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Training

ANSAwise - Welcome [BT, to Understanding Distributed Systems Architecture]

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Abstract

This is the 'welcome speech' to the course "Understanding Distributed Systems Architecture". It gives the course roadmap and timetable.

This presentation is for the course as customized for BT.

Version 2 of the document reflects a course restructuring in response to feedback from BT, and was first presented to BT on 18-20 July 1995. The course timings were removed from the slides at this presentation.

Version 3 of this document reflects a furthering restructuring, focusing almost entirely on CORBA, and was first presented to BT on 27-29 February 1996.

[Note that this presentation includes the BT logo as a bitmap. There may be difficulty printing this on some printers.]

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Welcome to

Understanding Distributed Systems Architecture

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About this course

- *It is an introduction to distributed processing, distributed systems, and distributed computing*
- *... based on architectural concepts for building open distributed systems*
- *It explains the main issues, the problems and the extent of current solutions, and the terminology you'll need to grasp*



Course Timetable - Day 1

Module
<i>Welcome</i>
Distributed Object Systems in Action
Introduction to CORBA and the OMG
<i>Break</i>
Templates for Distributed Applications
<i>Lunch</i>
Specifying Services in CORBA IDL
The CORBA Object Management Architecture
<i>Break</i>
Designing Applications with CORBA
<i>Close</i>



Course Timetable - Day 2

Module
<i>Review of Day 1</i>
Objects in Distributed Systems
Integrating Legacy Systems
<i>Break</i>
CORBA Interoperability
<i>Lunch</i>
CORBA and Real-time Systems
Transactions in Distributed Systems
<i>Break</i>
CORBA Concurrency and Transactions
<i>Close</i>



Course Timetable - Day 3

Module
<i>Review of Day 2</i>
CORBA Object Services
Trading and Federation
<i>Break</i>
Persistent Data Storage with CORBA
<i>Lunch</i>
CORBA in the Real World
CORBA Futures
Course Roundup
<i>Close</i>



Structure of the course -1

- ***Distributed Object Systems in Action***
 - who uses distributed object technology in telecommunications systems?
 - what are the benefits?
- ***Introduction to CORBA and the OMG***
 - what is the Object Management Group's Common Object Request Broker Architecture?
 - what are the components of the CORBA Object Management Architecture?
 - how is interoperability achieved in CORBA?
- ***Templates for Distributed Applications***
 - how should applications be partitioned into components?
 - what are the limitations of simple client-server approaches?
 - how are application gateways used?



Structure of the course - 2

- ***Specifying Services in CORBA IDL***
 - what is the CORBA Interface Definition Language?
 - how is CORBA IDL used?
 - what are the basic features of CORBA IDL?
- ***The CORBA Object Management Architecture***
 - what is the OMG Object Model?
 - what are the CORBA interfaces?
 - how are CORBA servers implemented?
- ***Designing Applications with CORBA***
 - what standard interfaces are available to applications?
 - what must be considered when designing object implementations?
 - how should interfaces between objects be determined?



Structure of the course - 3

- ***Objects in Distributed Systems***
 - what are the characteristics of objects?
 - how do these characteristics differ in distributed systems?
 - what new concepts arise?
- ***Integrating Legacy Systems***
 - why are legacy systems a problem?
 - how can this be mitigated?
 - how do distributed systems help?
- ***CORBA Interoperability***
 - what are the implications of interoperability for interconnecting ORBs?
 - how does CORBA 2 support multiple protocols?
 - what are the challenges involved in implementing interoperability?



Structure of the course - 4

- ***CORBA and Real-time Systems***
 - how well do current products support real-time distributed processing?
 - what are the design pitfalls?
 - how will CORBA products evolve to support real-time?
- ***Transactions in Distributed Systems***
 - how are databases accessed in distributed systems?
 - what are the standards for distributed transaction processing?
 - how does CORBA conform to these standards?
- ***CORBA Concurrency and Transactions***
 - what are the basic principles of concurrency?
 - what are the implications of threads (lightweight processes)?
 - what facilities does the CORBA Concurrency Control service provide?



Structure of the course - 5

- ***CORBA Object Services***
 - what are the functions of CORBA Object Services?
 - which Object Services are being specified?
 - when should each Object Service be used?
- ***Trading and Federation***
 - how can clients find servers that provide the services that they need?
 - what criteria can be used to guide this process?
 - what are the implications of connecting together distributed systems?
- ***Persistent Data Storage with CORBA***
 - how can database technology be integrated with CORBA?
 - what does the CORBA Persistent Object service offer?
 - which other standards and interfaces are relevant?



Structure of the course - 6

- ***CORBA in the Real World***
 - who is shipping CORBA products?
 - what are some of their strengths and weaknesses?
 - what pitfalls are there to avoid

- ***CORBA Futures***
 - what work is in progress in the Object Management Group?
 - where do Microsoft's offerings fit in?
 - what is likely to happen in the longer term?



Enjoy the course!

- *... and ask questions whenever you wish*

