메인프레임 환경에서

애플리케이션 관리 기능과 효율적인 비즈니스 이벤트 처리 방안

정성원 차장
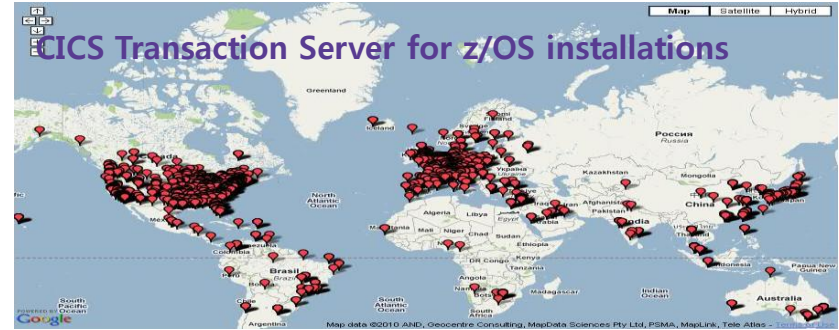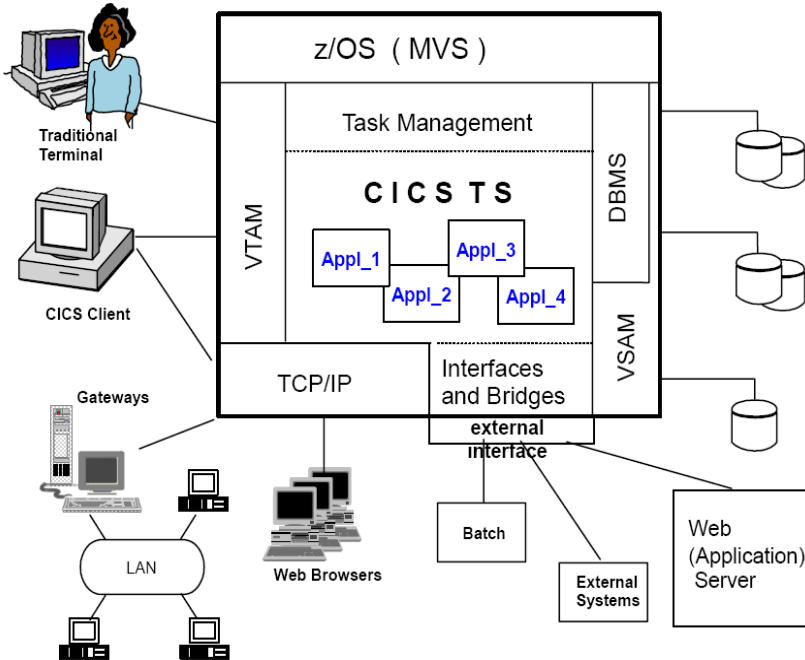**한국IBM 소프트웨어 그룹 System z 사업부**
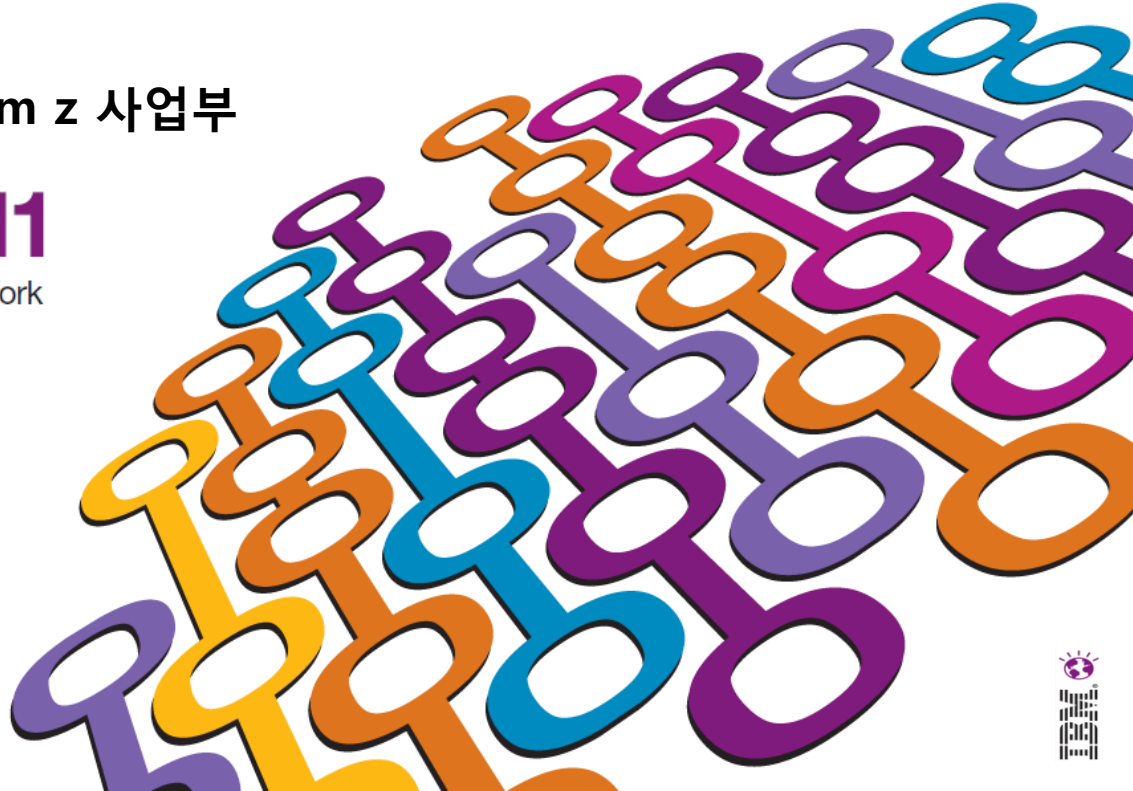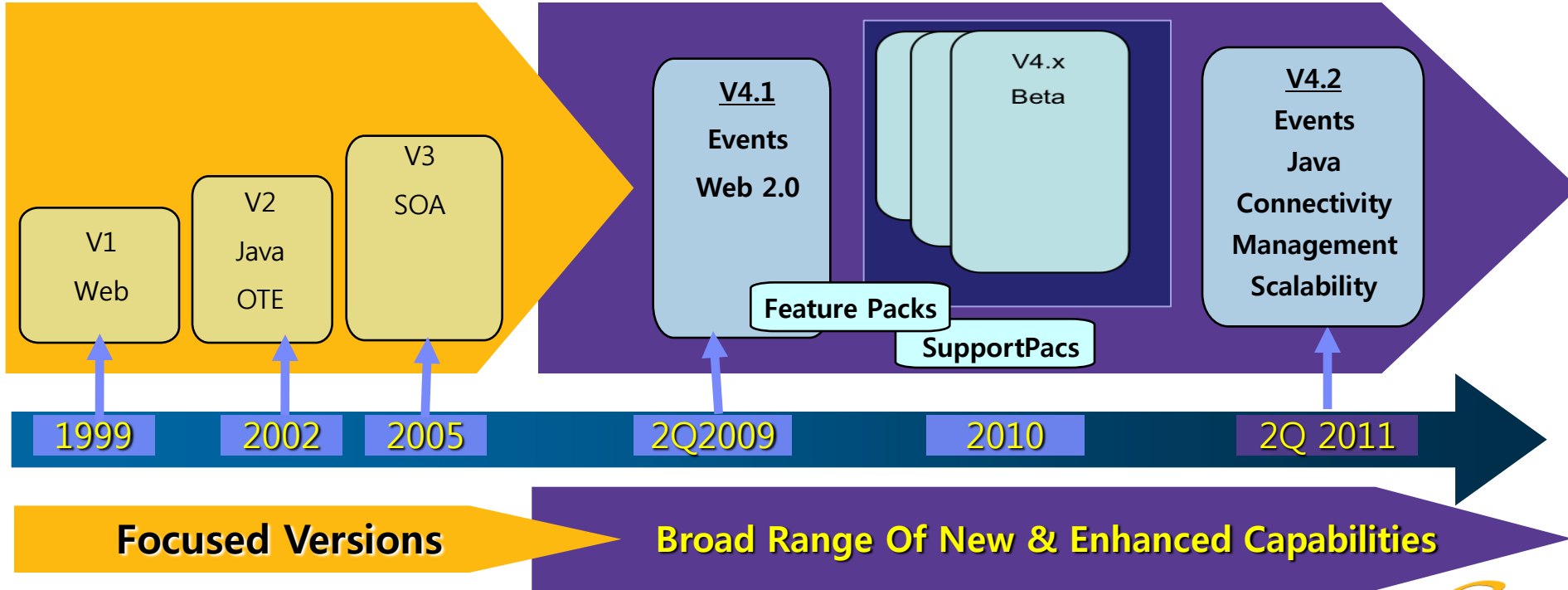
메인프레임 환경에서

애플리케이션 관리 기능

CICS(Customer Information Control System) 개요

CICS는 메인프레임 서버에서 전통적인 애플리케이션 서버로서 태스크 관리, 애플리케이션 관리, 통신 인터페이스 관리, 데이터 자원 연계 등을 지원합니다

CICS Transaction Server for z/OS installations

CICS Transaction Server for z/OS V4.1 installations

CICS Transaction Server : The Story So Far

40년의 역사를 가진 CICS(Customer Information Control System)의 제품 출시 역사 및 로드맵입니다

V1 Web	V2 Java OTE	V3 SOA	

V4.1 Events Web 2.0

V4.x Beta

V4.2 Events Java Connectivity Management Scalability

Feature Packs

SupportPacs

| 1999 | 2002 | 2005 | 2Q2009 | 2010 | 2Q 2011 |

Focused Versions

Broad Range Of New & Enhanced Capabilities

CICS TS V4.2 주요 향상 기능

이벤트

- **System Events**
- **Assured Events**
- **Lifecycle Management**

Java

- **64-bit Applications**
- **Multithreaded Server**
- **OSGi Management**

연결

- **Axis2 Web Services**
- **Web Services Offload**
- **HTTP & IP Extensions**

관리

- **Transaction Tracking**
- **Workload Management**
- **Password Phrases**

확장성

- **64-bit Exploitation**
- **More Threadsafe**
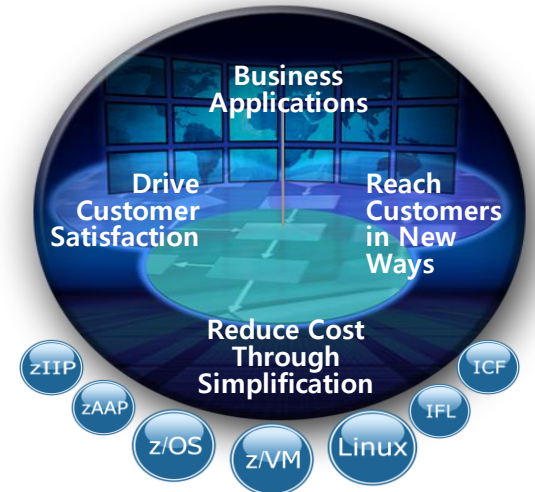- **Optimised Threadsafe**
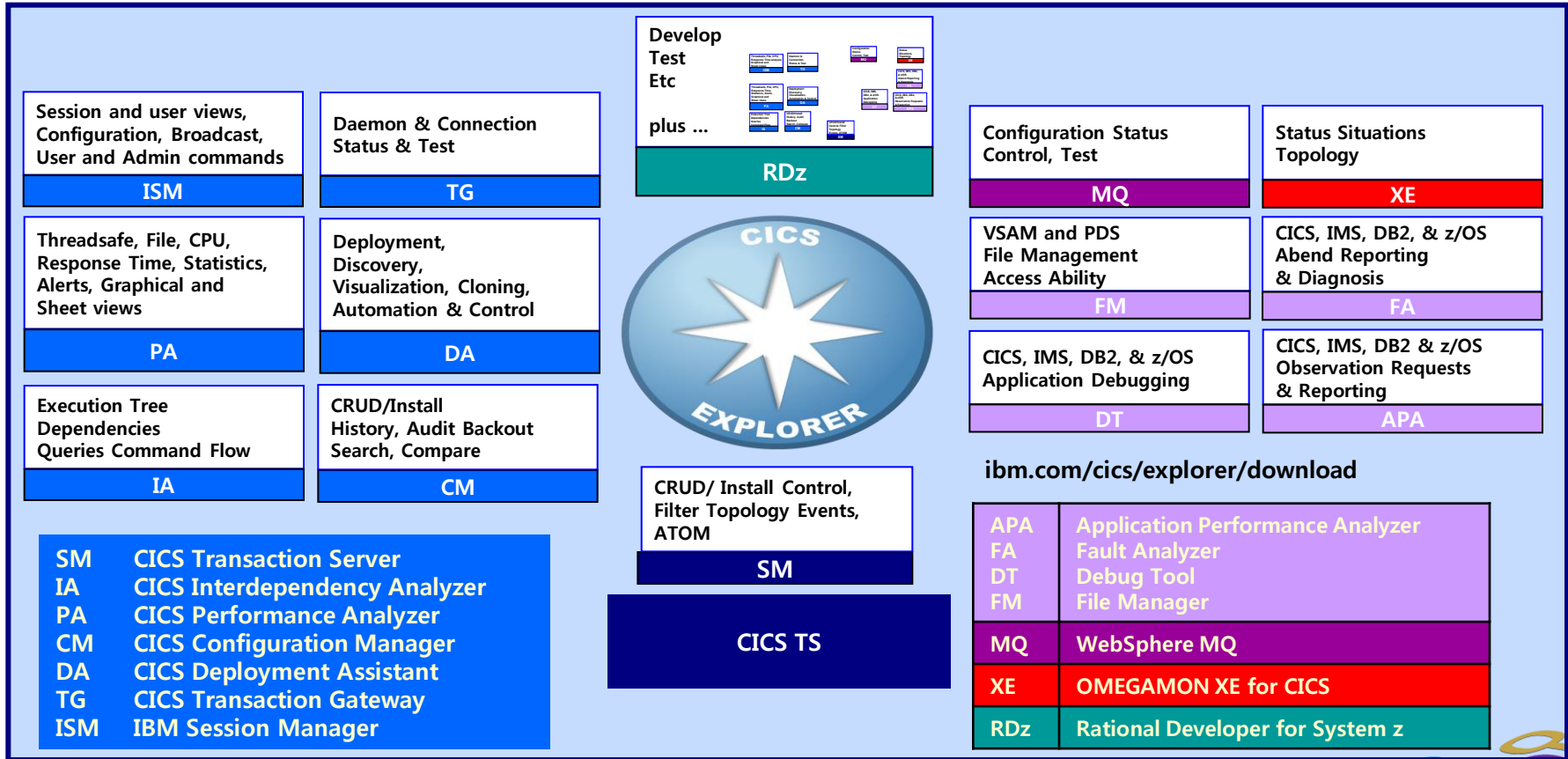
*스마트한
트랜잭션 처리 경험*

CICS 제품 전략

- **Build** an enterprise level transaction processing platform
    - Support traditional CICS values of quality, performance and reliability
    - Support Enterprise Modernization through
        - Mixed programming languages
        - Modern programming architectures (SOA, Web2.0 etc)

- **Simplify** management and reduce skills needs for CICS system programmers and application programmers

- **Encourage** a vibrant partner ecosystem and community

- **Extend** reach to emerging geographies and new customers

IBM CICS Explorer를 통한 개발 환경 통합

Session and user views, Configuration, Broadcast, User and Admin commands

ISM

Daemon & Connection Status & Test

TG

Develop Test Etc

plus ...

RDz

Configuration Status Control, Test

MQ

Status Situations Topology

XE

Threadsafe, File, CPU, Response Time, Statistics, Alerts, Graphical and Sheet views

PA

Deployment, Discovery, Visualization, Cloning, Automation & Control

DA

VSAM and PDS File Management Access Ability

FM

CICS, IMS, DB2, & z/OS Abend Reporting & Diagnosis

FA

Execution Tree Dependencies Queries Command Flow

IA

CRUD/Install History, Audit Backout Search, Compare

CM

CICS, IMS, DB2, & z/OS Application Debugging

DT

CICS, IMS, DB2 & z/OS Observation Requests & Reporting

APA

ibm.com/cics/explorer/download

CRUD/ Install Control, Filter Topology Events, ATOM

SM

CICS TS

SM	**CICS Transaction Server**
IA	**CICS Interdependency Analyzer**
PA	**CICS Performance Analyzer**
CM	**CICS Configuration Manager**
DA	**CICS Deployment Assistant**
TG	**CICS Transaction Gateway**
ISM	**IBM Session Manager**

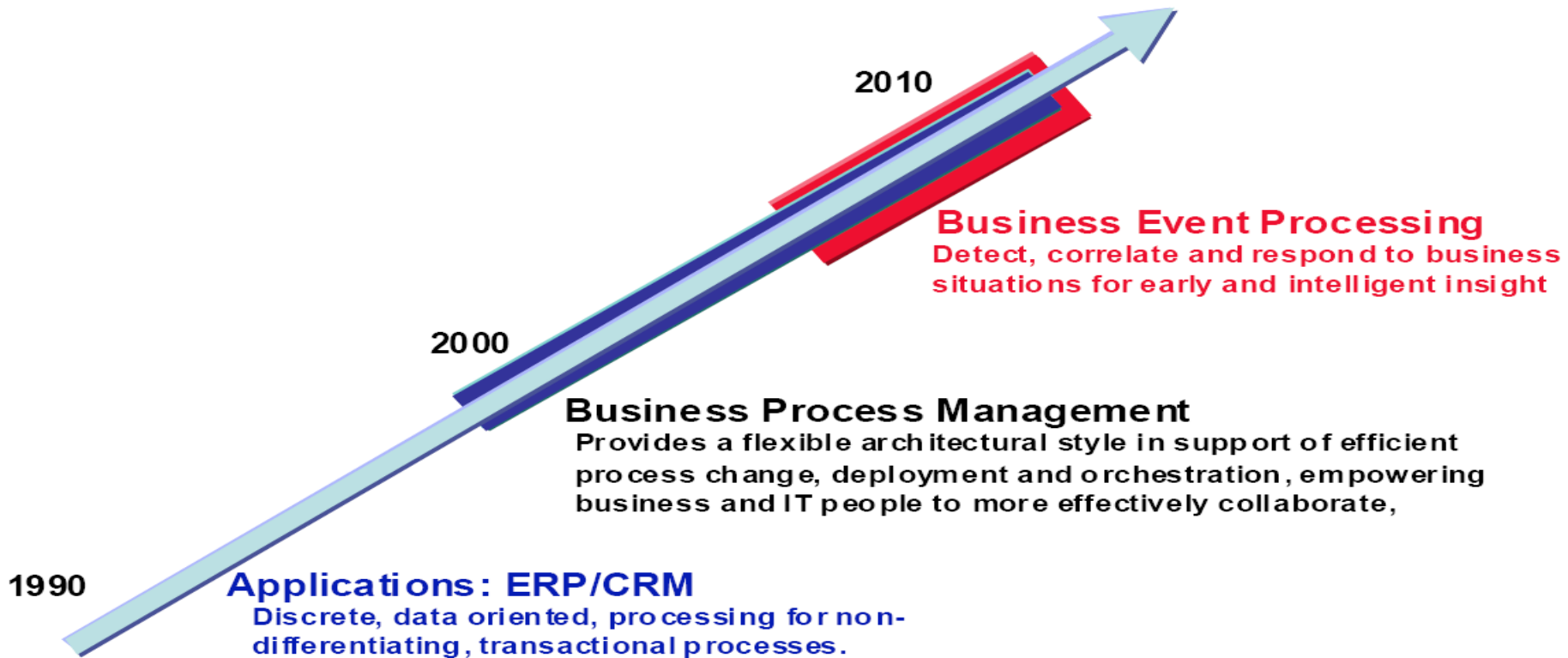|	
APA **FA** **DT** **FM**	**Application Performance Analyzer** **Fault Analyzer** **Debug Tool** **File Manager**
MQ	**WebSphere MQ**
XE	**OMEGAMON XE for CICS**
RDz	**Rational Developer for System z**

IBM CICS Explorer 예시 화면

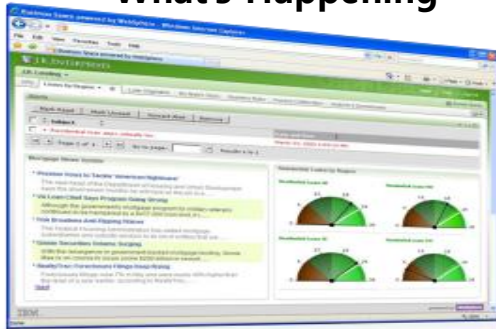메인프레임 환경에서

효율적인 비즈니스 이벤트 처리 방안

이벤트에 대한 관심 증대

조치 가능한 실시간 통찰력

비즈니스 이벤트 처리를 위한 이벤트 캡처 및 조치

CICS Event Sources

What's Happening

When to Act

Event Sources

Evaluations
Correlations

Take action

What to Do

Know

**What's Happening,
When to Act, and
What to Do**

비즈니스 이벤트 처리의 정의

"보다 스마트하고 유연한 비즈니스 통찰력 확보"

Event

Pos Purchase

Business Context

2nd purchase in a week and total purchases this year > $1000

Action: Offer loyalty program membership before customer leaves the store

Event

No meter signal

Business Context

Third consecutive period without signal

Action: Trigger automated troubleshooting process
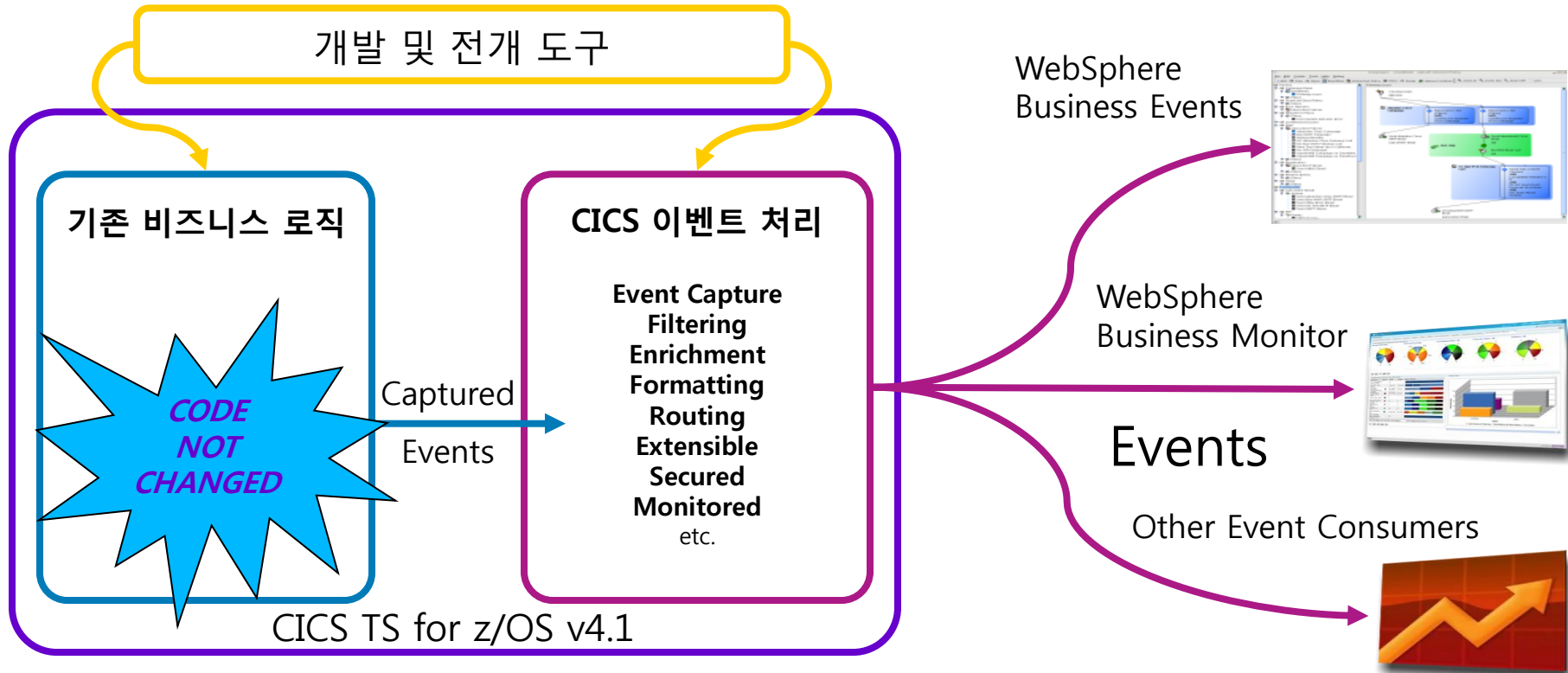
Event

GPS Signal

Business Context

Calculated arrival > 30 min over SLA (Service Level Agreement)

Action: Phone customer to re-arrange delivery

CICS TS V4.1 이벤트 프로세스 지원 개요

개발 및 전개 도구

기존 비즈니스 로직

**CODE
NOT
CHANGED**

Captured

Events

CICS 이벤트 처리

**Event Capture
Filtering
Enrichment
Formatting
Routing
Extensible
Secured
Monitored**
etc.

CICS TS for z/OS v4.1

WebSphere
Business Events

WebSphere
Business Monitor

Events

Other Event Consumers

CICS V4.2에서의 이벤트 처리 개선 사항

- Event Processing in CICS V4.1
  - Business event processing
  - CICS 4.1 event processing capabilities
  - Concepts and configuration
- Event Processing in CICS V4.2
  - Improved event 'Lifecycle' management:
    - Separate EP adapters
    - EP Search
  - Synchronous Emission Mode and Assured Transactional Events
  - System Events

- More data types supported for filter and capture:
  - Sign leading/trailing Zoned Decimal
  - Hexadecimal floating point
  - Binary floating point
  - Decimal floating point (requires optional hardware facility)
  - Null terminated character
  - Null terminated hex
- HTTP EP adapter performance improvements if using a URIMAP with SOCKETCLOSE set.
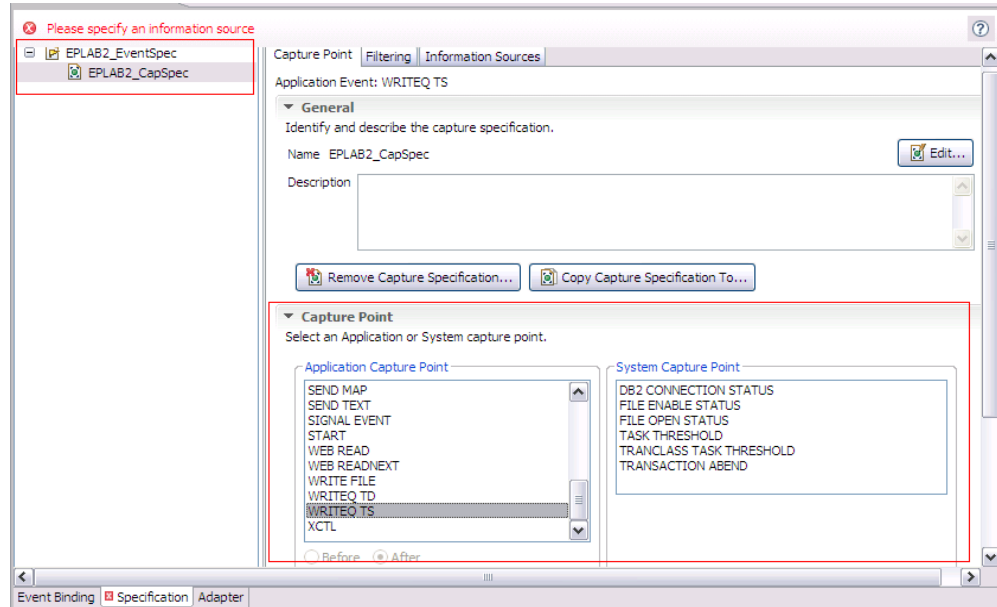
비즈니스 이벤트 캡쳐 포인트 (Business Event Capture Point)

Use the Capture Point tab to describe the capture specification for a named capture point and to select a capture point from a list.

- **Application Capture Point**
  - **LINK PROGRAM**
  - **WRITE FILE**
  - **WRITEQ TS**
  - 와 같은 **CICS** 거의 모든 **API** 지원
- **System Capture Point**
  - **DB2 CONNECTION STATUS**
  - **FILE ENABLE STATUS**
  - **FILE OPEN STATUS**
  - **TASK THRESHOLD**
  - **TRANCLASS TASK THRESHOLD**
  - **TRANSACTION ABEND**

비즈니스 이벤트 필터 (Business Event Filters)

There are 3 types of filter that can be used to determine that an event has happened at a particular capture point:

- **Context filters**
  - **Current Transaction**
  - **Current Program**
  - **Current User ID**

- **Command option filters**
  - **File name on a WRITE FILE command**
  - **Channel name on LINK PROGRAM**

- **Data filters**
  - **Integer at offset 25 in the FROM field on a WRITE FILE command is greater than 500**
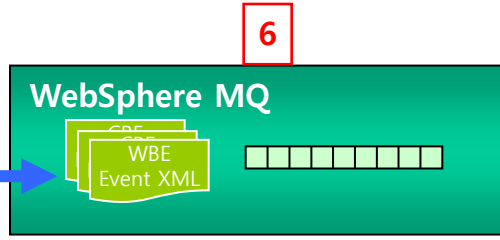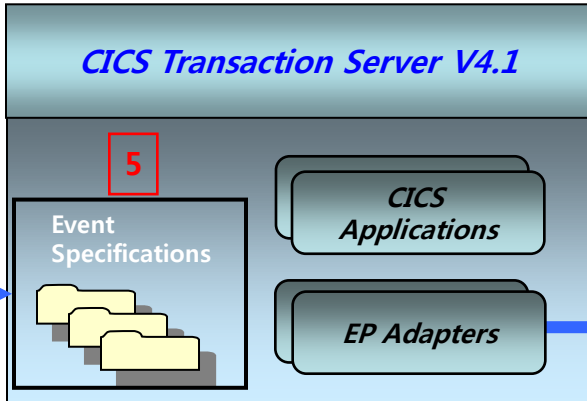 - **Data in a certain container in the current channel**

이벤트 배출(Event Emission)

CICS와 WebSphere Business Events 통합

CICS와 모니터 통합

CICS Transaction Server 4.1
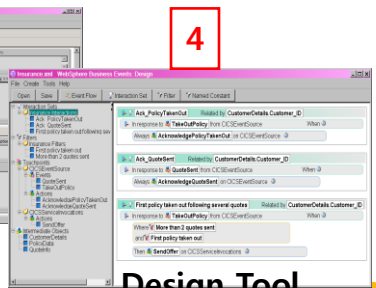
5

Event Specifications

CICS Applications

Event Processing Adapters

WebSphere MQ

CBE
CBE
CBE Event XML

CEIQueue

6

WebSphere Business Monitor on Was Application Server

Common Event Infrastructure

Filters and Distributes Events

Monitor Server

CBE

7

CBE
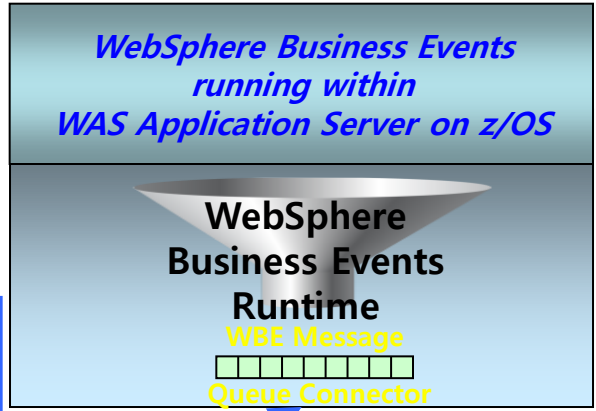
CICS Event Binding Editor

1

Export Schemas for Event Specifications

2

Deploy monitor model to Monitor server

3

4

8
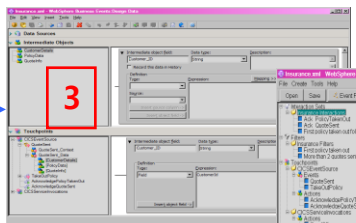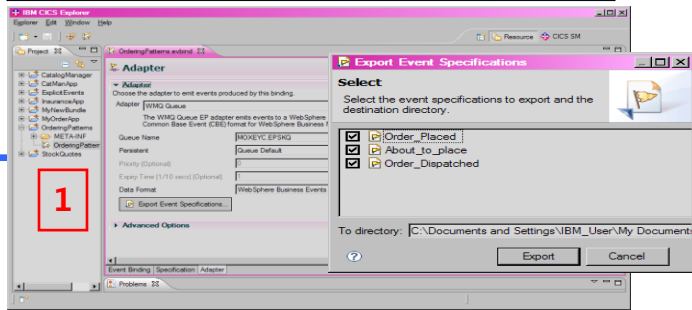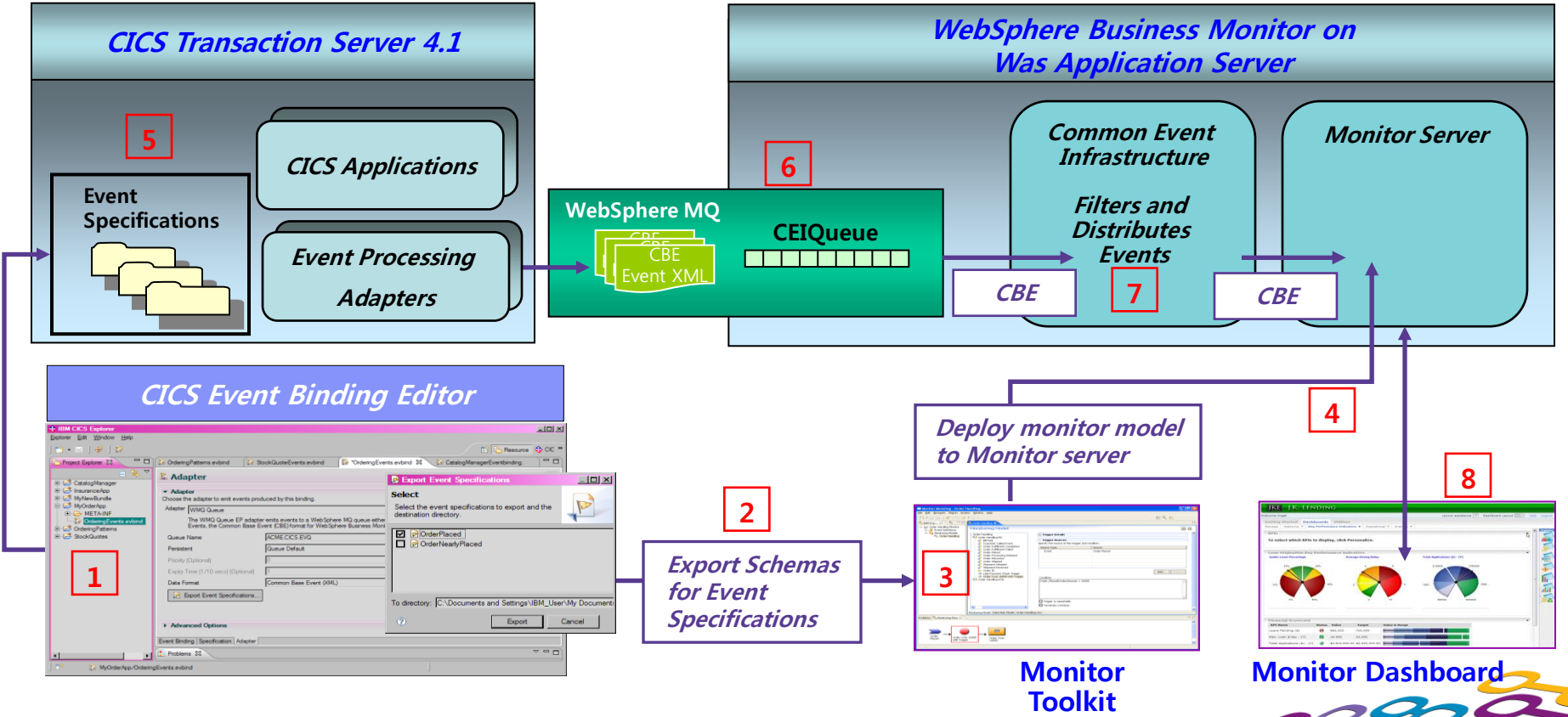
Monitor Toolkit

Monitor Dashboard

I ♥ CICS

감사합니다