This blueprint lists the following information for each course in the CIW Enterprise Specialist series as of March 2003. The series consists of two courses: Distributed Object Computing Using Java and CORBA and Enterprise JavaBeans.

- **Revision History**: Identifies changes in the course since the last release.
- **Outline**: Outline detailing the courseware headers, subheaders and exercises for the release of this course.
- **Software Spreadsheet**: Complete detail of required software purchases and free trial download acquisitions to implement this course.

**Distributed Object Computing Using Java and CORBA v2.1**

**Revision History**

Released March 2003 (version 2.1)

This release is considered a course enhancement. The main differences between Distributed Object Computing Using Java and CORBA v2.1 and the previous version (v2.07 released June 2002) are as follows:

- Applied new publishing template to course for more professional look and feel.
- Entered errata (an error in writing or printing, including but not limited to spelling, style, and code errors).

Released June 2002 (version 2.07)

This release was considered a course enhancement. The main differences between this Distributed Object Computing Using Java and CORBA v2.07 and the previous version (v1.17 released August 1, 2001) were as follows:

- Introduction of separate instructor and student guides
- Pre-assessment questions
- Instructor margin notes
- Enhanced Lesson Summary
- Instructor Section containing Activities, Optional Labs, and Quizzes
- Syllabi (for Academic instructors) and Implementation Tables (for Learning Center instructors)—located on the instructor CD-ROM
The previous version of Distributed Object Computing Using Java and CORBA (version 1.07 released February 2001) was a new offering in the CIW program. There are no significant changes to the current (version 1.17 released August 2001) courseware, outlines or objectives. The main difference between this course and the earlier version is as follows:

- Entered errata (an error in writing or printing, including but not limited to spelling, style, and code errors)
- Updated operating system requirements to Windows Millennium Edition (Me) or Windows 2000. However, the courseware will work on any operating system with an available Java 2 SDK 1.3

Outline

Lesson 1: Introduction to CORBA
- Pre-Assessment Questions
- CORBA Overview
- The Object Management Group
- CORBA Architecture
- Lesson 1 Review Questions

Lesson 2: Interface Definition Language
- Pre-Assessment Questions
- Introduction to IDL
- Basics of IDL
- Inheritance and IDL
- Nonclass Data Types
- Parameter-Passing Modes
- Exceptions
- Lesson 2 Review Questions

Lesson 3: Building CORBA Clients
- Pre-Assessment Questions
- Client IDL Stubs
- Initializing the ORB
- Using the Naming Service
- Invoking Remote Methods
- Using Out and Inout Parameters
- Lesson 3 Review Questions

Lesson 4: Building CORBA Servers
- Pre-Assessment Questions
- Server IDL Skeletons
- Implementing CORBA Objects
- CORBA Objects and the Naming Service
- Waiting for Invocation
- Using Out and Inout Parameters
- Lesson 4 Review Questions
Lesson 5: Factory and Callback Objects
- Pre-Assessment Questions
- Factory Objects
- Callback Objects
- Lesson 5 Review Questions

Lesson 6: CORBA Exceptions
- Pre-Assessment Questions
- Introduction to CORBA Exceptions
- Lesson 6 Review Questions

Lesson 7: Dynamic Invocation Interface
- Pre-Assessment Questions
- Introduction to DII
- Constructing an Argument List
- Preparing for the Return Value
- Invoking the Request
- Extracting Return Values
- Lesson 7 Review Questions

Appendix A: Objectives and Locations
Appendix B: Works Consulted

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Enterprise JavaBeans v3.1

Revision History

Released March 2003 (version 3.1)

This release is considered a course enhancement. The main differences between Enterprise JavaBeans v3.1 and the previous version (v3.07 released June 2002) are as follows:

- Applied new publishing template to course for more professional look and feel.
- Entered errata (an error in writing or printing, including but not limited to spelling, style, and code errors).

Released June 2002 (version 3.07)

This release was considered a course enhancement. The main differences between this Enterprise JavaBeans v3.07 and the previous version (v2.07 released December 1, 2001) were as follows:

- Introduction of separate instructor and student guides
- Pre-assessment questions
- Instructor margin notes
- Enhanced Lesson Summary
- Instructor Section containing Activities, Optional Labs, and Quizzes
- Syllabi (for Academic instructors) and Implementation Tables (for Learning Center instructors)—located on the instructor CD-ROM.
- Errata (an error in writing or printing, including but not limited to spelling, style, and code errors).
- Modified labs to provide more explicit instructions.

Released December 2001 (version 2.07)

Enterprise JavaBeans was released December 2001 with a development revision. In this revision, the following occurred:

- Modified exercises to provide easier implementation in a classroom environment.
- Entered errata (an error in writing or printing, including but not limited to spelling, style, and code errors)
- Updated operating system requirements to Windows 2000. Please note that J2EE is also available for the Solaris platform.
There were no significant changes to the Enterprise JavaBeans courseware, outlines or objectives from the February 2001 release. The main difference between this course and the earlier version of Enterprise JavaBeans (v1.07), released February 1, 2001, were as follows:

- Errata (an error in writing or printing, including but not limited to spelling, style, and code errors).

**Outline**

**Lesson 1: Introduction to Server-Side Component Software**
- Pre-Assessment Questions
- Introduction
- Client-Server and Multi-Tiered Architectures
- Software Components
- Component Architecture Solutions
- J2EE Technologies
- Enterprise JavaBeans
- Lesson 1 Review Questions

**Lesson 2: Overview of the Enterprise JavaBeans Framework**
- Pre-Assessment Questions
- Introduction to Enterprise JavaBeans
- EJB Architecture
- Client Interaction with Enterprise JavaBeans
- EJB Container Services
- The EJB Home Object
- The EJB Object
- Types of Enterprise JavaBeans
- Deployment Descriptors
- The EJB-JAR File
- Lesson 2 Review Questions

**Lesson 3: Creating Session Beans**
- Pre-Assessment Questions
- Introduction to Session Beans
- Creating the Enterprise Bean Class
- Stateless and Stateful Session Beans
- Writing Business Methods for an Enterprise Bean
- The Home Interface
- The EJB Object
- Exceptions in EJB
- Example: A Session Bean
- The Library Application
- Introduction to EJB Deployment
- The Deployment Descriptor
- Environment Data
Using Bean References
Using Resource Factories
Assembler/Deployer Roles with the Deployment Descriptor
EJB Deployment in an EJB Server
Lesson 3 Review Questions

Lesson 4: Entity Beans
Pre-Assessment Questions
Introduction to Entity Enterprise Beans
What is an Entity Bean
Primary Keys
Entity Bean Architecture
Bean-Managed Persistence
Entity Bean Methods
Using Finder Methods
The Remote Interface
The Home Interface
Lesson 4 Review Questions

Lesson 5: Enterprise JavaBeans Clients
Pre-Assessment Questions
Introduction to EJB Clients
Using JNDI
Creating an EJB Interface
Removing the Enterprise Bean
Client Sample
Lesson 5 Review Questions

Lesson 6: Container-Managed Persistence
Pre-Assessment Questions
Introduction to Container-Managed Persistence
The Primary Key
EJB Methods and CMP
The Deployment Descriptor and CMP
Example: A CMP Entity Bean
Lesson 6 Review Questions

Lesson 7: Transactions in Enterprise JavaBeans
Pre-Assessment Questions
Introduction to Transactions
What are Transactions?
Participants in Transactions
Properties of Transactions
EJB Transactional Models
Distributed Transactions
Isolation Levels
Transactions in EJB
Container-Managed Transactions (CMT)
Bean-Managed Transactions (BMT)
Lesson 7 Review Questions
Lesson 8: Enterprise JavaBeans Security
  ▪ Pre-Assessment Questions
  ▪ Introduction to EJB Security
  ▪ Defining Users, Principals and Roles
  ▪ Security and the Deployment Descriptor
  ▪ Lesson 8 Review Questions

Appendix A: Objectives and Locations
Appendix B: EJB References and Tools
  ▪ Web Sites for EJB Reference
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## CIW Enterprise Specialist
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<tr>
<th>CIW Series - Released March 2003 (v2.1)</th>
<th>Distributed Object Computing Using Java and CORBA (v2.1) CIW Software</th>
<th>Purchase</th>
<th>Location of Free Trial</th>
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<td>Operating Systems</td>
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<tr>
<td>Enterprise Specialist</td>
<td>Microsoft Windows 2000 (Professional or Server), Windows Me, or other operating system with an available Java 2 SDK 1.3</td>
<td><a href="http://www.microsoft.com">www.microsoft.com</a></td>
<td>It is recommended that you purchase the Windows Me or Windows 2000 software; depending on what platform you want to implement this course with.</td>
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<td>Software</td>
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<tr>
<td>Enterprise Specialist</td>
<td>Java 2 SDK 1.3</td>
<td>java.sun.com</td>
<td>A free downloadable version of Java 2 SDK v 1.3.0 is available at <a href="http://www.java.sun.com/j2se/1.3/">www.java.sun.com/j2se/1.3/</a></td>
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Note: All software must be properly licensed before classroom implementation.
## CIW Enterprise Specialist
### Software List (March 2003 Release)

<table>
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<th>CIW Series – Released March 2003 (v3.1)</th>
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<th>Location of Free Trial</th>
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<tr>
<td>Enterprise Specialist</td>
<td>Windows 2000 Professional or Server (J2EE is also available for the Solaris platform)</td>
<td><a href="http://www.microsoft.com">www.microsoft.com</a></td>
<td>It is recommended that you purchase the Windows 2000 software; also a Command-line interpreter which is usually available with OS.</td>
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<tr>
<td><strong>Software</strong></td>
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<tr>
<td>Enterprise Specialist</td>
<td>Java 2 SDK 1.3,Standard Edition</td>
<td>java.sun.com</td>
<td>A free downloadable version of Java 2 SDK v 1.3.0 is available at <a href="http://www.java.sun.com/j2se/1.3/">www.java.sun.com/j2se/1.3/</a></td>
</tr>
</tbody>
</table>

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