

CA 2E Modernization Case Study

Session 8B

Dan Burnham, John Rhodes,
Srinath Abinavam

ADC Austin



ADC AUSTIN

MKS

WEBSYDIAN™

cm FIRST

desynit
ca™

What are we talking about?

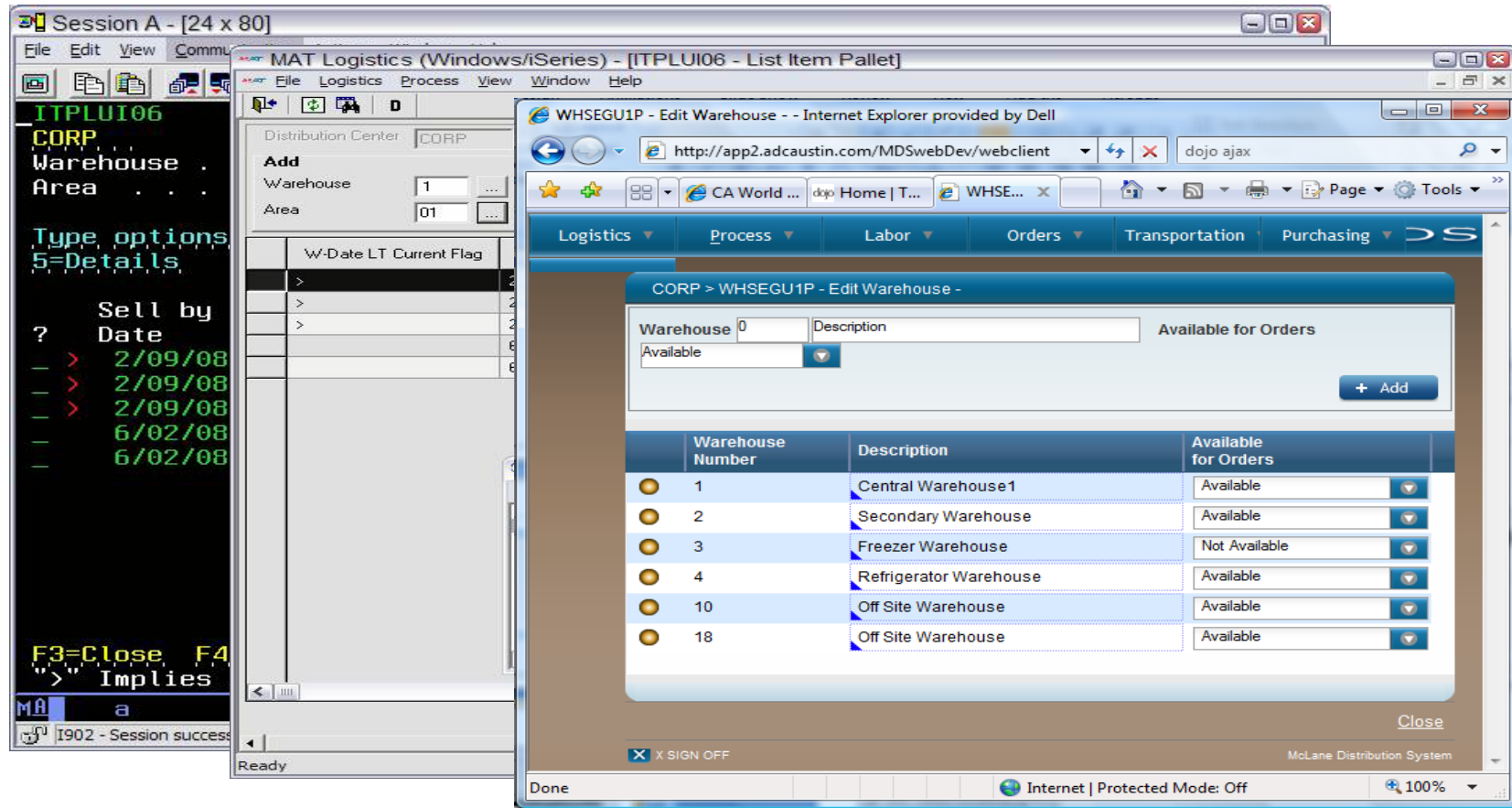
- > Many organizations are exploring modernization of their legacy CA 2E environments to both improve the user interface and increase developer productivity.
- > M3 Modernization is ADC Austin's tooling and methodology for the IBM i / CA 2E customer
- > In this presentation we will look at the M3 process, and a customer case study (Dan Burnham) - followed a short technical discussion (Srinath Abinavam).

ADC Austin



- > Founded in 1996 as division of Synon, ADC Austin helps customers develop large scale mission critical systems leveraging the ADC as a "*House of Architects*"
- > ADC Austin has a special focus on automated legacy code modernization and SOA
- > ADC Austin primarily works with Microsoft Enterprise servers and IBM Enterprise platforms
- > ADC Austin is a Tier 1 strategic partner and reseller for CA. Also certified with MKS/CM First, Databorough, Worksoft.
- > ADC Austin resells products and services throughout the world, partners include CM First, NIIT, IBS, Takaya, Websydian...

The essence of M3



Moderization Appproach

> What we don't focus on

- Screen scraping, syntax translation, temporary measures
 - Certainly OK as a tactical point solution

> What we do focus on:

- Modernization of entire software development process
 - Code level/IDE, Rational/Eclipse
- Meta-Model based solutions
 - CA 2E/Plex, X-Analysis, CA Repository, Certify
- Integrated ALM, Automated Test Management
- SOA, open access to business logic
- Automation, not large teams

ADC Austin – Selected Modernization Clients



INDIANA UNIVERSITY FOUNDATION
Your Generosity. IU's Future.



Agenda

- > Introduction and Background
- > M3 Modernization - Process
- > You have modernized – now what?
- > Customer Case Study
- > Question and Answer with Product Architect

Introduction and Background

- > Legacy Applications

- > M3 Introduction

Top Issues/Goals of Modernization

- > Current application is inflexible and market-driven or regulatory changes take too long
 - Modern development environment
- > Current application cannot be integrated with modern systems
 - Need SOA / EAI capabilities
- > Declining availability of RPG/COBOL skill sets
 - Java and C#, Eclipse, Visual Studio
- > High cost of hardware, or market-driven platform migration
 - Tools that support major databases/OS/code

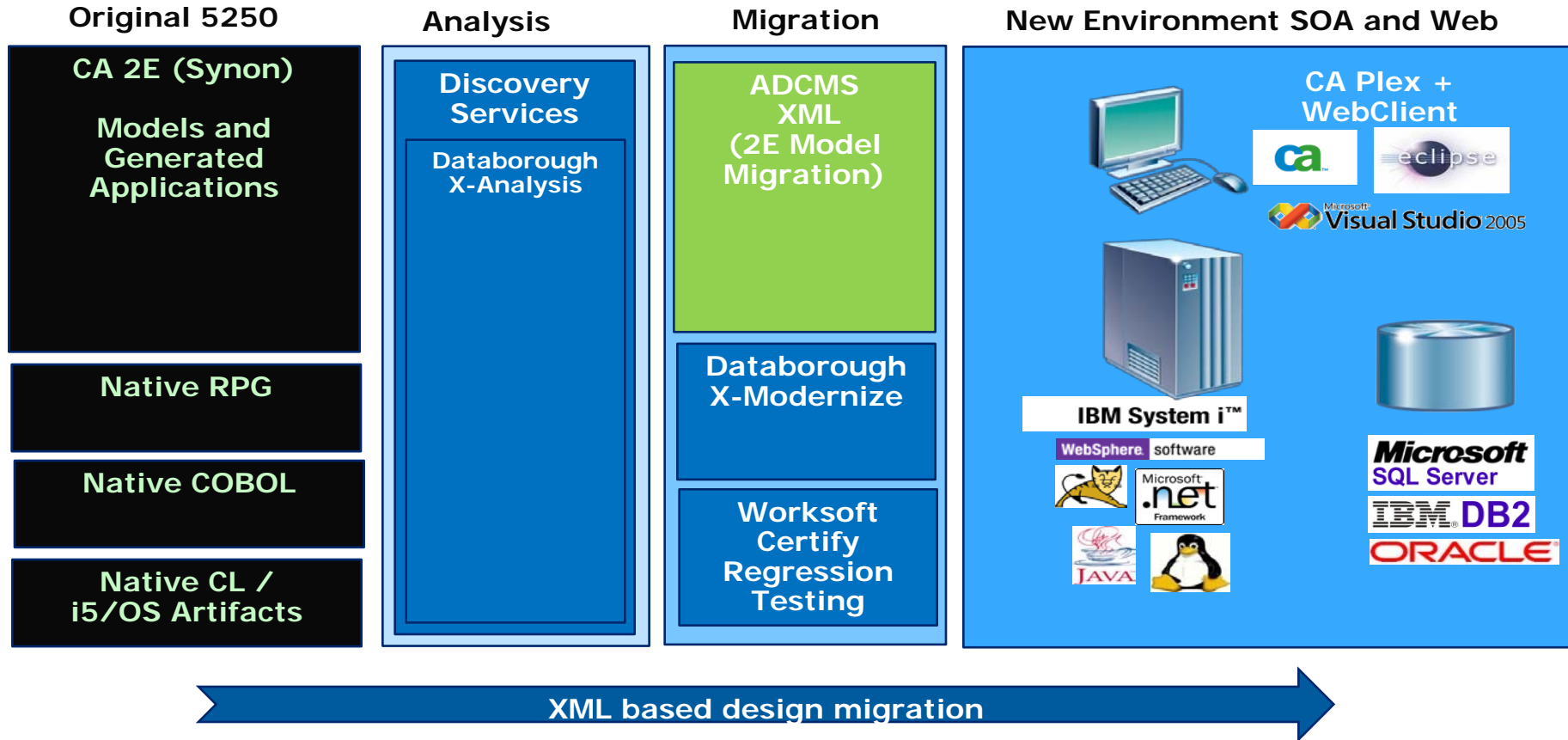
Modernization Approaches

- > Manual Rewrite
 - Business Risk: Cost, Time to Market, Quality
- > Wrapping
 - Business Risk: Limited value, maintainability
- > Packages
 - Business Risk: Does not fit business, ROI
- > Web Facing / Screen Scraping
 - Business Risk: Maintainability/Dual environments, value
- > Syntax Translation
 - Business Risk: Maintainability, Run-time ties
- > **ADC Austin M3 - Automated Modernization with Refactoring**

Automated Modernization with Refactoring - Benefits

- > ADC Austin's M³ – Model Based Migration - Methodology
 - Retain business rules
 - Less cost than other approaches – yet has benefits of packages and manual rewrites
 - Fast results
 - Maintainable
 - Improved Business Processes
- > Our View: Modernize 2E model using ADC's Model Based Modernization Methodology (M³)

Model Based Modernization – M³



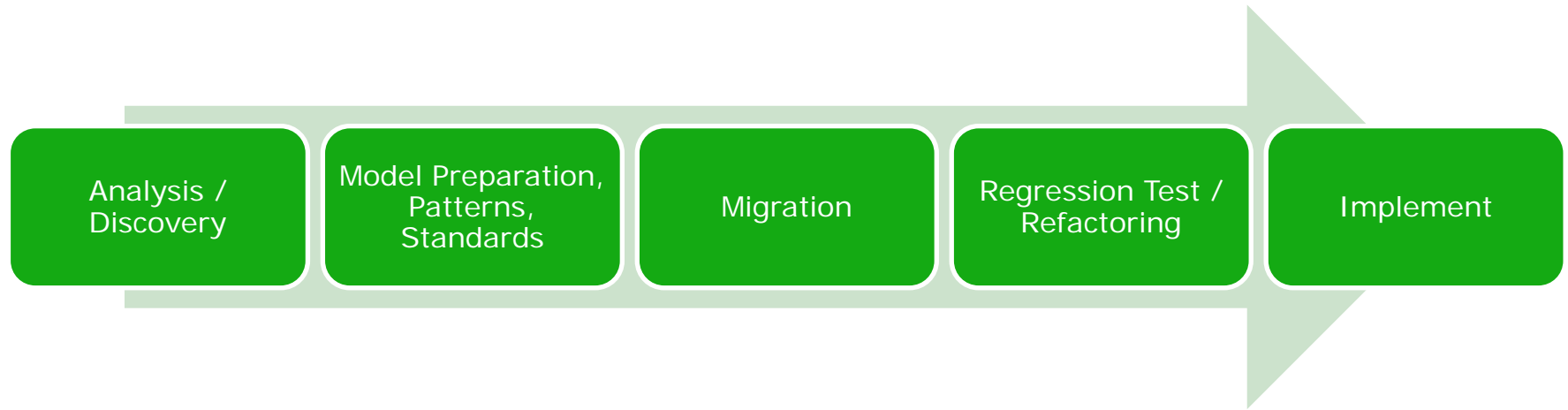
Model-based Modernization Methodology

M³

M³ Goals

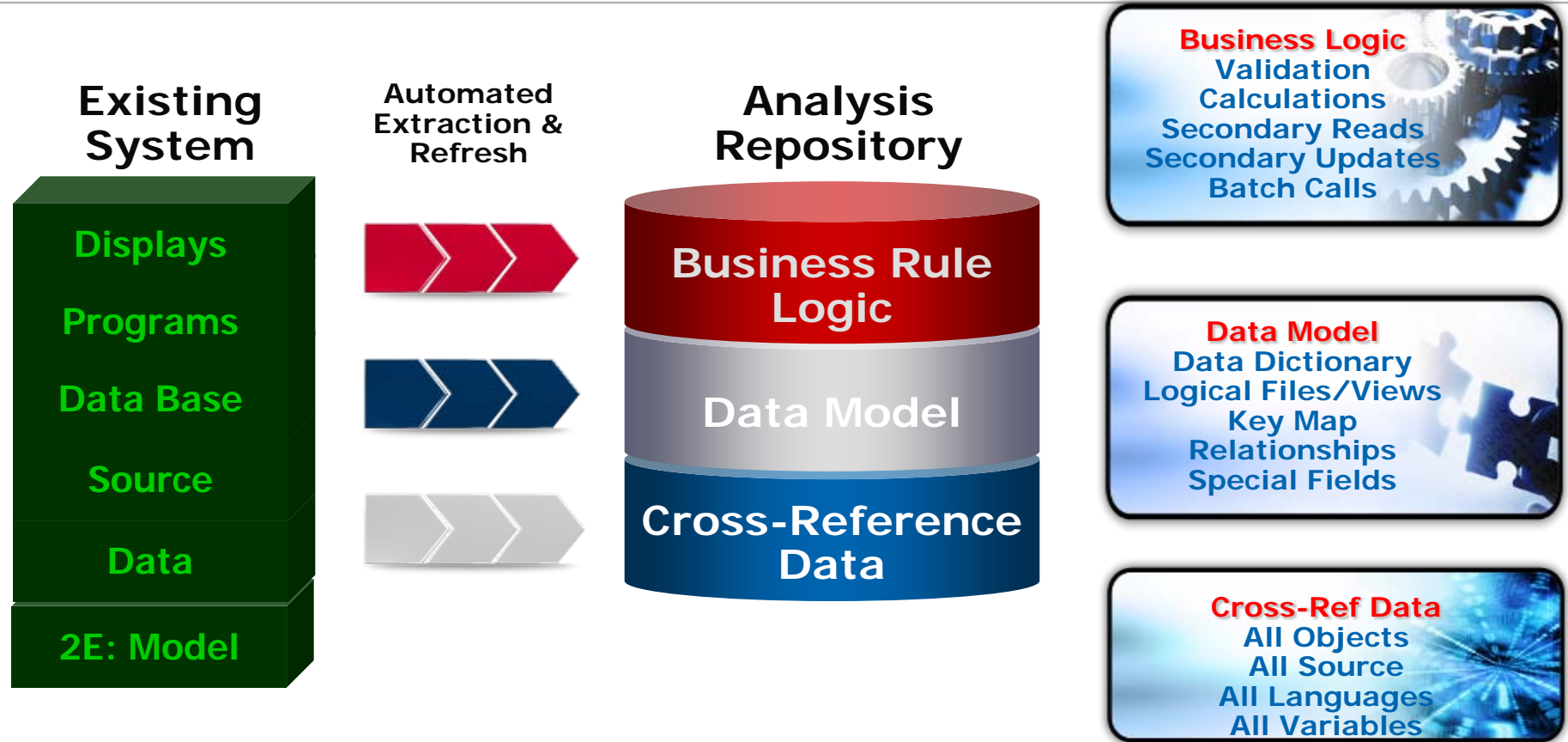
- > Preserve investment made in COBOL, RPG, and CA 2E
 - 100+ FTE years of business logic development
 - Many millions of dollars in investment
 - 90-95%+ code migration
- > Increased productivity in CA Plex / Rational/Eclipse / MSVS
 - Inheritance and patterns provide for highly productive development
 - All IDE tools, debuggers, diagrams available to users of Eclipse, Rational, Microsoft Visual Studio
 - All CA Plex platforms supported + RIA + Web Services
- > Quicker Ramp-Up for IBM I Staff
 - Close the knowledge gap required for CA 2E
 - Provide patterns similar to CA 2E behavior

M³ Process

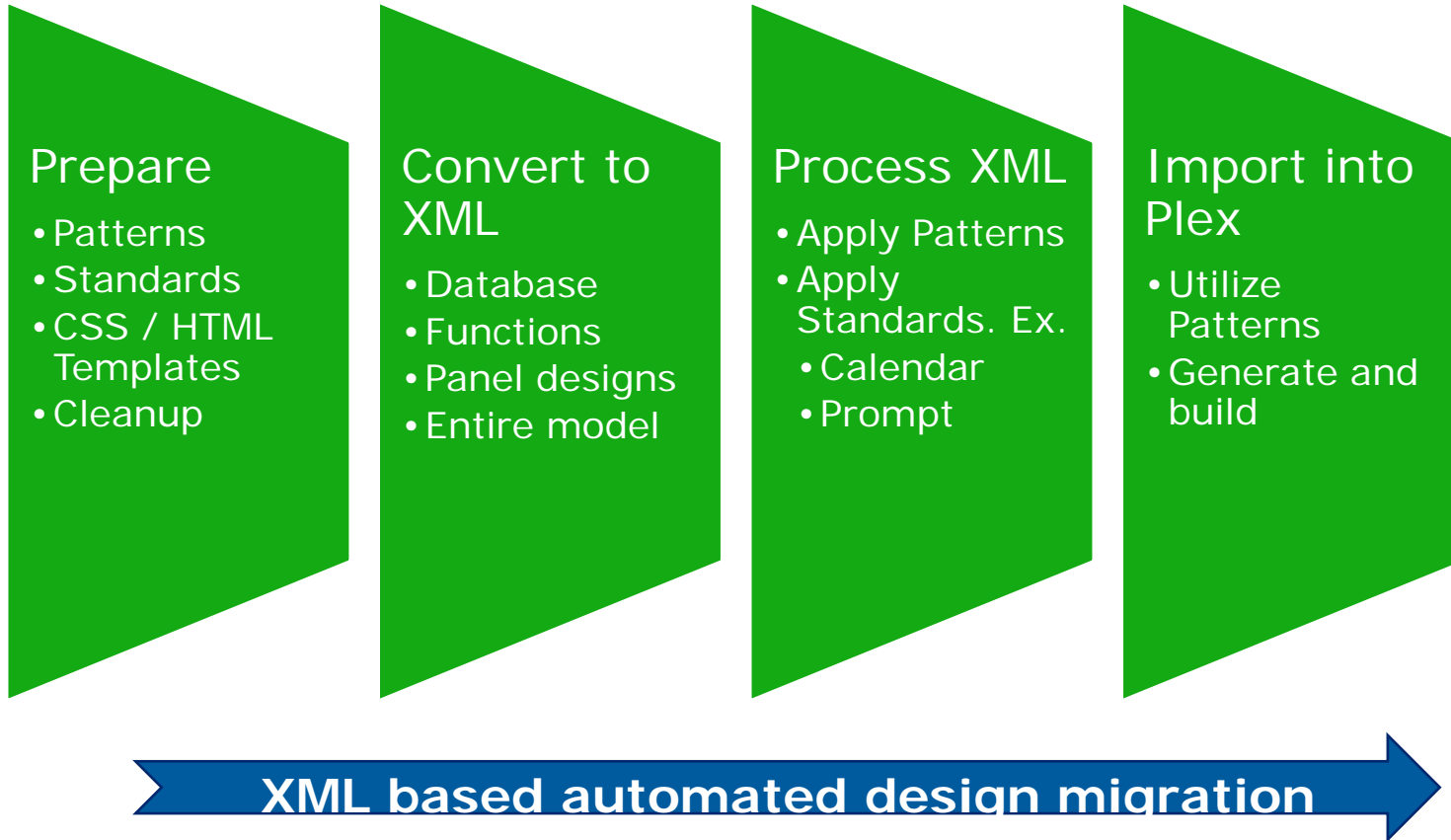


Training, Mentoring, Project Management, Architecture Services

Analysis – Discovery



Migration – 2E Model



Migration – Regression Testing

Create Test Conditions

- Screen Movie
- Directly in tool

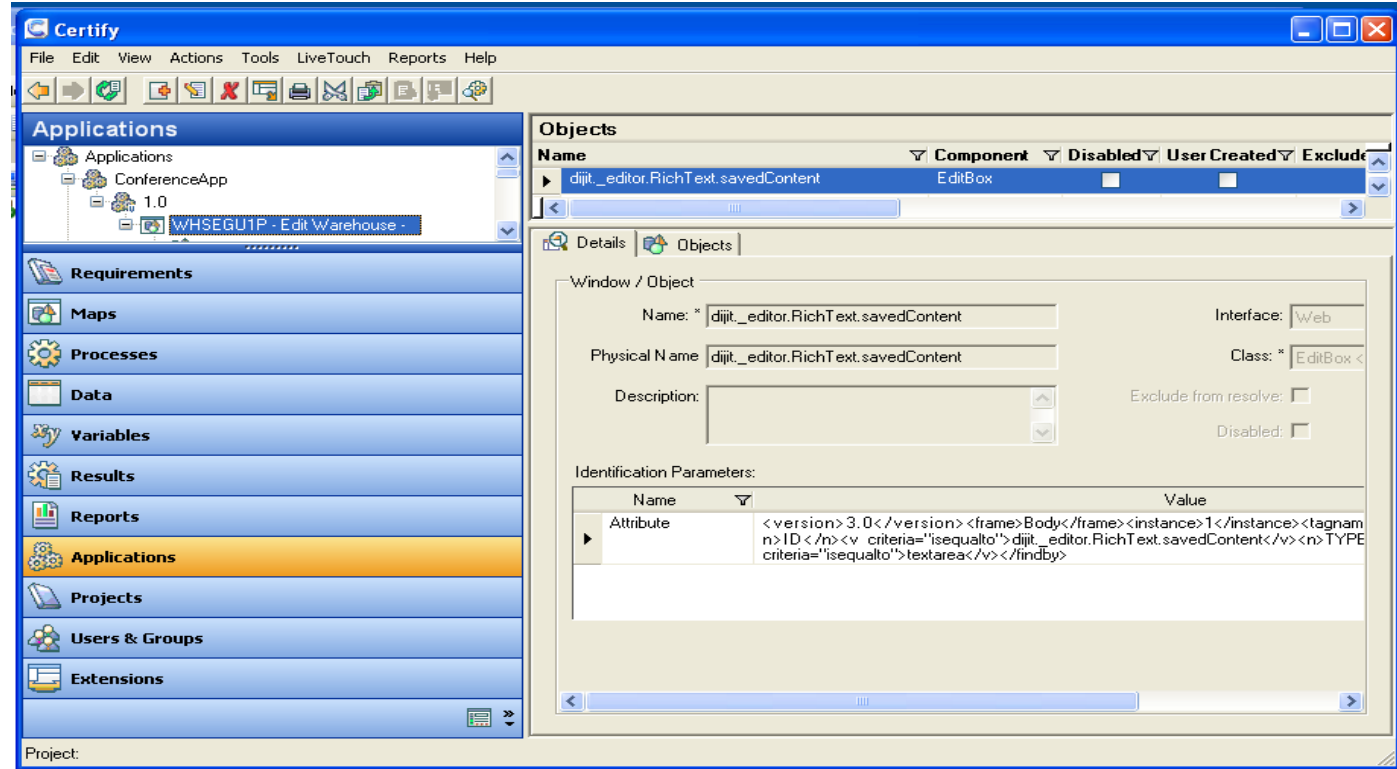
Create Test Scripts

- Use Worksoft Certify
- Requirements
- Test scripts
- Verify Coverage

Run test scripts

- When all tests are passed, migration is complete

Migration – Regression Testing



Migration – Regression Testing

- > Critical to project success, and is a best practice for enterprise development in general
- > Automated regression testing is **required** for a warranted migration
- > Test cases are developed by the customer, then encoded into the automated tool by the customer or as a service
- > WorkSoft Certify is a recommended tool
 - 5250, windows, Java, and Web capabilities
 - Ability to develop test cases without programming/scripting
 - Robust enterprise level tool

You have
modernized;
Now What?

You have modernized – now what?

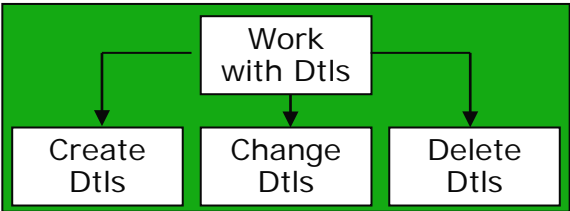
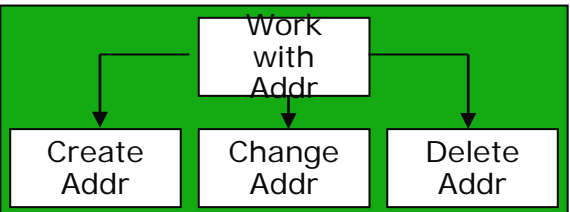
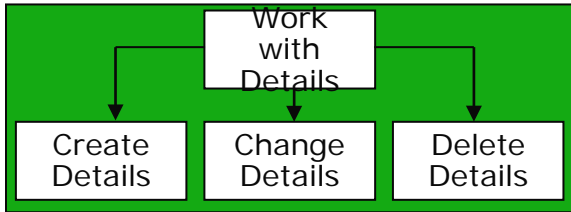
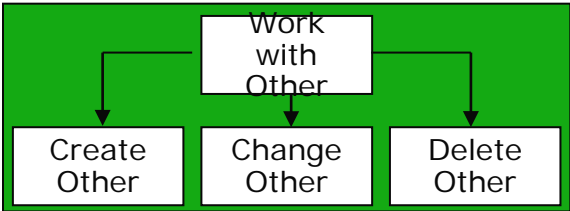
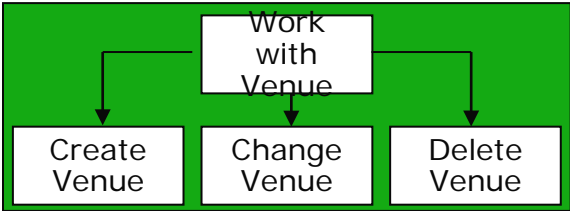
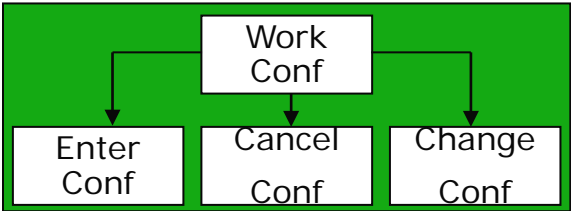
> New Application Capabilities - Refactoring

- Refactor business logic – eliminate un-maintainable functions
- Call screens from URLs with parameters
- Call external functions and screens as web services
- Rearrange screens into more user friendly paradigms – example, tabs, wizards, portals
- Embed screens within other applications
- Utilize business process modeling tools

> Take advantage of the refactored development environment – **you are now more productive**

User Interface

Main Menu
1. Work with Conferences
2. Work with Venues



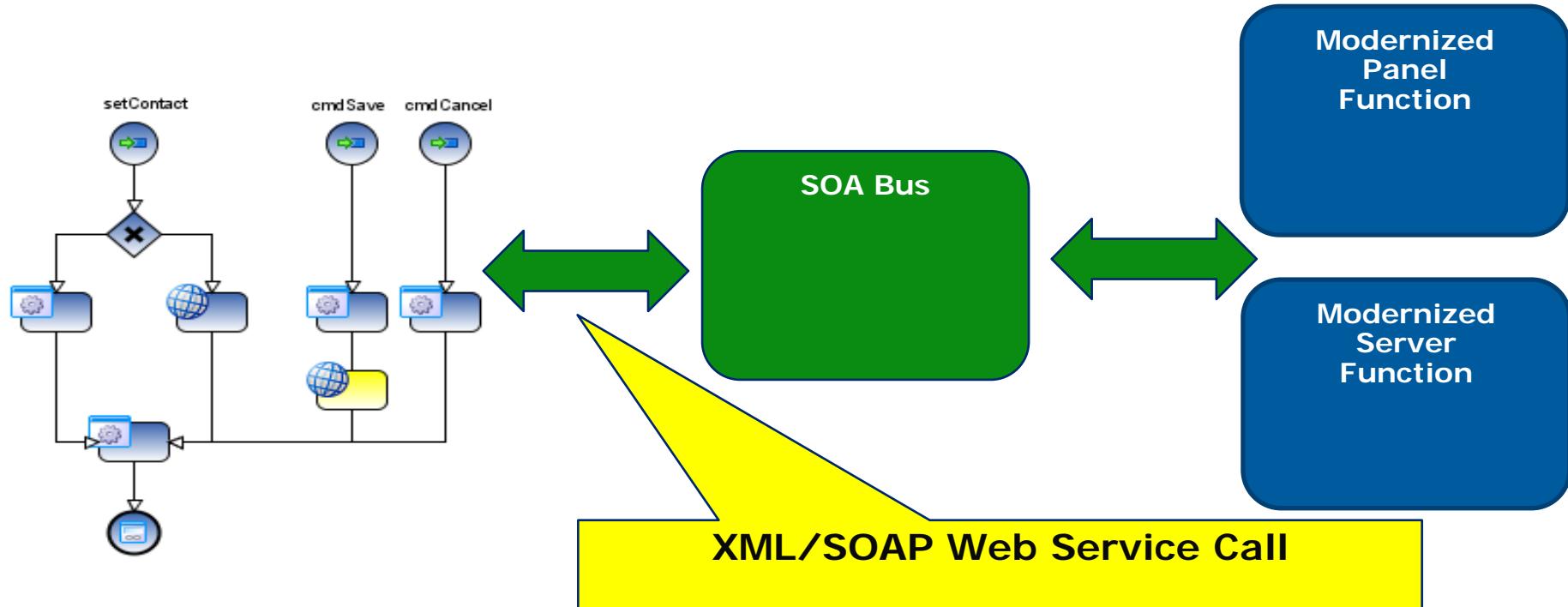
To usable!

The image displays three overlapping screenshots of the IPDUG website in Internet Explorer, illustrating different views: Tab, Wizard, and Portal.

- Tab View:** Shows a simple navigation bar with tabs for "Tab" and "Wizard".
- Wizard View:** Shows a step-by-step configuration process with fields for "Conference Description", "Start Date", "Venue ID", and "Venue".
- Portal View:** Shows a full dashboard with a table of attendees and a bar chart.

MonthNumber	# of Attendees
1	0
2	52
3	63
4	67
5	73
6	80
7	85
8	90
9	95
10	100
11	105
12	110

SOA / Workflow / Automation of Migrated Apps



Modernization Case Study

Dan Burnham - LP

Case Study Agenda

- > The company
- > The decision process
- > Results
- > Lessons learned

The company

- > A leading manufacturer of building products (\$2B Sales)
- > Most applications internally designed and built to fit unique business requirements using 2E
- > Users demanding features not available to 5250 environment
- > Little to no experience in Plex or Web development

The decision process

> Multiple ways to deliver GUI

- Screen Scraper - Demonstrated to work but left 2 sets of code to maintain
- Re-write – long term project with high risk/little reward during which time new enhancements would be more difficult
- Migration to Plex using ADC M3 process.

Resu

Session A - [

File Edit View

APBYDFR
DBURNHA

5=Displ

A

? Vend

\$5 L

aCHE

LARR

ne p

ne p

pERR

test

util

util

util

util

A &

A &

A &

A &

F3=Exit

MA a

I902 - Session

A/P Display Lawson Vendors By Name

Job Function Job Date 9/21/2009

Job User Company Name Job Time 11:31:52 am

LAWSON VENDOR MAINTENANCE

No records were found for your search.
You are not authorized to the action.

Company	Location	Product Group
1 LOUISIANA-PACIFIC CORPORATION	026 HOULTON OSB	10 Oriented Strand Board

Filter	Vendor Name	Number	Group	City	State
	<input type="text"/>	<input type="text"/>	MIS	<input type="text"/>	<input type="text"/>

Select	Vendor Name	Number	Group	City	State
<input type="checkbox"/>	\$5 LAWN CARE	69908	MIS	ROCKLIN	CA
<input type="checkbox"/>	aCHESAPEAKE CUSTOM HOMES	93024	MIS	OXON HILL	MD
<input type="checkbox"/>	LARRY OBENAUF	97369	MIS	MUSKEGON	MI
<input type="checkbox"/>	ne pas utiliser (Lumen)	64402	PUR	SAINT-EUSTACHE	QC
<input type="checkbox"/>	ne plus utiliser	67531	LOG	FERME NEUVE	QC

Lessons learned

- > Application clean up should be done – migration of less than optimal code added unnecessary complexity.
- > Understanding the underlying technology proved to be more than expected.
 - Getting the functionality to work was not the issue.
 - Implementing within corporate infrastructure guidelines was.
 - Web-based functionality is very flexible but adds complexity.
 - Client/Server is similar to familiar 5250 and easily implemented.

Q&A

- > Patterns Demo - Technical Question and Answer
- > Srinath Abinavam – Product Architect

Summary

- > CA Plex and M³ is a powerful new way to modernize IBM I and CA 2E
 - More capable than host based screen scraping
 - Less cost and risk than re-writing
 - Retain the business logic in 2E and native code
- > Once in Plex, Refactor to gain business advantage
 - Separate presentation and business logic
 - Create new user interfaces
 - Integrate with portals and work flows
- > ADC Austin can help you maximize your CA 2E, RPG, and COBOL assets

Next Steps

> Initial Discussion

- Run automated report on 2E model
- Detailed Tech Discussion, View case study model

> CA 2E Best Practice Assessment

- Analyze model with automated tools
- Determine problem areas
- Produce migration readiness report, estimate, plan

> Proof of Concept

- Perform test migration for 20-30 user interface functions, and associated database and non-UI functions

More Information

- <http://m3modernization.com>
 - M3 process web site
- <http://adcaustin.com>
 - Company Information