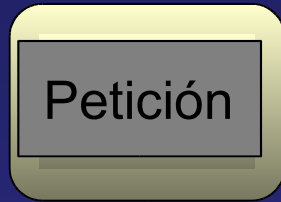


Programación Orientada a Servicios

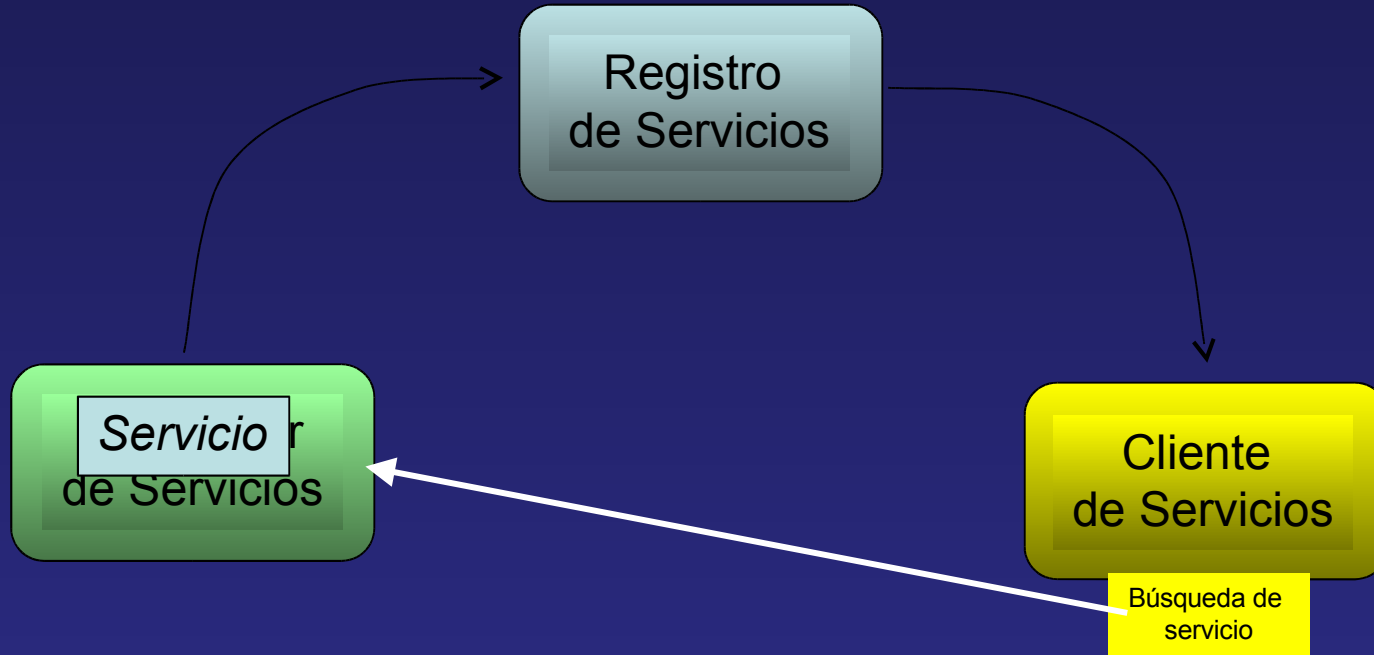
Esquema tradicional



Esquema tradicional

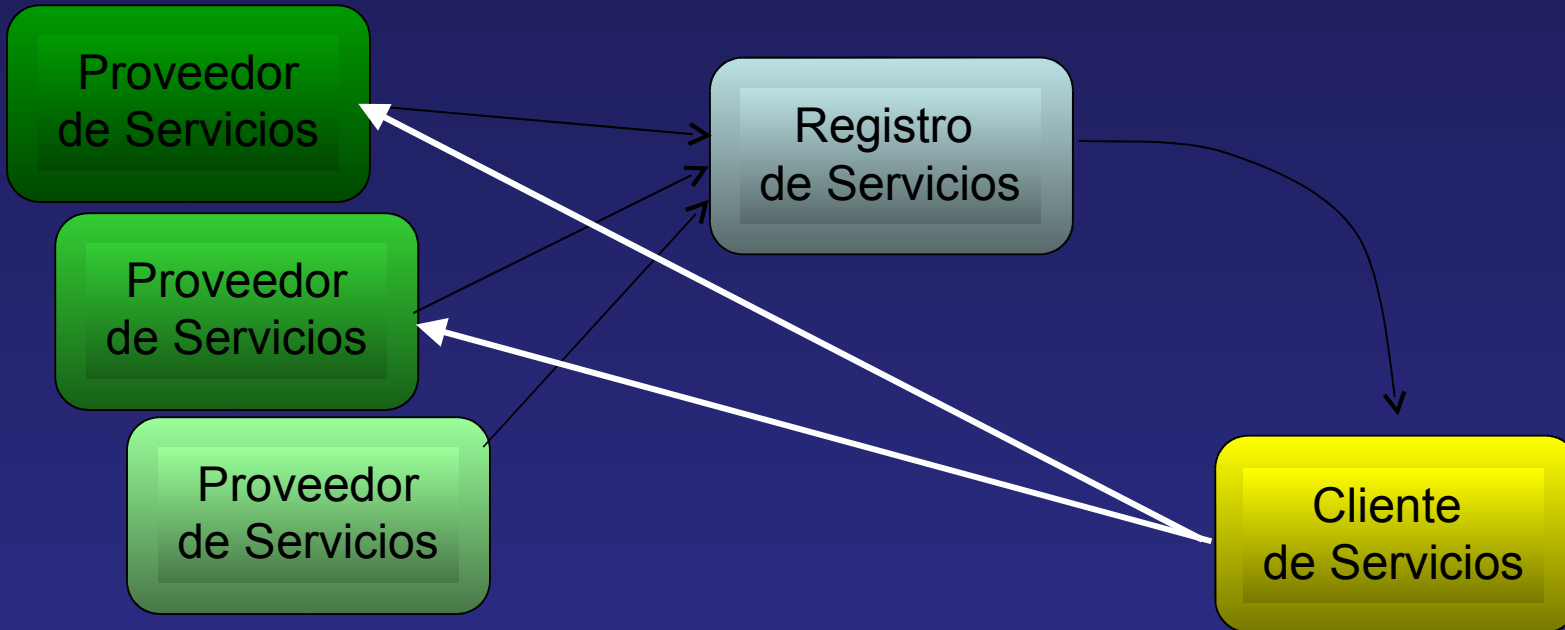


Enfoque Web Services



Beneficios

- Independencia de Proveedor



Cómo surgen

- Son una parte de la Programación Orientada a Servicios (SOP)
- Ésta a su vez está relacionada con el cómputo distribuido
- Para comprender los Web Services debemos comprender la SOP

- La SOP parte de la dificultad de:
 - Integrar los servicios existentes (incompatibilidad)
 - Dar uso para el que los servicios no están diseñados
 - Crear nuevos Servicios a partir de los existentes

Subastas

Mensajes a Celular

E-mail

Botón
precio!
Mundo



Qué es un Servicio?

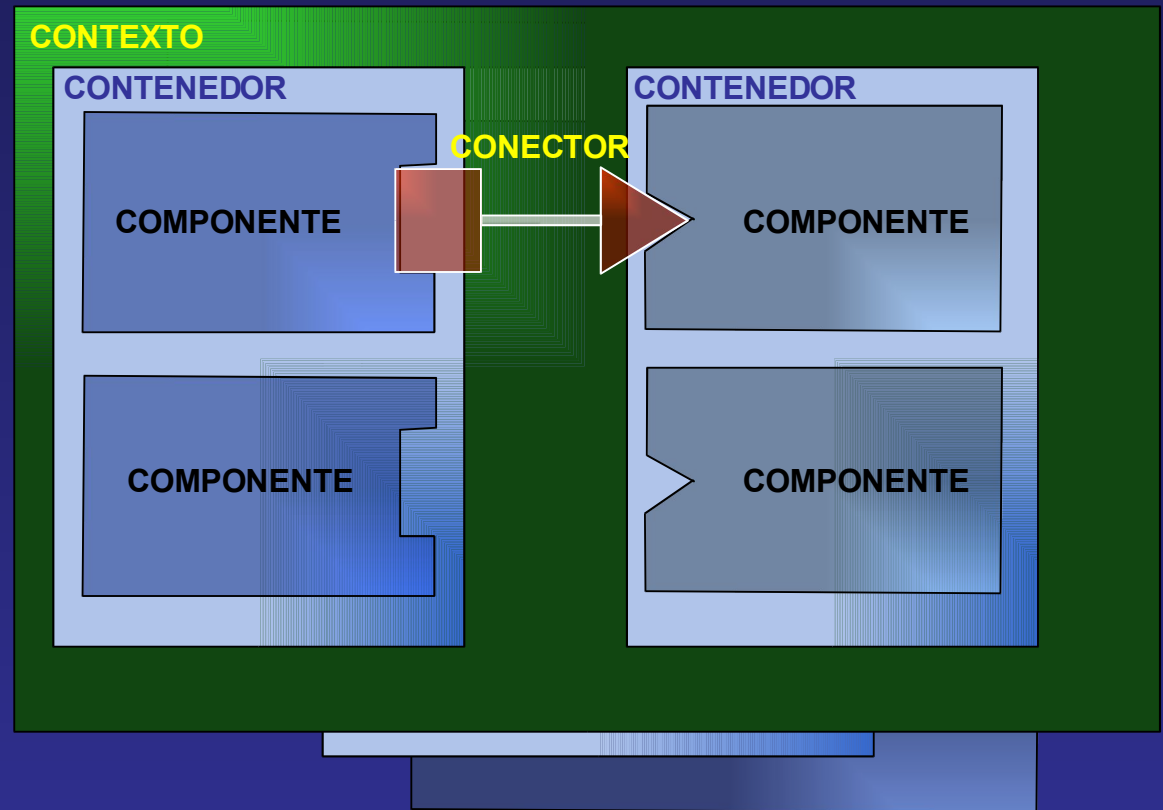
- Es un contrato, comportamiento bien definido que puede ser implementado y proveído por cualquier componente y usado por cualquier componente, basado solamente en el contrato.

Paradigmas de la SOP

- “El problema puede ser modelado en términos de objetos en el dominio del problema”
 - Paradigmas Cliente Servidor
 - Modelos de Componentes
 - Paradigmas OOP
- “Los problemas pueden ser modelados en términos de los servicios que un objeto provee o usa”

Partes importantes de la SOP

- Contrato
- Componente
- Conector
- Contenedor
- Contexto



Beneficios del desarrollo orientado a Servicios

- Para desarrolladores
 - Componentes (verdaderamente) reutilizables
 - Integración de sistemas simplificada
 - Sistemas Extensibles
- Para usuarios
 - Sistemas disponibles
 - Datos seguros
 - Plug and Play
 - Cero administración
 - Accesibilidad a los servicios

Algunas tecnologías disponibles para SOP

- Microsoft .NET
- Hewlett Packard CoolTown
- Sun Jini

Jini

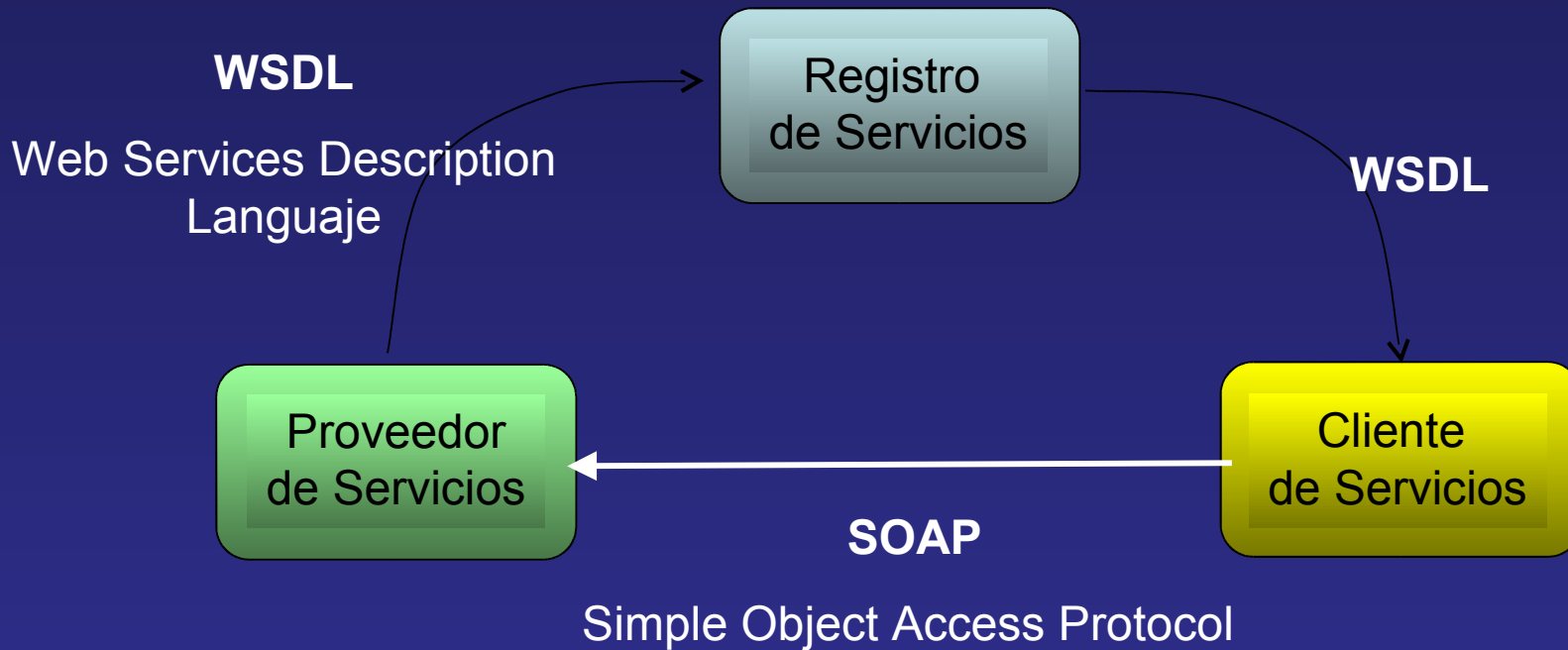


- Construir un sistema a partir de una red de servicios
- Todo esto ocurre dinámicamente, sin administración
- El cliente sólo sabe que está tratando con la implementación de una interfase escrita en Java

Protocolos de Web Services

UDDI

Universal Description, Discovery and Integration protocol



SOAP y XML

- ***Simple Object Access Protocol***
- define cómo dos objetos en diferentes procesos pueden comunicarse por medio de intercambio de datos **XML**
- ***eXtensible Markup Language***

Su objetivo principal era conseguir una página web más semántica, estándar para el intercambio de datos entre diversas aplicaciones

Ejemplo de SOAP y XML

Como ejemplo se muestra la forma en que un cliente solicitaría información de un producto a un proveedor de servicios Web:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <getProductDetails xmlns="http://warehouse.example.com/ws">
      <productId>827635</productId>
    </getProductDetails>
  </soap:Body>
</soap:Envelope>
```

Y esta sería la contestación del proveedor:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <getProductDetailsResponse xmlns="http://warehouse.example.com/ws">
      <getProductDetailsResult>
        <productName>Toptimate 3-Piece Set</productName>
        <productId>827635</productId>
        <description>3-Piece luggage set. Black Polyester.</description>
        <price>96.50</price>
        <inStock>true</inStock>
      </getProductDetailsResult>
    </getProductDetailsResponse>
  </soap:Body>
</soap:Envelope>
```

Ejemplo, búsqueda de boletos de avión



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Return date:

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Return time:

I don't mind

Class:

I don't mind

Adults: Seniors: Children: Infants: Direct preferred:

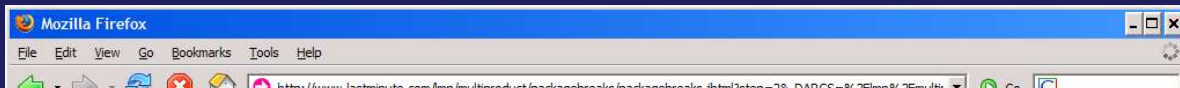
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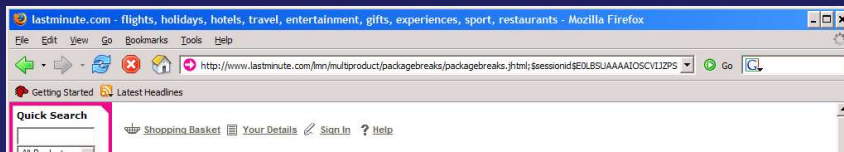
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Date	Destination airport	Time	Carrier	Class
Sat 19 Feb 2005 Indirect flight	LIVERPOOL (LPL) to CHARLES DE GAULLE (CDG)	1035 - 1445	Aer Lingus	Economy
Sun 20 Feb 2005 Indirect flight	CHARLES DE GAULLE (CDG) to LIVERPOOL (LPL)	1040 - 1315	Aer Lingus	Economy



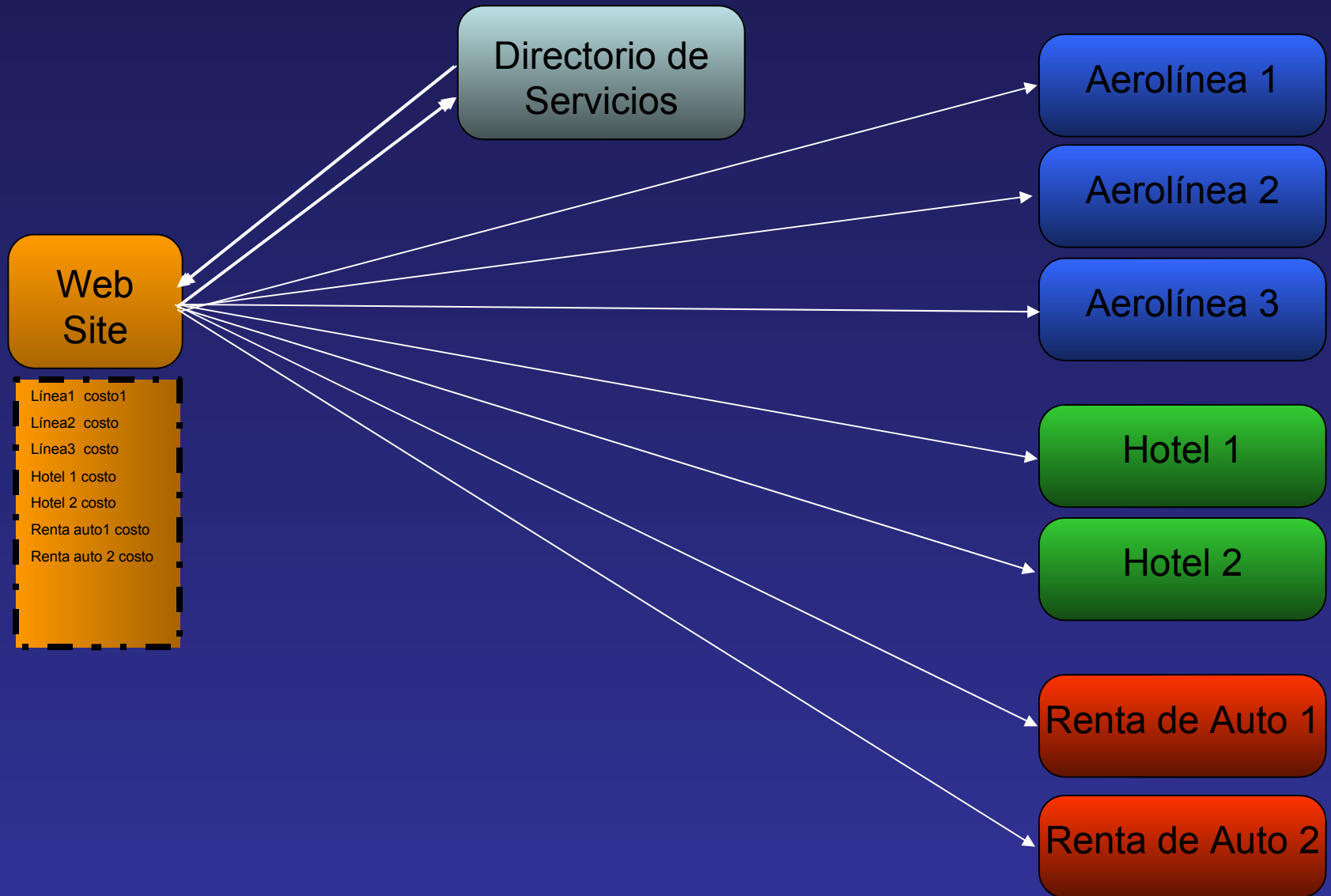
Ejemplos de WS

- B2B

The screenshot shows the American Airlines website homepage. The header includes the American Airlines logo and navigation links for "Login", "My Account", "Worldwide Sites", "Contact AA", "FAQ", and "Search". The main content area features a "Caribbean & Bermuda Sale" banner with "Book Now" buttons. Below this is a "Net SAAver Alerts" section listing various routes and prices, such as "Los Angeles, CA to Chihuahua, Mexico" for \$299. The "Make Reservation" section is prominent, offering options for Round Trip, One Way, and Multi-City flights, with fields for departure and return dates and times. There are also links for "Gates, Times & Status", "Schedules", and "Flight Status Notification". A "View My Miles" section is visible at the bottom, along with a "Password Help" section.

The screenshot shows the Dollar Rent a Car website homepage. The header includes the Dollar Rent a Car logo and the slogan "Home of Our Lowest Rates". The main content area features a "Start here, for your one click rate!" section with a "Step 1 of 2" indicator. This section includes fields for "Pickup (City)", "Return (City)", "Pickup Date", "Return Date", "Pickup Time", and "Return Time". There are also options for "Car Type" (Compact) and "Optional Airline". A "Get rates" button is present. To the right, there is a "CARS Find the right car for you!" section showing a "Compact Dodge Neon" and a "FASTLANE Member Reservations" section with a "FastLane ID" field and "First Name" and "Last Name" fields. At the bottom, there is a "Low Corporate Car Rental Rates" section with a "Go" button and a "SIGN UP FOR E-MAIL SPECIALS FROM DOLLAR" button.

Ejemplo extendido



Ejemplos de WS

- B2C



A screenshot of a web browser displaying weather information for Mexico City. The browser's address bar shows the URL: http://datos.gob.mx/clima/clima_v.php?clima=&x=11&y=10. The page content includes the location "Cd. de México, DF" and a list of weather forecasts for today, tomorrow, and the next three days, each with a temperature range and a weather icon. At the bottom, there is a dropdown menu labeled "Otras ciudades" and a link to "Datos cortesía del Servicio Meteorológico Nacional Sistema Internet de la Presidencia".

Fecha	Temperatura	Icono
Hoy	10 ~ 26 °C	
Mañana	9 ~ 25 °C	
20/02	9 ~ 25 °C	
21/02	10 ~ 26 °C	
22/02	10 ~ 26 °C	

Otras ciudades

Datos cortesía del [Servicio Meteorológico Nacional](#)
[Sistema Internet de la Presidencia](#)

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Password

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Sign In

Do not remember my e-mail address for future sign-in. (Select this when using a public computer.)

http://login.passport.net/u/login.sf?id=45940

msn Web Messenger

.NET Passport Sign-in

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Sign me in automatically.

Do not remember my e-mail address for future sign-in. (Select this when using a public computer.)

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Sign In

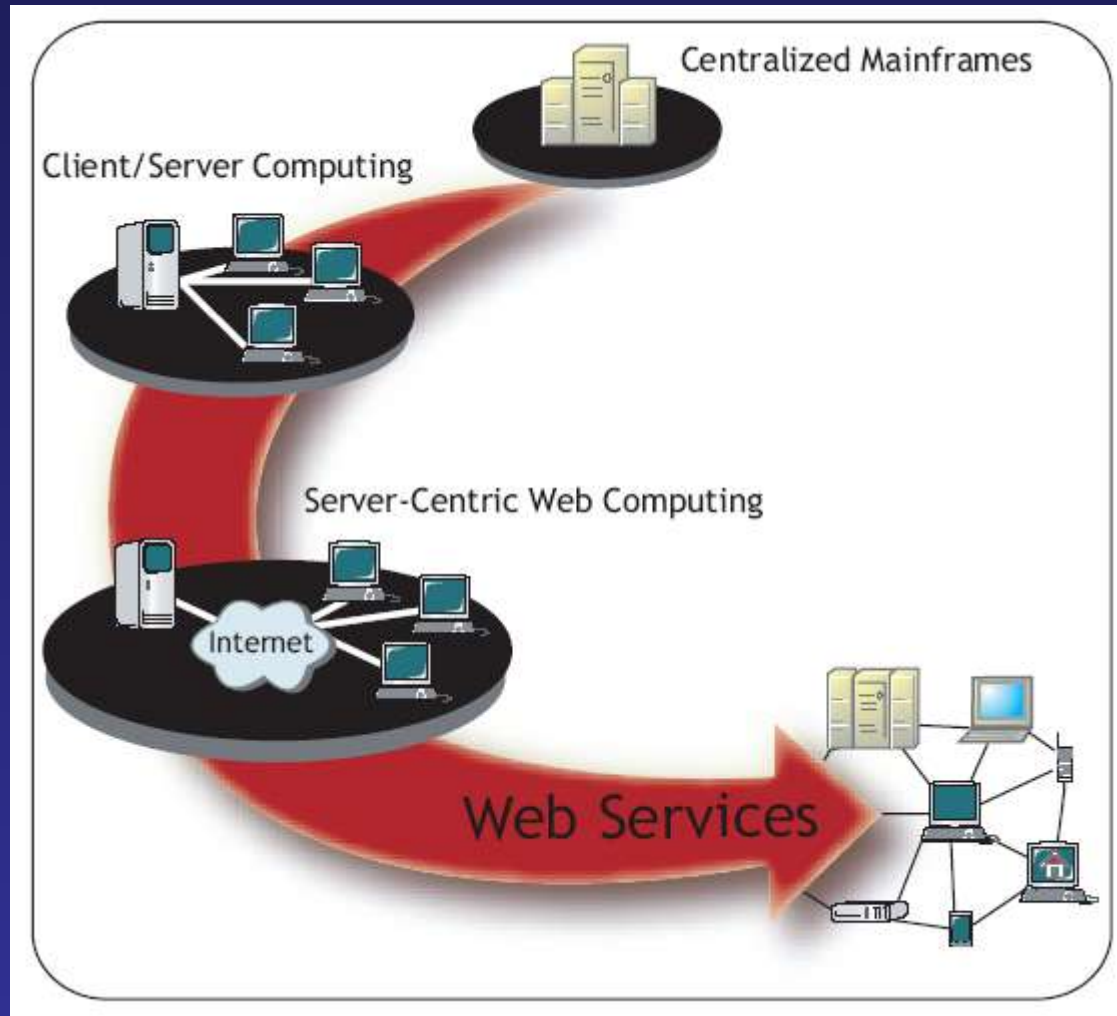
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