CICS TS V3.1 Business Value

@business on demand software

This presentation explains how the CICS Transaction Server for z/OS V3.1 further enhances the functions and value of the world's most popular transaction monitor

CICS Transaction Server is an advanced solution, based on the transaction, the fundamental unit of business. So it easily adapts to the way that your business works.

The realities that many businesses face today include:

- Supporting large numbers of active users, with good performance on volatile data
- Making use of multiple sources of data, with good security and transactional integrity
- Running applications across the network with access to data on the host
- Growing the systems to cope with increasing demand while leveraging existing investments

These are just the qualities that CICS Transaction Server brings to your business. It shares your values, and matches your needs.

After all, more than 490 of the Fortune 500 companies use CICS Transaction Server, along with tens of thousands of others.

Chances are your business is one of them.

Customer Wants & Needs

- Need for rapid business process adaptation and reshaping
- Need to meet increasing development workloads
  - The growth in complexity of development platforms and integration needs will force organizations to turn away from code-centric development practices in exchange for more efficient development paradigms
  - Industry adoption and proliferation of Web Services capabilities into development platforms and tools are making it easier for companies to adopt a service-based development approach
- Continued pressures for cost reductions and market demand for better processes
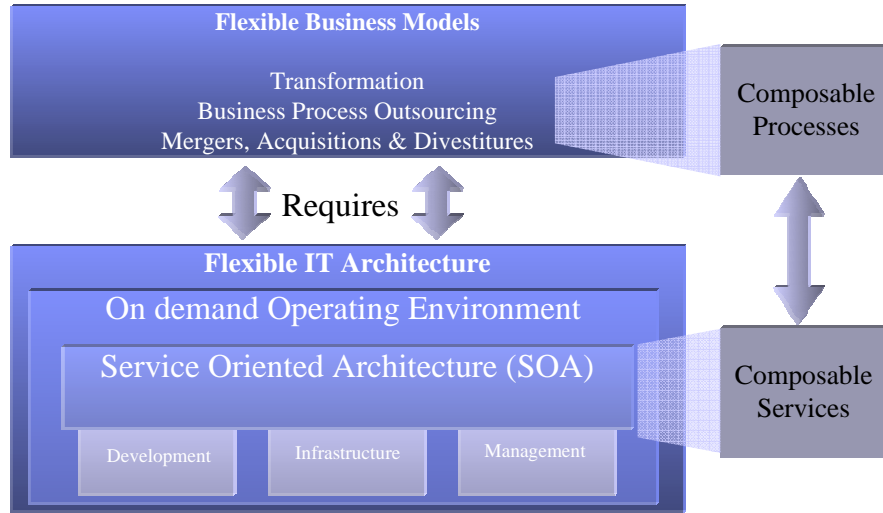 - Looking for cost savings by managing business processes better

Considering what customers have asked for, they are looking to redefine their applications quickly and effectively to meet their customer demands. There is a need for rapid business process adaption and reshaping. Application maintenance consuming 60-80% of IT budgets and staff turnover or retirement lessens individual programmer familiarity with existing systems, application maintenance efficiency is key driver.
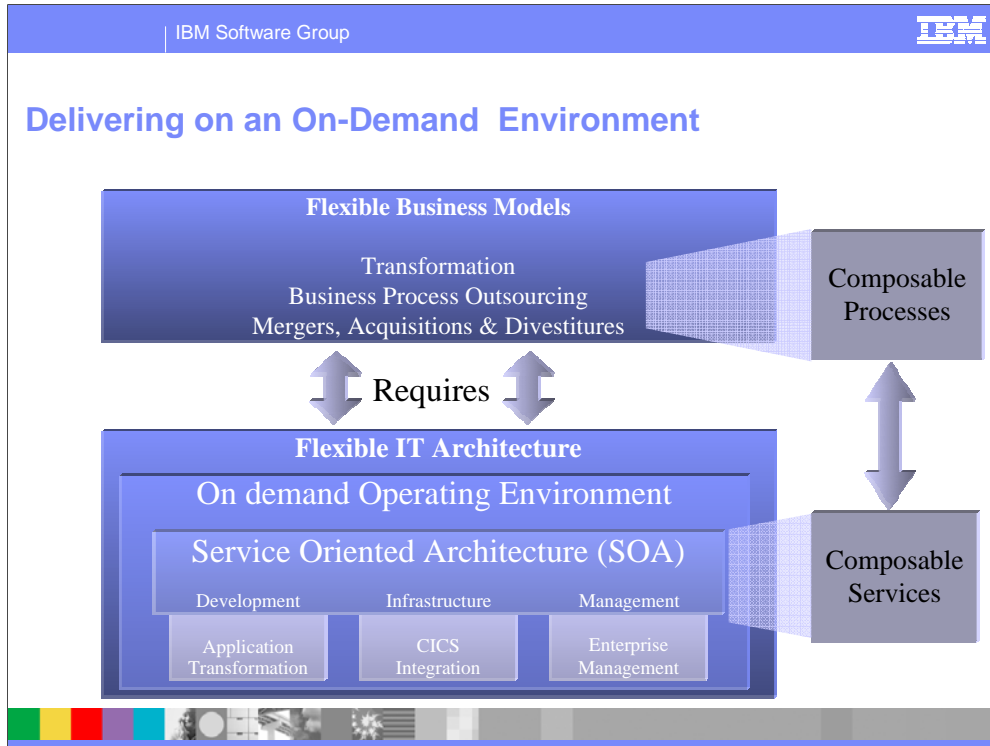
There is also a need to meet increasing development workloads. The growth in complexity of development platforms and integration needs will force organizations to turn away from code-centric development practices in exchange for more efficient development paradigms. They need better tooling to deliver more effective and efficient development processes.

Industry adoption and proliferation of Web Services capabilities into development platforms and tools are making it easier for companies to adopt a service-based development approach. The need for richer than HTML experiences and disconnected operations will lead most companies to adopt multiple user interfaces delivery architectures

Finally, Because of recent pressures for cost reductions and market demand for better processes, we expect continued pressure from business executives to switch to new, business-differentiating activities. There will be a continued strong drive from business for process improvements.

Delivering on an On-Demand Environment

Flexible Business Models

Transformation
Business Process Outsourcing
Mergers, Acquisitions & Divestitures

Composable Processes

Requires

Flexible IT Architecture

On demand Operating Environment

Service Oriented Architecture (SOA)

| Development | Infrastructure | Management |

Composable Services

Delivering on an On-Demand Environment

CICS has a proven track record of successfully delivering new technology and allowing customers progressively to gain advantage at a pace which makes sense for the enterprise while minimizing the risks inherent in the adoption of new technologies.

The focus of CICS TS V3.1 is to deliver a set of capabilities which provide customer value by enabling business flexibility through IT simplification. These capabilities are represented in the following themes:

- CICS Integration enables re-use of CICS applications, within flexible IT infrastructure, via standard APIs and protocol
- Application Transformation enables enhancement of existing applications and construction of new applications, using contemporary programming languages, constructs and tools
- Enterprise Management enables effective management of large runtime configurations via modern user interfaces, so that demanding service level objectives can be met.

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CICS Integration: Web Services

- **Provides capabilities to enable CICS-based applications to be exposed as Web Services.**
  - Both a Web Services service provider and service requestor
  - Full participant in this B2B world.
- **Enables new interoperability between these applications.**
- **Provides standards-based interfaces to software functionality.**
  - Consumers need have no knowledge beforehand about a Service
  - Software developers to focus on the business issues not the architecture.
- **Simple transformation through the CICS Web Services Assistant.**
  - Provided for COBOL, C/C++ and PL/I
  - Enables leverage of traditional programs in new business processes
- **Major advance over the SOAP for CICS feature delivered on CICS TS V2**
  - Workload distribution & Resource management

- **Sample application is provided**

CICS Transaction Server V3.1 provides capabilities to enable CICS-based applications to be integrated with a Service Oriented Architecture (SOA), enabling them to be exposed as Web Services. CICS has the ability to act as a Web Services service provider and service requestor which means it can be seen as a full participant in this B2B world.

By allowing CICS applications to be wrapped in this way and exposed as services, it easily enables new interoperability between these applications. This provides services to enable virtual enterprises to link heterogeneous systems as required. Examples include mergers, where the resulting enterprise must integrate disparate IT systems and business processes, or the combination of the travel industry and pervasive computing, when a travel application can be exposed as a service and made available for use by various devices in a service-oriented environment.

Web Services provide standards-based interfaces to software functionality. Each Web Service describes how other systems, known as Web Service consumers, can connect to it and exchange information with it. Therefore, the consumers need have no knowledge beforehand about a Service, other than where to find it and that it is based on the common Web Services standards. This approach enables software developers to focus on the business issues not the architecture.

To ensure it is relatively simple to transform an existing CICS application into a Web Service, there is a application development capability supplied called CICS Web Services Assistant. This support is provided for COBOL, C/C++ and PL/I thus ensuring traditional program languages are able to participate and deliver immediate value to your existing application set. Given the existing investment customers have made in CICS business transactions, this ability to easily leverage them in new business processes is of huge value to the customer.

These capabilities should be seen as a major advance over the SOAP for CICS feature delivered on CICS TS V2. With the provision of workload distribution and resource management facilities for this new workload, it ensures it receives the qualities of service expected for a CICS function.

To help with best practice, a new sample application is provided which illustrates how to code and implement a Web Service application. This ensures a customer business can receive immediate value from this ability.

Charles Schwab Responds to Market Conditions and Customer Needs

Customer Background
- **Top financial services firms – 8 million active accts, $758 billion in customer assets, CICS is a key part of their infrastructure**

Business Challenge
- **To capture a new market opportunity by offering independent consultation and advice on a fee basis**

Solution

- **Partnered with IBM to build a services oriented architecture which shortened their time to market, minimized impact to existing applications and leveraged their 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

SCC CJIC gets a face lift

Customer Background

The Criminal Justice Information Control System (CJIC) is Santa Clara County's criminal case history and tracking system. The purpose of this project is to provide an easy to use, secure, industry standard way for customers to access CJIC data.

Business Challenge

To provide a modern industry standards based "face lift" to these transaction services by evolving them to be web services and allowing them to be accessed using SOAP.

Solution
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; managed by their existing S/390 skilled staff and for continued relevance and viability, as its users now have a fast, reliable system from which to access the information they need

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Application Transformation: Inter-program Data Transfer

- **CICS TS V3.1 provides improved method of exchanging data**
  - overcomes inherent customer problems
- **Not limited in size to 32KB.**
  - limited only by the amount of storage available.
- **Pass data in a more structured way.**
  - Reduces the complexity of designing programs
  - Reduces the amount of transaction storage needed
  - Delivers an acceptable deployment environment for C++ and Java programs
- **Any of the CICS supported languages, including Java**

Traditionally, CICS programs have used communications areas (COMMAREAs) to exchange data. In order to overcome inherent problems raised by customers over many years an improved method of exchanging data is being provided in CICS TS V3.1.

This enhancement introduces two new concepts. Containers and Channels. You can think of Containers as named COMMAREAs. They can be grouped together in sets called Channels which is analogous to a parameter list.

The channel/container model has several advantages over COMMAREAs:

Unlike COMMAREAs, Channels are not limited in size to 32KB. There is no limit to the number of containers that can be added to a channel and the size of individual containers is limited only by the amount of storage available.

Because a channel is comprised of multiple containers, it can be used to pass data in a more structured way. In contrast, a COMMAREA is monolithic block of data.

Unlike COMMAREAs, channels don't require the programs that use them to know the exact size of data returned

Channels can be used by CICS application programs written in any of the CICS supported languages. For example, a Java client program on one CICS regions can use a channel to exchange data with a COBOL server program on a back-end AOR.

The ability to use multiple containers reduces the complexity of designing programs, because the programs would not have to reformat data into a single commarea as has to happen today. Multiple containers would also allow greater independence when maintaining programs. With one large commarea used by utility programs, every program that calls the utility must be re-complied when data elements are added to the commarea. If multiple containers are used, only programs affected by the addition of data elements would need to be re-complied. Multiple containers would also reduce the amount of transaction storage needed, because an extra area is needed to reformat multiple data areas into a single commarea.

Java and C++ applications outside of OS/390 use distributed program link to larger than 32KB, reducing the transmission time of data (only 1 program link), simplifying program logic, eliminating the need for segmenting techniques. By removing this restriction, it helps view CICS as an acceptable deployment environment for C++ and Java programs and reduces the programming effort needed.

Application Transformation: Open Transaction Environment

- **Businesses have moved from single-processor servers to Symmetric Multiprocessor (SMP) servers**
  - single-system image cluster
  - shared data
  - Workload balancing can ensure an even distribution of work.

- **Open Transaction Environment exploits this technology.**
  - CICS TS 2.2 we added support that enabled CICS/DB2 applications
    - Improved performance for these applications.
  - CICS TS V3.1 introduced the ability for all types of applications
    - Removed a major bottle neck in the application throughput running under CICS.
  - Alternative is to divide applications between several CICS regions.
    - Tough job and supervising the new CICS regions is difficult.
  - Reduces CPU utilization
    - Reduces cost of running that application.

- **With this enhancement CICS is protecting investments in applications and removing the need for customers to do unproductive redesign and recoding of applications.**

In their attempts to create Enterprise Computing systems, businesses have moved from single-processor servers to Symmetric Multiprocessor (SMP) servers and more recently, to multiple SMPs. Now more and more companies are taking the next step and clustering these servers.

A cluster consists of interconnected SMPs utilized as a single, unified computing resource. The most effective form of clustering is the single-system image cluster, where all the servers appear to client applications as a single system. In this "shared data" approach, every server has access to all the data, and any transaction can run on any server. Workload balancing can ensure an even distribution of work.

CICS introduced the concept of Open Transaction Environment to exploit this technology. In CICS TS 2.2 we added support that enabled CICS/DB2 applications to run in an OTE which delivered improved performance for these applications.

In CICS TS V3.1 we have introduced the ability for all types of applications to benefit , whether it is a CICS/DB2 application or not. This removed a major bottle neck in the application throughput running under CICS.

Many of our customers have been asking for this facility. An example is a customer who has a Stock Exchange System, which carries out tasks that tends to monopolize a CPU for a considerable amount of time. That leads, of course, to response time problems for all tasks in that CICS. Application tasks are waiting excessively for resources and will achieve reduced response times.

The alternative is to divide applications between several CICS regions. Dividing applications into several CICS regions is a tough job and supervising the new CICS regions is difficult. CICS region is CPU constrained and by reducing the path length of the application task will achieve CPU reduction

Reducing CPU utilization of an application will for some customers reduce cost of running that application. A major benefit for reducing total cost of ownership.

Support in this area of the CICS product demonstrates our continuing support for traditional CICS application development. It provides enhanced performance and reduced costs for these workloads

With this enhancement CICS is protecting investments in applications and removing the need for customers to do unproductive redesign and recoding of applications.

Enterprise Management: CICSPlex SM

- **The CICSPlex System Manager**
  - Reduces the complexity of management of CICS systems
  - Presents them as a simple and integrated whole.
  - Cooperates with Tivoli products to deliver an integrated systems management solution.
  - Continues the strategic themes for systems management of integration, simplification, monitoring and automation.

- **CICSPlex SM Web User Interface**
  - CICS has a modern intuitive interface for all aspects of CICS system management.
  - Improved screen design to ensure a great improvement in usability
  - Meet many of the customer requirements in this area.
  - Business Application Scoping (BAS) administration restructured
    - Basic BAS, simple solution which emulates RDO
    - Advanced BAS, exploits the advanced features of CICSPlex SM.

- **CICSPlex SM significantly reduces the time to exploitation of new functions and reduces the complexity of migration.**

The CICSPlex System Manager is an integral part of CICS TS. Its role is to reduce the complexity of management of CICS systems by presenting them as a simple and integrated whole. It integrates all the major CICS management functions into one interface. It cooperates with Tivoli products to meet the need to integrate management and automation of CICS with z/OS and the network. This release continues the strategic themes for systems management of integration, simplification, monitoring and automation.

Through the CICSPlex SM Web User Interface (WUI), CICS has a modern intuitive interface for all aspects of CICS system management.

The screen design has been enhanced to ensure a great improvement in usability and to meet many of the customer requirements in this area. The Business Application Scoping (BAS) administration views have been restructured to improve their usability. They have been divided into two groups: basic BAS, which emulates RDO and advanced BAS, which exploits the advanced features of CICSPlex SM.

Delivers a modern user interface for managing your system management needs for CICS. It is now possible to completely configure CICSPlex SM using this interface. Establishing a CICSPlex SM environment in this configuration significantly reduces the time to exploitation of new functions and reduces the complexity of migration.

Southern Californian Edison

Customer Background

Southern California Edison (SCE) provides electricity service to over 11.5 million people throughout a 50,000 square mile service territory in Southern California. The company's services include generation, transmission, distribution and customer service.

Business Challenge

Reduce the cost of managing environment

Solution

The WUI was instrumental in helping us to make our network operations staff more aware of the state of our production CICS regions. This helped to reduce the time that the Tech Support staff had to spend monitoring and administering the production systems.

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Information Centre

- **A plug-in that is powered by Eclipse technology.**
  - A common framework
    - Offering a common look and feel
    - Allows users to customize their own Information Centers using plug-in from multiple products.
    - Enables direct links (eSupport) from the CICS information to support information.
- **New functions included are:**
  - A 'What's New' organized by major functional area
  - Learning Paths – a sequence of topics that help a user learn about a new area of the product.
  - Information Roadmaps – a set of comprehensive links to information from a variety of sources
- **This all means that by reducing the time to evaluate and learn new functions in CICS customers will be quicker to exploit and gain advantage from this new release.**

The Information Centre as the major source publications for the product is released as a plug-in that is powered by Eclipse technology. This brings a range of benefits to the user. A major benefit is the use of a common framework which is now the infrastructure of choice adopted by many IBM products, offering a common look and feel, together with consistency of behavior and a new search engine. It also allows users to customize their own Information Centers using plug-in from multiple products. The new Information Centre enables direct links (eSupport) from the CICS information to support information.

New functions included are:

A 'What's New' organized by major functional area

Learning Paths – a sequence of topics that help a user learn about a new area of the product.

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This all means that by reducing the time to evaluate and learn new functions in CICS customers will be quicker to exploit and gain advantage from this new release.

This latest release provides a balanced introduction of new technology and improved capability. It has a range of enhanced function for applications written in traditional programming styles as well as major new function in its industry standard support for Web Services.

It offers a straightforward way to the future. By adopting an evolutionary approach, CICS customers are able to extend their existing, proven core applications to new audiences and opportunities.

Such an approach can help reduce the risks involved in new technology adoption by:

Promoting significant reuse of existing application logic, reducing application development costs and saving time and effort in solution testing

Exploiting your existing skills base

The benefits of adopting such a strategy can potentially impact the whole enterprise in a number of ways, creating the ability to:

•Ensure maximum business benefit is gained from existing investments

•Create or maintain competitive edge

•Improve customer satisfaction

•Accelerate time to market

•Increase market share

•Generate new sources of revenue

•Increase profitability