IBM Software Group

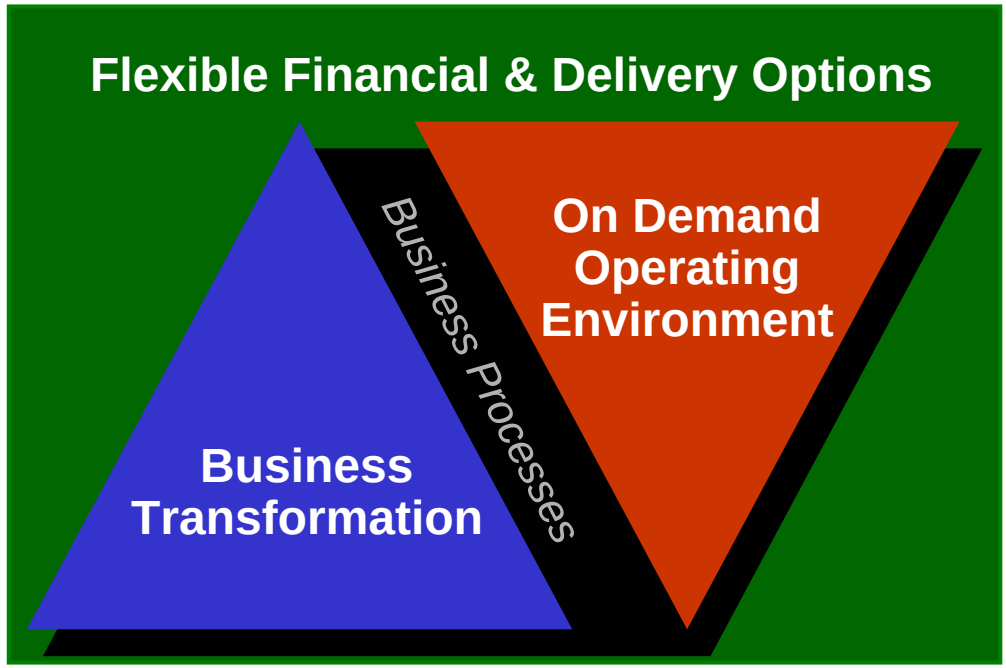
Application Lifecycle Planning and Management

Dibbe Edwards
Director, CICS Portfolio
November 2005

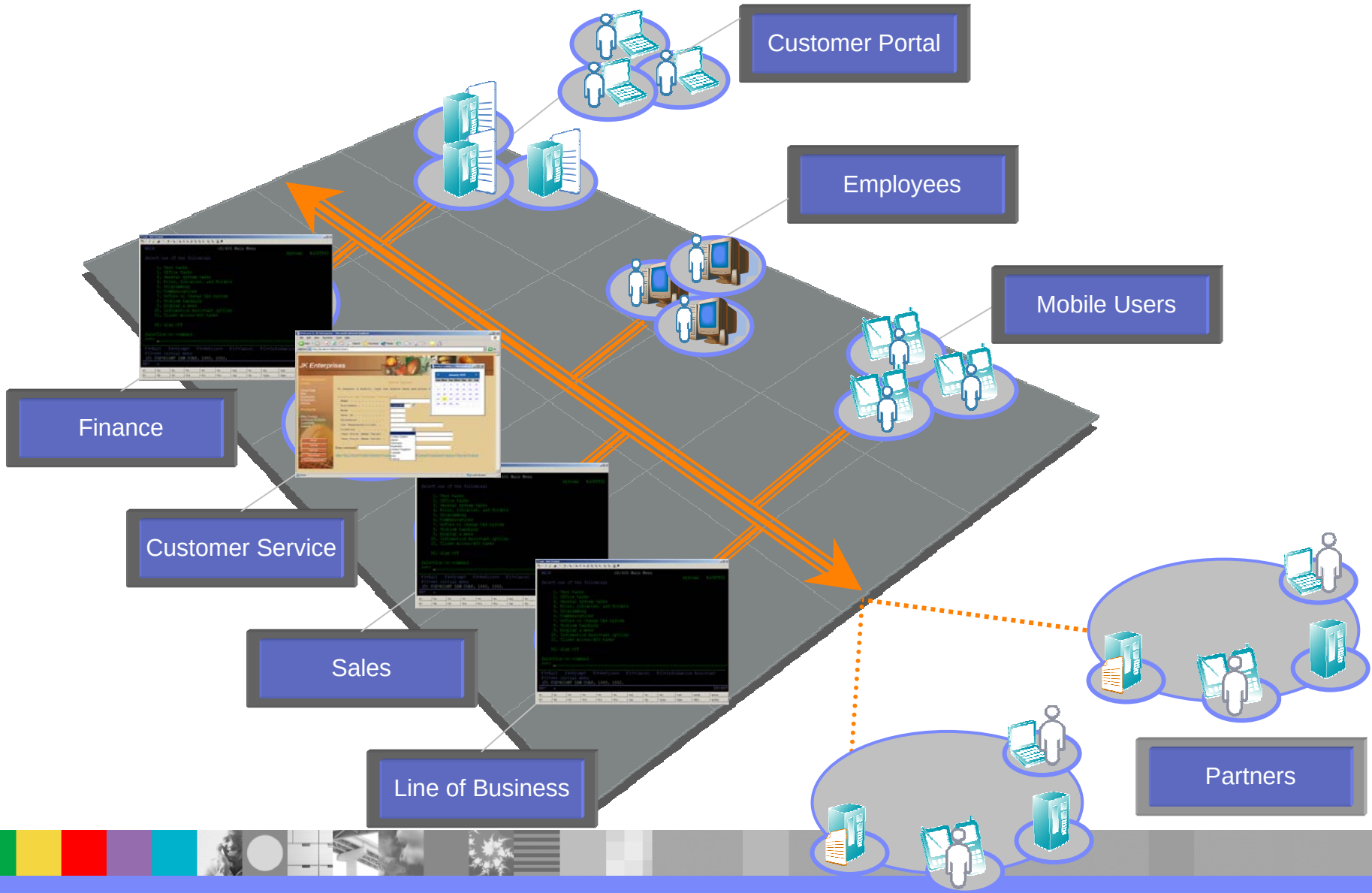
ON DEMAND BUSINESS

On demand business IT imperatives for mixed workload

- **Align IT priorities with business priorities**
  - Increase IT infrastructure flexibility
  - Improve resiliency and security
  - Enable strategic investment
- **Do more, better, faster with less**
  - Leverage and integrate legacy applications
  - Reduce unnecessary complexity
  - Improve developer productivity



Transform and reuse existing assets



Service-oriented architecture (SOA) and mixed workload

Process Management

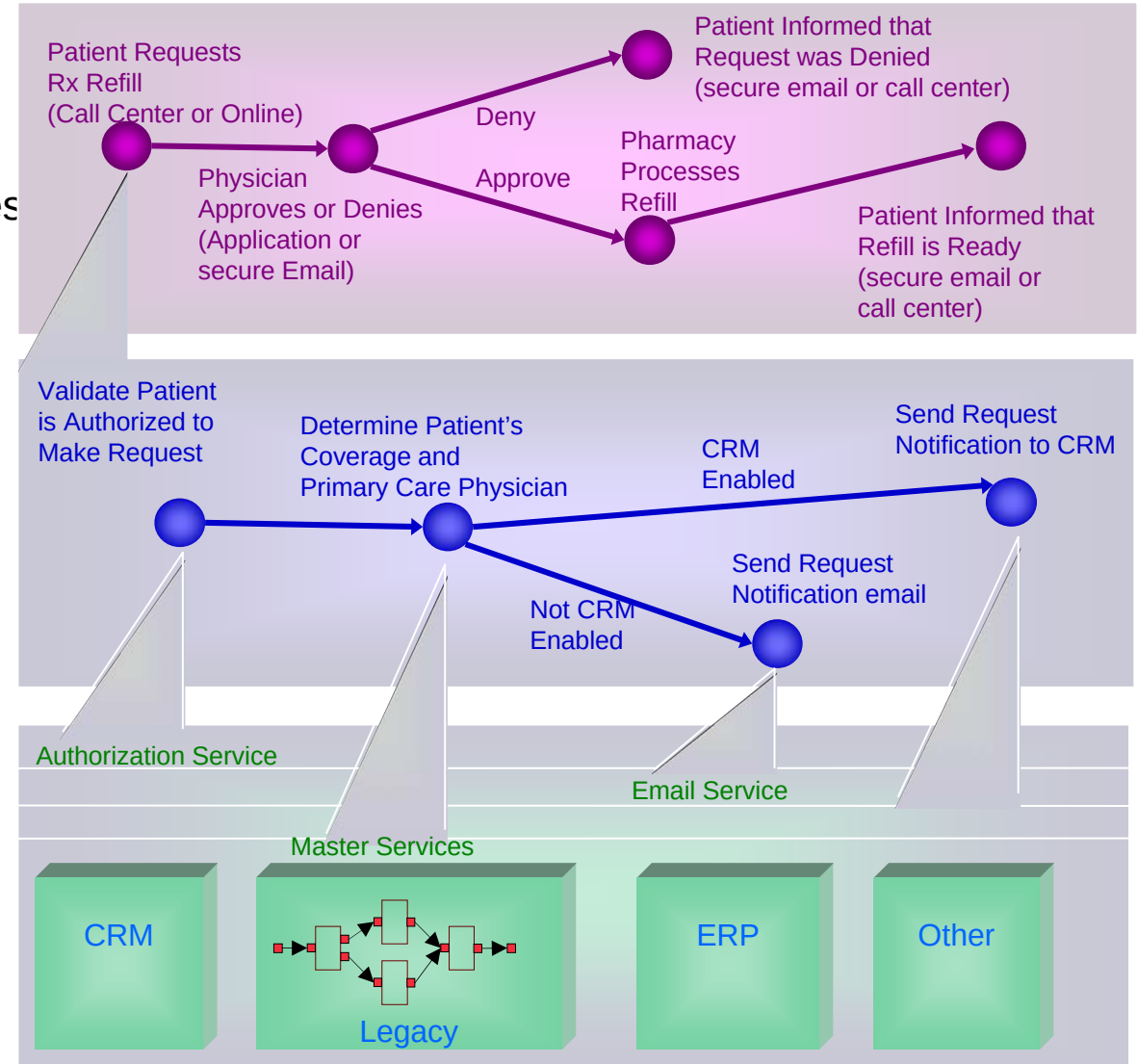
- Business manager view
- Long-duration & restartable activities
- People-to-app or people-to-people

Process Automation

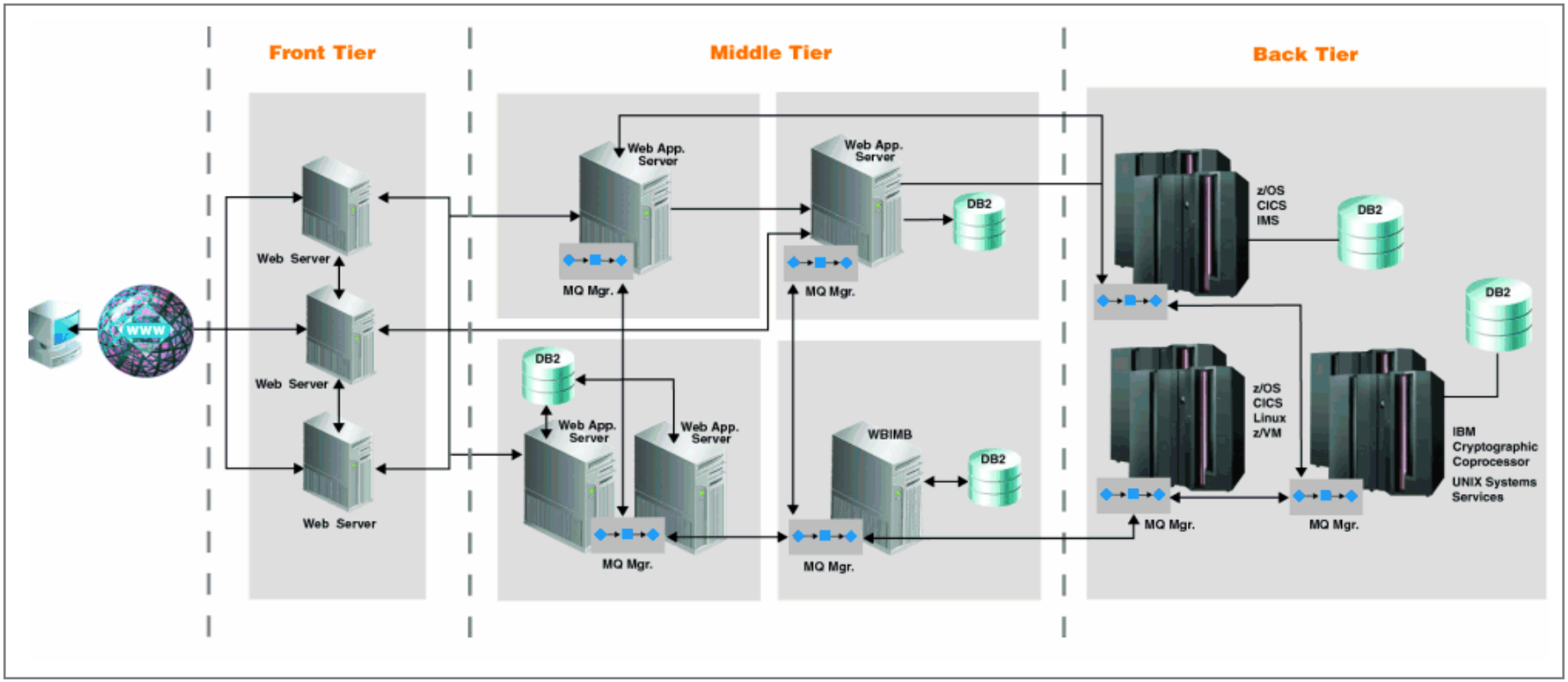
- Business specialist view
- Moderate duration activities
- Target high levels of service reuse

Enterprise Services

- Application integrator view
- Application functions presented as services



The New World of Application Management



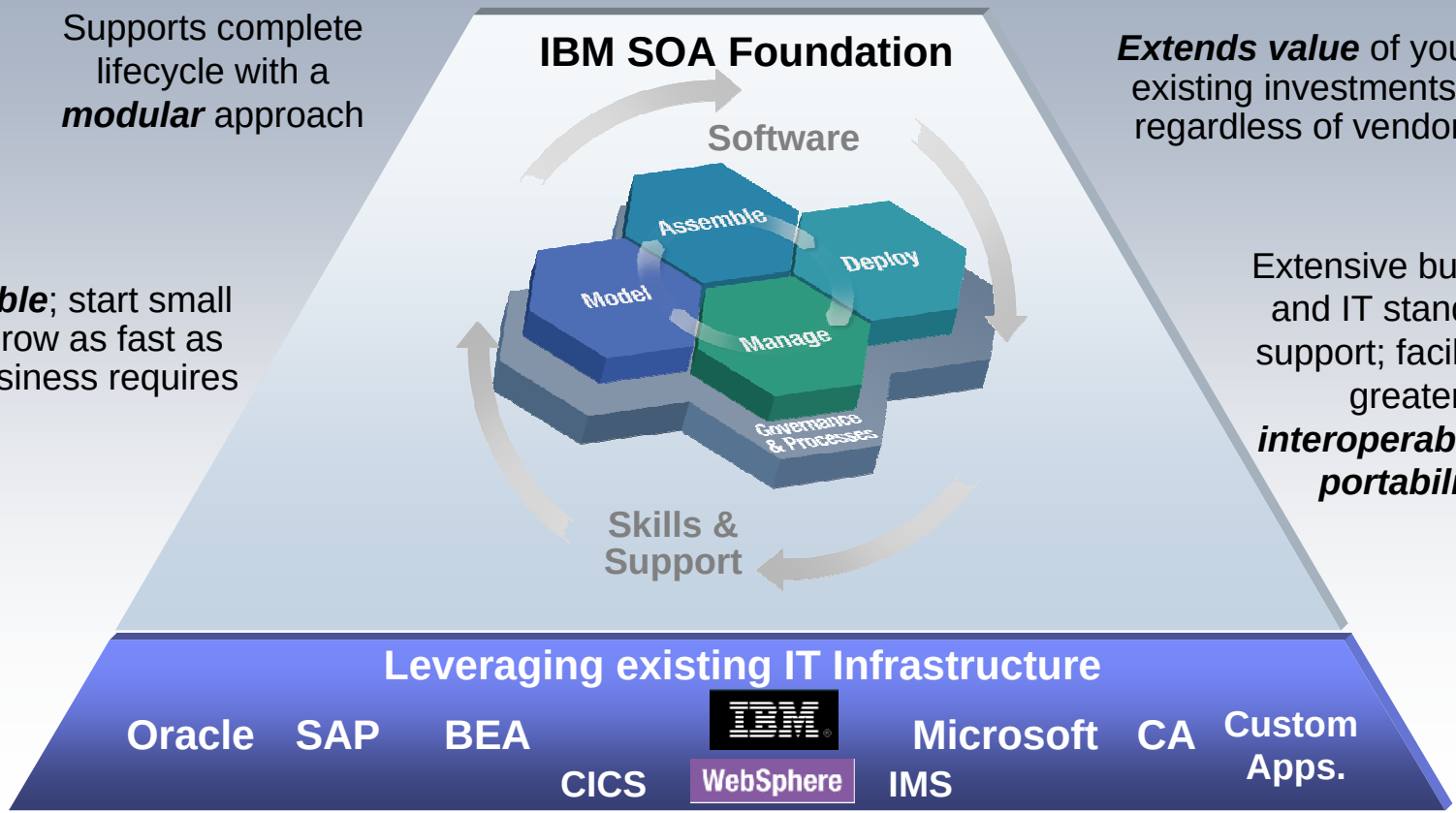
- Business processes increasingly depend on composite or mixed workload applications
- Mixed workload applications can be very complicated to design, build, test, and manage for high performance and availability
- Traditional stovepiped management processes and tools exacerbate the problem

Introducing the IBM SOA Foundation

IBM SOA Foundation: Integrated, open set of software, best practice, and patterns

Supports complete lifecycle with a ***modular*** approach

Scalable; start small and grow as fast as the business requires

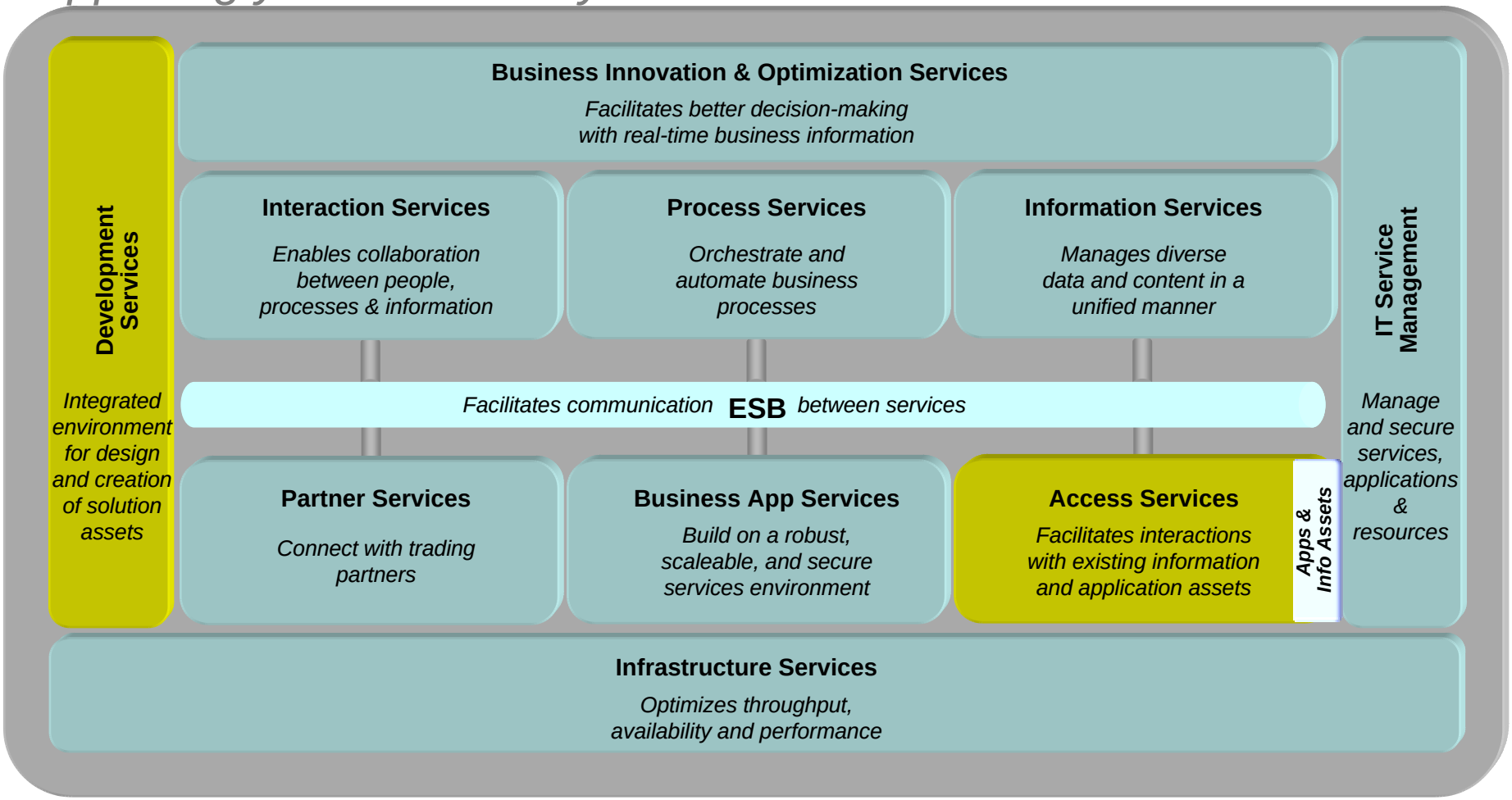


Extends value of your existing investments, regardless of vendor

Extensive business and IT standards support; facilitating greater ***interoperability & portability***

SOA Reference Architecture

Supporting your SOA Lifecycle



SOA is not just for new development

Ohio Casualty Group find a solution for the present and the future

What is the business challenge?

Modernize the technology infrastructure that supported a mixture of stand-alone applications —automating and integrating them for maximum efficiency.

Benefits

- flexible architectural models for developing custom applications to meet changing business needs over time
- Faster, more efficient policy administration processes but with lower operating costs

Action taken

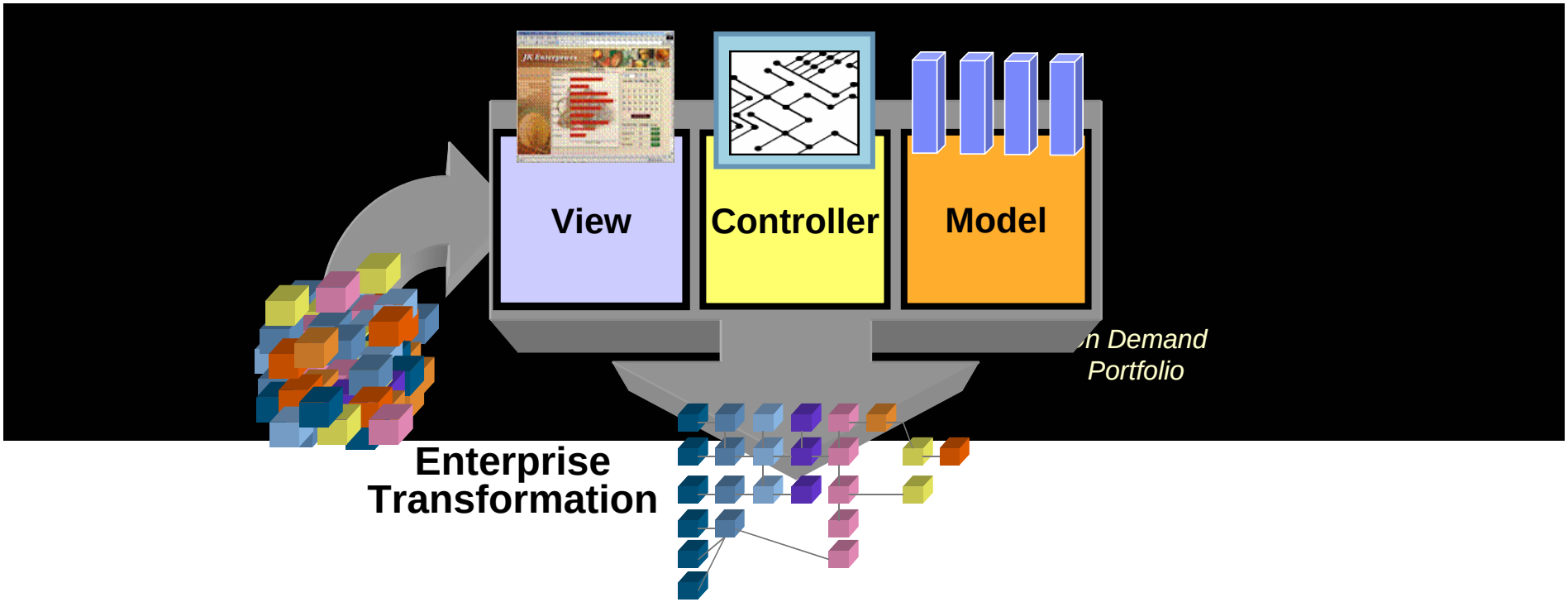
- Using existing technology assets, developed on open standards-based technology that easily integrates across heterogeneous platforms
- Create a policy administration systems which included using DB2 UDB for z/OS, Rational WebSphere Studio Application Developer-Integration Edition and CICS transaction software

"All our product lines use the same components, arranged in various ways and under different banners. That flexibility is what makes the IAA model so valuable for us."

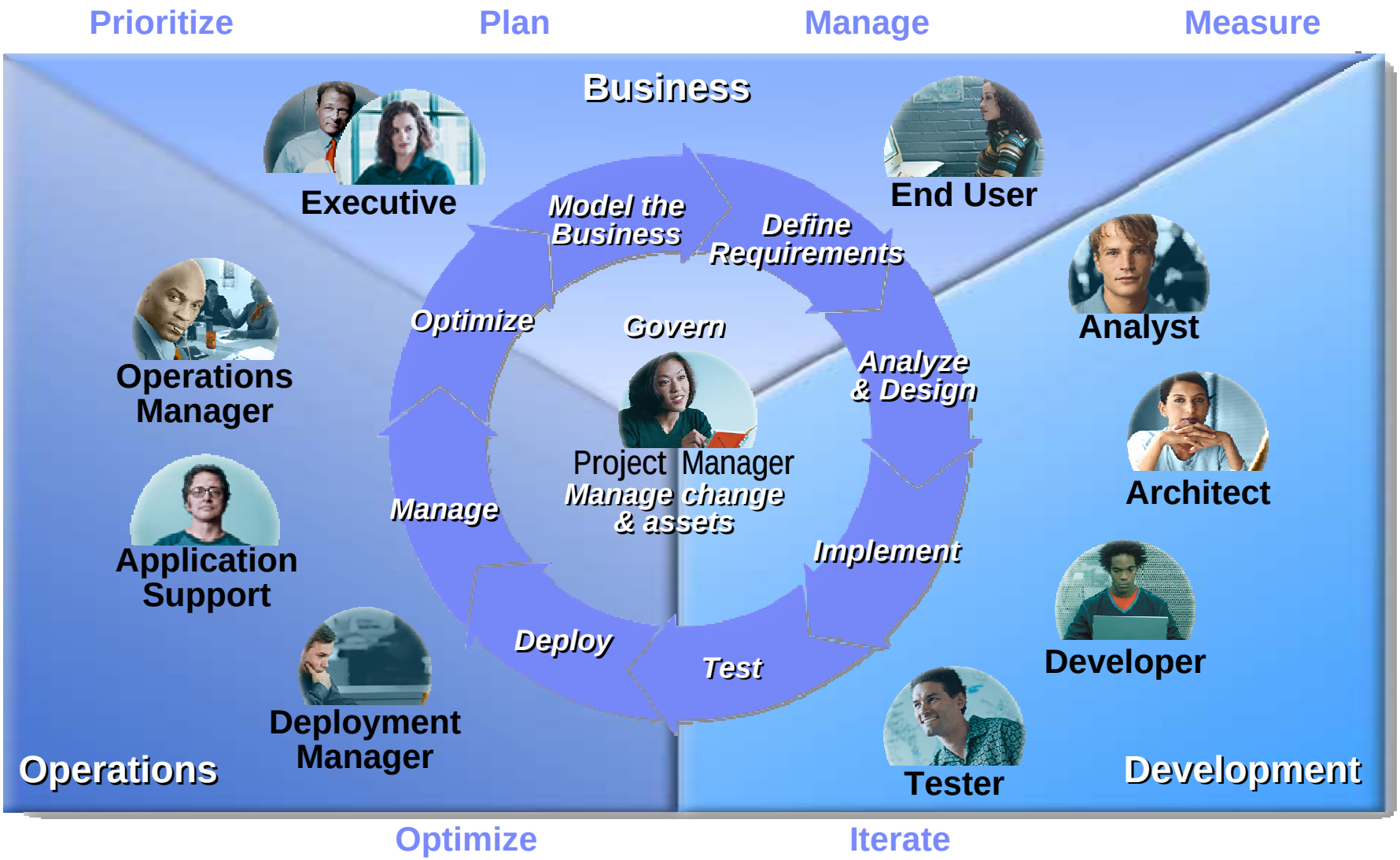
John Kellington, Chief Technical Officer, The Ohio Casualty Insurance Company

Transforming your assets for mixed workload solutions

Transform User Experience	Transform Connectivity	Transform Structure
Improve the user interface and workflow of mission-critical applications to reduce training costs, increase end-user productivity and extend reach to new users	Adapt application interfaces to enable participation in e-business workflows with less cost and risk than a replacement approach	Innovate by componentizing mission-critical applications to enable core processes to be independently modernized and flexibly integrated – on demand



The business-driven development lifecycle



The IBM Software Development Platform
A complete, open, modular, and proven solution

Analyst

Model, simulate, assemble, and monitor processes

Architect

Visually model applications and data

Developer

Rapidly construct, transform, integrate and generate code

Tester

Design, create, and execute tests

Deployment Manager

Provision, configure, tune and troubleshoot applications

Project Manager

- Follow a common process
- Manage and measure projects and portfolios
- Manage requirements
- Manage change and assets
- Manage quality

Executive

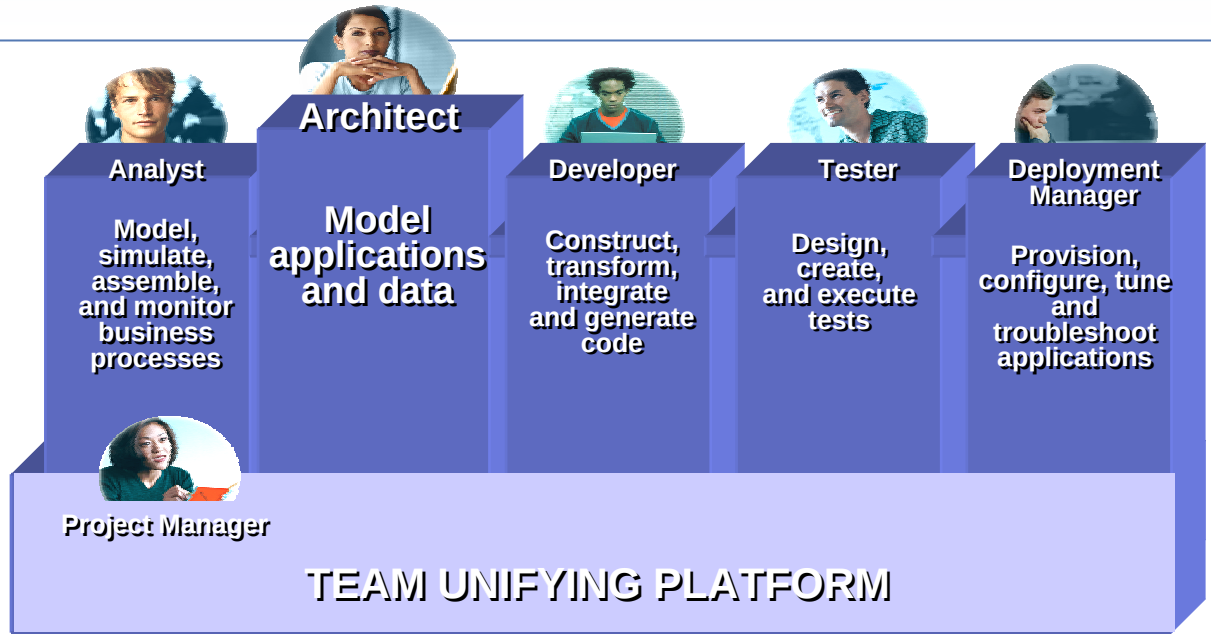
- Align investments with business objectives
- Analyze and monitor project portfolios

Discover

Identifies critical business information for rapid application understanding, change and reuse

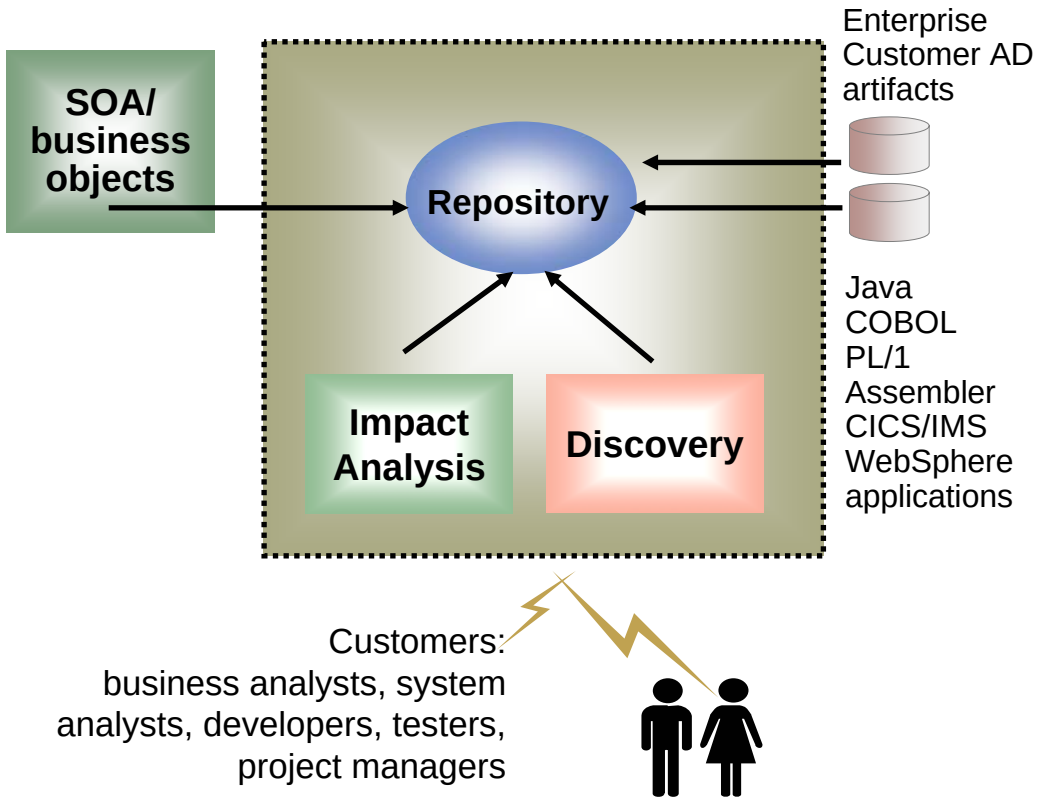
What do IBM's zSeries Architect tools offer?

- Identify existing business logic to enable effective reuse
- Analyze business logic to determine improved execution of that logic
- Create a visual mapping of business assets and impact of changes



Architect - access to assets

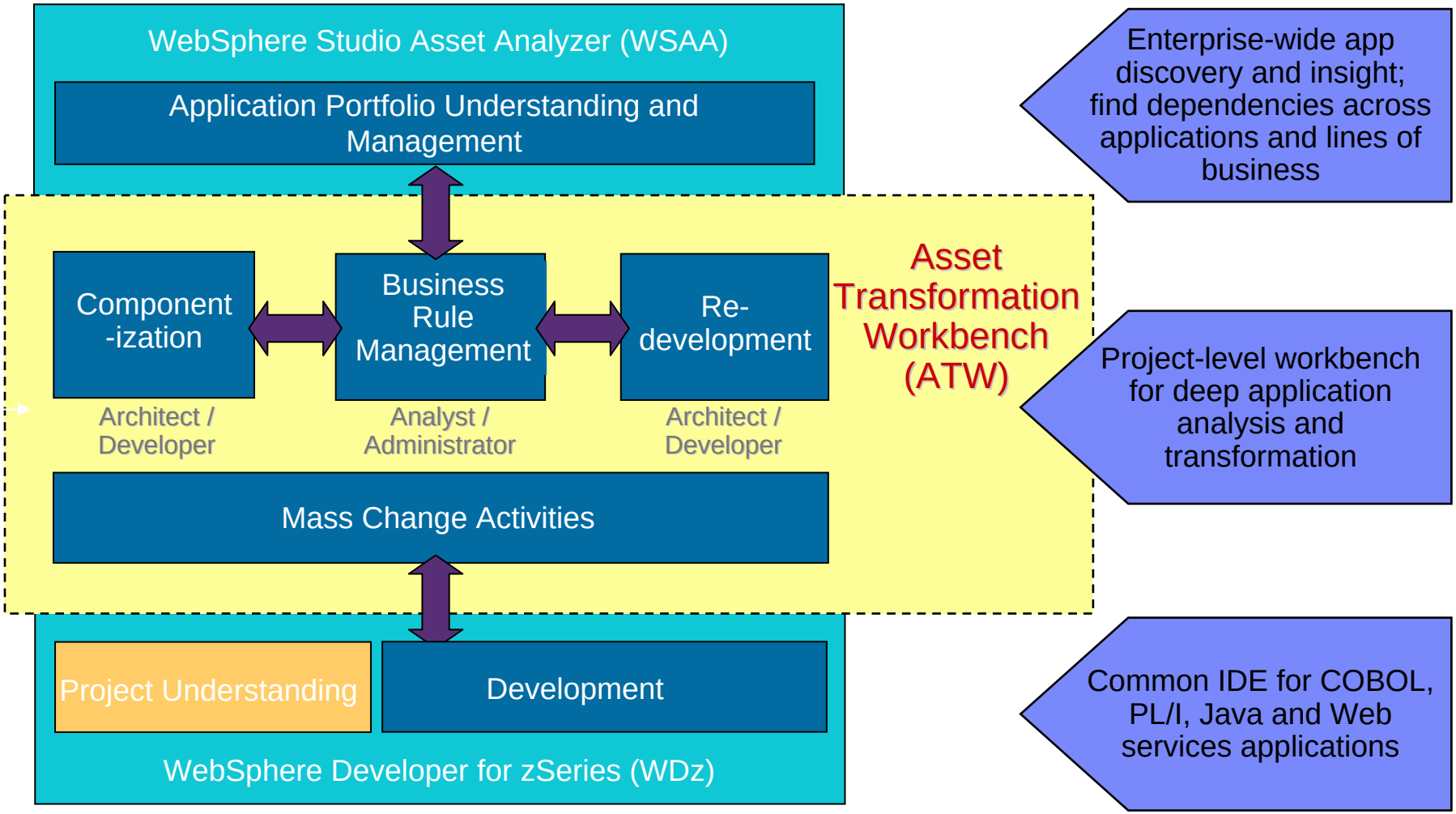
WebSphere Studio Asset Analyzer & CICS Interdependency Analyzer
speed mixed workload and traditional discovery, understanding and asset reuse



Benefits:

- Reduce or eliminate intensive efforts to create components
  - Use existing skills and application knowledge
- Position for evolution to dynamic e-business
  - ✓ Deliver knowledge to speed developer action
  - ✓ Reuse of IT assets as components
  - ✓ Rapid application creation and maintenance
  - ✓ Support for both static and dynamic analysis

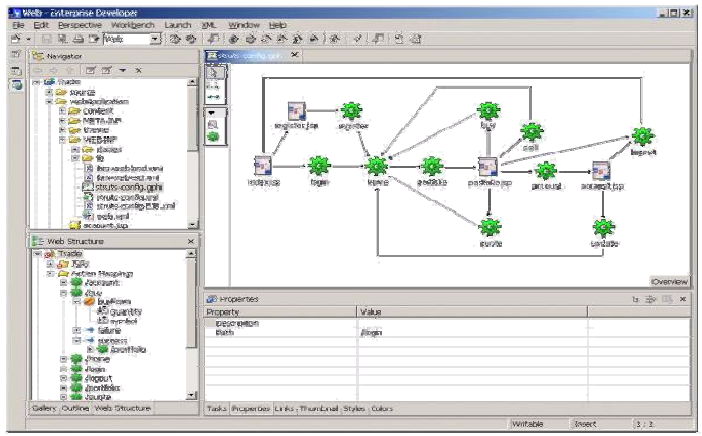
Asset Analyzer Technical Preview Tooling in WD4z …and introducing Asset Transformation Workbench)



Model

New Feature! ***Service Flow Modeler in WebSphere Developer for zSeries***

- **Identify service levels and service level requirements**
  - Model new business flows, using processes or services and their interfaces.
  - Expose business flows as a service or Web service
  - Generate adapters to and from interfaces

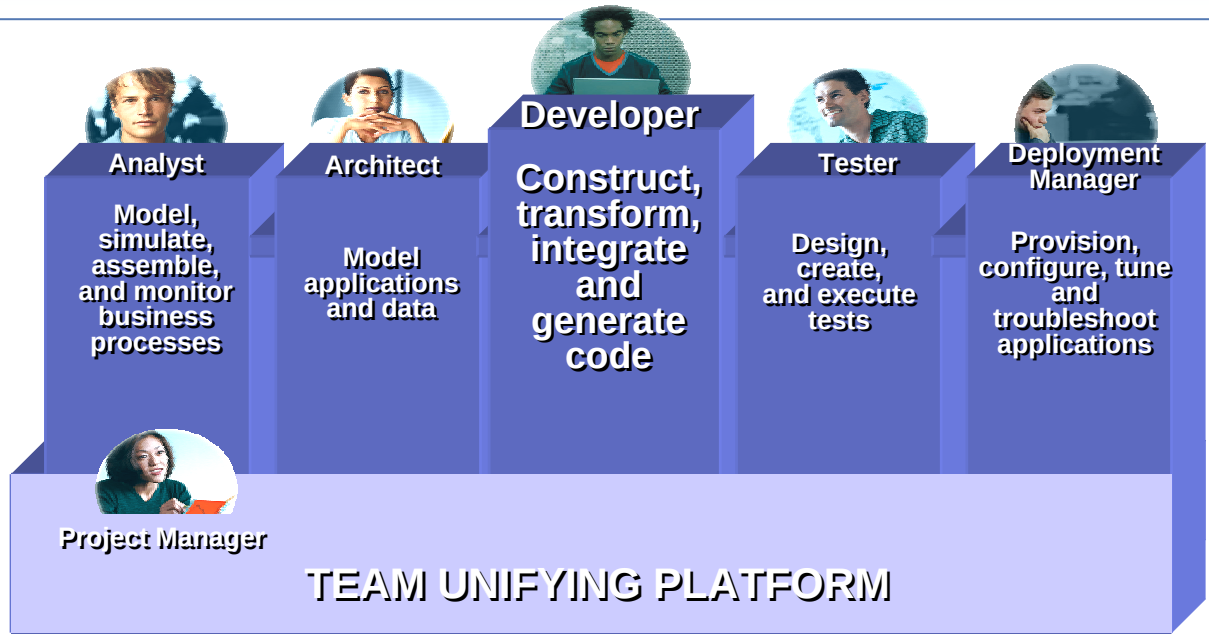


Develop

Enterprise scale rapid application development – including simplifying the definition and reuse of existing processing and code in SOA's

What do IBM's zSeries Developer tools offer?

- Simple and rapid extension of existing applications to the Web
- Combination of new and existing applications to develop new e-business solutions
- A "development portal" that allows J2ee and traditional programmers to use a single tool set



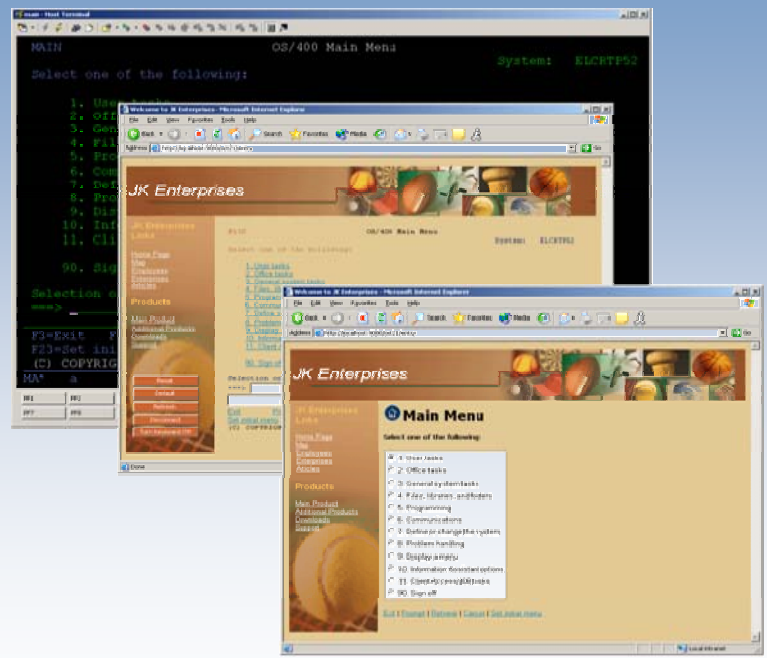
For z/OS and iSeries customers

Deploy – People

Enrich core application "green screen" user interfaces

Enhanced! ***WebSphere Host Access Transformation Services***

- **Rules based Web-to-host transformation engine**
  - Provides customized access to multiple host applications
  - Dynamically generates Web HTML user interfaces
  - Dynamically creates a reusable web service
  - Significantly improves usability
- **Transform an application in hours**
  - Out of the box web user interface
  - Graphical flow composition
  - No need for deep programming skills
  - No need to change the core application
- **Powerful graphical rendering**
  - Integrates data from multiple applications and screens
  - Web service creation for application integration
  - Rich set of graphical objects
  - Works with WebSphere Portal Server

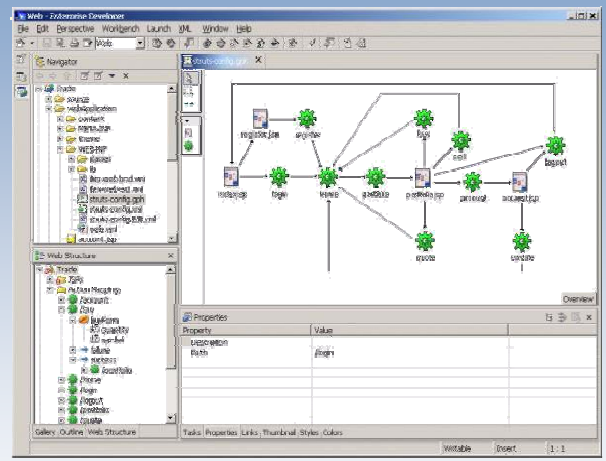


Assemble Services Across Platforms

Create composite applications with Core Assets

Enhanced! WebSphere Developer for zSeries

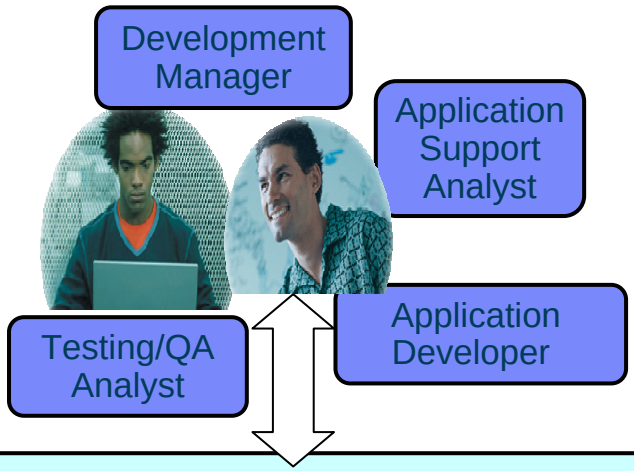
- Bridges mainframe and client-server development
  - For end-to-end integrated processes running across platforms
  - Shared developer repositories and tooling framework
- For deployment to WebSphere, CICS, IMS, DB2 and batch
  - Cross platform development
  - Workstation based development tool
  - Workstation based mainframe application analysis tool
- Develop SOA systems that combine Web services, web applications and traditional applications
  - Cobol, PL/1, EGL (4GL)
  - Java, J2EE, WSDL, Java Beans, XML adapters
  - Portlets and complex user interfaces
  - Service flow modeler for CICS and HATS



WebSphere Developer for zSeries became generally available in June 2005.

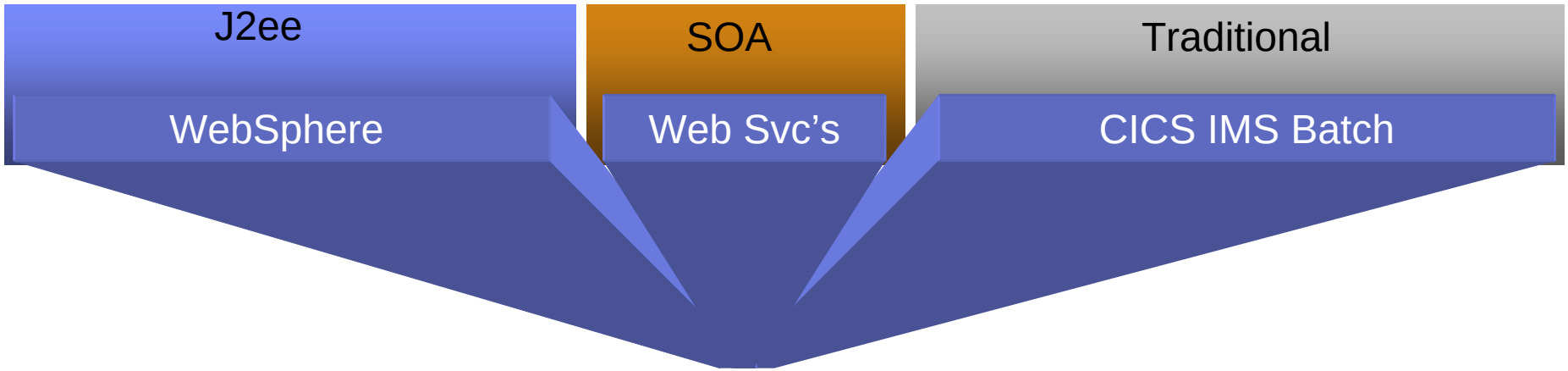
End to End Debugging

Application performance starts with the developer, designing and unit testing



Benefits:

- Extend IT skills and organizational flexibility supporting dynamic e-business
- Increase developer productivity for WAS, CICS, IMS, and Batch applications
- Improve application time to market and quality
- Build new e-business applications by reusing existing enterprise components (both traditional and e-business) as services

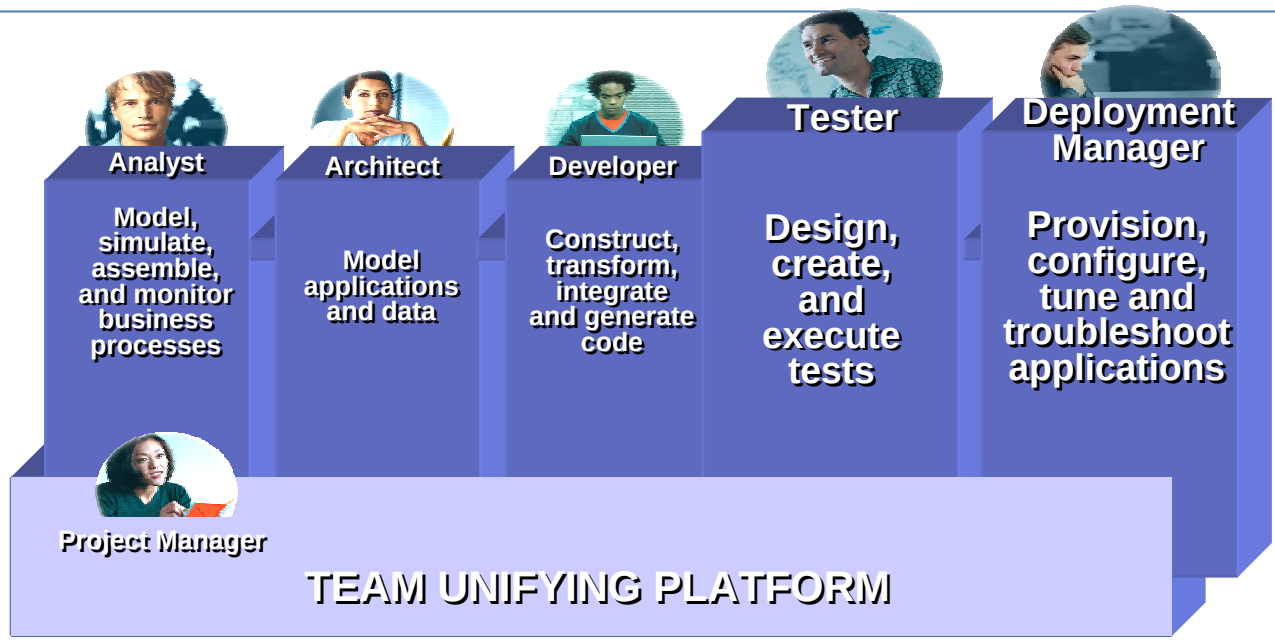


Test and Deploy

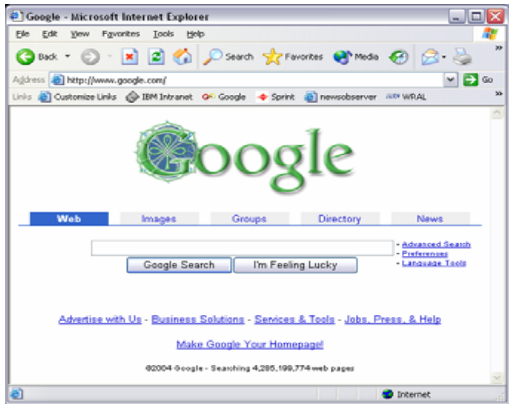
Comprehensive test and deployment solutions

What do IBM's zSeries Tester and Deployment tools offer?

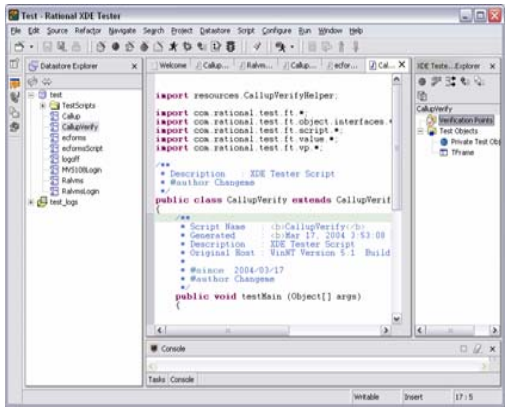
- Simulate application load testing
- Uncover bottlenecks and application performance problems
- Application troubleshooting, performance monitoring and analysis
- Resolve problems prior to production deployment



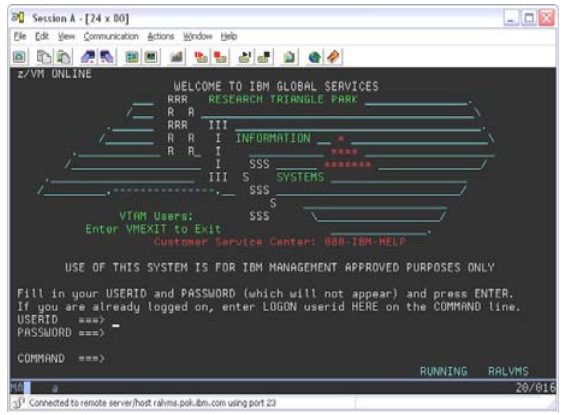
Functional Testing for Web/Java and 3270 Host applications



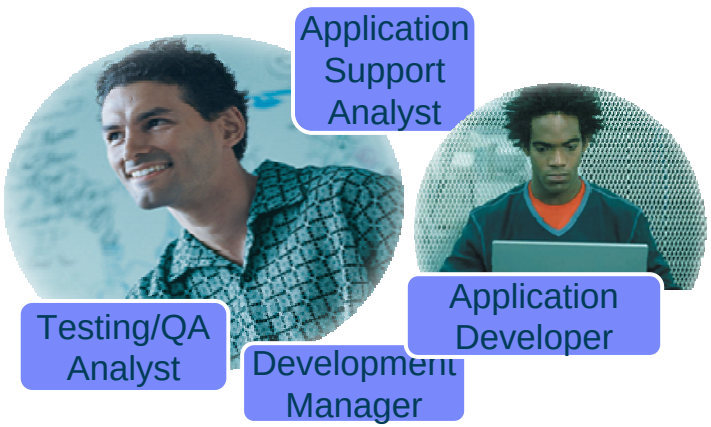
Browser UI



Java UI



Host UI

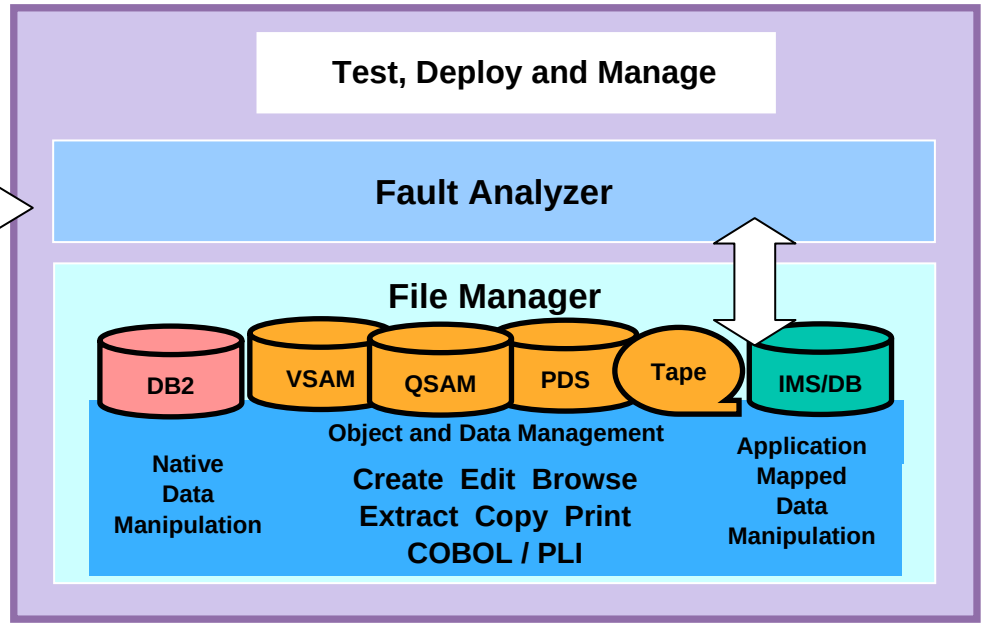


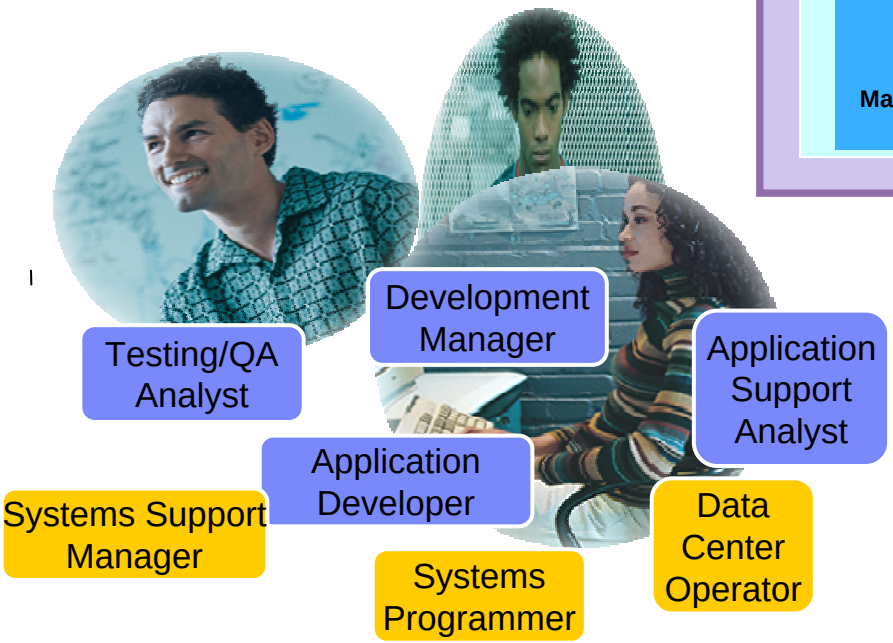
Benefits

- Integrate traditional and mixed workload function testing
- Single point of control to manage testing of legacy applications & web front-end components
- Single vendor solution to manage development and testing across mainframe and distributed platforms
- Lower the TCO for software

Test and Production Data Management

Pervasive data access speeds time to market



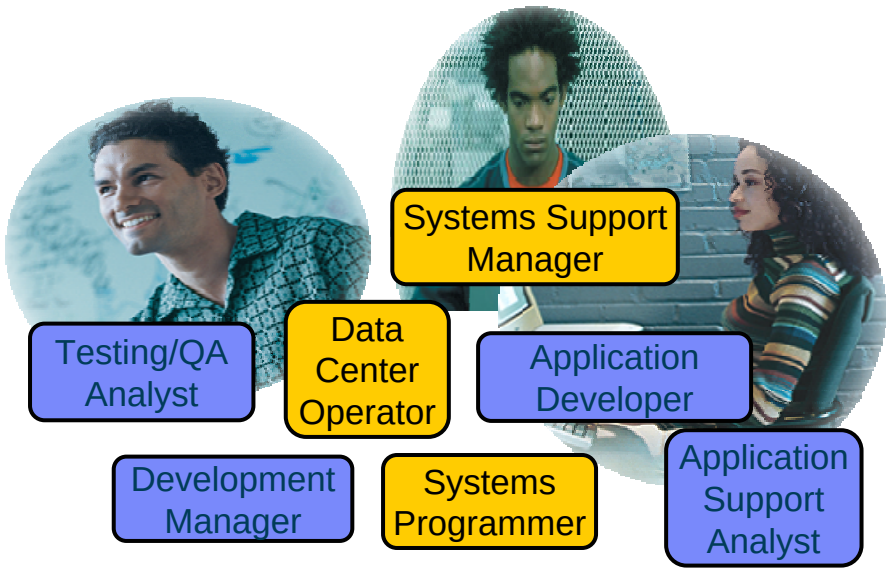


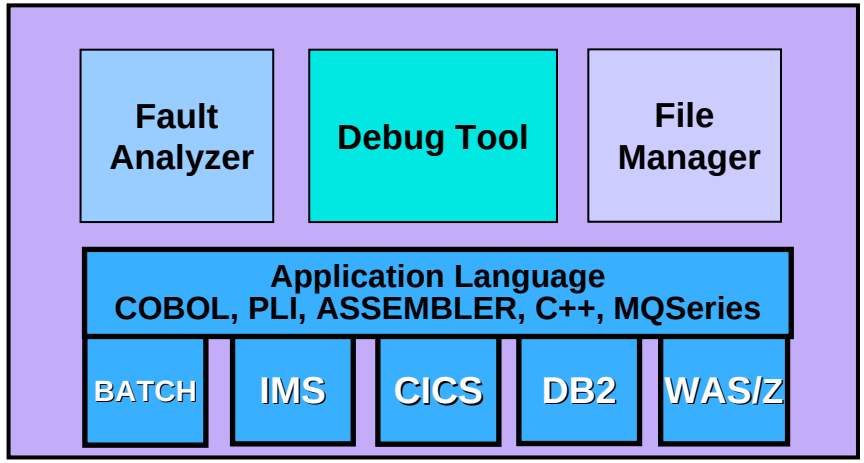
Benefits:

- **Simplify development of zSeries test cases**
  - **Data creation for DB2, IMS/DB, VSAM, and QSAM**
  - **Extract and load**
- **Reduced deployment complexity**
  - **Production data validation and creation**
- **Common environment**
  - **Reuse of skills across e-bus and traditional applications**

Fault Analysis
Common fault and debug infrastructure lowers costs

- **Deployed e-bus application running in WAS/z, CICS, IMS, and DB2**
- **Fault Analyzer provides abend information to provide rapid problem isolation.**
- **Debug Tool provides common support across multiple languages**





Benefits:

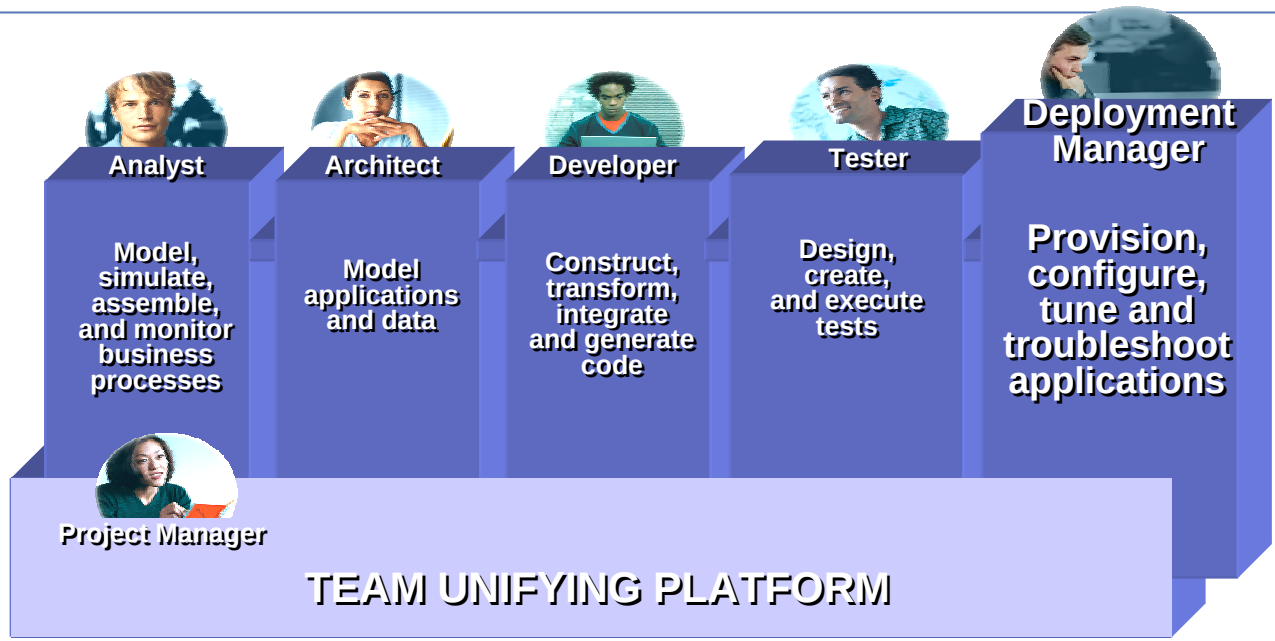
- **Shorten debugging and fault analysis time for mixed workload applications**
- **Reduced complexity using common fault analysis and debugging tools for WAS/z and zSeries environments**
- **Reuse investment in fault analysis skills and debugging across both environments**

Run and Manage

Comprehensive runtime management solutions

What do IBM's zSeries Deployment Manager tools offer?

- Uncover bottlenecks and application performance problems
- Application troubleshooting, performance monitoring and analysis



Enabling a robust, flexible SOA runtime environment

While maximizing the value of existing assets *Fully SOA capable!*

WebSphere Application Server V6.0.2 Preview

- SDK 1.4.2 included in WAS runtime – easier serviceability.
- Tighter integration with WebSphere MQ and improved IJP support.
- Security enhancements helps enable applications to acquire Federal Government standards certification.

CICS Transaction Server V3.1

March 2005

- Exploit provider/requestor Web service support for CICS assets, based on full Web service standards
- Build Web services from CICS transactions with no change to existing applications.

IMS Transaction and Database V9

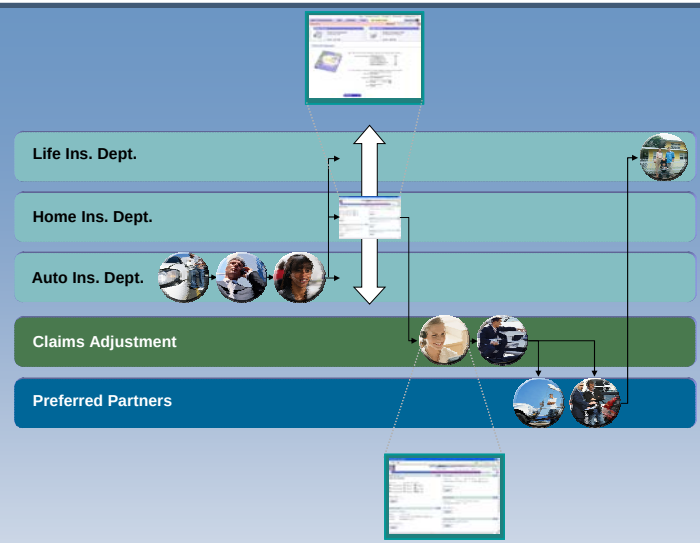
October 2004

- Build Web services from IMS transactions with no change to existing applications

WebSphere MQ V6.0 Extended Security Edition

- Featured as SOD in April 2005 announcement of WS MQ V6.
- End-to-end application level security for WS MQ environment.
- Helps enable enterprise-wide, remote management of security policies.
- Upgrade from standard WebSphere MQ without changes to existing production MQ environment.

Planned for Y/E 2005



#1 in market share for Application Server software

IBM WebSphere Application Server comes out on top

35+ years of maturity and innovation in transaction and data systems

Announcing CICS Updates To Enhance Ease of Integration and Performance

CICS Transaction Server V3.1

Increased ease of integration	▪ Web Services capabilities to extend CICS applications to a Services Oriented Architecture ▪ Support for industry-leading SSL protocol
Enhanced application transformation	▪ Ability to leverage single development tool for application transformation and integration ▪ Optimized CICS data exchange capabilities
Improved performance & system management	▪ Extension of CICSPlex SM Web User Interface ▪ Improved workload throughput ▪ Enhanced C/C++ programs performance

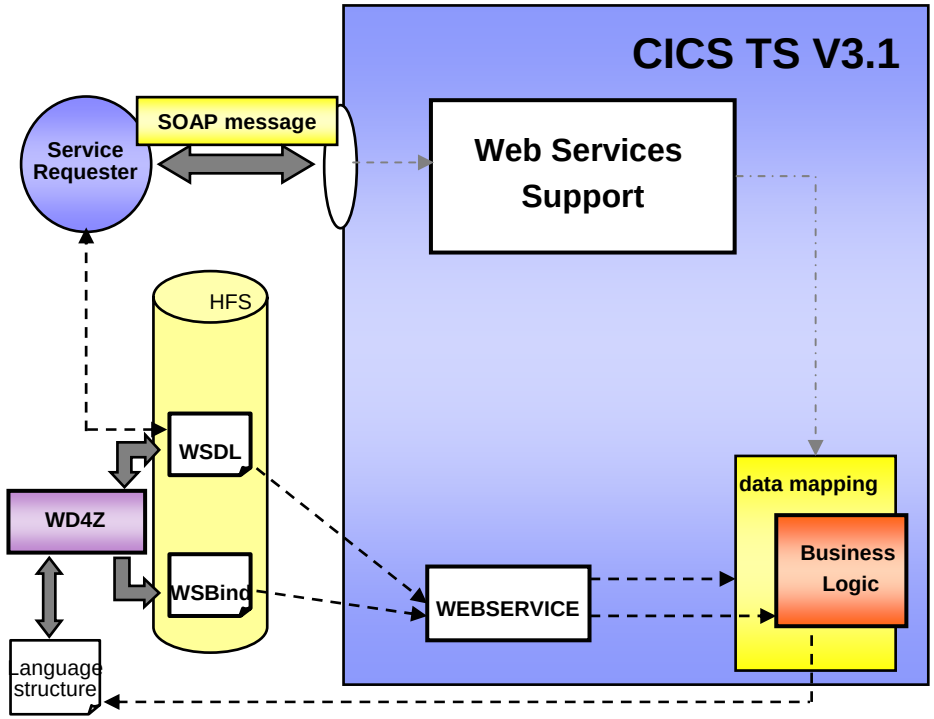
CICS Transaction Gateway V6.0

Enhanced performance and scalability	▪ Performance optimizations reduce CPU overhead ▪ Vastly improved Scalability and Availability on z/OS
Improved systems management and security	▪ More functional and integrated administration interfaces ▪ Enhanced SSL support and z/OS security integration

New in CICS Transaction Server V3.1 - Increased Ease of Integration

Exposure of CICS-based applications as Web Services for integration in a Service Oriented Architecture (SOA)

- Enables standards based interfaces via Web Services
- Provides a simple method for re-factoring CICS applications
- Allows CICS to be both a Web Services provider and requestor



Support industry leading SSL protocol

- Enables fine-tuned control of network security
- Provides a faster and more comprehensive security solution through exploitation of advanced z/OS security features

SOA is not just for new development

National City Bank blends new and proven technologies

National City

What is the business challenge?

Improve response times on web transactions and continue to exploit years investment in the development applications on the mainframe

Benefits

- Faster customer response times
- Significantly faster transaction processes
- Improved customer experience

Action taken

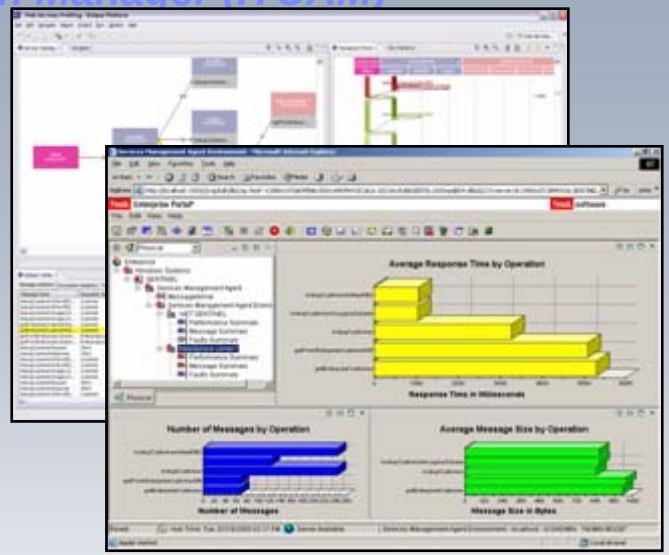
- Implement Web Services interface to core banking applications
- Use Web services in an SOA environment with CICS TS V3.1 and extend the mainframes reach to standards-based interfaces on other platforms

IT Services Management

New Products! *IBM Tivoli Composite Application Manager (ITCAM)*

ITCAM for SOA
ITCAM for WebSphere
ITCAM for Response Time Tracking

- Increase performance and availability of business-critical applications
- End-to-end view of services, transactions and resources across platforms and subsystems
- Directly link operations and development



- Service Problem Identification and Resolution
- Service Management Automation
- Heterogeneous SOA Platform Support
- Integrated Console

Address all 3 dimensions of effective composite application management:

1. **Services and Transactions** – service level response times and problem isolation
2. **Applications** – deep-dive diagnostics and correlation across subsystems
3. **Resource Monitoring** – application server monitoring and resource consumption

Availability:
ITCAM for WebSphere 11/8
ITCAM for RTT 10/8
ITCAM for SOA 11/18

Creating SOA composite applications with existing assets

Model

Assemble

Deploy

Manage

Model a new business process that builds on your current capabilities …..

WebSphere Business Modeler

…and discover program units and business rules you can reuse in the new process.

WebSphere Studio Asset Analyzer

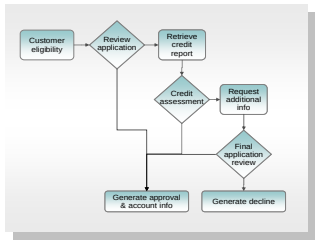
CICS Interdependency Analyzer

Asset Transformation Workbench

Wrap programs as services, creating composite appl'ns from core assets….

WebSphere Developer for zSeries, *plus Service Flow Modeler*

Rational Application Developer

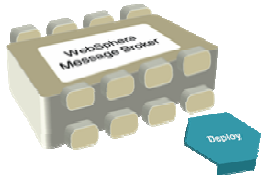


… and assemble the services across multiple platforms

WebSphere Integration Developer

Choreograph and deploy your new composite applications ….

WebSphere Process Server



… using an advanced ESB to power your SOA

WebSphere Message Broker

Monitor the processes across your SOA, and intervene if necessary ….

WebSphere Business Monitor

Tivoli Composite Application Manager for WebSphere

…. and export data for analysis and process improvement, back to ….

WebSphere Business Modeler


Thank
You

Kawasaki uses Host Access Transformation Services to improve user interface and workflow

Challenge

The process of accessing multiple sales force applications was slow and complicated, which reduced selling time

Solution

Provide district managers with a single Web interface that combines screens and data from multiple sales force applications

"WebSphere Host Access Transformation Services allowed us to quickly deliver web-based sales force applications from existing CICS transactions."

Gary Bramwell, Director
Information Technology

Kawasaki

Business benefits

- Modify application workflow to streamline interaction and better meet the needs of district managers
- Customize screens to increase user satisfaction and reduce training time

Technology benefits

- Quickly convert existing host screens to a Web interface using default rules—allowing fast rollout of any required new CICS applications
- Deliver applications as HTML to Web browsers with zero-footprint and zero-download required on the desktop
- No modification or access to source code

Merrill Lynch reuses and saves!

Challenge

- Adapt to increased pressure from Internet brokerage competitors and improve services
- Combine business services to create differentiated offerings, and extend those offerings to Web for direct customer access
- Protect investment in **23,000+** working applications in production legacy systems

Solution

- Flexible Web Services infrastructure
- Seamless integration of CICS based application function in web user interface
- High reusability of Web Services function from **thousands** of mainframe applications

Tools used include:
WebSphere Application Server on Linux
SOAP for CICS
WebSphere Studio Application Developer

Business Value:

- *Preserved value of proven applications without redevelopment*
  - *$800K redevelopment plan replaced with $30K Web Services enablement*
- *Merrill estimates developer productivity up 250%*
  - *Web Services created in 12 hours*
  - *Common development platform reduces programming & Q&A*

dwp Bank uses IBM tools to modernize legacy applications and integrate with J2EE

Challenge

Modernize and extend legacy COBOL and IMS applications and integrate them into an e-business infrastructure

Solution

Use IBM transformation tools to deliver higher levels of customer service at lower costs with reuse of existing assets

Transformation tools used by dwp Bank include:

WebSphere Studio Enterprise Developer
WebSphere Studio Asset Analyzer
WebSphere Studio Application Monitor
WebSphere Host Integration Solution
WebSphere Application Server for z/OS

dwp bank

Business benefits

- Allow the bank to sustain its transaction processing leadership in Germany and grow market share throughout Europe
- Reduce the cost of each individual transaction through economies of scale and decreased risk

Technology benefits

- Develop an IT architecture that is scalable and flexible, and that will allow the bank to integrate its existing and new systems
- Align the IT environment with business objectives
- Reduce functional and data redundancies

Web Services Helps Charles Schwab Respond to Market Conditions and Customer Needs

Business Challenge

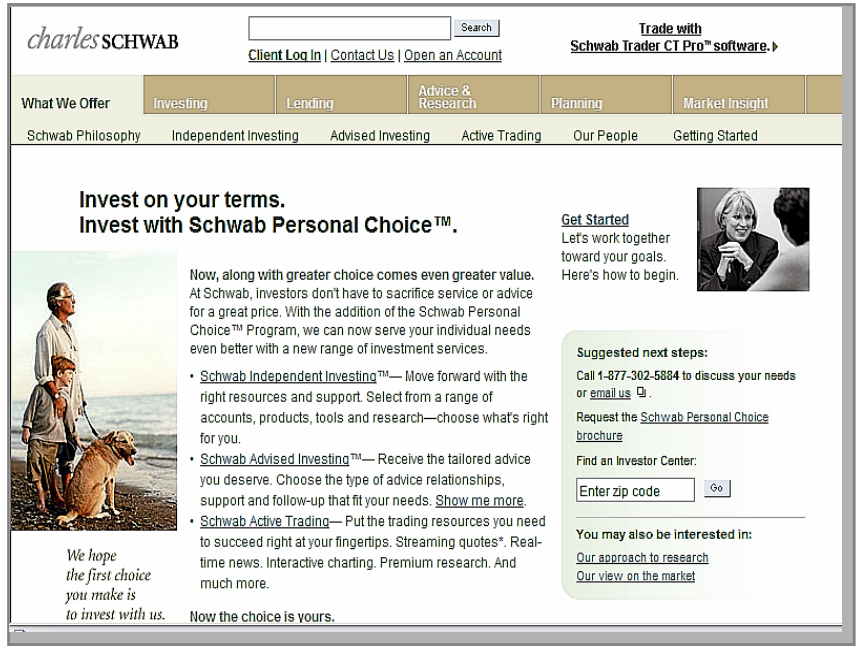
Capture a new market opportunity by offering independent consultation and advice on a fee basis, leveraging existing IT assets

Solution

Partnered with IBM to build a services oriented architecture

Benefits

Shortened time to market for new service, minimized impact to existing applications and enabled them to leveraged their existing IT investment and skills



"We need IBM to enable CICS as a service provider and eventually as a consumer and look forward to the day when CICS is fully Web Services enabled."

– Charles Schwab team

Web Services Provides Santa Clara County (SCC) Criminal Justice Information System a Face Lift

Business Challenge

Provide an easy-to-use, secure, industry-standard way for customers to access Criminal Justice Information Control System (CJIC) data.

Solution

Evolve existing CICS-based transaction services to be web services and allow them to be accessed using SOAP. The new SOAP for CICS feature is being used as the middleware" to SOAP enable the transactions to enable deployment on CJIC's z/OS system

Benefits

New transaction services are managed by SCC's existing S/390 skilled staff and its users now have a fast, reliable system from which to access the information they need

Southern Californian Edison Improves System Management

Business Challenge

Reduce the cost of managing IT environment

Solution

Leveraged the CICS Web User Interface (WUI) to make network operations staff more aware of the state of our production CICS regions

Benefits

Helped reduce the time required for Technical Support staff to monitor and administer production systems

SOA is not just for new development

SERPRO now does in 2 hours what used to take 7 days

What is the business challenge?

To have easy and accessible data exchange between 4 countries – each with its own its computing systems and IT infrastructures

Benefits

- Web services technology enables interaction among applications using standardized Extensible Markup Language (XML) messages that can be transmitted regardless of the platforms or programming languages used by the member countries
- Simplified, standardized operations
- Quicker transports of imports and exports
- Up-to-date statistics and reports.

Action taken

- Developed information exchange solution based on service-oriented architecture (SOA) that utilizes Web services technology.
- Solution based on WebSphere Application Server for z/OS, CICS Transaction Gateway v1.3 and leverages WebSphere Studio Application Developer Integration Edition V5.1