

Applying MOM Technology

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Outline

- What MOM brings
- What MOM takes
- Concepts/terms you need to know
- What differences MOM provides
- Skills for developing/administrating
- Where to apply MOM technology
- Summary
- Q&A

Do you need MOM technology?

What MOM brings

- Message oriented computing
 - Data are produced dynamically.
- Loosely coupled programming model
- Asynchronous communication
 - You don't have to know where the data go, nor where they come from.
- Service Scalability
 - Easy to expand your service capacity.
- Easy to establish backup system

What MOM brings

- Realtime messaging
 - Data are realtime delivered.
- Dynamic message filtering
 - A message goes only to those who need it.
- High flexibility
 - Flexible in system architecture & deployment.
- Easy to develop new applications
 - No need to write networking code again and again.

What MOM takes

- Additional system software installed
- Additional hardware
 - Hardware may increase according to you deployment.
- Complicated messaging architecture
 - Data exchanging through MOM introduces a complicated system architecture.
- Complicated deployment plan

Concepts/terms you need to know

- Subject (Topic)
 - Name of messages (just like TV channels)
- Publish
 - Produce a message to a specific subject.
 - A message can be sent to multiple subscribers.
- Subscribe
 - Tell the MOM that you want to receive messages of specific subjects.
 - Messages of request subject will be sent (PUSH) to you in realtime.

Concepts/terms you need to know

- Queue
 - A message goes to only one subscriber.
- Persistent
 - Messages will not get lost even the MOM crashes.
- Bridge/Adapter
 - Software modules connect MOM with other systems (like DB, MOM, Web, etc.).

Concepts/terms you need to know

- UDP vs. TCP
 - UDP
 - lower data overhead
 - more communication overhead.
 - TCP
 - guarantee protocol
 - higher data overhead.

Concepts/terms you need to know

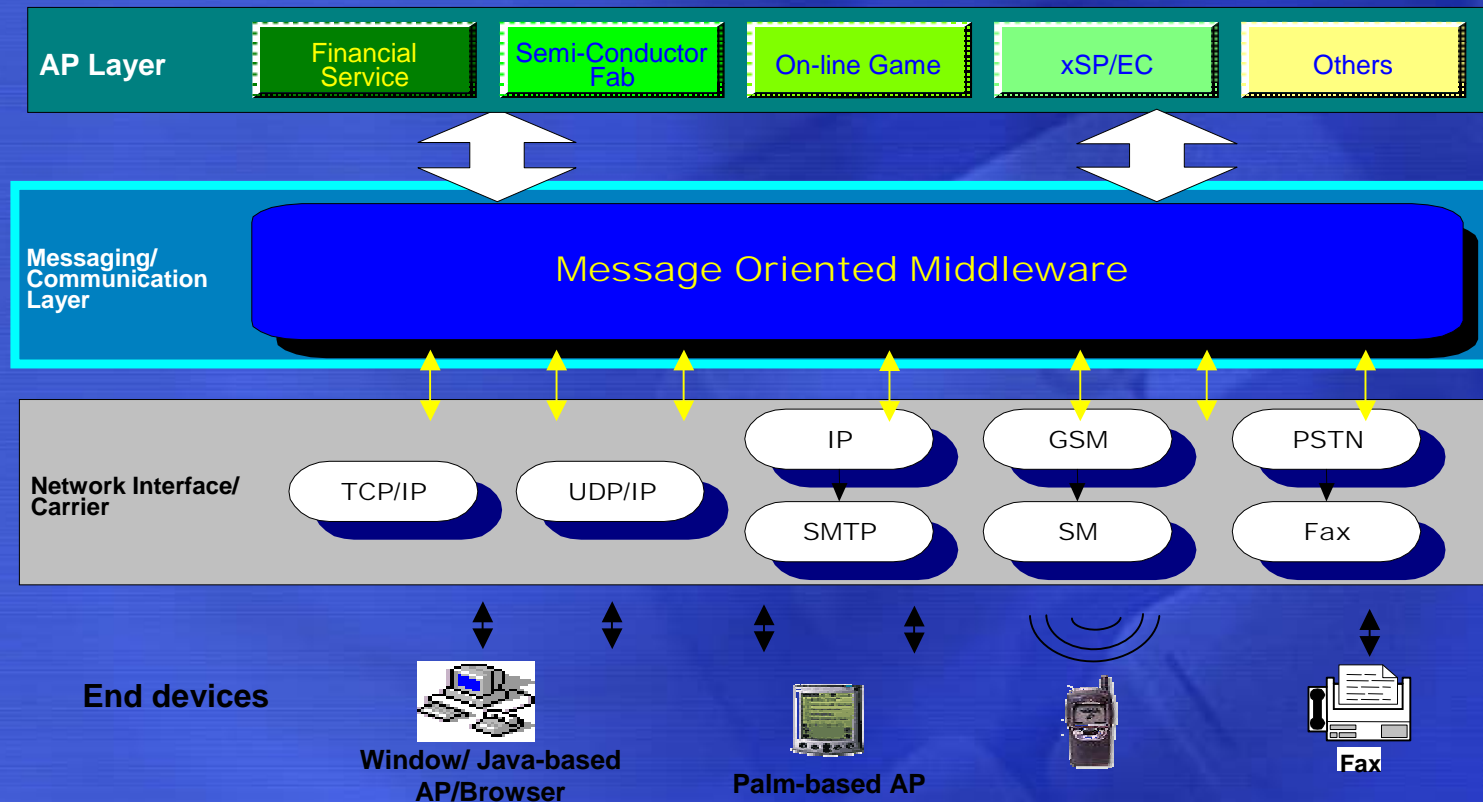
- Multicast vs. Unicast
 - Multicast
 - 1 to many packet transmission. (save bandwidth)
 - Must use UDP protocol.
 - Most areas of current internet do not allow multicast data. (Suitable for Intranet not Internet applications.)
 - Unicast
 - 1 to 1 packet transmission.
 - Can use TCP or UDP protocol.
 - Can apply on whole Internet.

Differences in programming model

- Programming model
 - Single program
 - ↓
 - Client-server model
 - ↓
 - N-tier model
 - ↓
 - Loosely-coupled messaging model

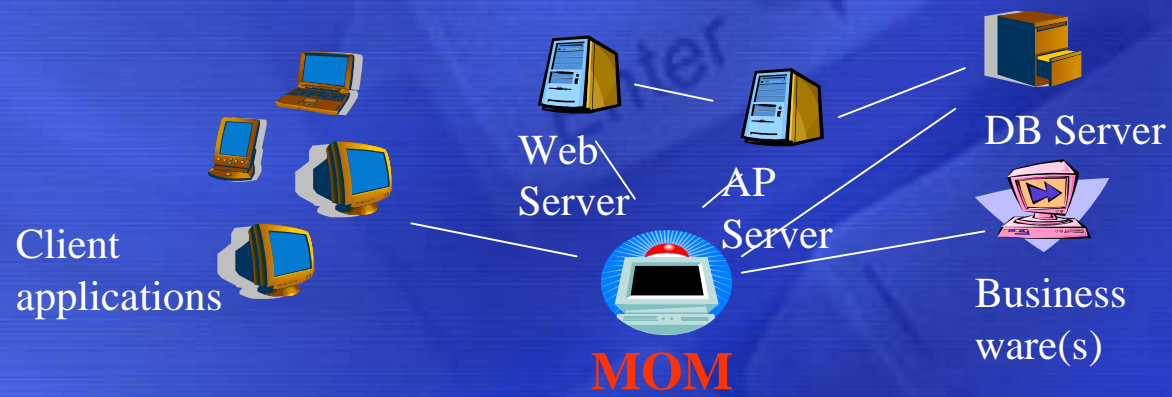
Differences in software architecture

- A middle-ware layer is added between application programs.



Differences in Deployment

- A dedicate hardware is not a must have for MOM.
- Can be deployed across Intranet/Internet by connecting MOMs.
- Extend service capacity on demand by adding more MOM servers.

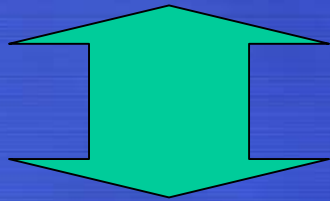


Differences to Web applications

- network bounded
 - Need network resource more than CPU and RAM.
- Firewall !?
 - Firewall could be the bottleneck when applying MOM technology on B2C applications.

Difference to Database

- Database
 - Data repository



- MOM
 - Messages highway

Skills for developing/administrating

- Programming languages
 - Java
 - Most MOMs are provided as JMS implementations.
 - C++/Visual Basic
 - Some MOMs also provide C++/VB API.
- System platforms
 - Windows 2000
 - Solaris
 - Linux

Skills for developing/administrating

- Network administration
- Database maintenance
 - Persistent messages may be written into database.
 - User authentication data are usually kept in database.

Where to apply MOM technology

- Intranet applications
 - B2E applications
 - Realtime data collection
 - Realtime decision making system
 - Realtime administration system
- Internet applications
 - B2B applications
 - B2C applications
 - Realtime quoting service
 - On-line gaming

Summary

- MOM technology can
 - boost your decision making to realtime.
 - help upgrading your service to realtime.
 - longer your service lifetime.
 - increase your service quality and reliability.
 - shorten you service developing time.
 - enlarge the return of investment.
 - easily extend your service visibility to different devices (like mobile devices).
 - connect you branches.
- Q&A