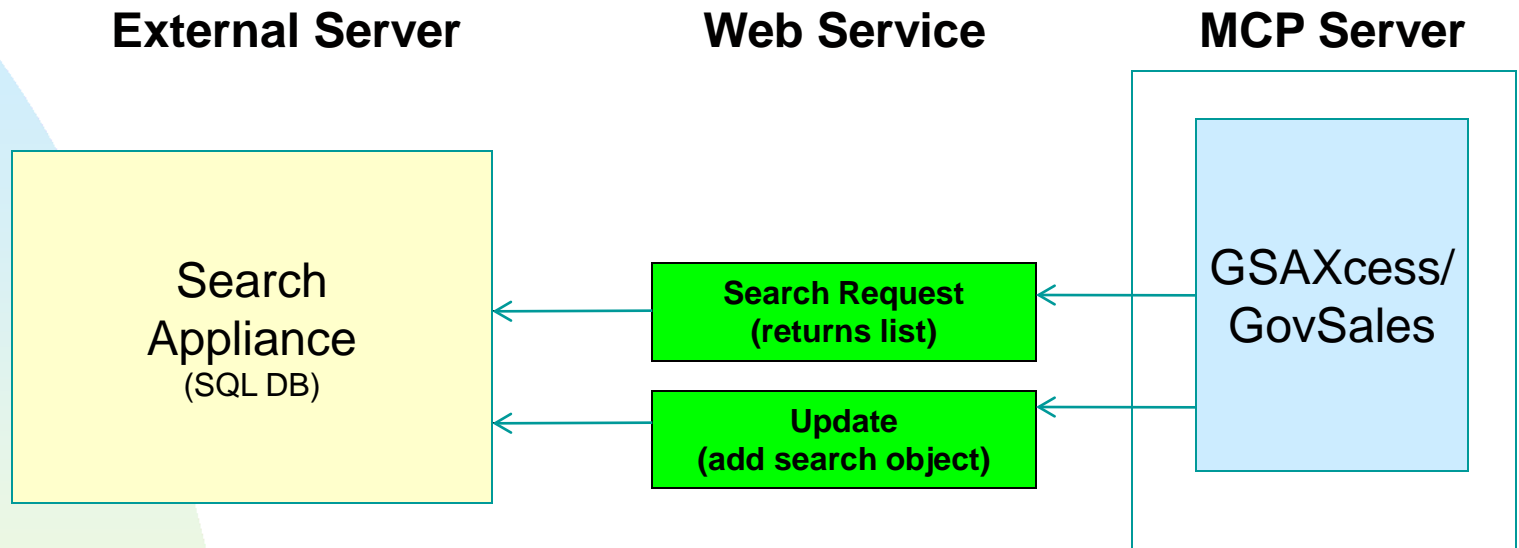


Computer Business Solutions

GSA – Property Disposal



GSA – Property Disposal



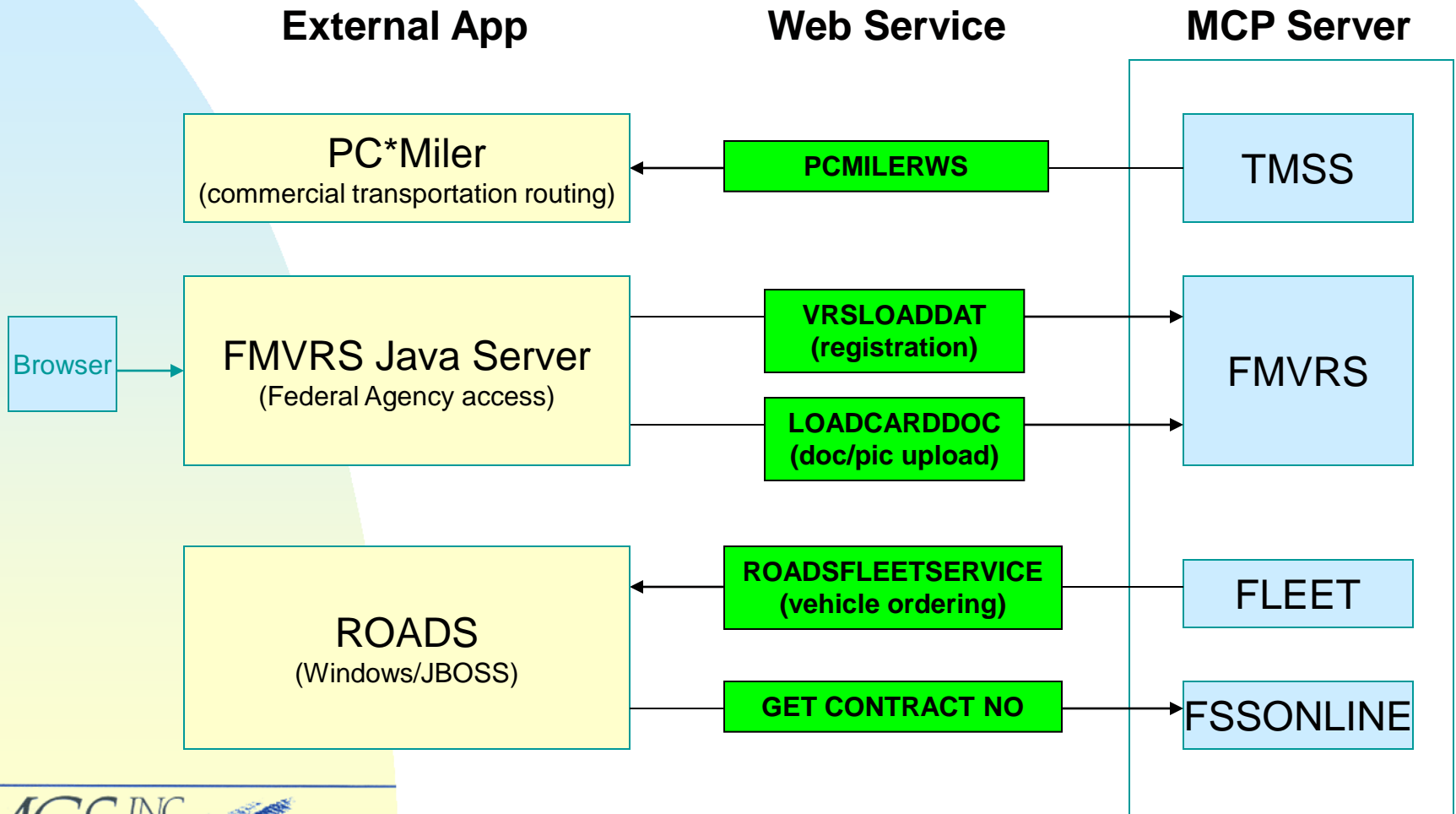
Search Appliance provides high speed search of objects matching selection criteria as service to MCP application programs. Cobol program executes a Web Service call to the Appliance which returns the list of objects found. For example search for all “excess” Hummers.

GSA – Transportation

■ Components

- **TMSS:** A facility for booking freight shipments for the federal government.
- **FMVRS:** The new federal government DMV database, expected to track over 100,000 vehicles
- **FLEET:** Application for handling vehicles leased by the government agencies

GSA – Transportation



GSA - Development

- Implementing an Enterprise Service Bus (ESB):
 - Provides Service Management
 - Security proxy, and
 - Policy Management
- Implementing Asynchronous (Request Only) WS calls
 - Does not wait for response
 - WS provider responds with Request Only call when ready

GSA - Development

- Adding Reliable Messaging on MCP side
 - support the ESB Services
 - Request Only Web Services
 - Needed as R.O. WS is through a proxy
- Implement command & control WS interfaces as Appliances support them (eg, Big IP)

Harmon - WS Applications

- MCP Web Services Support
 - ACES (Auto Claim Entry System)
 - ❖ Order Entry
 - ❖ VB Client
 - ❖ Converted from T27 screen scraping
 - On-Line Invoicing
 - ❖ Originally no validation, many rejects
 - ❖ MCP web services provided validation data

Harmon - ACES

EDI Queue Length: Unknown

Caller Name: Guy Member Name: GUY BONNEY

Insured	Order	Carrier	Loss	Vehicle	Comments
POLICY					
Name: GUY BONNEY					
Address: 123 DISNEY WAY					
City: ORLANDO			County: ORANGE		
State: FL			Zip: 32811		
Town Code:					
Birth Date:			Drv Lic:		
Bus. Phone:				PROPERTY LOSS	
Home Phone: 888 555 5555			Addr:		
Home or Bus: H			City:		
Other Phone:			State:		Zip:
Email:					

Click OK to add order!

OK

Harmon - ACES

EDI Queue Length: Unknown

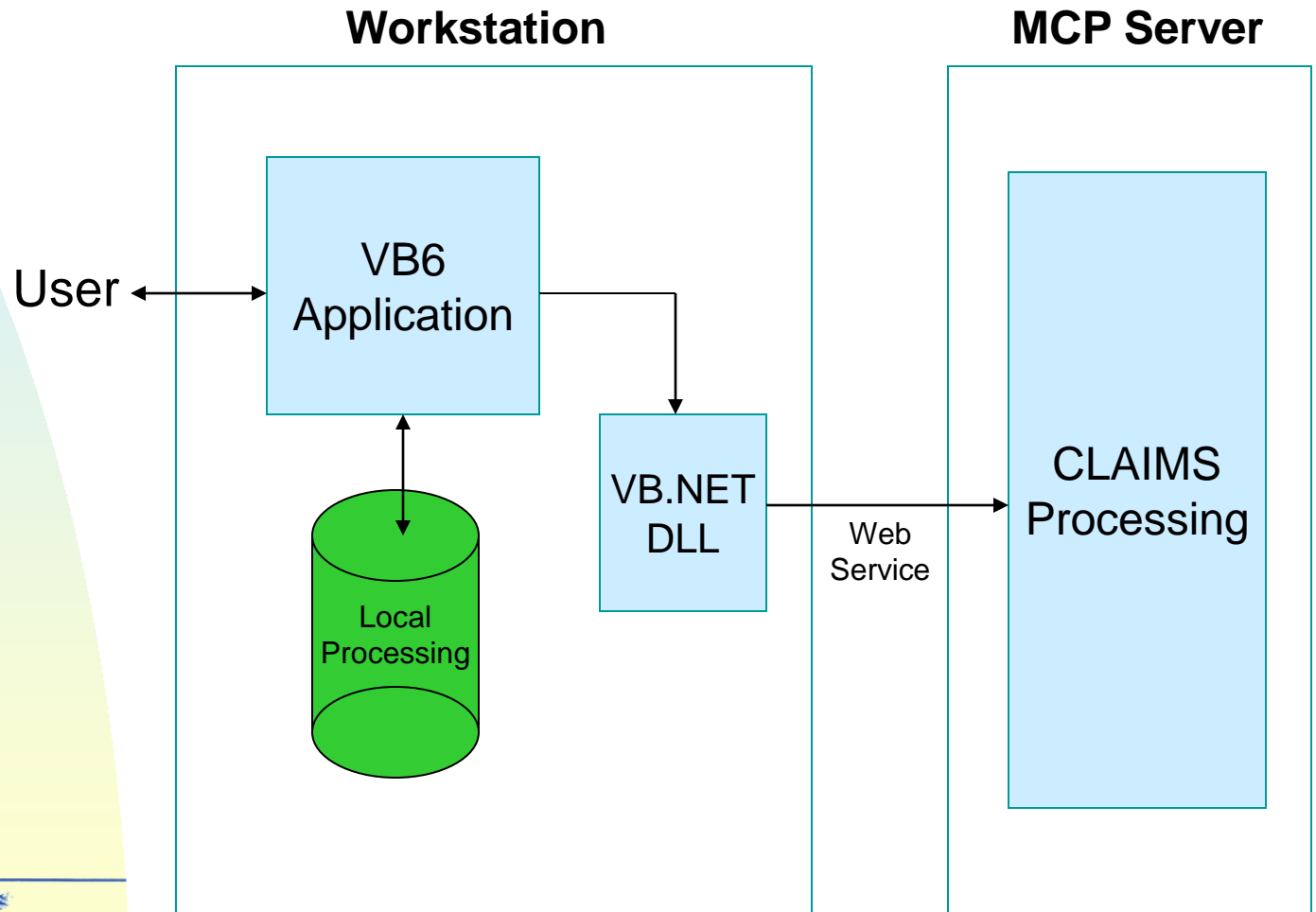
Caller Name: Guy Member Name: GUY BONNEY

Insured	Order	Carrier	Loss	Vehicle	Comments
VIN: [REDACTED] Seq: [REDACTED]					
License: [REDACTED] Desc: AMC					
Year: 78 Make: 1200					
Model: GREMLIN					
Style: 2DSD					
Fleet					
Company: [REDACTED]					
Fleet: [REDACTED] Unit: [REDACTED]					
Mileage: [REDACTED] Truck Unit: [REDACTED]					
Driver: [REDACTED] [REDACTED]					

Click OK to add order!

OK

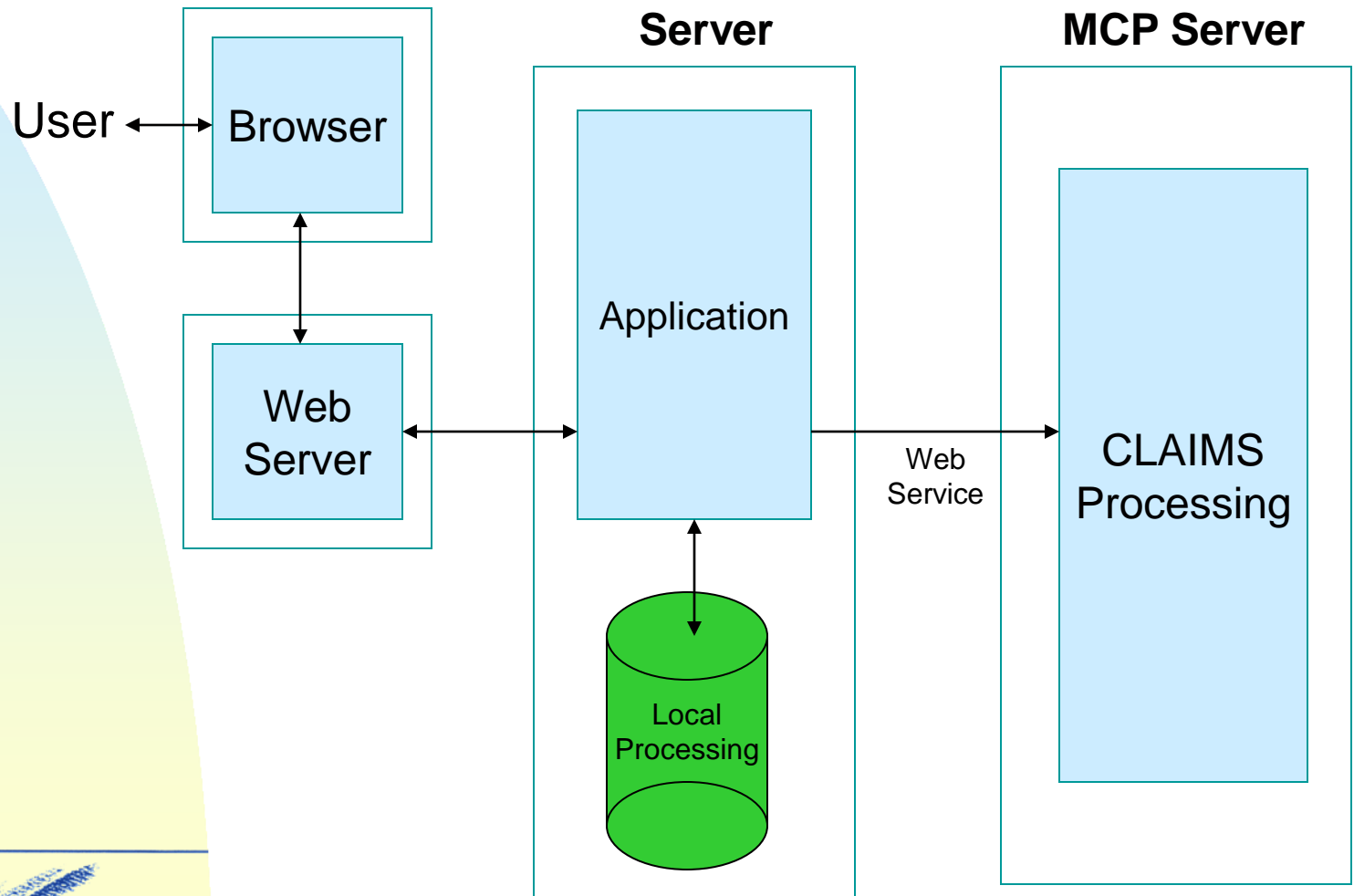
Harmon - ACES



Harmon - On-line Invoicing

Link to [Harmon On-line Invoicing.ppt](#)

Harmon - On-line Invoicing



Global - WS Applications

- Product Distribution Data
 - Product availability
 - Terminal schedules
 - Other information
- Trade Orders
 - Windows based order management and fulfillment
 - Account and financial validation
 - Trade Update from mainframe
- High Volume Fax facility converted to Castelle Fax Processors with Web Services Interfaces

Global Terminal Products Status Updates

JRSLAP11

TM43 Sales / Web Terminal Information Update 11/05/09 22:39 1600 I
Enter Terminal Number 1600 and Function Code I
Inventory Terminal Info 1600 CHELSEA, MA
Name for Pricing Global Chelsea
***** Web Site Information ***** Publish Information on Website Y
Name Global Chelsea
Address 11 Broadway
City Chelsea
State MA Zip/Postal Code 02150
Phone: 6176601100
Manager: Jim Lally
Geo Locator: Latitude 42.387270 Longitude -71.044630
Hours Terminal never closes - always open
Notes: Heating Oil - Heating Oil Plus(TM)
BioHeat(R) - 2%, 5%
UL DieselOne(R) Clear
Bio Diesel - 99%
Bio DieselOne(R) Clear 2%, 5%, 10%, 20%
Heavy Oil
Inquiry Complete

Window AR/1 at GLBLIBRA1
RECV FORMS ROW 2 COL 25 PAGE 1

Global Terminal Products Web Browser Display

GLOBAL
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Customer Resource Center >

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Home :: Terminal Location

Products & Services

- > Heating Oil
- > Gasoline
- > Diesel Fuel
- > Residual Fuels
- > Marine Fuels
- > Bunkers
- > Natural Gas & Electricity
- > Public & Private Bids
- > Supply
- > Risk Management
- > BioFuels
- > Premium Fuels & Additives

Terminal Location

Revere, Massachusetts

Global Revere Terminal
140 Lee Burbank Highway
Revere, MA 02151
(781) 398-4150

Products:

Heating Oil, Heating Oil Plus(TM)
UL DieselOne(R) Clear/Dyed, LS DieselOne(R) Clear/Dyed
UL Diesel Clear/Dyed
LS Diesel Clear
Gasoline - Regular, Mid-Grade and Premium
UL Kero Clear/Dyed

Hours of Operation:

Terminal never closes - always open

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- > 2008 Annual Review
- > Home

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Search by State

State

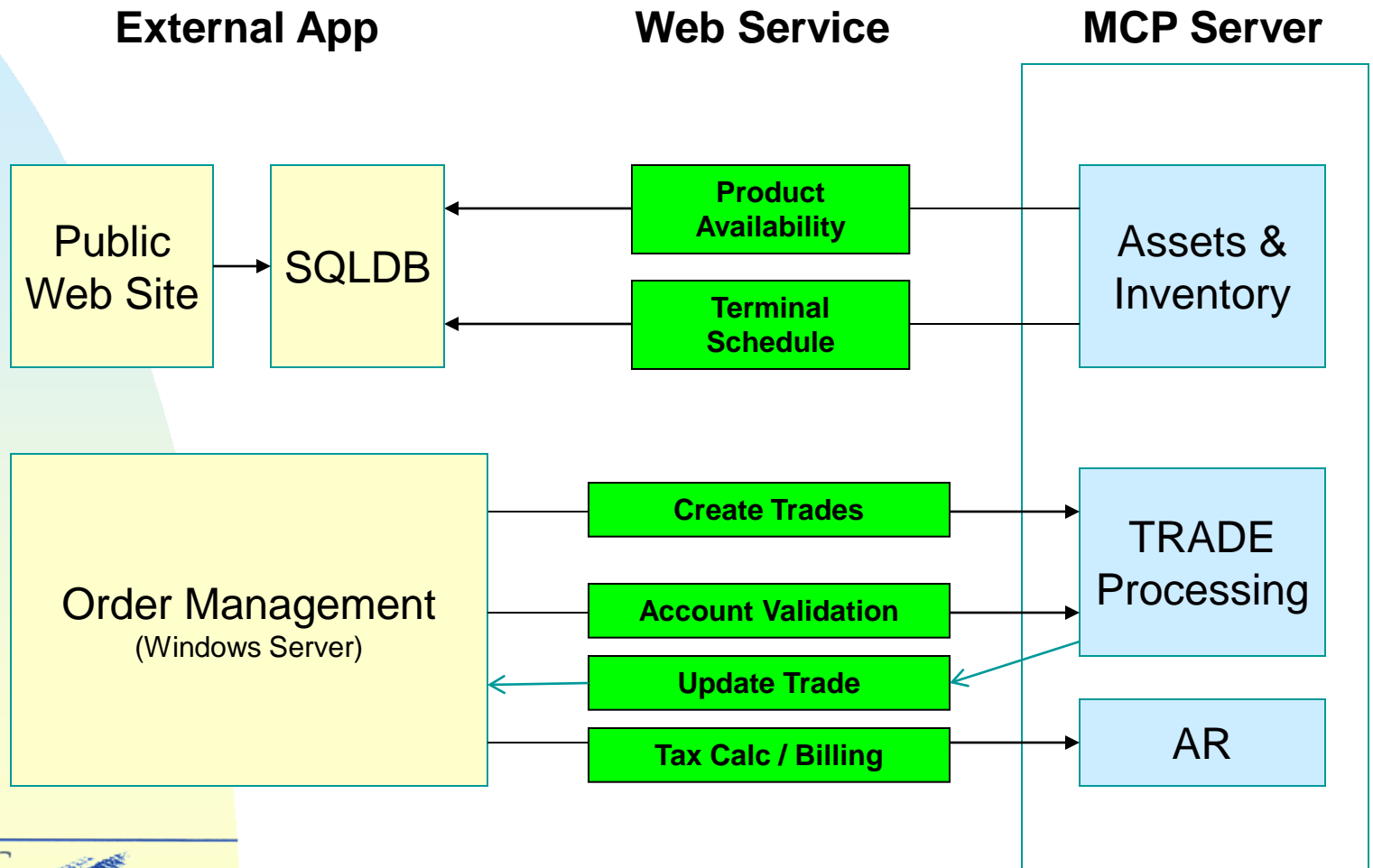
Search Near You

Your zip code

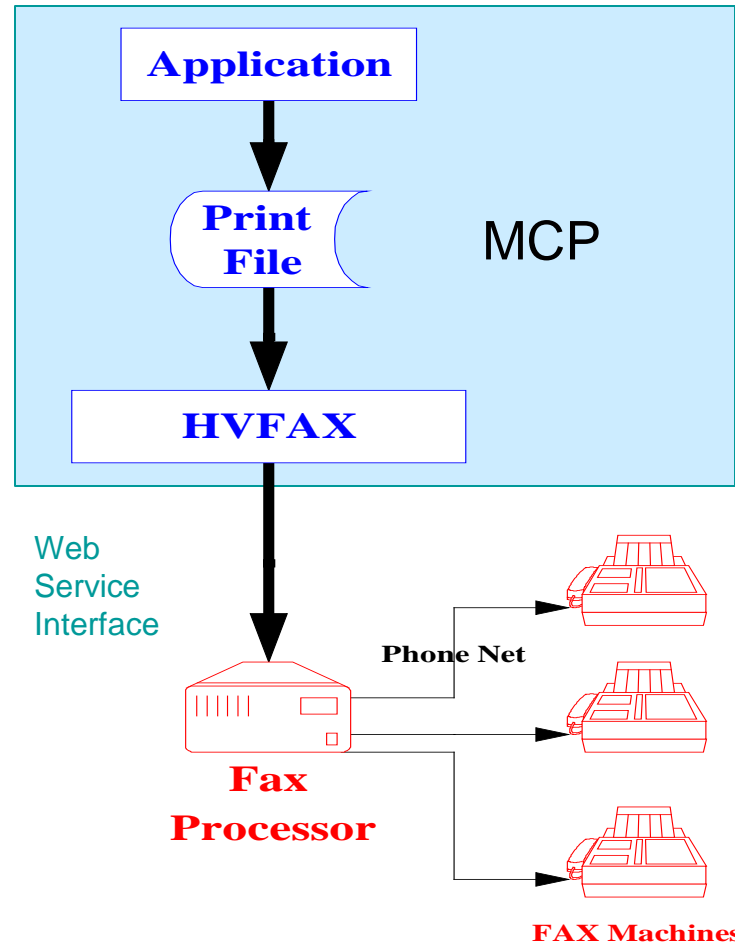
Search radius



Global – WS Applications



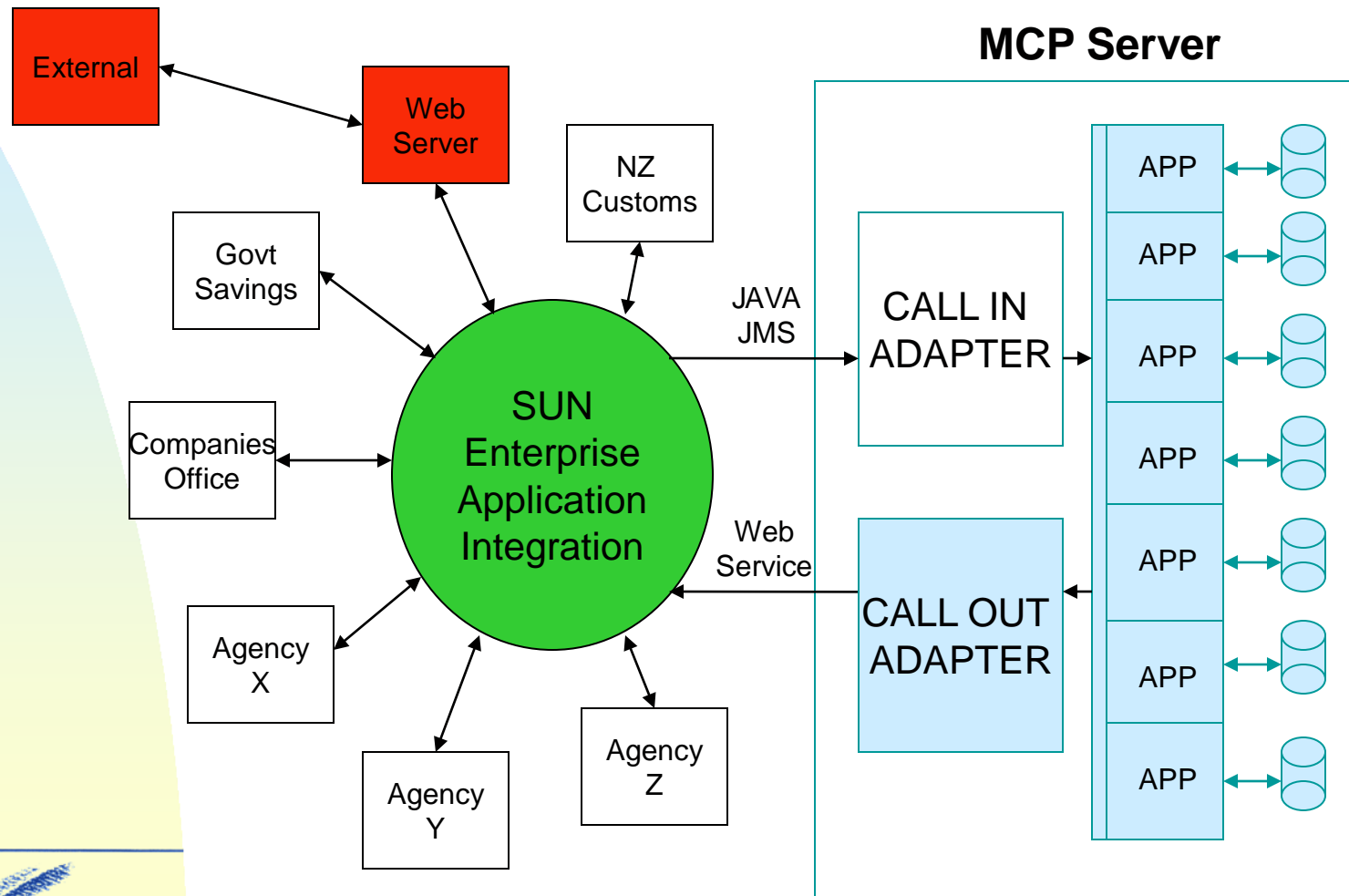
Global HVFAX Environment



IRD NZ - Call Out Adapter

- Integration to other Government Computer Systems
 - COBOL library interface to COA
 - COA connects to SUN Enterprise Application Integration (EAI) product
 - EAI acts as an inter-system hub

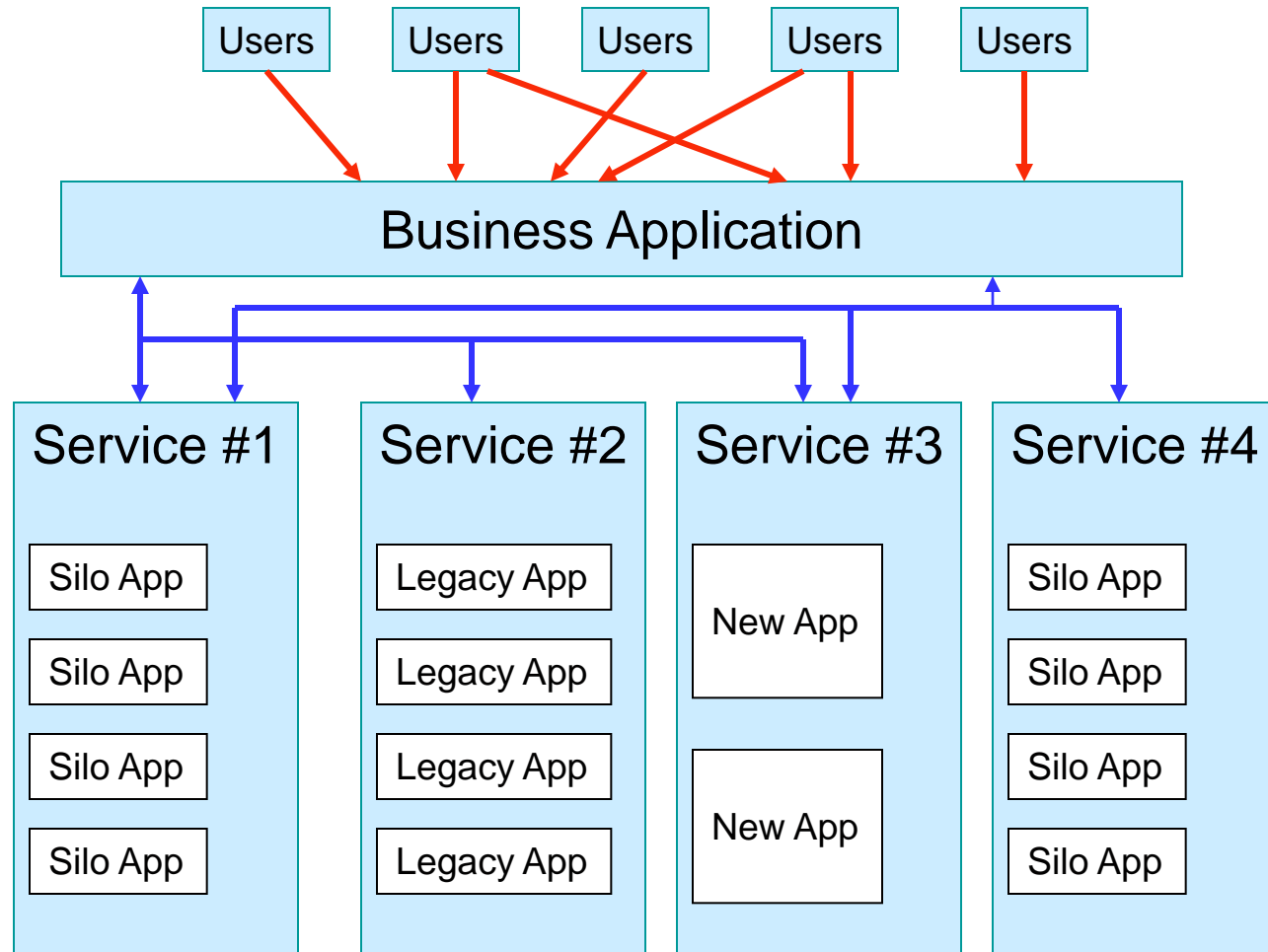
IRD NZ - Call Out Adapter



Some Lessons Learned

- WSDL and SOAP have many structural options – not all are implemented by all Web Services development and service environments
- A good XML editor is real handy
- “Modern” data structures don’t always map easily to COBOL data structures
- Web Services is not usually a good method for processing large batches of transaction data in a single call
- If you build it, they may not come... (have a business case for a web service)
- Web Services really are easy to use
- Performance measurement can be a challenge

DO NOT convert an application to internal SOA using Web Services



Additional Questions?

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UNITE 2009 Annual Conference

**Updated User Case Studies -
Building Real Time
Applications with Web
Services**