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Enabling the Information Age through Network Computing

The Oracle Network Computing Architecture

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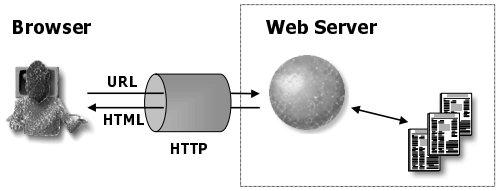
Cameron O'Rourke
Principal Technologist
Oracle Corporation

corourke@us.oracle.com

Web Site:
http://govt.oracle.com/corourke

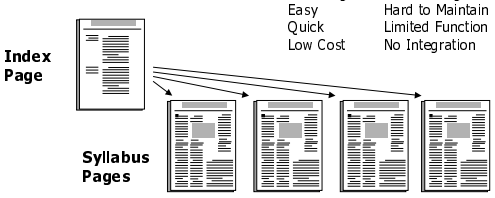
The Static Web



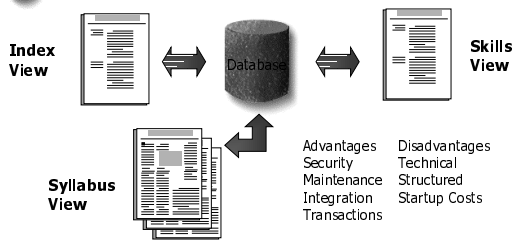
URL = Uniform Resource Locator
HTML = HyperText Markup Language
HTTP = HyperText Transport Protocol

A Static Web Site

Advantages	Disadvantages
Easy	Hard to Maintain
Quick	Limited Function
Low Cost	No Integration

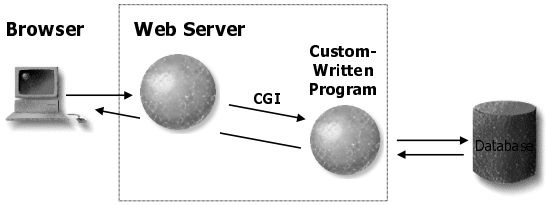


A Database Web Site



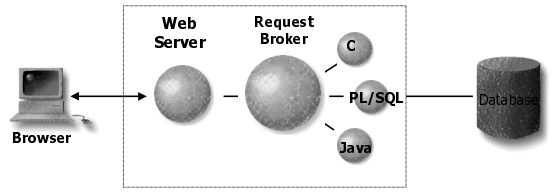
Advantages	Disadvantages
Security	Technical
Maintenance	Structured
Integration	Startup Costs
Transactions	

Early DB Integration



CGI = Common Gateway Interface

An Application Server



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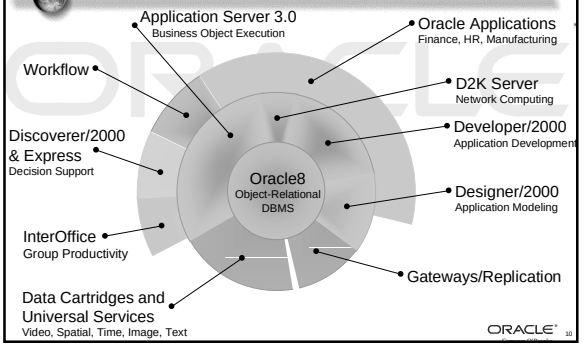
Oracle's Business: Products & Platforms



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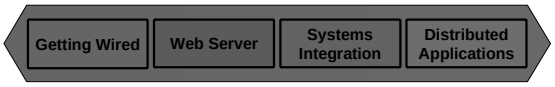
What's your Organizational Skill Level?



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I. The Emergence of Network Computing

Network Computing combines the best of Mainframe, Client/server and Web computing.

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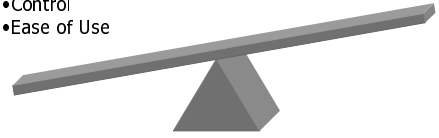
A Conflict of Needs

User Needs
- Productivity
- Empowerment
- Control
- Ease of Use

Enterprise Needs
- Scalability
- Reliability
- Security
- Integration



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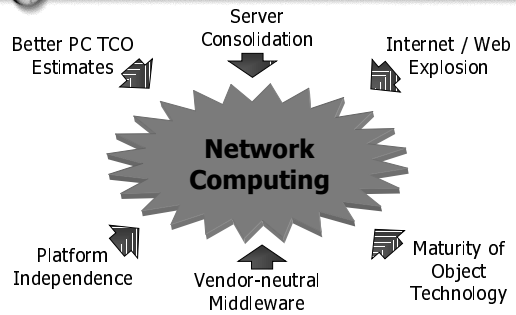
Convergence



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1-Tier: Host-based Computing

Terminal

Host
- User Interface
- Validation
- Business Rules
- Transactions
- Data Storage
- Integration

Advantages	Disadvantages
Centralized	Textual
Manageable	Proprietary
Secure	

1-Tier: PC-based Computing

PC
- User Interface
- Validation
- Business Rules
- Transactions
- Data Storage
- Integration

File Server
- File Service
- Print Service

Advantages	Disadvantages
Graphical	Not Scalable
Familiar	Poor Integration
Standalone	Unreliable

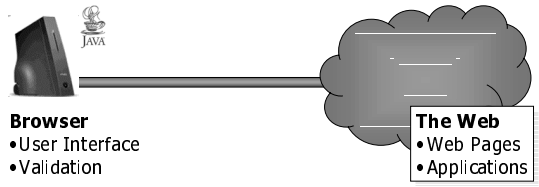
2-Tier: Client/Server Computing

Client
- User Interface
- Validation
- Business Rules

Server
- Transactions
- Data Storage
- Integration

Advantages	Disadvantages
Graphical	Difficult to Deploy
Responsive	Expensive to Manage

2-Tier: Web Computing

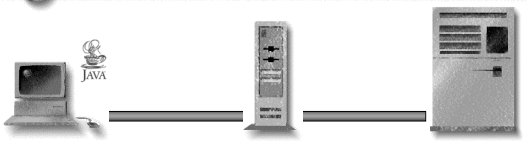


Browser
- User Interface
- Validation

The Web
- Web Pages
- Applications

Advantages	Disadvantages
Universal Access	Limited Function
Easy to Deploy	Unmanaged
Secure	

3-Tier: Network Computing



Client
- User Interface
- Validation

Application
- Business Rules
- Transactions

Server
- Data Storage
- Integration

Advantages		Disadvantages
Graphical	Manageable	New
Easy to Use	Secure	
Fast Deployment	Low Cost	

What is Network Centricity?

Standards	• Built on Open Internet Standards;
Universal Access	• Access to Data *and* Applications
Powerful Servers	• Professionally Managed Data and Applications; No Setup, No Futzing
Instant Deployment	• Component-based Development; Use of Common Services
Low-Cost	• Innovation, Competition lead to Low-cost Information Appliances

The Industry behind Network Computing

- ORACLE NCA
- IBM NCF
- Sun JCA
- Netscape ONE
- Microsoft DNA

Network Computing Initiatives

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The Difference is Standards

ORACLE, IBM, Netscape, Sun & 1000 Others

Vendor-Neutral Infrastructure: Java, CORBA, Enterprise JavaBeans

Microsoft

Proprietary Infrastructure: ActiveX, DCOM

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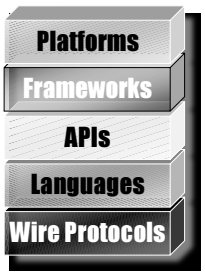
The Importance of Standards

Standards > Competition > Innovation > Low Cost

Current Vendor-Neutral Standards:

- HTTP, HTML, XML
- Java, JavaBeans, JFC
- C, C++
- SQL
- CORBA, RMI
- TCP/IP, IIOP
- X.509, SSL
- LDAP, IMAP4, POP



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II. Emerging Technologies

The underlying technology that makes Network Computing possible.

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Emerging Technologies

- Objects
- Java
- CORBA
- Enterprise JavaBeans

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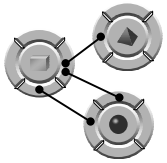
Benefits of Object Technology

Objects are:

- Easier to Build
- Easier to Test
- Easier to Maintain
- Easier to Extend
- Easier to Reuse

This Means:

- Faster Deployment
- Flexible Software
- Reliable Systems



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Why Java?

- Critical to Network Computing
  - Platform-Independence
  - Sandbox Security
  - Network Friendly
  - Component Architecture
- Easier than C++
- 100% Pure Java is Key

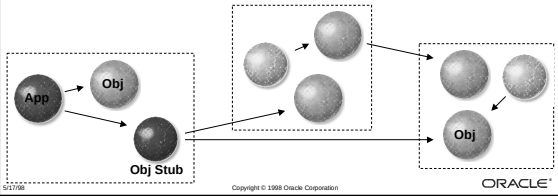
Oracle's Java Strategy

1. Standard database interfaces: JDBC, J/SQL
2. Java and JavaBeans tools (AppBuilder)
3. Application Server Java cartridge
4. Java in the database
   - Stored procedures,
   - Triggers,
   - Methods & data cartridges
5. Oracle Applications R11 on Java
6. Personal productivity software for NCs
7. OracleLite 3.0 -- Java Persistence

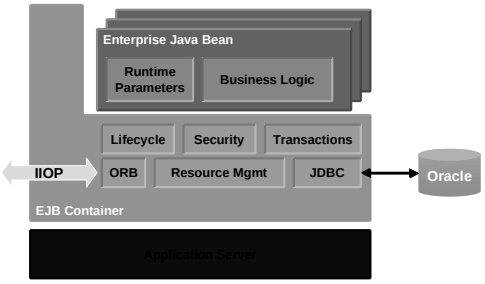
What is CORBA?

Enables N-tier computing

- Industry Standard Middleware and Services
- Vendor, Language, Platform Neutral
- Used to Integrate Systems
- Makes Building Distributed Systems Easy



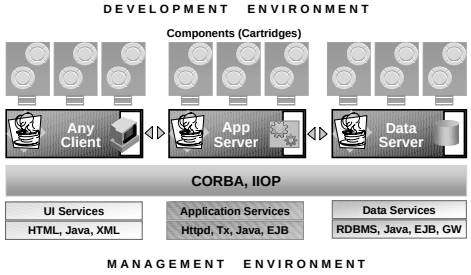
Enterprise JavaBeans (EJB)



III. An Architecture for Network Computing

Oracle Product Strategy and Directions.

Oracle's Network Computing Architecture



Thin Clients

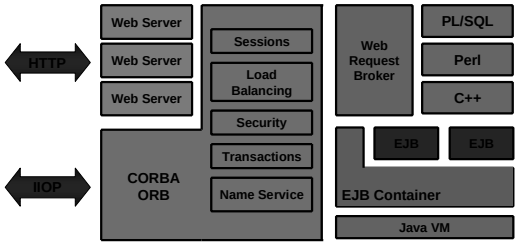
Client

Choice of clients

- Traditional PCs, Macs
- NetPCs
- Windows-Based Terminals
- X.11 Terminals
- Network Computers
- Java Desktops
- Mobile Devices

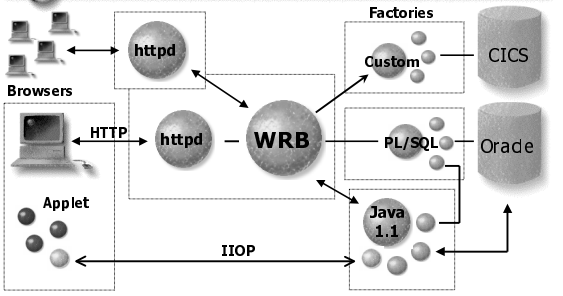
Oracle Application Server

App Server



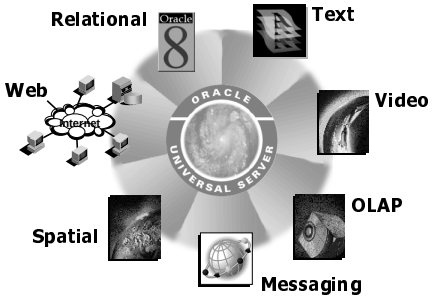
Oracle Application Server

App Server



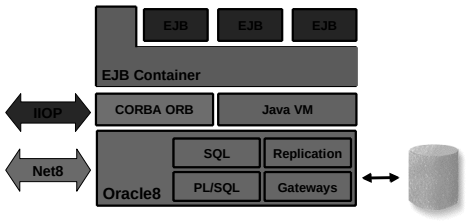
Oracle8 Universal Server

Manages All of your Data

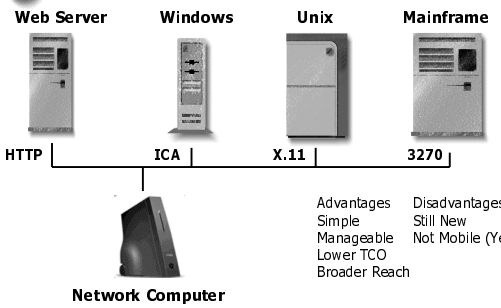


Oracle8 Universal Data Server

Data Server



The Network Computer



Advantages	Disadvantages
Simple	Still New
Manageable	Not Mobile (Yet)
Lower TCO	
Broader Reach	

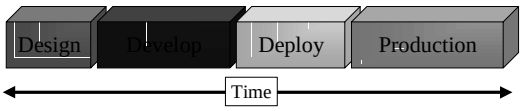
Getting Started

- Evaluate your network
- Consolidate data integration points
- Build a web site to consolidate access Consider integrated messaging
- Review security requirements
- Buy applications that are web enabled
- Choose development tools that are proven and web-enabled, and that have strong Java plans.
- Evaluate your computing usage, Investigate NCs, revisit hardware purchases
- Study Java, CORBA, Objects and Components as a basis for evaluation

Web Time

Getting started is more important than getting it perfect the first time

System Development Life Cycle



Web Development Life Cycle

Resources

http://govt.oracle.com/corourke

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