

The Future is Now

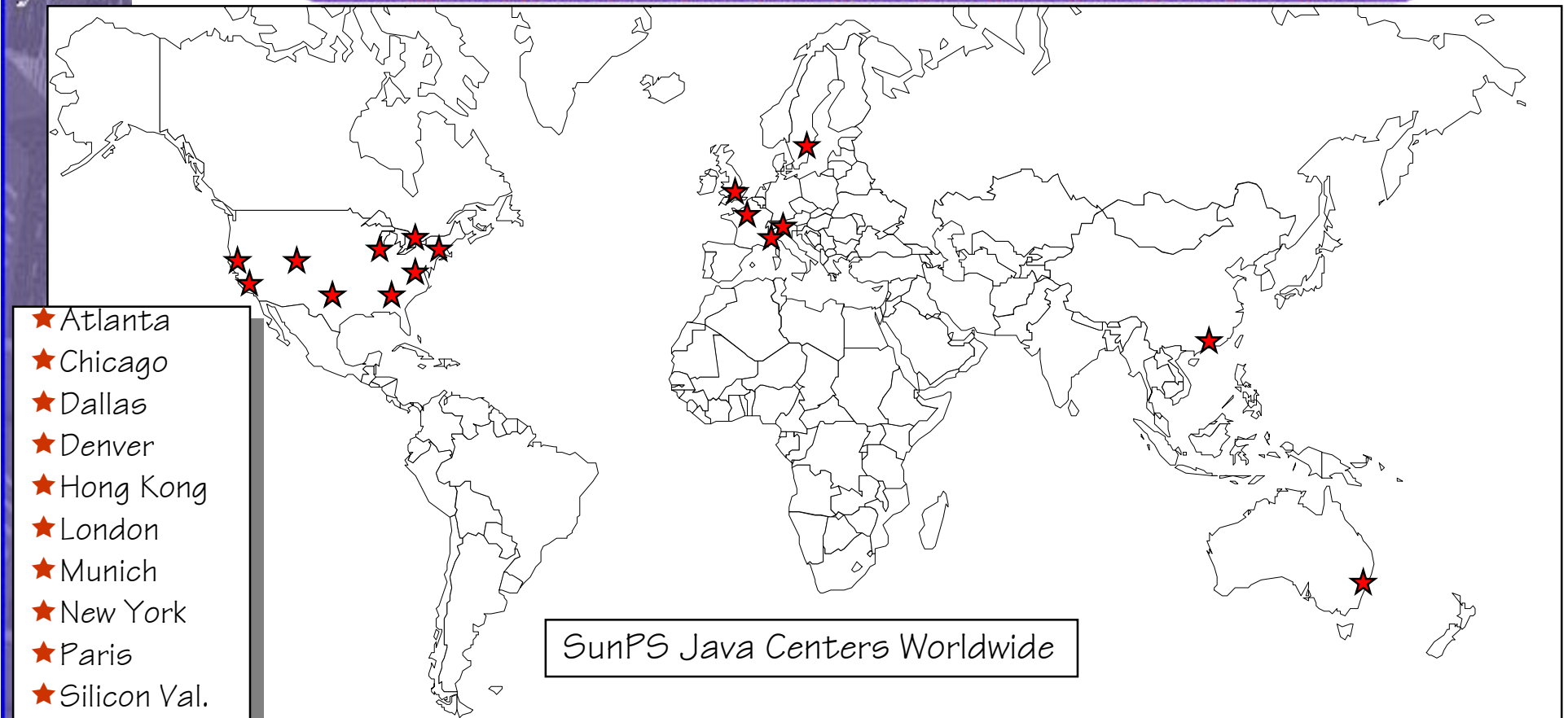
Stu Stern, Director

North American Sun Java Center





# Sun Java Centers



Internet application engineering expertise from  
the world leader in network computing!



# The Web-Based Delivery Revolution

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- On-Line Customer Access
  - Differentiates competitors
  - Reduces customer care costs
  - Allows one-to-one marketing
  - Enables dis-intermediation
- Web-Based I.T.
  - Lowers Total Cost of Ownership





# Current Infrastructure: The Fortress Model

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# Current Infrastructure: The Fortress Model

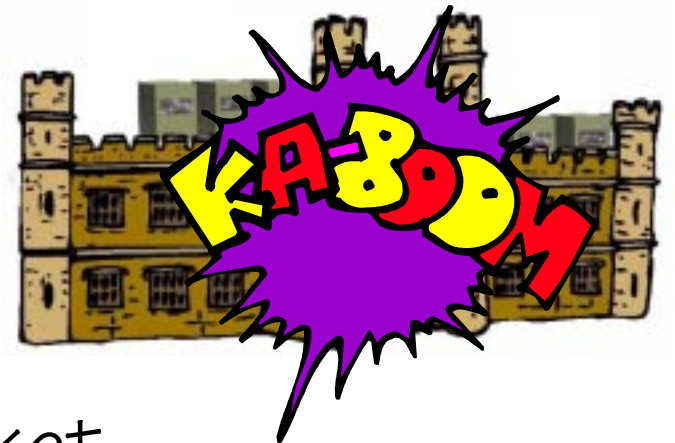
- Security
  - Designed for internal use only
- Availability
  - 9-to-5 operation
- Scalability
  - Inelastic capacity



# Just when you thought it was safe...

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- New User Base
  - Business Partners, Consumers
- New Deployment Environments
  - The Web, Consumer Electronics
- Whole New Architecture
  - Multi-Tiered
- Significant Time-to-Market Compression



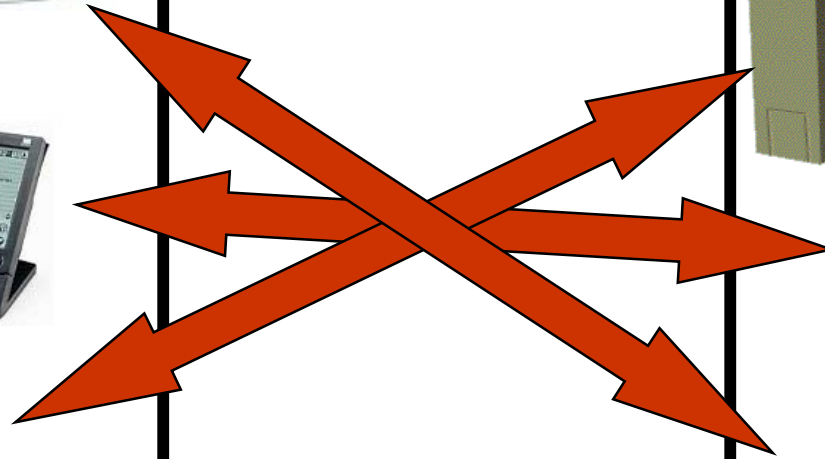


# The Old Client-Server Model

Client  
Access



Back-End  
Resources





# The Old Client-Server Model

Client  
Access



- Client software needs to be developed for each client platform (PC, Voice Response Unit, ...)
- Specialized tools and software required for non-PC devices
- Software needs to be installed and set up for each user

Back-End

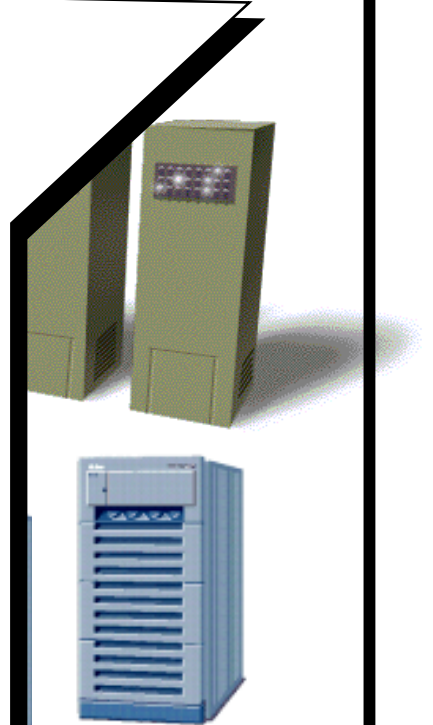




# The Old Client-Server Model

- Clients directly access enterprise resources
- Enterprise resources are vulnerable to security breaches
- Technology changes can break clients
- Difficult to increase capacity
- Complex to make highly available through redundancy

Back-End  
resources



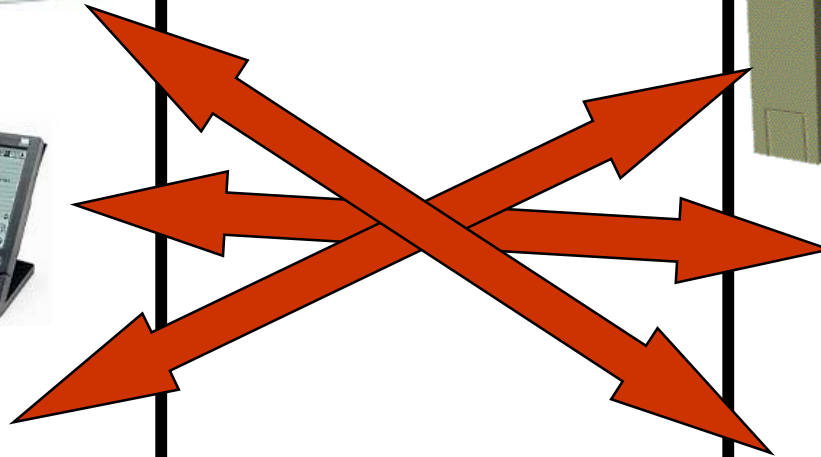


# The Old Client-Server Model

Client  
Access



Back-End  
Resources





# Next Generation Infrastructure: The WebTone Model

Client  
Access



Enterprise  
Services

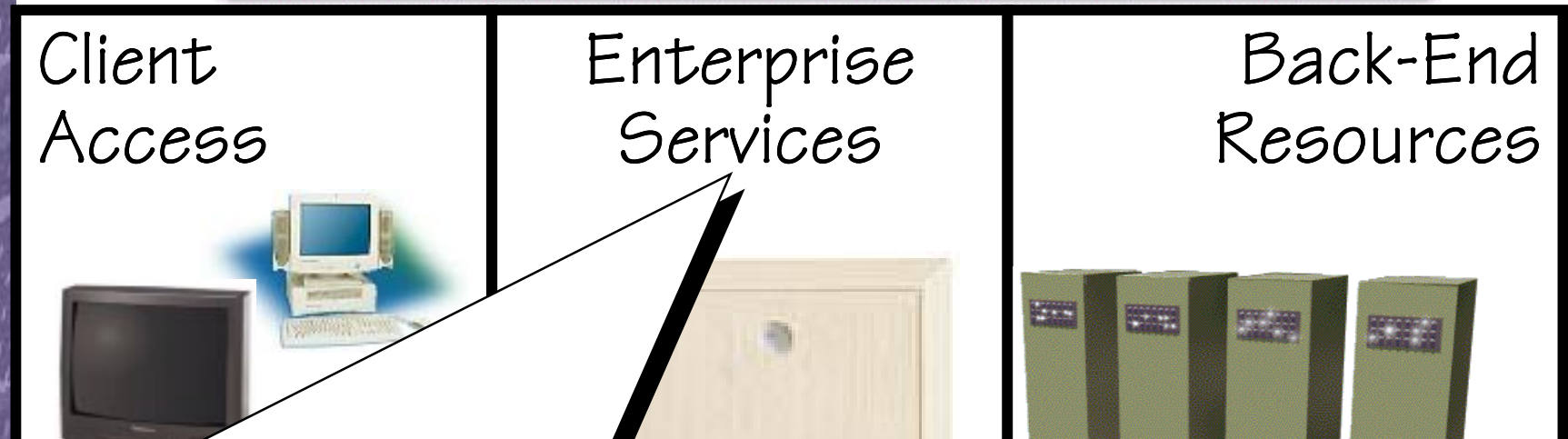


Back-End  
Resources





# The Services Layer provides the WebTone



- Layer is inserted between clients and resources
- Presents service-level interface, instead of a technology-level interface, to clients
- Provides focal point for security, load balancing, and failure recovery





# Next Generation Infrastructure: The I.T. Utility

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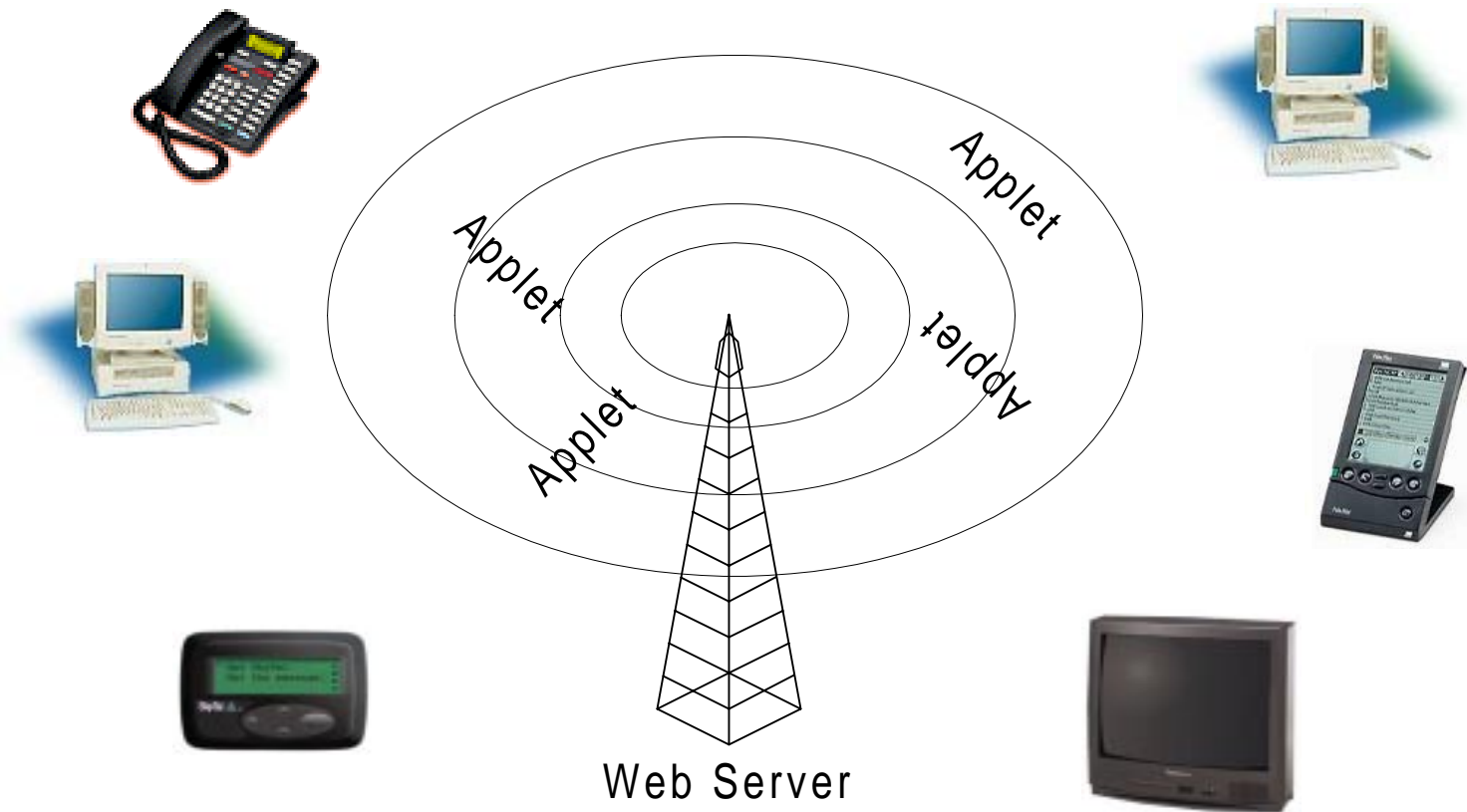
# Next Generation Infrastructure: The I.T. Utility

- “Enterprise Service Provider”
- Secure, plug-n-play access
- 24x7 availability
- Highly scalable
- Control the services, but not the clients



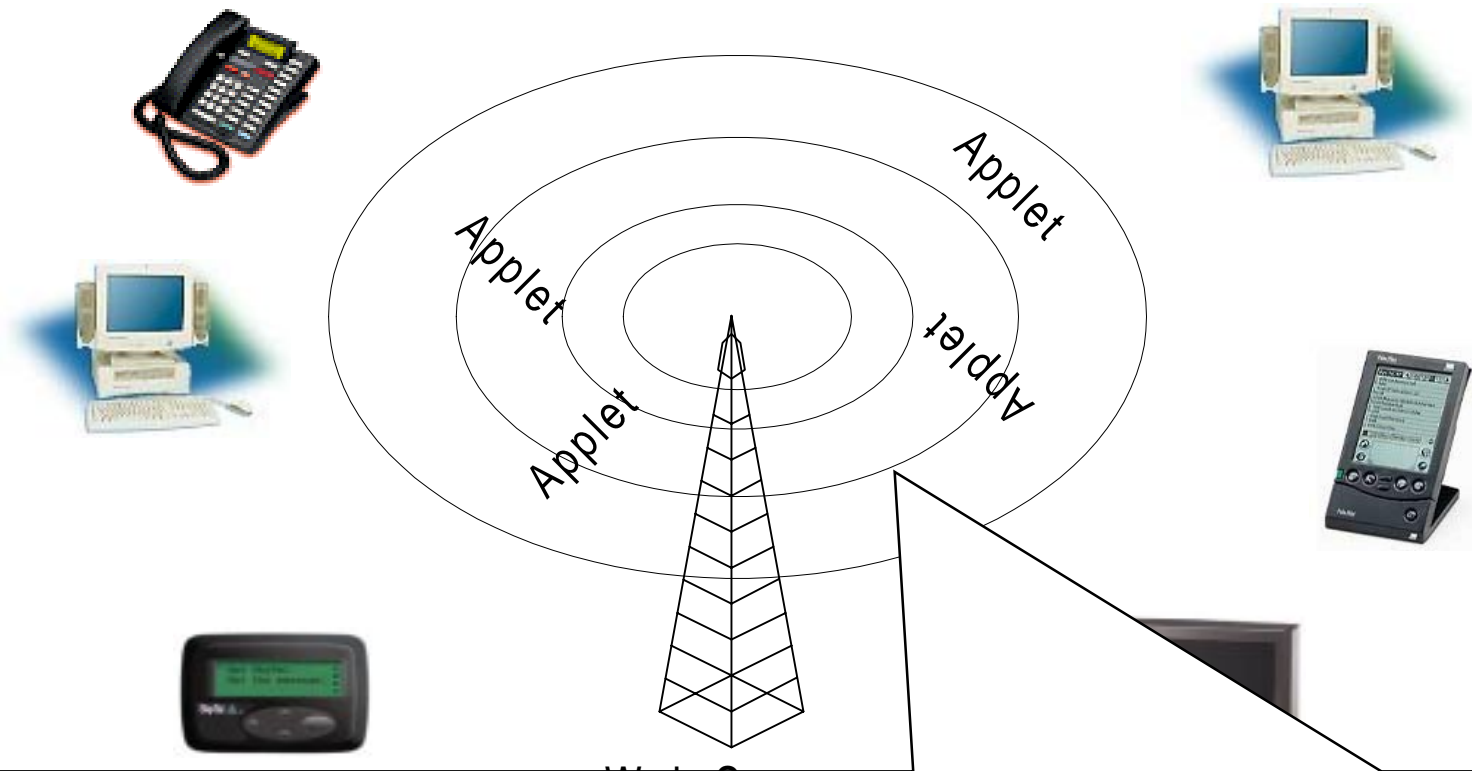


# Next Generation Infrastructure: Service Broadcasting





# Next Generation Infrastructure: Service Broadcasting



- Accessible from a variety of end-user maintained devices
- No special installation required to access new services





# Where's Java?

Client  
Access



Enterprise  
Services



Back-End  
Resources





# Java provides diverse client access

Client  
Access



Enterprise

Back-End

- Java is portable across client devices
- Scalable from smartcards to supercomputers
- Downloads automatically so clients always have latest software
- Dynamically loads to deliver versions customized to user/platform



# Java is ideal for developing Enterprise Service Objects

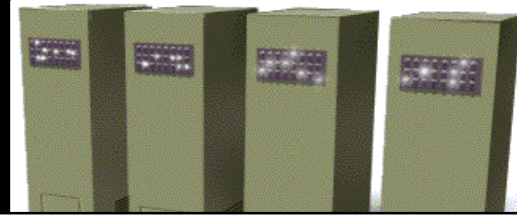
Client  
Access



Enterprise  
Services



Back-End  
Resources



- Java “multi-threads” so that a single object can handle many requests at once
- Enterprise JavaBeans provide framework for distributed business objects
- Built-in memory management ensures stability and reliability





# Java integrates legacy systems

Client  
Access

Enterprise  
Services

Back-End  
Resources

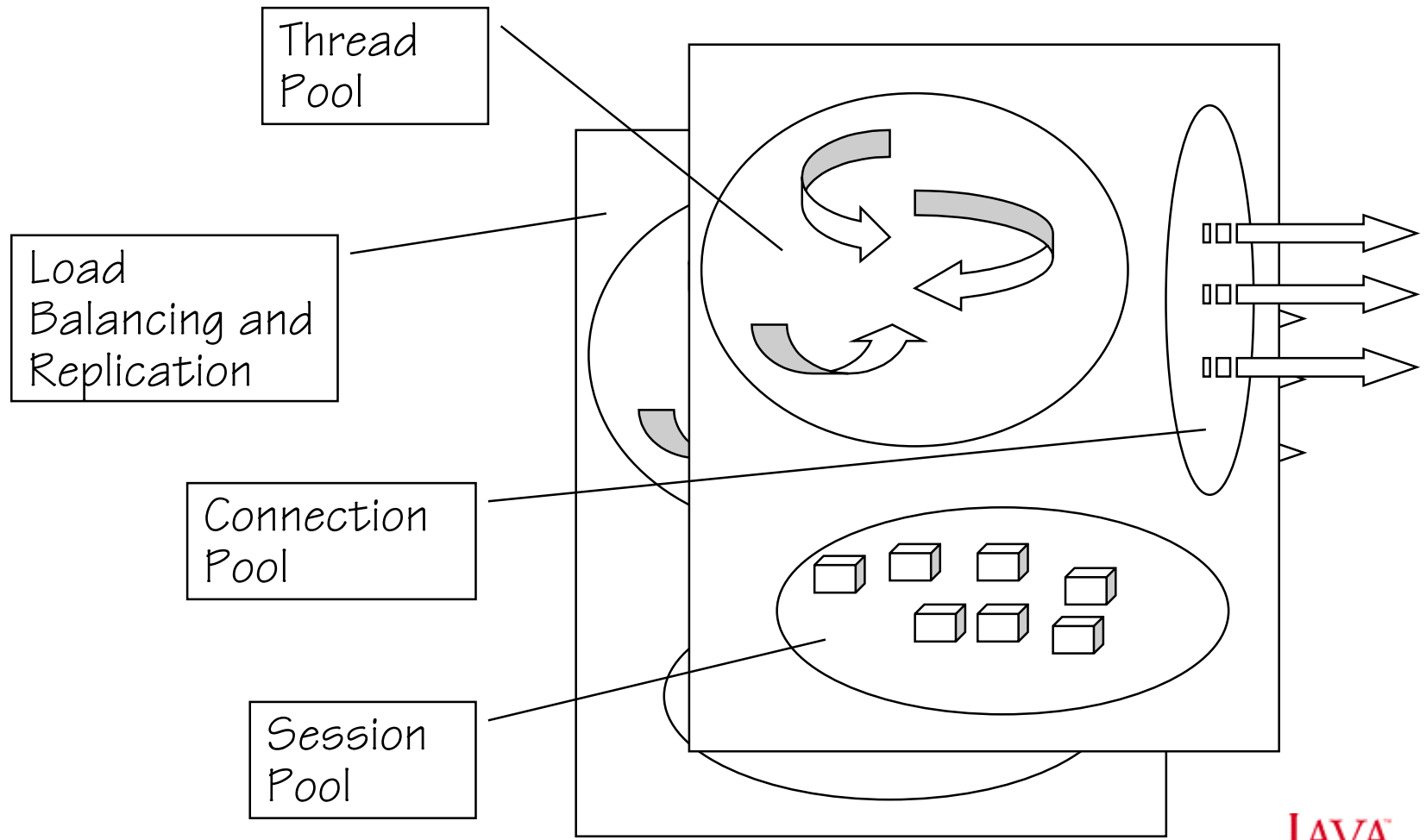
- Java is a universally supported standard
- Nearly every technology company provides access from Java
- Almost any legacy technology can be accessed by Java
- Database servers, mainframes, telephone switches...





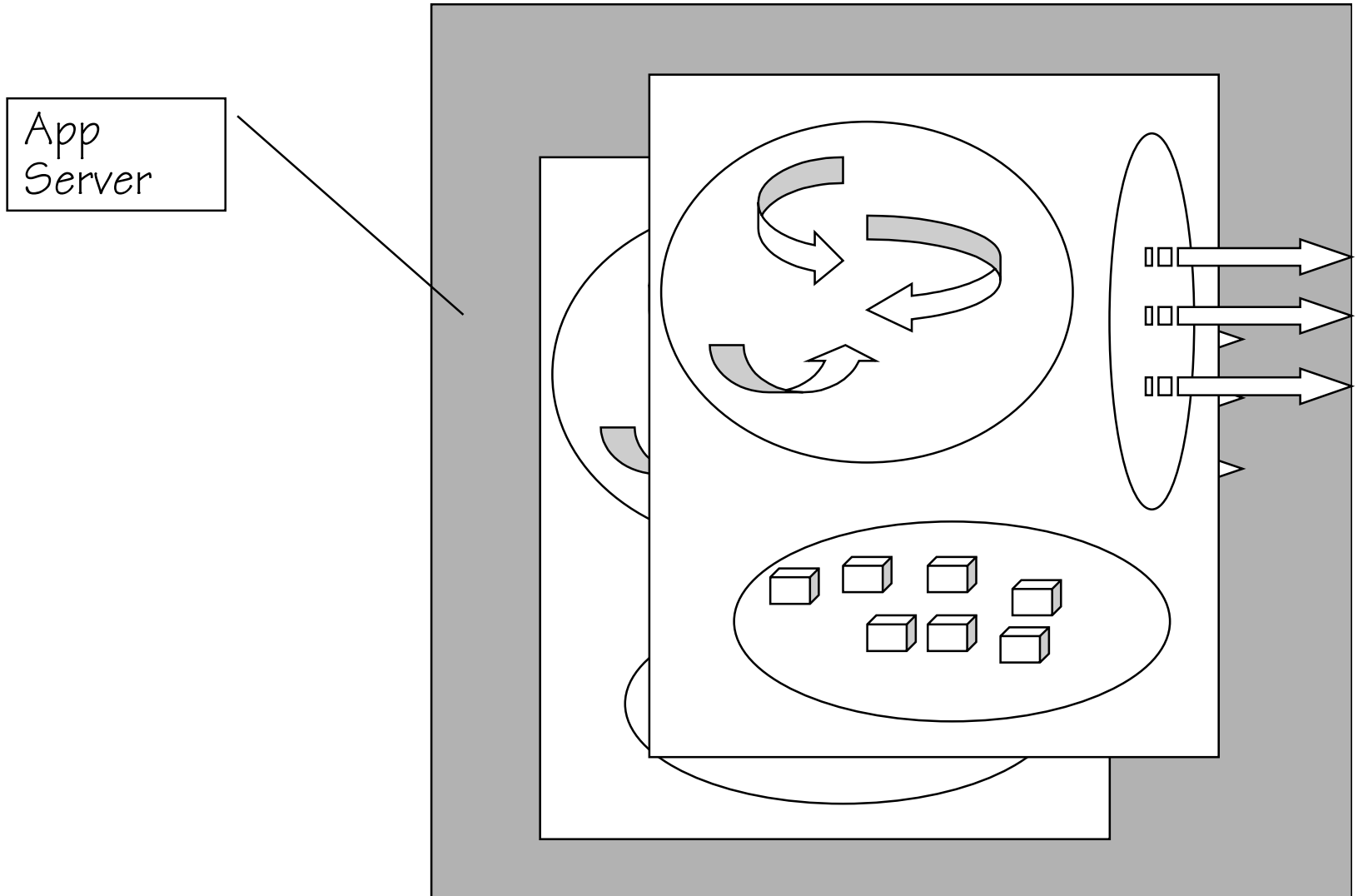


# Service layer implementation is complex



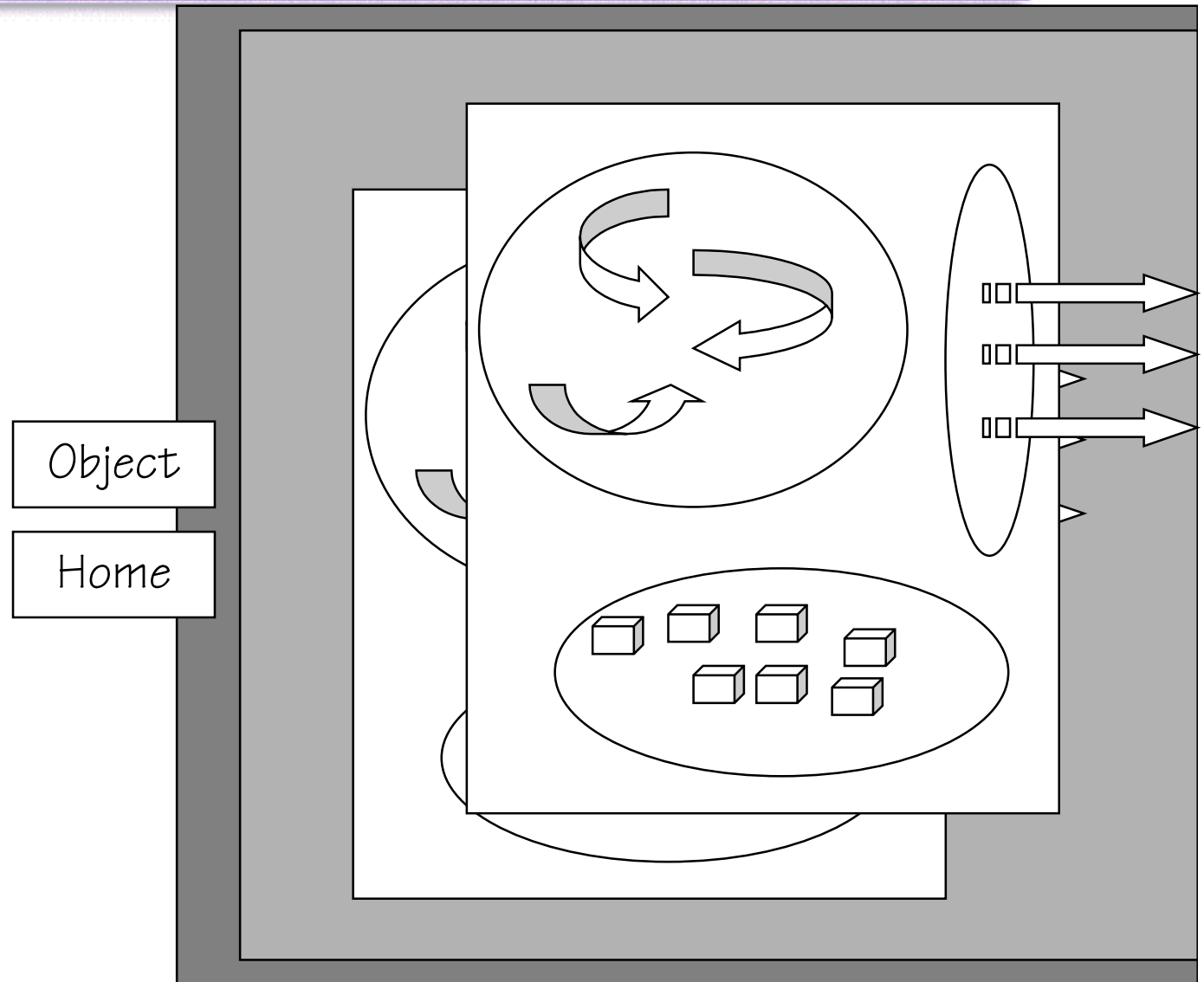


# App servers manage the complexity for you





# EJB provides middleware independence and portability





# Jini and the Enterprise

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# PC Configuration Hell



Hey PC,  
Would you print  
this photo?



What's a photo?

Monitor's on,  
but nobody's  
home.





# The Jini Model: Registration

Hi, I'm a printer



Jini Service Federation

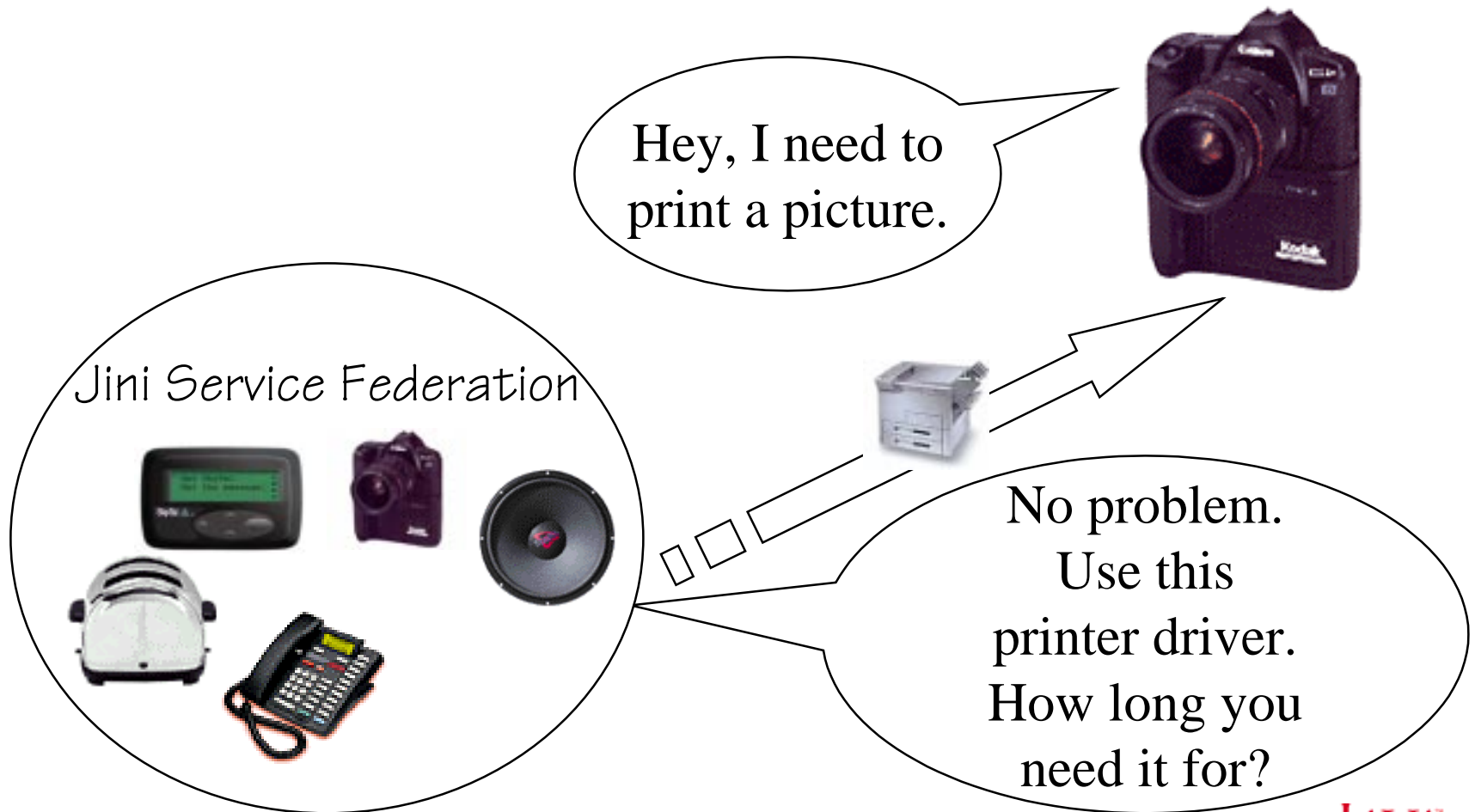


Hi, I'm a camera





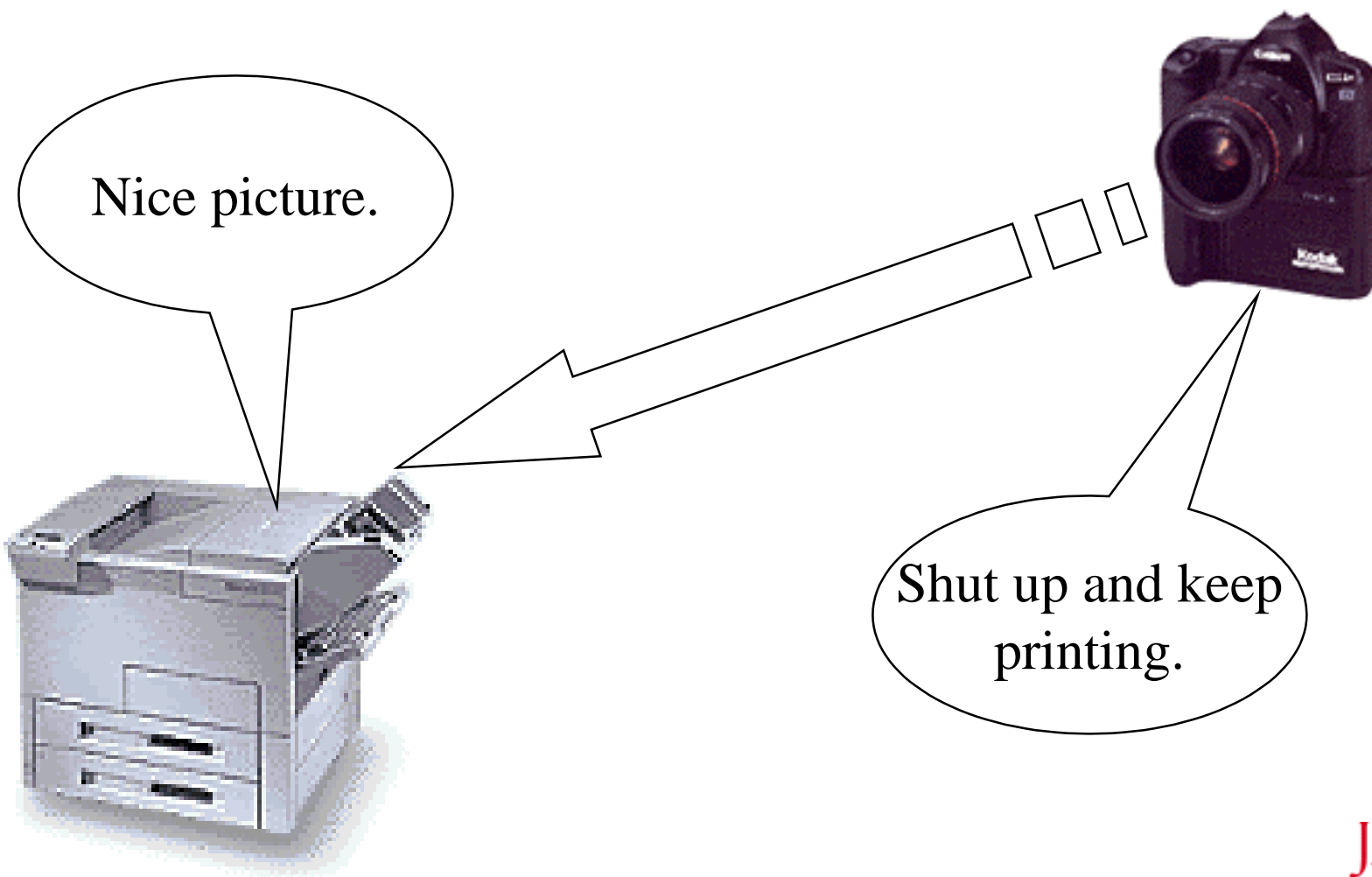
# The Jini Model: Lookup and Leasing





And they lived happily ever after

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# I.T. Organizational Friction

Marketing

We wanna base discounts on previous sales.

Order Processing

OK, but we'll need to talk to the Sales History guys.

Sales History

They want it when?





# Component-based System Construction

Killer App Builder

Components

	Item	Qty	Price

OK

Order Service

Sales History Service



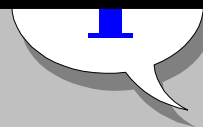
# Component-based System Construction

Killer App Builder


	One	Two	Three



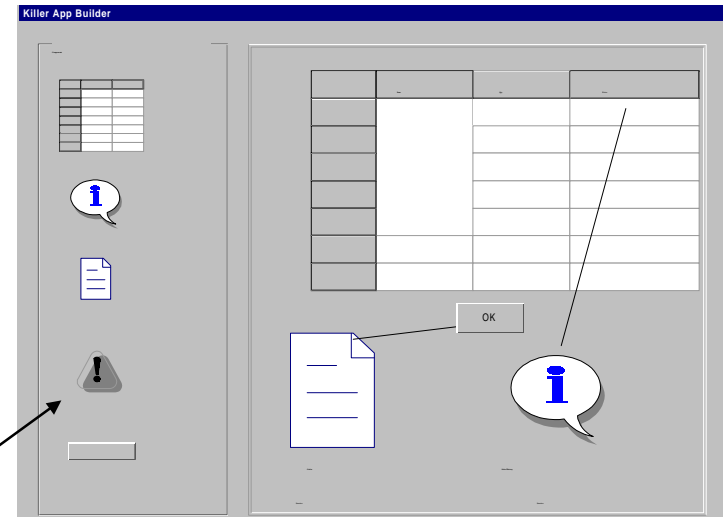
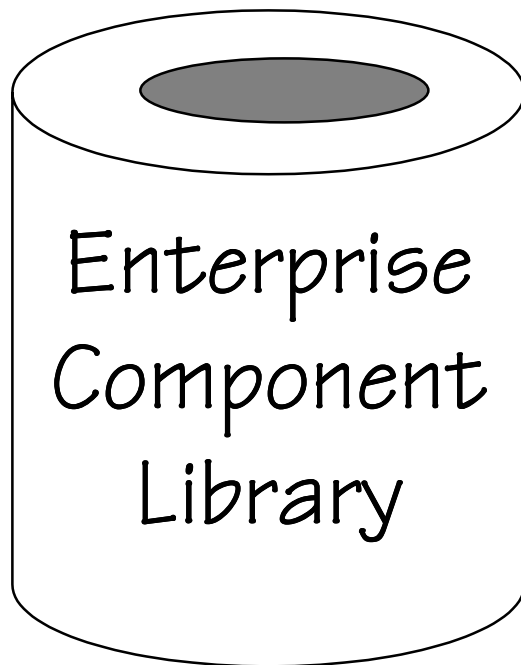
- Pre-built, pre-tested software modules
- Snap together construction
- Client-Side - JavaBeans
- Server-Side - Enterprise JavaBeans





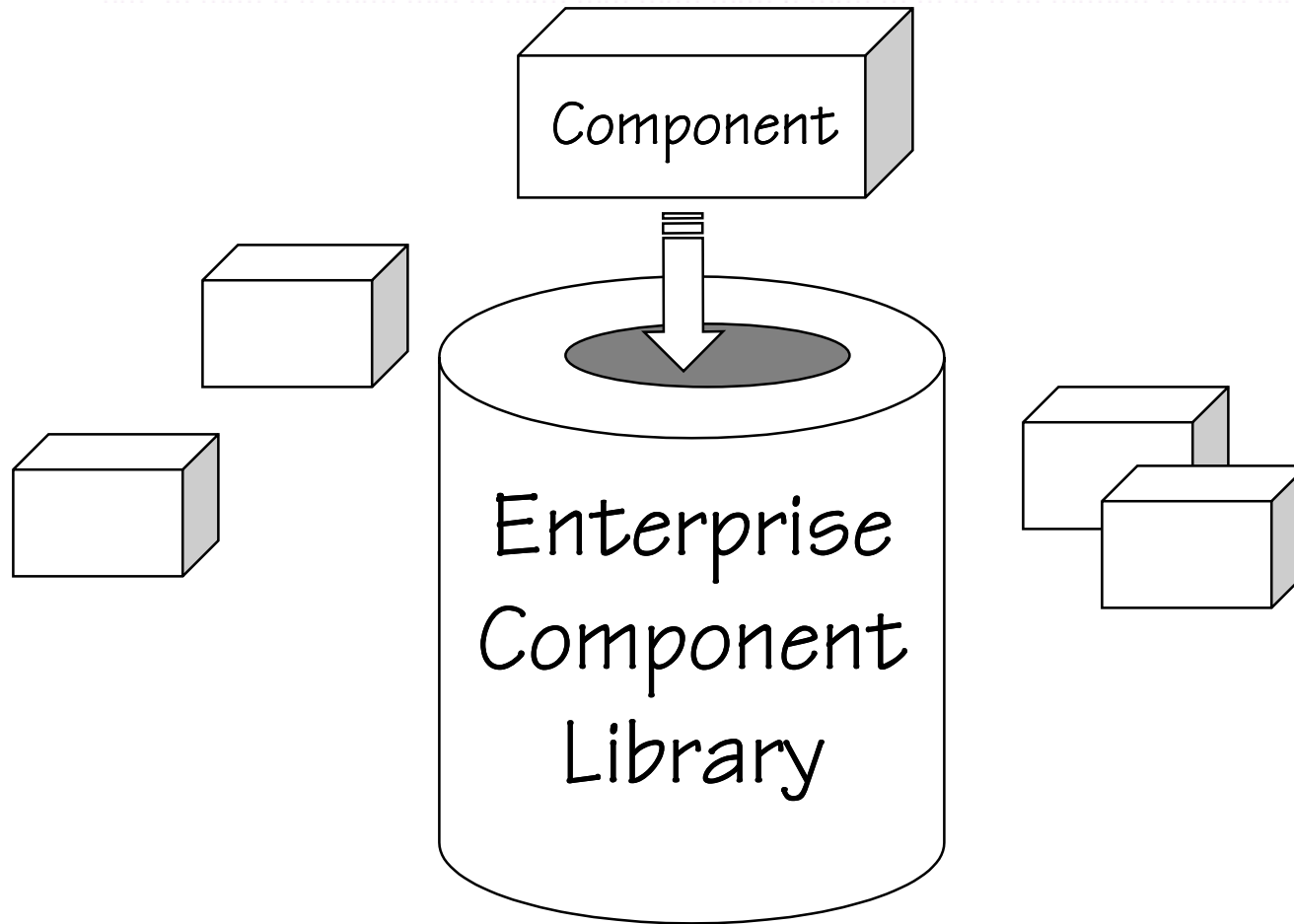
# Component repositories have been key to enterprise re-use

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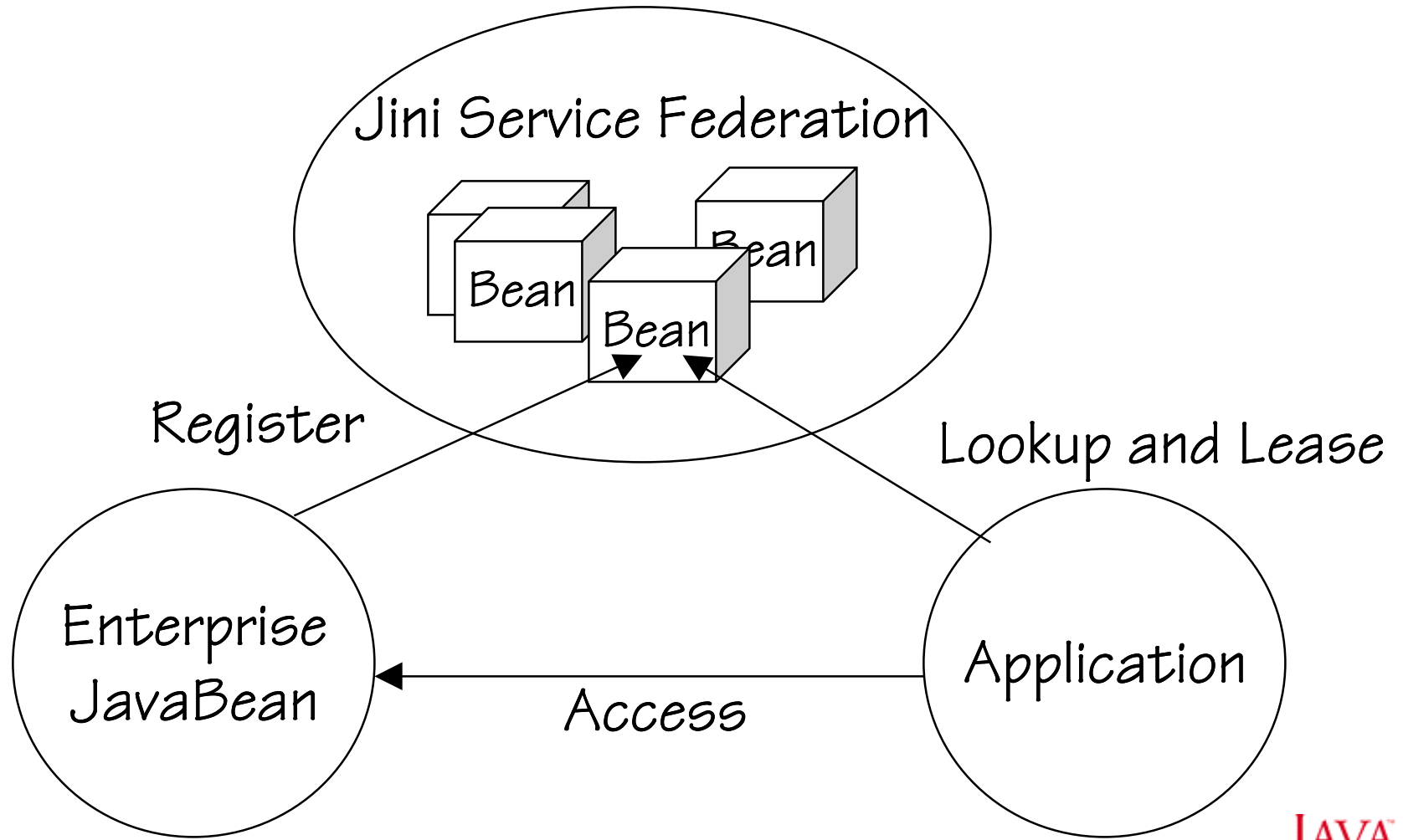
But have proven notoriously hard to implement

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# Using Jini to Federate I.T. Services

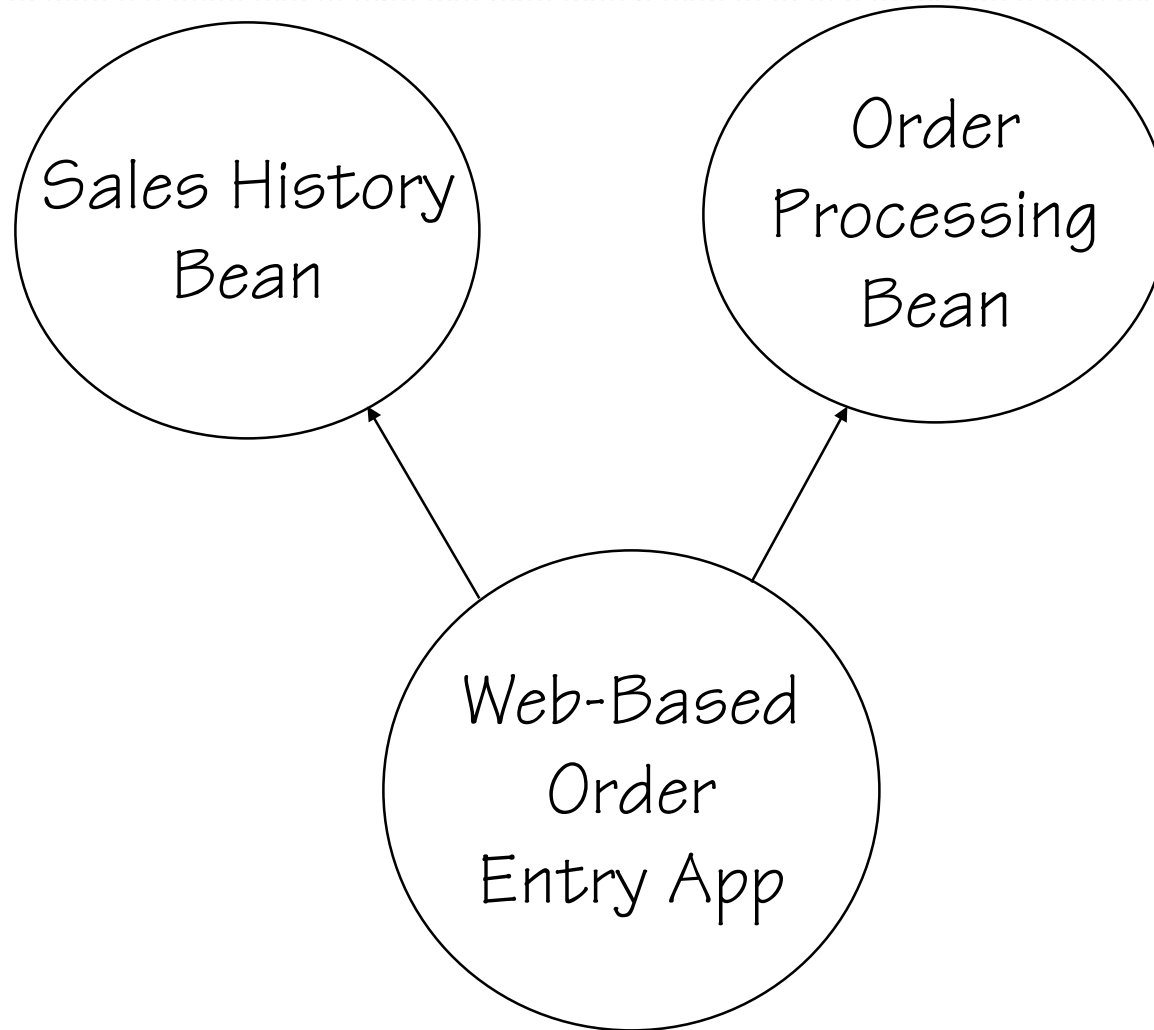






# The Plug 'n Play Enterprise

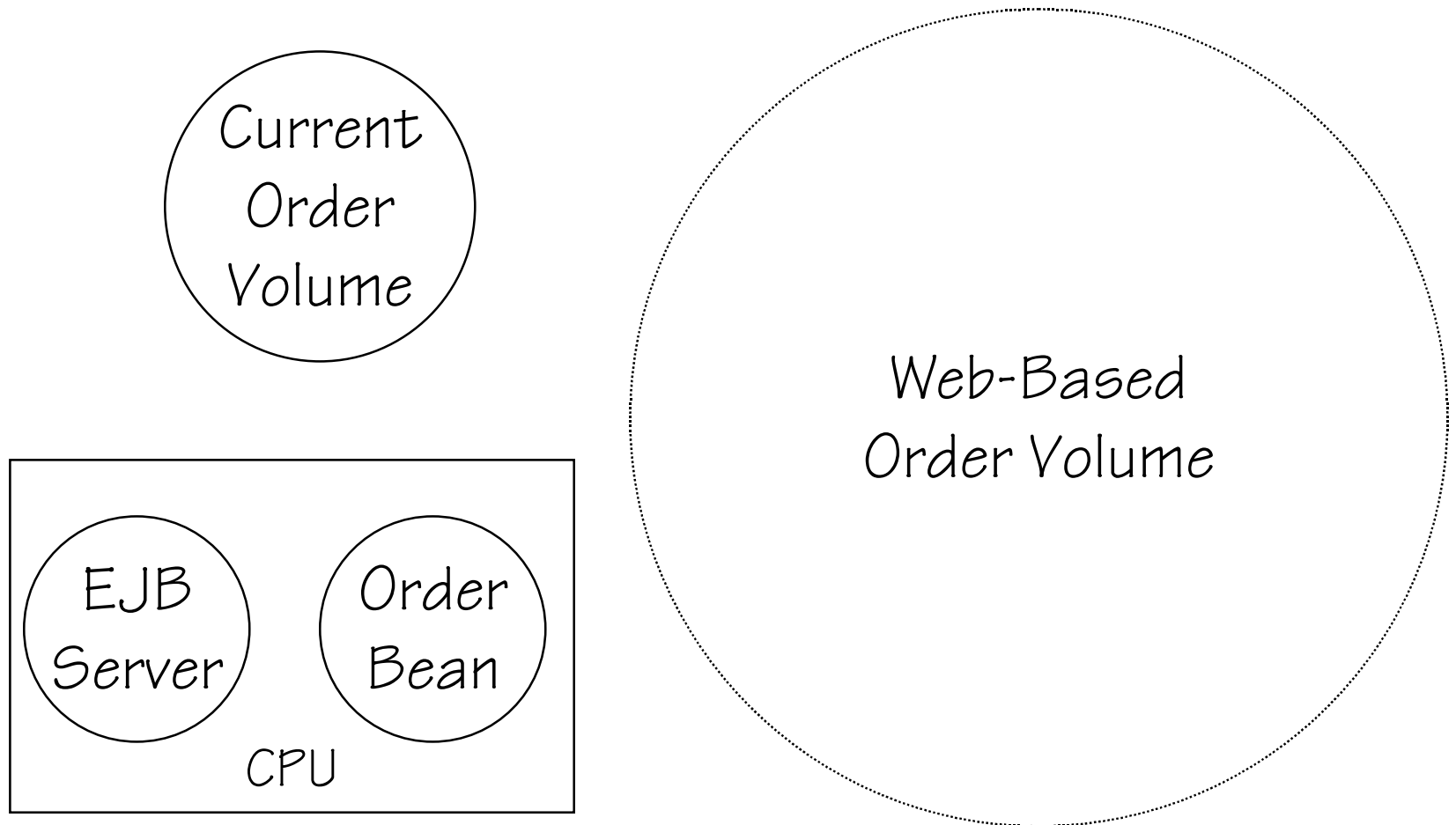
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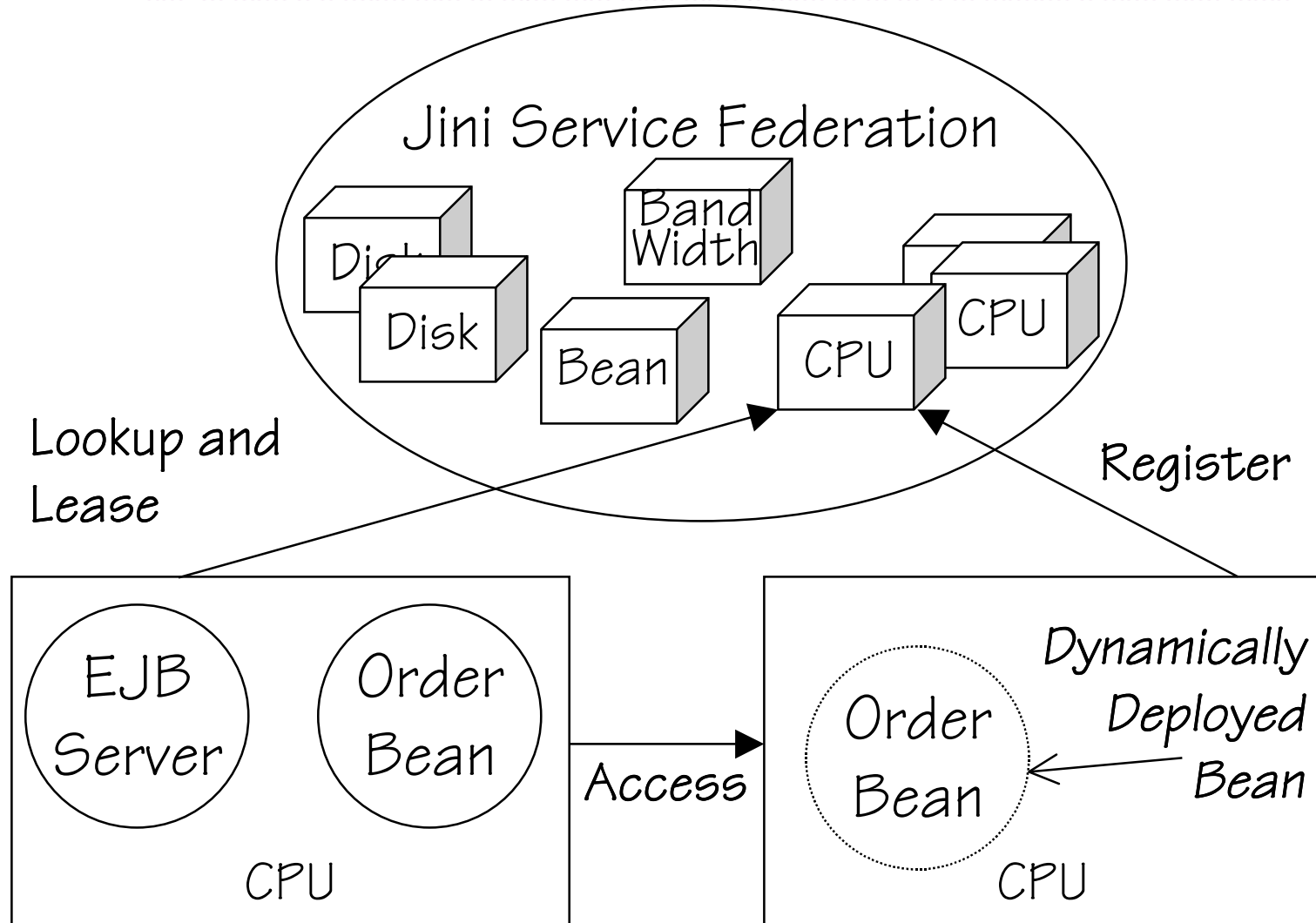
# Can you guarantee you won't overload a server component?

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# Jini Virtual Mainframe





## For More Information

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- 303 804 3067
- <mailto:Stu.Stern@Sun.Com>
- <http://www.sun.com/service/sunps>



We're hiring!

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**JAVA™**  
**CENTER**

<mailto:chris.mason@east.sun.com>