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Training

ANSAwise - Course Roundup [Peritas, to Networking '95]

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Abstract

This is the "goodbye speech" to the course "Implementing Client/Server Systems in a Distributed Environment" given on 25-26 April 1995 as part of the Peritas event "Networking '95". As well as a summary of the key points, it gives information for finding out more.

[Note that this presentation includes the Networking '95 logo as a grey-scale bitmap. There may be difficulty printing it on some printers.]

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Approved
Briefing Note

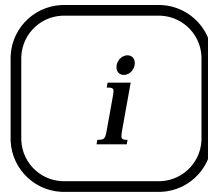
24th April 1995

Distribution:
Supersedes:
Superseded by:



Implementing Client/Server Systems in a Distributed Environment

Course Roundup



...and Learning More...



About this course

- *It has only been possible to cover some aspects of client/server systems in this course*
 - the field is vast
- *Let us review what's available now, and what is not yet available*



Large-scale client/server - what is still needed?

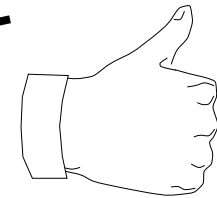
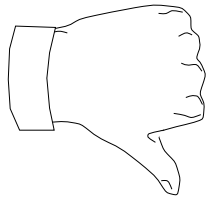
- *Large-scale client/server needs support throughout the development life-cycle...*
 - object analysis and design methods
 - development tools
 - performance and testing tools
 - applications management tools
- *... all conforming to open standards, allowing interoperability*



Object analysis and design methods today

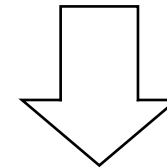
- *There are well over 20 object analysis and design methods...*
- *...see survey reports produced by the Object Analysis and Design Special Interest Group of OMG*
 - *Object Analysis and Design: Description of Methods ed. Andrew Hutt (OMG/Wiley)*
 - *Object Analysis and Design: Comparison of Methods ed. Andrew Hutt (OMG/Wiley)*
- *Many methods ignore client/server and distributed systems issues*

Development tools today



- tools limit size of application
- communications libraries out-dated (DCE support emerging)
- no agreed way to describe interfaces
- no support for application properties
- browsing limited
- tools are (still) closed applications

- some complexities transparent
- late binding and early type checking



Challenge



Performance and testing tools today

- *The database community takes performance very seriously...*
 - performance prediction and monitoring tools are improving all the time
- *...equivalent tools do not yet exist for client/server and distributed systems*
- *The test department has always been ill-served with tools*
 - tools are appearing, but focus mainly on the user interface...
 - ...not on the server



Applications management tools today

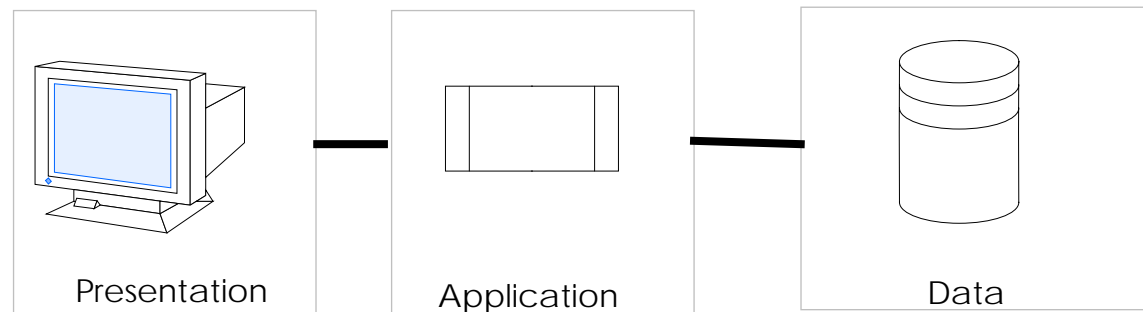
- *Despite its name, the Object Management Group (OMG) has not yet produced a complete set of specifications for managing objects*
 - Object Services and Common Facilities specifications are planned...
 - ... Licensing, and Management Tools, for example
- *The OSF's Distributed Management Environment (DME) has faded away*
 - there are some tools for the DCE from vendors and suppliers
- *Tools for network and system management have emerged entirely separately*
 - they do not completely address applications management
 - they are not easy to integrate into the client/server world



What's usable today?

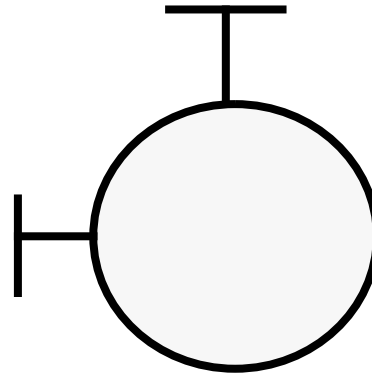
- *OSF DCE - typically from hardware vendors*
 - has security, but no support for objects
- *OMG CORBA - some products, from both hardware and software vendors*
 - some services only recently specified, interoperability an issue
- *The approach, based on*
 - client/server application templates implemented with encapsulated objects and generic object services
 - RPC, RDA, and RQM communications techniques
 - a sound network and operating system infrastructure
 - appropriate use of distributed database and distributed transaction processing technology

Application server approach



- *Exploits power of workstation and server*
- *Application can be managed from a single point*

Objects for encapsulation

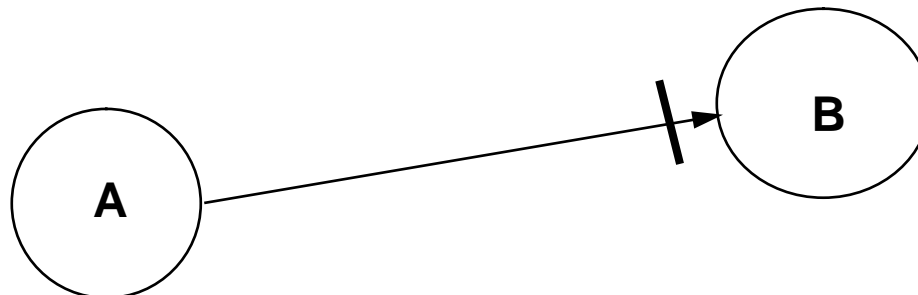


- *Objects are encapsulated...*
 - ...all interactions are via defined interfaces
 - ...all objects interact in the same way



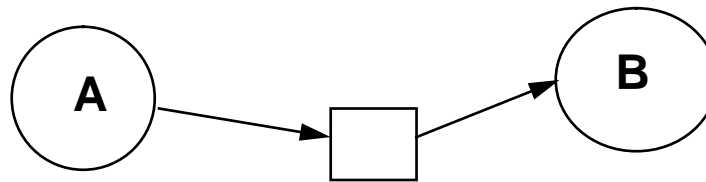
Encapsulation for distributed objects

- *We cannot assume anything about the location of distributed objects*
 - **Objects A and B could be on the same machine, or in different countries**

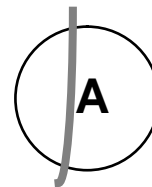


Encapsulation rules

- **Objects cannot share state information directly (only pass it via interfaces)**
 - **this is not allowed**



- **One object cannot be distributed in pieces; it must be entirely in one place**
 - **this is not allowed**

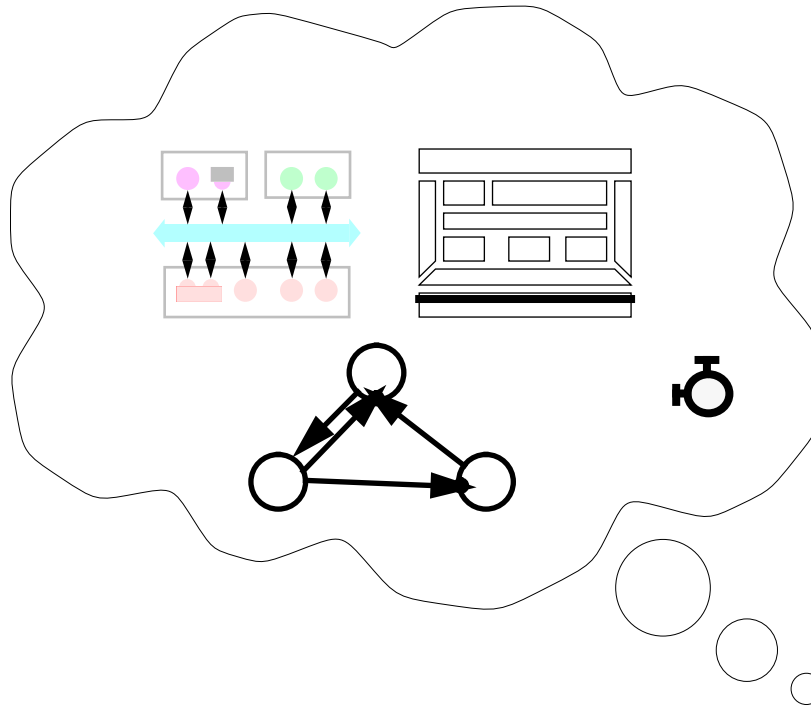




Some thoughts

- *Most organizations choose client/server for flexibility rather than cost reduction*
- *The business challenges are more difficult to handle than the technical ones*
- *Effective project management is the key*

New Ideas





More about client-server systems?

- *If you want one introductory book on both business and technical issues...*
 - *Client/Server Strategies, by David Vaskevitch (IDG Books)*
- *... or see the magazines below*



More about distributed systems?

- *If you want one introductory book on both technical issues and products*
 - *Distributed Computing: A Practical Synthesis, by Amjad Umar (Prentice Hall)*
- *If you want one introductory book on the technical issues only:*
 - *Distributed Systems Concepts and Design, by Coulouris, Dollimore, and Kindberg (Addison-Wesley)*



Conferences and exhibitions?

- *Object World UK: 20-23 June 1995*
 - organized by the Object Management Group
- *Software Development: 24 November 1995*
- *ANSAworks*
 - the ANSA conference, organized by APM



Latest state of play?

- ***Magazines***
 - ***First Class*** from the Object Management Group (OMG)
 - ***Software Futures*** from APT Data Services
 - ...and the general computer press

- ***Internet newsgroups***
 - **comp.client-server**
 - **comp.object**
 - **comp.soft-sys.dce**



Contacting APM

- *We are online on the World Wide Web!*
 - our URL is <http://www.ansa.co.uk/>
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