



Legacy Migration and Renewal – A State of California Success

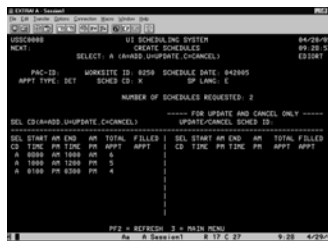
Session # 17

October 30, 2007 8:30 a.m. – 9:30 a.m.

Ken Bass, QA Technologies

The Legacy Conversion to Web

How did we
get from
here...



Unique methodology
combining automated
transformation with
development RAD
approach

...to here?



- Protecting current business rule investments and maximizing flexibility is critical
- Moving the application into web architecture with system enhancements was the main goal with this legacy renewal project

The image displays a COBOL program listing and its output. The COBOL code on the left includes logic for processing dates, generating reports, and handling various data fields. The output on the right shows a report header with fields like SCHEDULING SYSTEM, CREATOR, and a table of data with columns for NAME, ISSUES, and DATES.

- [illegible]

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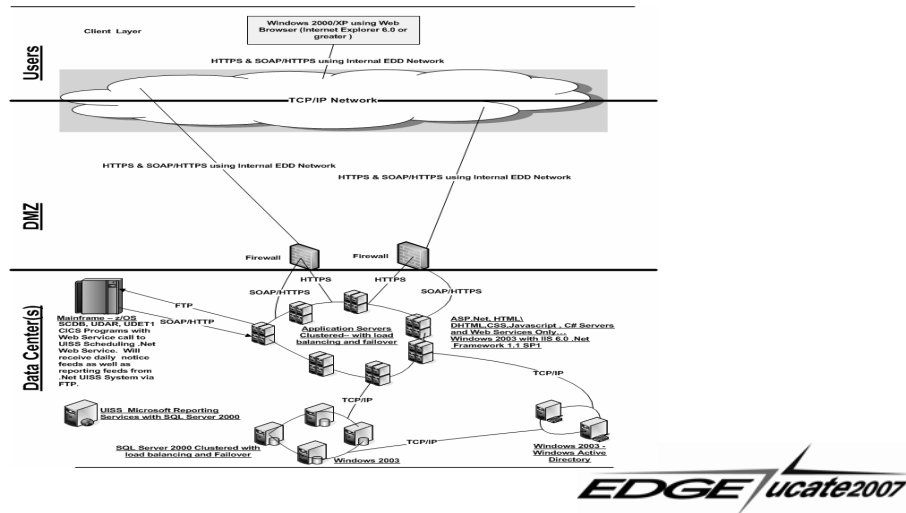
- **Replace Mainframe UISS (Cobol / CICS/ DB2)**
- **Target platform must be web based (.net, Sql Server)**
- **Remove features not useful (schedule codes, macros, etc)**
- **Document and preserve existing business rules (CA process)**
- **Enhance UISS with 12 new features**
- **Enhance UISS database to support new features**
- **New integration with Mainframe required**
- **Complete User Interface redesign with JAD sessions with UI**

The logo for EDGE/ucate2007 is located in the bottom right corner. It features the word "EDGE" in a bold, sans-serif font, followed by a stylized graphic element consisting of two intersecting lines forming a triangle, and then the text "ucate2007" in a smaller, lowercase sans-serif font.

- Replace Mainframe UISS (Cobol / CICS/ DB2)
- Target platform must be web based (.net, Sql Server)
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UISS Technical Architecture Diagram



UISS Technical Architecture - Overview

Application

- 1) AJAX(HTML/DHTML/JavaScript/CSS/) & ASP.NET
- 2) .NET C# Servers (Component Services) and Web Services
- 3) Integration to the mainframe via Web Services

Web Services (WS-I 1.0/1.1 Compliant)

- 1) QAT WebDaptive Logging (Public) – Used for logging and audit purposes
- 2) QAT WebDaptive Authorization (Public) - Authenticate users to EDD Active Directory
- 3) QAT WebDaptive Mail (Public) – Used to send e-mail for the UISS application
- 4) QAT WebDaptive Session (Public) – Maintain state & information between AJAX Web UI and AllFusion Gen ASP.Net (C#)
- 5) QAT Security (Public) – Fine grained application security and user profile
- 6) QAT DDM (Public) & UISSWS (Private) – Look-up Tables for UISS
- 7) EDDScheduler (Private) – Integration to the mainframe and mass rescheduling

Programming Languages/IDEs/DBMS

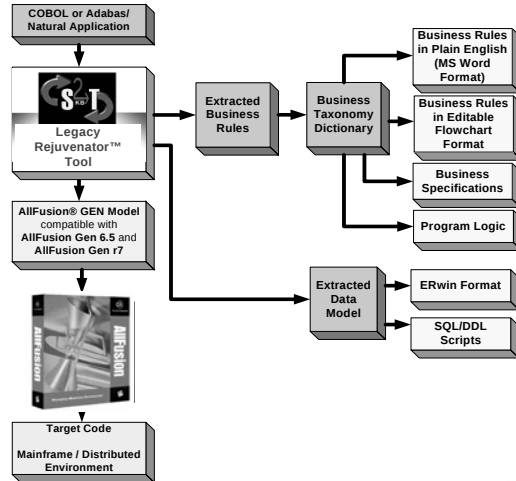
- 1) HTML/DHTML/JavaScript
- 2) ASP.NET
- 3) C# & COBOL
- 4) AllFusion Gen 7.5
- 5) Visual Studio .Net 2003
- 6) SQL Server 2000

Networking

- 1) TCP/IP
- 2) SOAP Using HTTPS over TCP/IP & SOAP Using HTTP over TCP/IP
- 3) HTTP & HTTPS over TCP/IP
- 4) .Net Remoting

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Legacy Renewal™ Process



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QAT Solutions Utilized



A plug-in for CA Gen that provides view substitution between unlike Entities, Work Sets and their Attributes.



A plug-in for CA Gen that will drastically reduce your development time and produce code that precisely meets your coding and view standards.



AJAX Web Framework. Web applications can be seamlessly integrated with other web and/or client/server applications regardless of the technology they implement.



A web service used to implement full security authorization services into applications and SOA Frameworks.

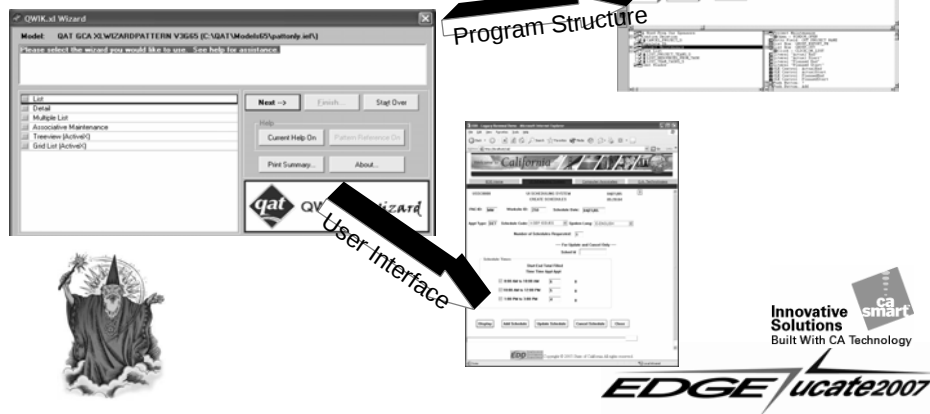


Provides a solution that enables publication and reporting of information contained in CA Gen applications to several different formats, including HTML, PDF, RTF, RPT (Crystal Reports) and Excel.

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QAT Wizard

- Used to create the new user interface and an event processing program structure.
- Extracted business rules then implemented



The image shows the QAT Wizard application window on the left, which includes a list of models and buttons for 'Next', 'Previous', 'Stop Over', 'Current Help On', 'Exported Help On', 'Print Summary', and 'About'. A wizard icon is also present. To the right, a diagram labeled 'Program Structure' shows a hierarchical tree of components. Below the wizard window, a screenshot of a user interface is shown, with an arrow pointing to it labeled 'User Interface'. The bottom right corner features the 'Innovative Solutions Built With CA Technology' logo and the 'EDGE/ucate2007' logo.

QAT WebDaptive AJAX Framework

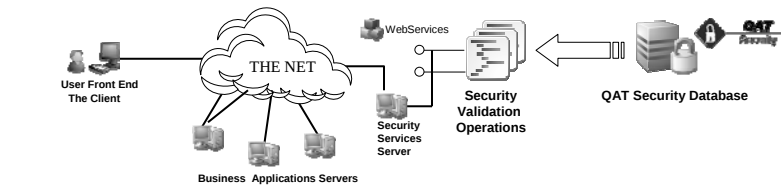
- QAT WebDaptive framework - AJAX Coding Techniques
- Manages user authentication via web service
- Distinct Frames manage Menus / Tabs / Application
- Minimizes network traffic for user navigation
- Supports Async processing
- Reduces Load Module size by eliminating Flows



The image displays a screenshot of the QAT WebDaptive AJAX Framework interface. It features a sidebar with a tree view of application components. The main content area shows a form for 'Appt & Sched Mgmt' with fields for 'Claimant', 'SSN', 'Primary Phone', 'Ext.', 'Alternate Phone', 'Ext.', 'Appointment', 'Request on', 'Rescheduled on', and 'Completed on'. There are also buttons for 'Find', 'Cancel Appointment', and 'Update'. The bottom right corner features the 'EDGE/ucate2007' logo.

QAT SECURITY

- Web Service validation security routines
- Replaced Mainframe security
- Security business rules were removed and placed into security system
- More flexible for users



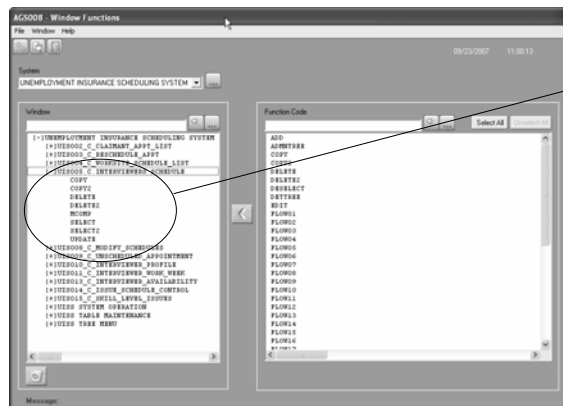
 **CONNECTIVITY**

 **INTEGRATION**

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UISS Authorization Security

- QAT Security manages functions to be secured.



Functions can represent:

Buttons

Object selection

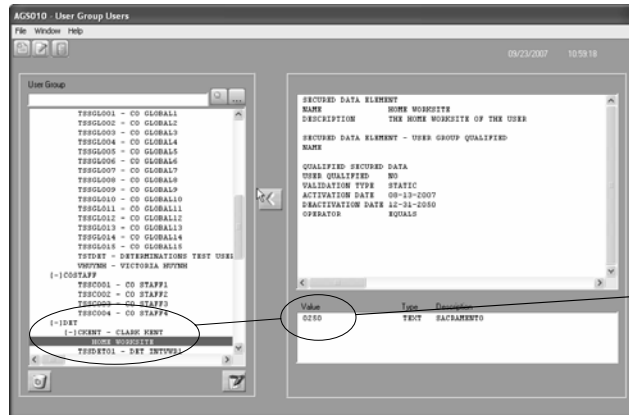
Data values entry

Anything else that can be programmed

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UISS User Group Security

- Logical User Groups Established for access



UISS authorized users are added to the proper user group for access.

If required, user group members are established with proper worksite.
(Only allows security for worksite established)

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QAT DDM Dynamic System Tables

- Dynamic table definition and value entry.
- Multiple columns can be defined.
- Immediately available via web service (DDM Web Service)
- List business rule selections were removed and placed in DDM



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UISS Technical Architecture – Web Services

- **6 Public Services were consumed for UISS-available for EDD wide use and SOA Governance:**
 1. **QAT WebDaptive Logging Web Service (Public)** - provides enterprise application logging to file and windows event log
 2. **QAT WebDaptive Mail Web Service (Public)** - provides enterprise application mail service with or without attachments
 3. **QAT WebDaptive Authorization Web Service (Public)** - provides user authentication to EDD's active directory or LDAP server
 4. **QAT WebDaptive Session Web Service (Public)** - provides simple access to global application data per user/application or global data for multiple users/applications for heterogeneous web technologies (i.e. AJAX & AllFusion Gen ASP.Net)
 5. **QAT Security Web Service (Public)** - handles fine grain application security and user profile data for the UISS application (i.e. role based tree menu, enable and disable application functions)
 6. **QAT DDM Web Service (Public)** - provides universal access to look up tables for UISS. In addition, is a dynamic data Web Service for any definable data structure with dynamic AJAX Web UI for maintenance. (i.e. Holiday Table, Calendar etc...)
- **3 Private Services were created for UISS**
 1. **EDDScheduler (Private)** –integration between CICS and the new .Net UISS. UDAR and UDET1 CICS programs consume this .Net Web Service for real-time scheduling information and to complete the appointment process.
 2. **EDDMassSch (Async)** method to mass re-scheduling / mass unscheduled process.
 3. **UISSWS (Private)** – used to access the Look-up Tables that reside UISS Application RDBMS for QAT DDM's AJAX Web UI

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Scheduling Web Service

- CA Gen code was wrapped to provide a web service.
- Existing mainframe applications could integrate with new .net system via this web service.
- Batch processes were also wrapped Gen procedures.



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Flexible Programming

Hard coded extracted business rules were removed and placed into a System Operation Table. This makes the rules more flexible and can be easily changed by the business users.



Example: SCHEDULE CREATE DAYS = 21



Window Examples



UISS Demo



EDGE Needs Your Feedback!

- Please complete the conference evaluations
- Your feedback/suggestions are necessary to continue to bring you top-notch events
- Thank You for Coming – See you in 2008!

