Programación Distribuida y Tiempo Real
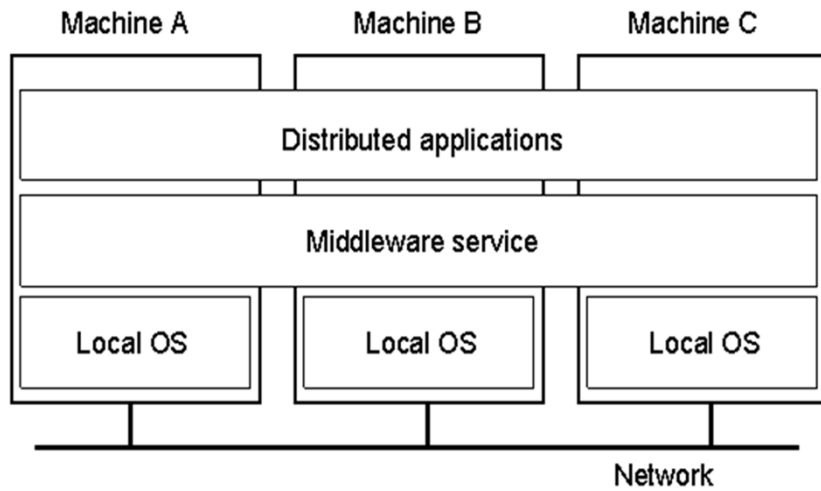
Definiciones

Evolución

Definiciones

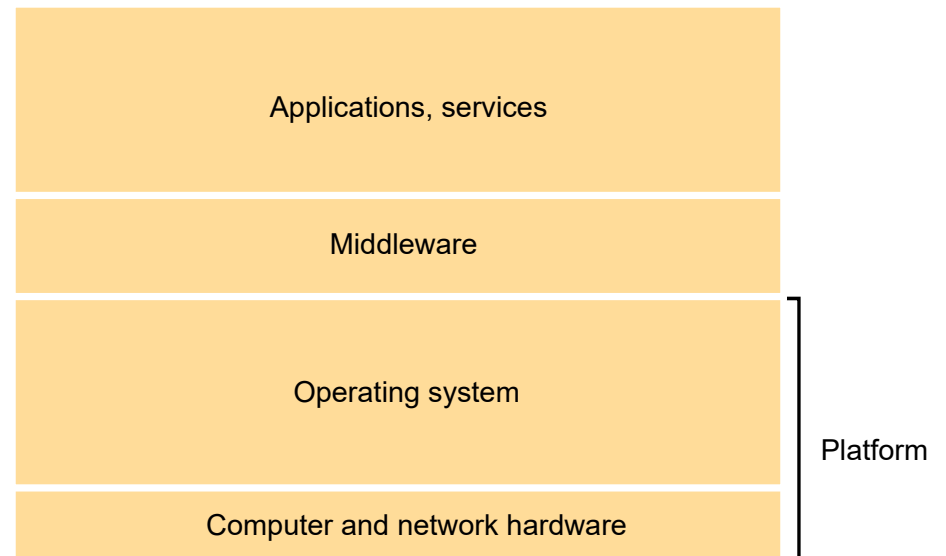- Tanenbaum: "A collection of independent computers that appears to its users as a single coherent system"

- Coulouris: "… es aquel en el que los componentes localizados en computadores, conectados en red, comunican y coordinan sus acciones únicamente mediante el paso de mensajes"

- Liu: "A distributed system is a collection of independent computers, interconnected via a network, capable of collaborating on a task"

Definiciones

Tanenbaum

Coulouris

"Evolución" (Desde las PCs)

- Redes locales
    - Hardware (impresora, almacenamiento)
    - Recursos (hardware y datos-filesystem)
    - Cliente/servidor
    - Protocolos (de redes locales)
    - APIs

"Evolución" (Desde las PCs)

- Redes locales
  - Hardware (impresora, almacenamiento)
  - Recursos (hardware y datos-filesystem)
  - Cliente/servidor
  - Protocolos (de redes locales)
  - APIs
- El *salto* al exterior de las redes locales
  - IP: por qué no alcanza con el hardware (identificaciones-nombres)
  - Protocolos de Internet: por qué no alcanza con IP, ports
  - API(¿s?), sockets
  - Local - No local (todo sobre IP)
  - telnet, ftp, correo electrónico, etc.

"Evolución" (Desde las PCs)

- Redes locales
  - …
- El *salto* al exterior de las redes locales
  - …
- El *salto* de las aplicaciones sobre IP (Internet)
  - http: servidores y browsers/navegadores (buscadores)
  - Protocolos + desarrollo de software (APIs, IDEs, modelos, etc.)
  - Cantidades de computadoras (Coulouris, Chapter 1)
  - "Aplicaciones web"

Aplicaciones Web

- Warning, 2011 wikipedia def.,:

"In software engineering, a web application or webapp [1] is an application that is accessed via web browser over a network such as the Internet or an intranet. It is also a computer software application that is coded in a browser-supported language (such as HTML, JavaScript, Java, etc.) and reliant on a common web browser to render the application executable.

Web applications are popular due to the ubiquity of web browsers, and the convenience of using a web browser as a client, sometimes called a thin client. The ability to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity. Common web applications include webmail, online retail sales, online auctions, wikis and many other functions."

Aplicaciones Web

- Warning, 2017 wikipedia def.,:

"In computing, a web application or web app is a client–server software application in which the client (or user interface) runs in a web browser.[1] Common web applications include webmail, online retail sales, online auctions, wikis, instant messaging services and many other functions.

...

The general distinction between a dynamic web page of any kind and a "web application" is unclear. Web sites most likely to be referred to as "web applications" are those which have similar functionality to a desktop software application, or to a mobile app. HTML5 introduced explicit language support for making applications that are loaded as web pages, but can store data locally and continue to function while offline.

Single-page applications are more application-like because they reject the more typical web paradigm of moving between distinct pages with different URLs. Single-page frameworks like Sencha Touch and AngularJS might be used to speed development of such a web app for a mobile platform."

Aplicaciones Web

- "Ubicuidad"
    - Mantenimiento
    - Soporte técnico
    - Usuarios
- Distribución de Software
- Capacidad de los navegadores
    - "Browser"
    - Browser + Plug-Ins
    - Browser + JavaScript
    - Warning, wikipedia 2017 "Google trends shows (as of September 2012) that frameworks based on a plug-in are in the process of being replaced by HTML5/ JavaScript-based alternatives"

Aplicaciones Web

- Casi sinónimo de "cómputo en la nube" (cloud computing)
  - Nubes públicas de gran capacidad
    - Amazon, IBM, Microsoft Azure
  - Migración de aplicaciones a la nube
  - Usuarios (correo, almacenamiento, streaming, etc.)
    - Naturalidad
    - Necesidad en édistanciamiento

"Evolución" (Desde las PCs)

- Redes locales
  - …
- El *salto* al exterior de las redes locales
  - …
- El *salto* de las aplicaciones sobre IP (Internet)
  - "Aplicaciones web"
- El "retroceso" de las aplicaciones móviles
  - Símil al "*salto* al exterior de las redes locales"
  - Cliente/Servidor "casi plano"

"Evolución" en la Bibliografía

- Cantidades de computadoras (Coulouris)

Date	Computers	Web servers
1979, Dec.	188	0
1989, July	130,000	0
1999, July	56,218,000	5,560,866
2003, Jan.	171,638,297	35,424,956

"Evolución" en la Bibliografía

- Cantidades de computadoras (Coulouris)

Date	Computers	Web servers	Percentage
1993, July	1,776,000	130	0.008
1995, July	6,642,000	23,500	0.4
1997, July	19,540,000	1,203,096	6
1999, July	56,218,000	6,598,697	12
2001, July	125,888,197	31,299,592	25
		42,298,371	

"Evolución" en la Bibliografía

- Cantidades de computadoras (Coulouris)
- Cantidades de computadoras (Liu)
  - Similar
  - Agrega aplicaciones
  - Agrega usuarios

Dudas/Consultas

- Plataforma Ideas