



Java Deployment Architectures

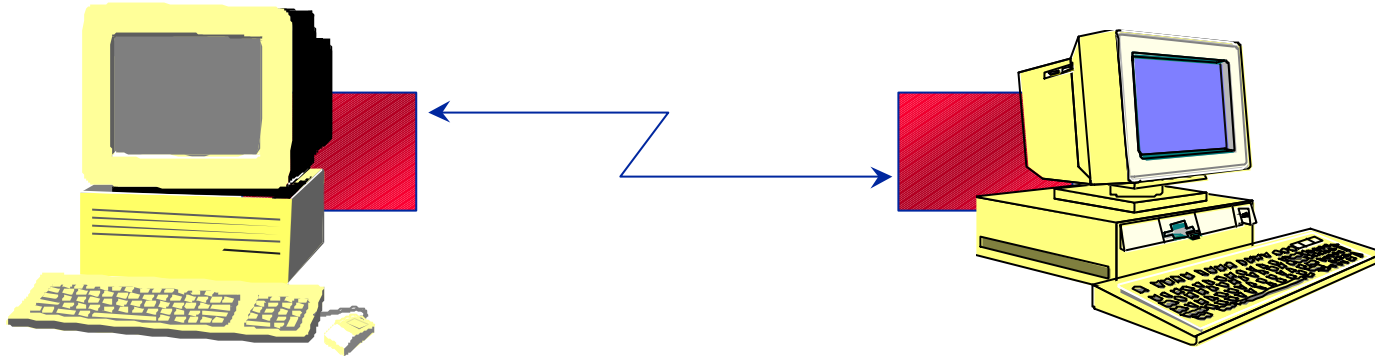
Matthew Faupel

12th November 1997



Distribution

- Application components in different locations



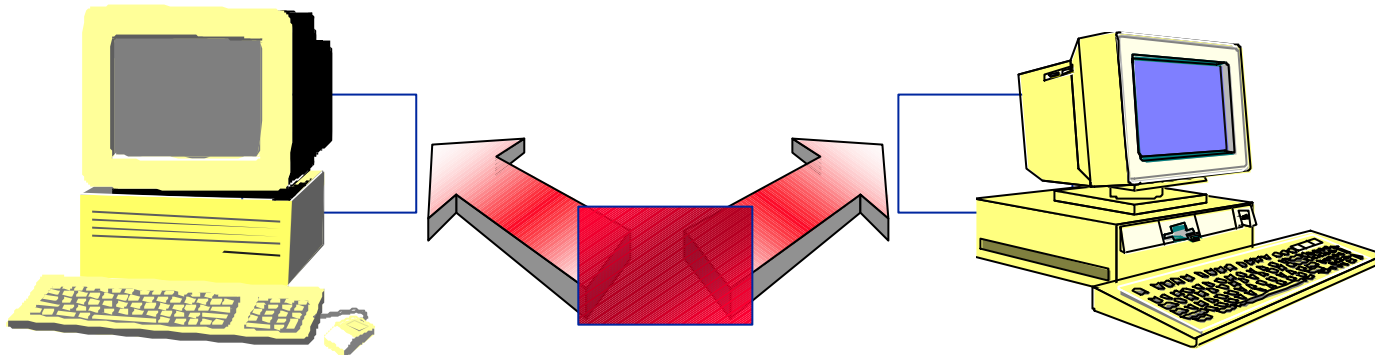
Why?

- Political: different entities interacting
- Resource-driven: must be physically close
- Efficiency: e.g. load balancing



Deployment

- Automation of placement of components

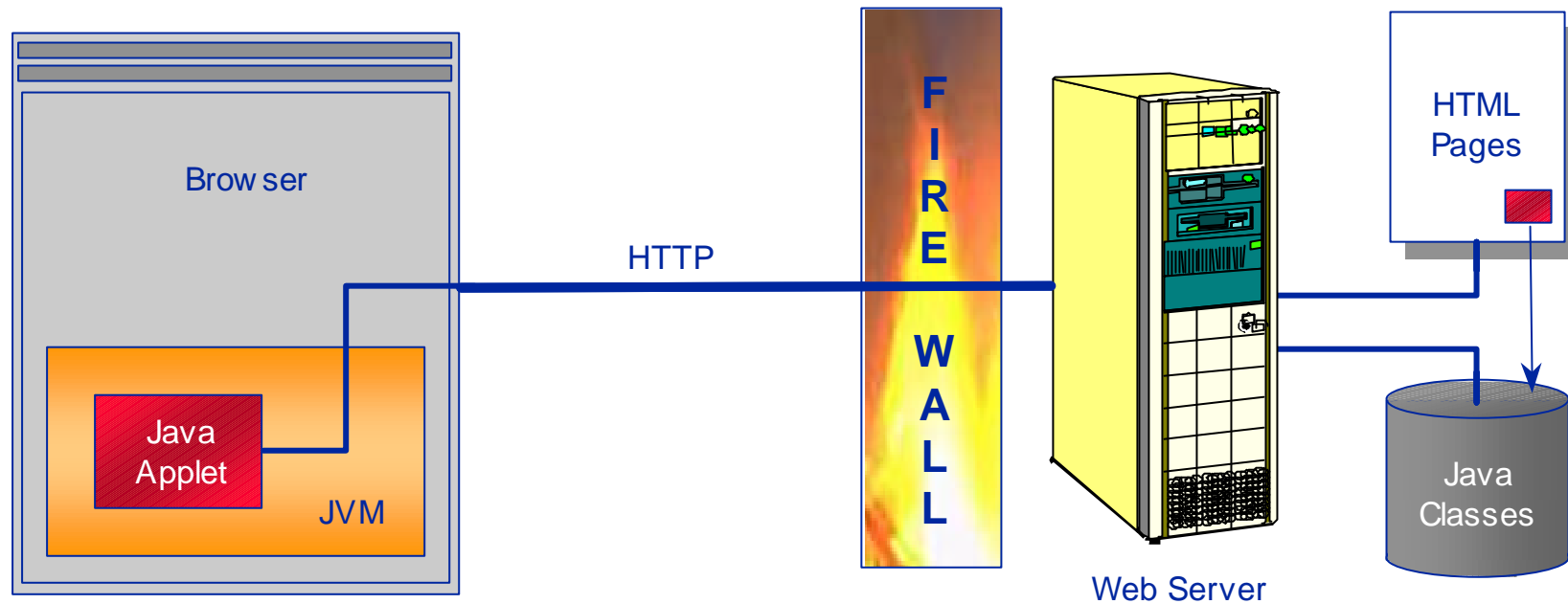


Why?

- Delay location and binding decisions
- Ease application maintenance and update
- Avoid incompatibilities



Java applets



Java applets

- Widely supported
- RMI available for distributed computing

BUT

- They are ephemeral
- Their functionality is limited



Long-term Relationships

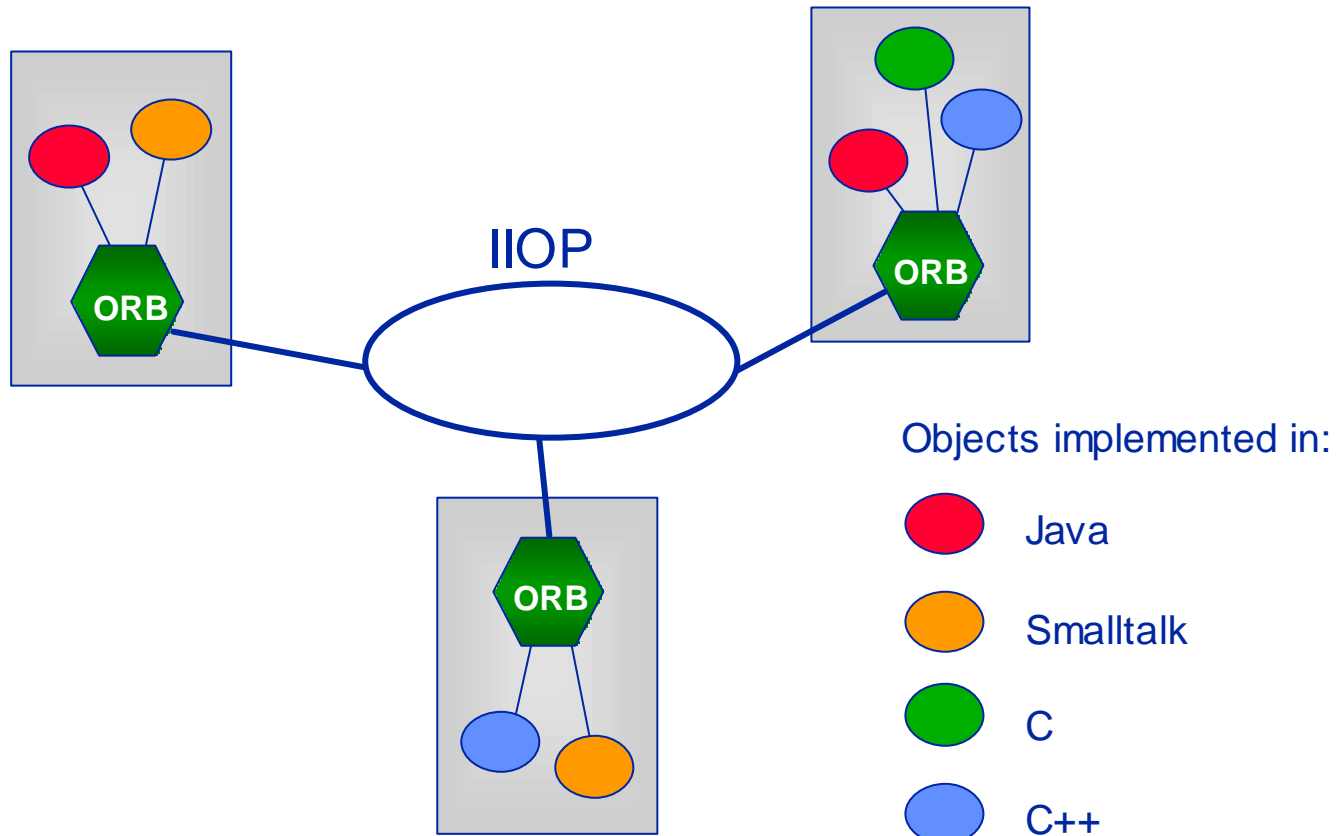
- Channels (active content)
- Business-to-business links
- Long-term information gatherers (agents)

So we need

- Maintainable, long-term clients
- Fewer restrictions on functionality
- Access to persistent storage etc.



OMG OMA



OMG OMA

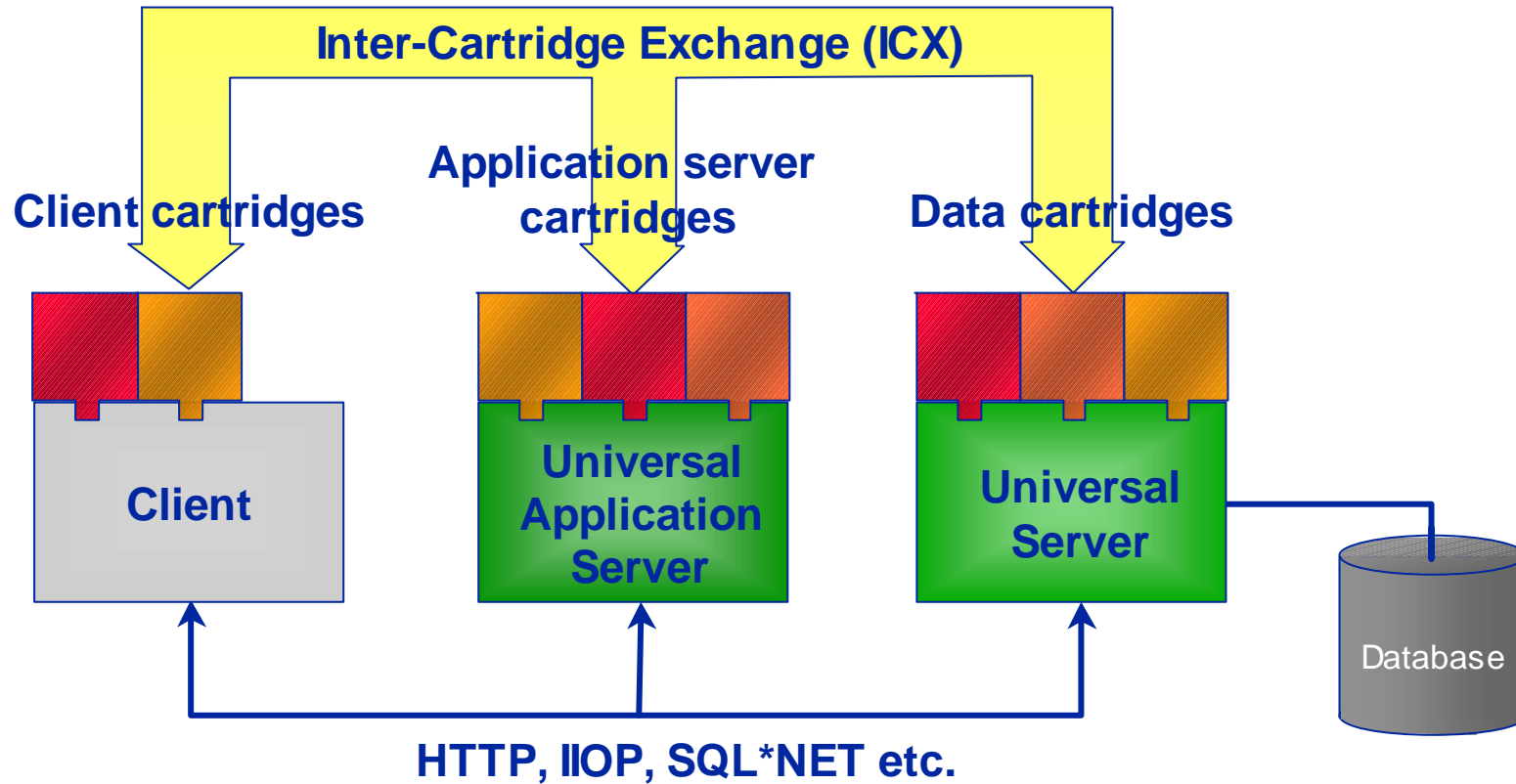
- Has a well-developed architecture for distribution
- Has a wide range of supporting products
 - Visigenic, Sun, Orbix, IBM, etc.
- Growing integration of Java

BUT

- Does not address deployment
- IIOP causes problems with firewalls



Oracle NCA



Oracle NCA

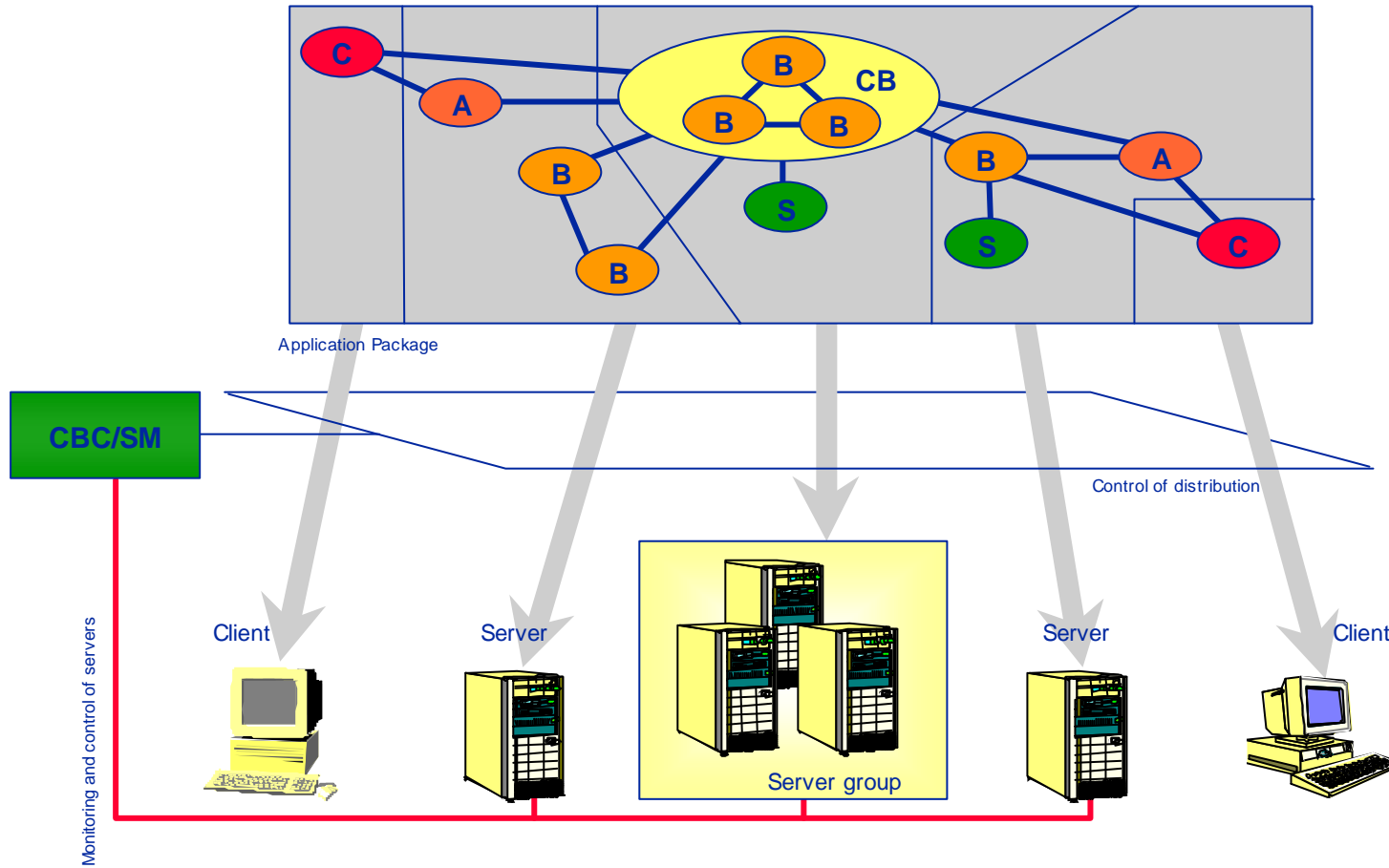
- Tries to fit existing pieces into a coherent whole
- Makes use of Java and CORBA
- Has a component concept in its cartridges

BUT

- No interfaces have yet been published
- Effort seems concentrated on vertical integration
- No apparent links to Beans and JECF cassettes



IBM Component Broker



IBM Component Broker

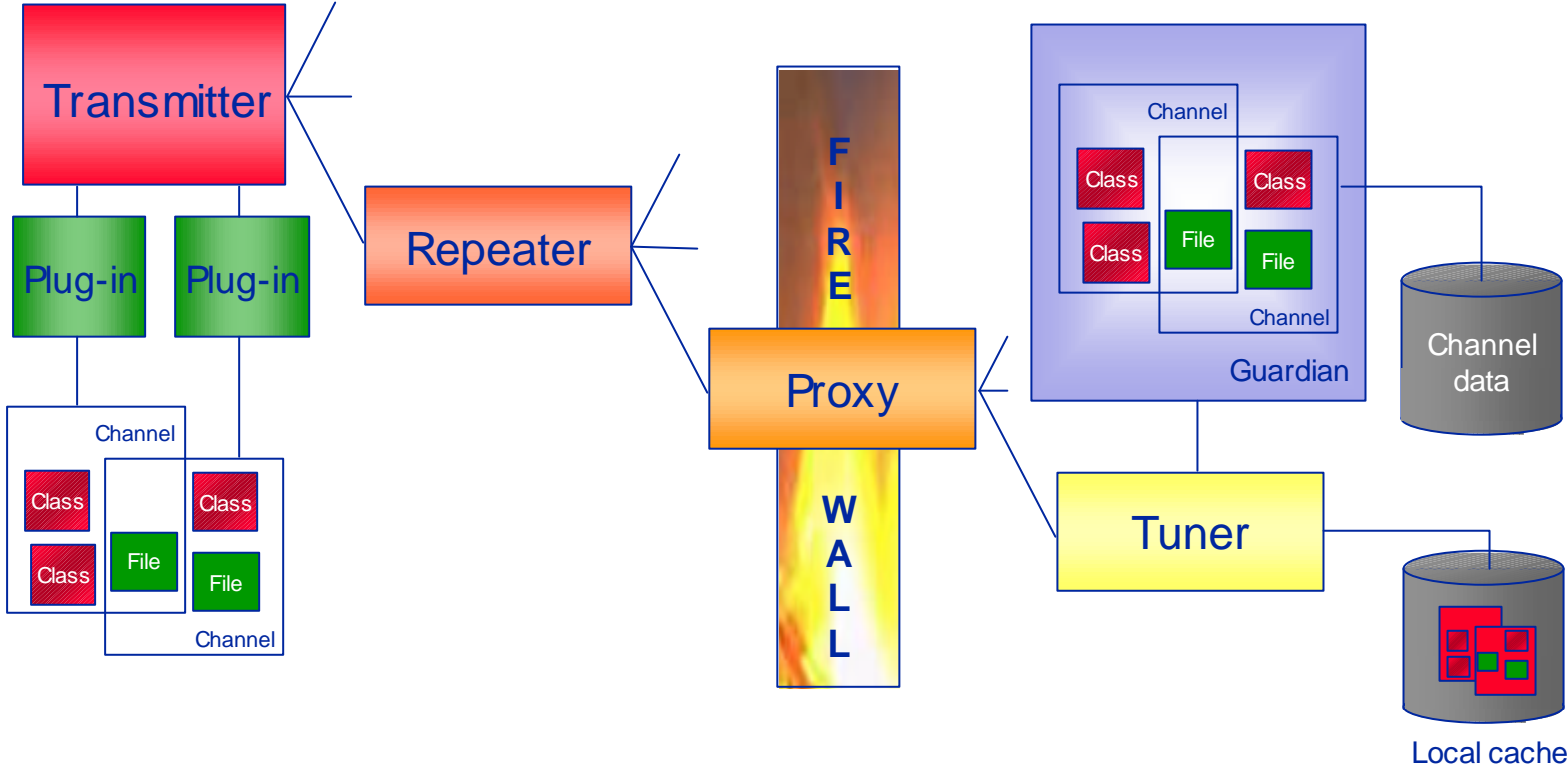
- Addresses distribution and deployment
- Leverages existing technologies
- Can cope with some dynamicism

BUT

- Distribution and deployment choices are still manual
- Agents are not integral
- It's not here yet!



Marimba Castanet



Marimba Castanet

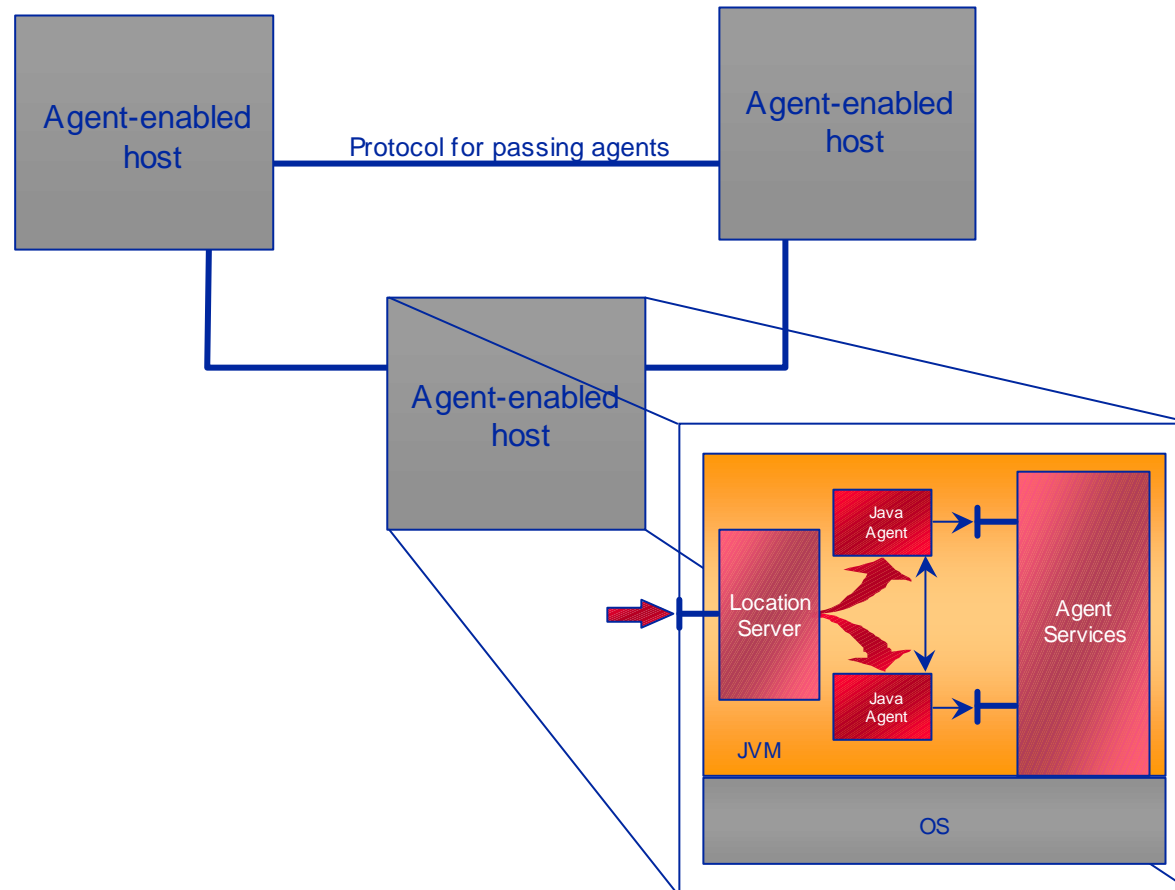
- Provides deployment and efficient update facilities
- Can be tailored to fit individual users

BUT

- Client-driven
- Application (not component) based => single source



Mobile Agent Systems



Mobile Agent Systems

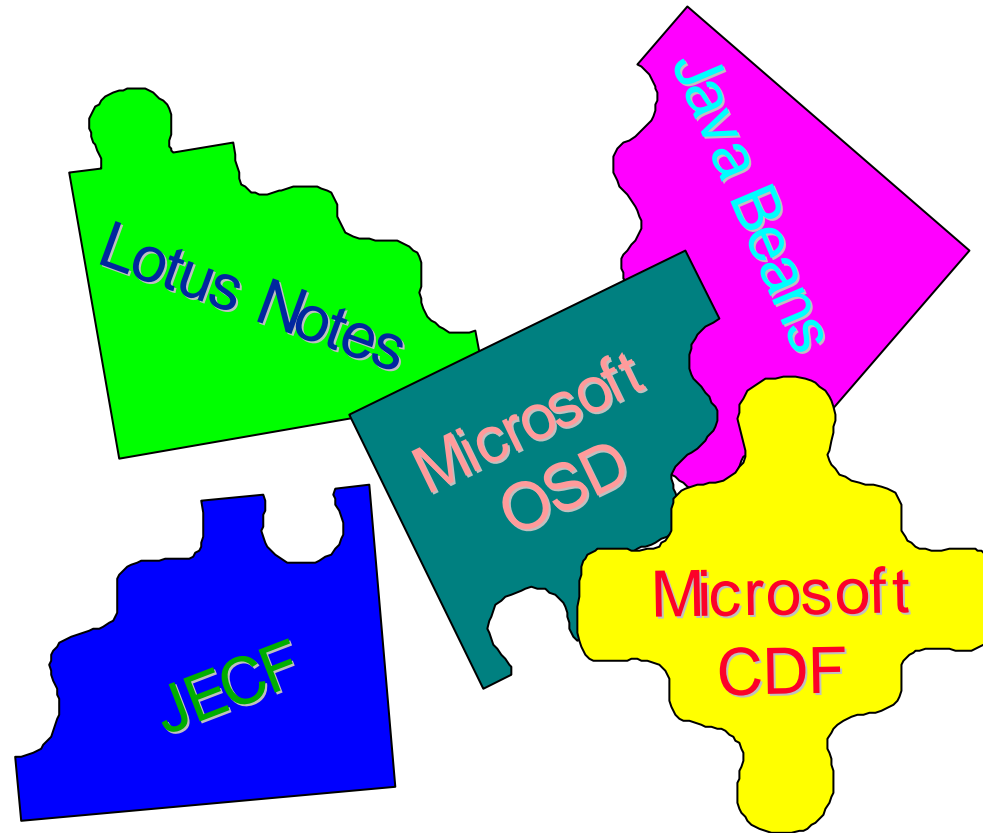
- Can be viewed as a deployment mechanism
- Allows dynamic interpretation of policy

BUT

- Deployment policy embedded in component
- No support for maintenance and update
- Solutions currently available are not generic



Related Technologies



The State of the Art



Convergence. Jackson Pollock, 1952, oil on canvas, 93.5" x 155". Albright-Knox Art Gallery, Buffalo, NY, USA.



What's Missing

- An architecture for dynamic systems
- Modularity and transparency
- A policy framework
- A legal and commercial framework



FlexiNet

