Enterprise System Architecture

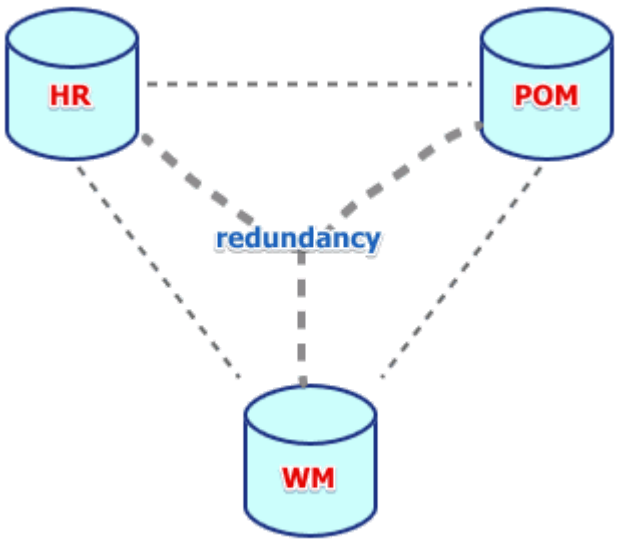
Contents

Enterprise System Architecture

This is a motivation why workflow management systems are needed

Evolution of Integration

No Integration



There are 3 systems:

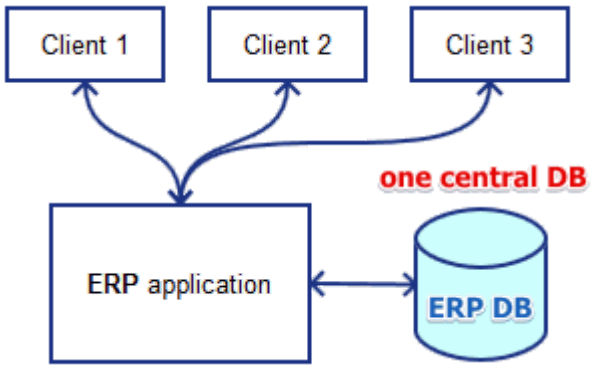
- HR: human resources
- POM: purchase order management
- WM: warehouse management

No integration:

- a change in one DB is not propagated to others (automatically)
- this has to be maintained
- suppose an address changes in HR, but the rest don't know about it
- ⇒ inconsistency

Central ERP System

This is also called 2-tier client-server architecture

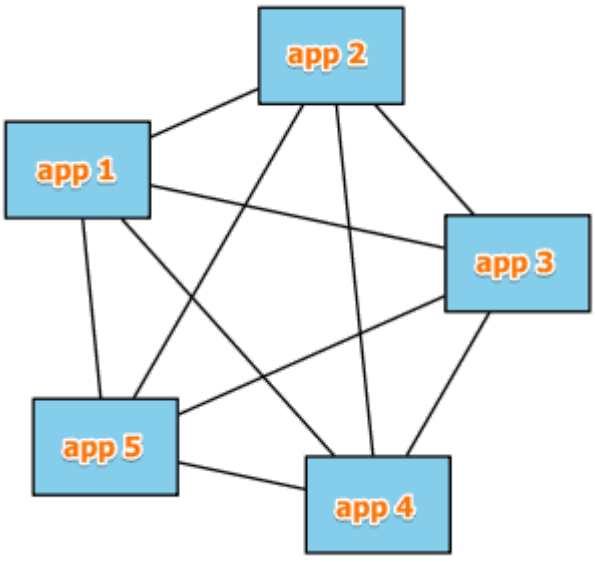


- there's a central ERP system that explicitly integrates all the data into one source
- but there are performance issues
- and what if the ERP server goes down?

Application Integration

There are several ways to integrate different application

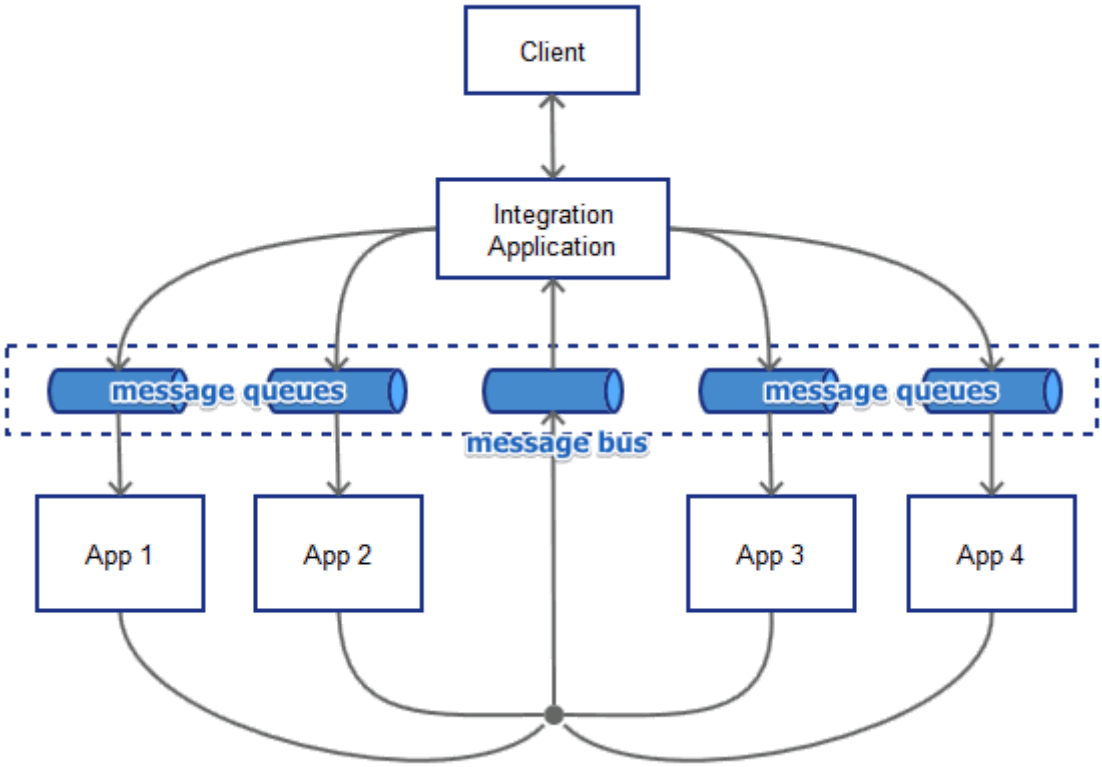
Point-To-Point



- every system communicated with all other systems

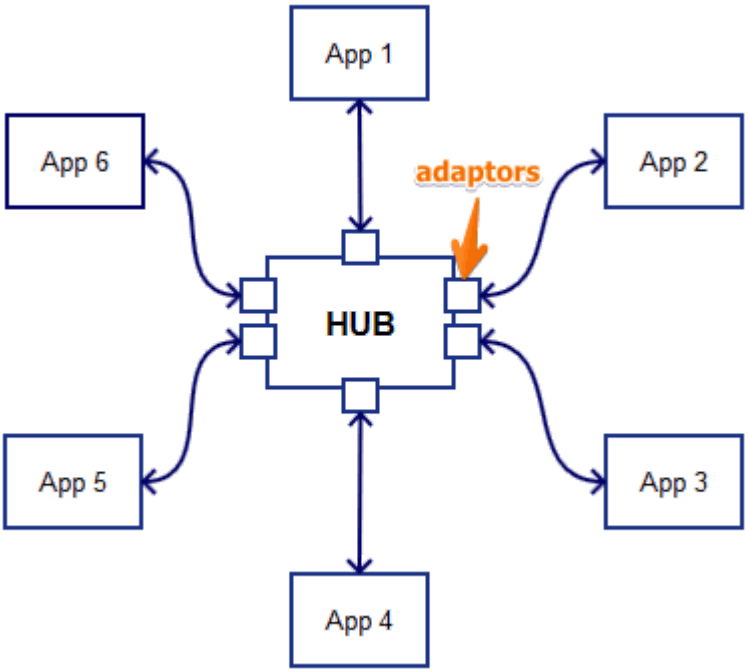
- N^2 connections for N systems - a lot!

Message-Oriented Middleware



- each client connects to the Integration Application
- IA dispatches the messages to the receivers
- this approach takes away the burden of implementing all the connectors
- but it's still point-to-point: all must know about others
- $\frac{N \cdot (N-1)}{2}$ connections in this scheme

Application Integration



- now there's a hub: a centralized integration middleware: it orchestrates the flow
- the hub acts as a message broker: it defines the rules for communication and transformation
- system no longer need to know about each other
- it's similar to emailing: no need to know about the received: where is he, whether he can read now or not, etc

The differences between it and central ERP:

- in the central ERP there's one single DB
- here each application has it's own database

Workflow Management Systems

There are three kind of workflow management systems:

- hard-coded workflows (process and organization specific)
- custom-made (with some generic wokrkflow but still organization specific)
- generic software with embedded workflow functionality
  - workflow components of one particular type of systems, say ERP
- generic software focused on workflow
  - how we can connect different components from different manufactures
  - allows great flexibility

Sources

- Business Process Management (ULB)

Retrieved from "http://mlwiki.org/index.php?title=Enterprise_System_Architecture&oldid=352"

Categories: Business Process Management | Software Design

This page was last modified on 5 July 2015, at 19:11.
2012 – 2018 by Alexey Grigorev
Powered by MediaWiki. TyrianMediawiki Skin, with Tyrian design by Gentoo.
Privacy policy About ML Wiki Disclaimers