

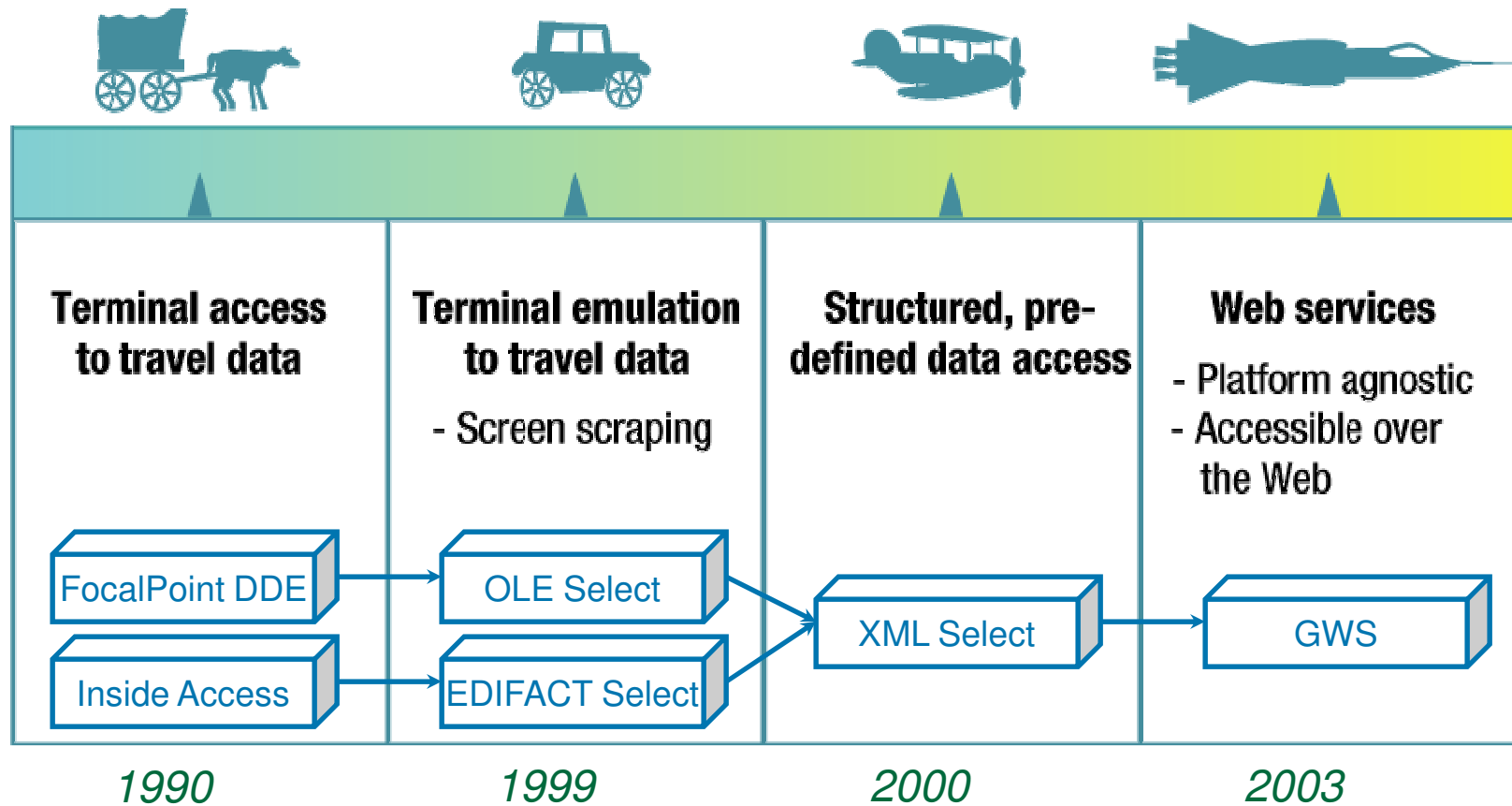


Galileo Web Services

Agenda

- > Evolution of APIs
- > What are Web services?
- > Key business requirements for Galileo Web Services
- > What are Galileo Web Services
- > How Web services work
- > XML Select vs. Galileo Web services
- > Example using GWS to create a travel application
- > Provisioning
- > 3C Process
- > Pricing
- > Sales Material

Evolution of APIs



What are Web Services?

- > A set of standards that allow applications to talk to each other over the Internet

- > XML – Extensible Markup Language
 - Used to tag, structure and define the data
- > SOAP – Simple Object Access Protocol
 - A protocol used to encase or format XML data
- > WSDL – Web Services Description Language
 - Describes the available services
- > UDDI – Universal Description, Discover and Integration
 - The directory or “yellow pages” of web services

Key business requirements considered when the GWS project was scoped

Online Presence



- Build a consumer facing online business cost-effectively
- Value-added functionality to agency web site(s) or application
- Reduce the amount of time & money to develop online applications

Development Costs



- Encapsulate business logic, simplifying the development process
- Reduce need for hard to find talent for coding to legacy systems

Software Developer Concerns



- Platform independence
- Standardized languages/latest technologies
- Industry Standards/OTA (Open Travel Alliance)
- Security Concerns & Authentication

Hardware Costs



- Reduce hardware (server) costs
- Eliminate dependency on expensive, dedicated telecommunications lines

Economies of Scale



- Content [host] access via the internet
- Provide GI connectivity for Multi-GDS capability applications

What are Galileo Web Services?

Galileo Web Services (GWS)

- GWS will deliver the functionality of the existing XML Select product as a web service
- GWS will provide 100% compatibility with existing XML Select message formats
- GWS transactions provide access to the native Apollo/Galileo functions

Encapsulated Web Services

- Prior to web services, the process to access travel content required a series of cryptic 'calls' to the Apollo/Galileo system
- Web Services encapsulates complicated business logic for customers, facilitating fast development and easy access to travel content
- GWS significantly reduces the need for customers to possess travel industry expertise and knowledge of specific transaction calls to build an application

What are Encapsulated Web Services?

> Flight Information Web Service

- The flight information service provides the ability to look up the status of a flight, departure/arrival times, gate and other valuable information

> Itinerary Web Service

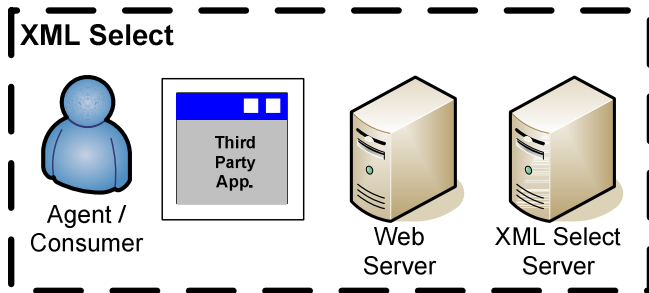
- The Itinerary service retrieves all itinerary items for a PNR

> Travel Codes Translator Web Service

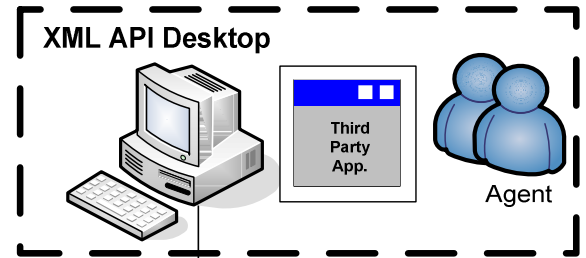
- The translator service provides access to translations of many industry-specific and Host specific codes

Comparison of developer tools

	XML Select	Galileo Web Services	XML Desktop
SDK Install	Yes	No	Yes
Dedicated Line	Yes	No	Yes
Structured Data	Yes	Yes	Yes
Dedicated Hardware	Yes	No	No
Encapsulated Logic	No	Yes	No
Platform Specific	Yes	No	Yes
Use Viewpoint GUI	No	No	Yes
Galileo Terminal Ids (GTIDs)	Dedicated range	Dynamic from a Pool	Fixed



Dedicated IP line



TDS
Web Services Servers /
XML Select Servers



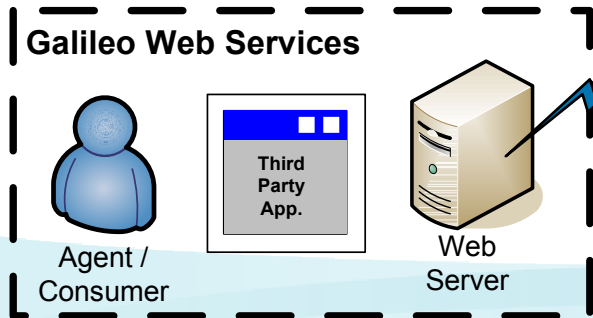
Galileo GDS

Dedicated IP Line /
X25 Line

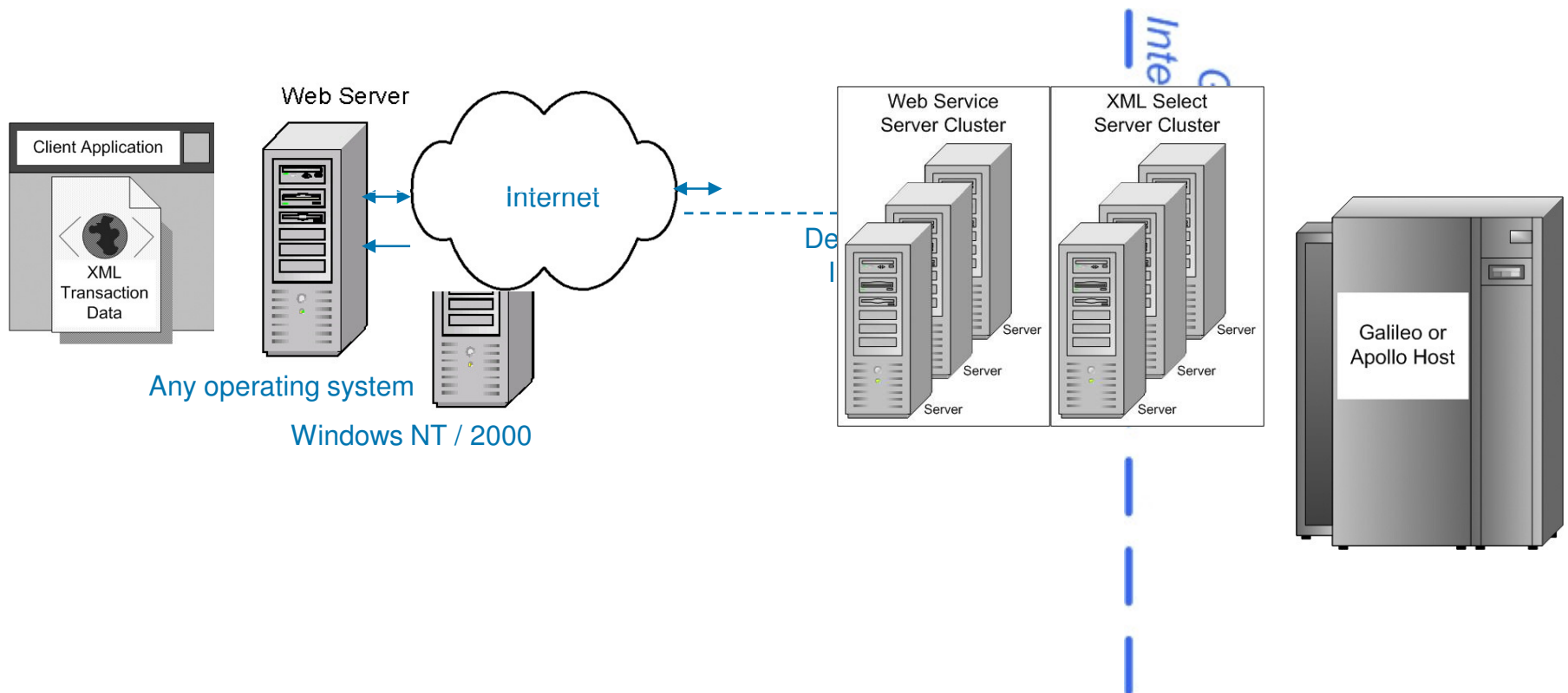


```

<FareQuoteFlightSpecific_8_0>
  <FlightSpecificBestBuyMods>
    <PsgrMods>
    </PsgrMods>
    <SegInfo>
      <FitSegAry>
        <FitSeg>
        </FitSeg>
      </FitSegAry>
    </SegInfo>
    <SegMods>
    </SegMods>
    <SegSelection>
    </SegSelection>
  </FlightSpecificBestBuyMods>
</FareQuoteFlightSpecific_8_0>
  
```

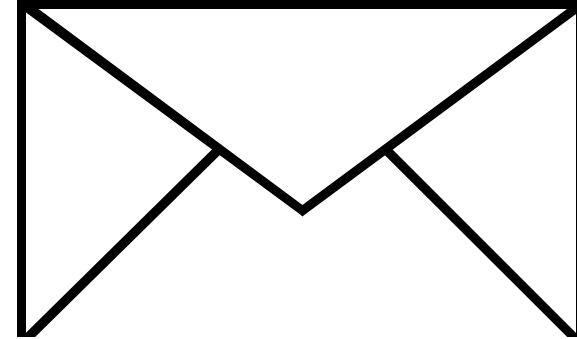


XML Select vs. Galileo Web Services. What's changed?

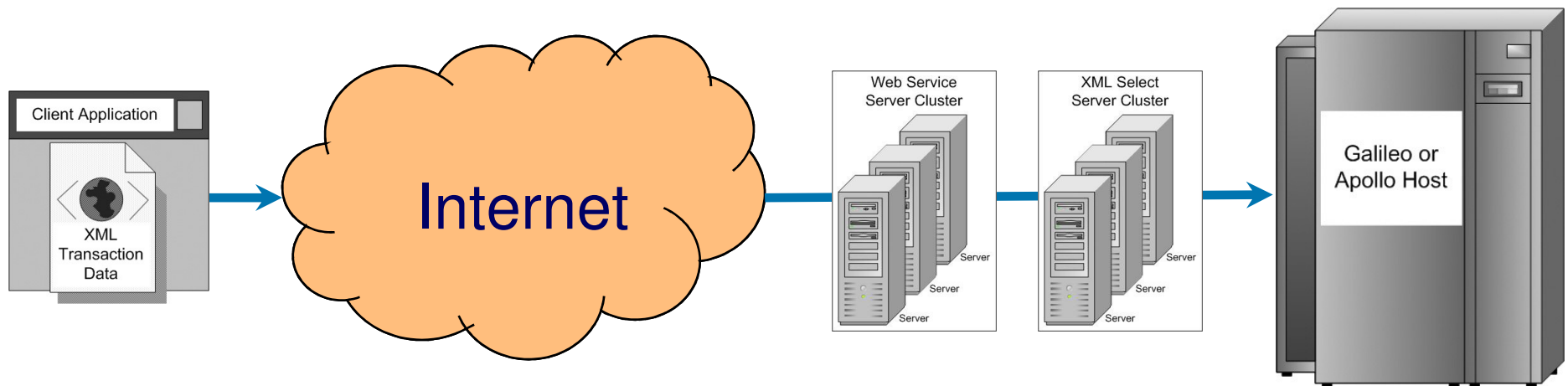


How does GWS work?

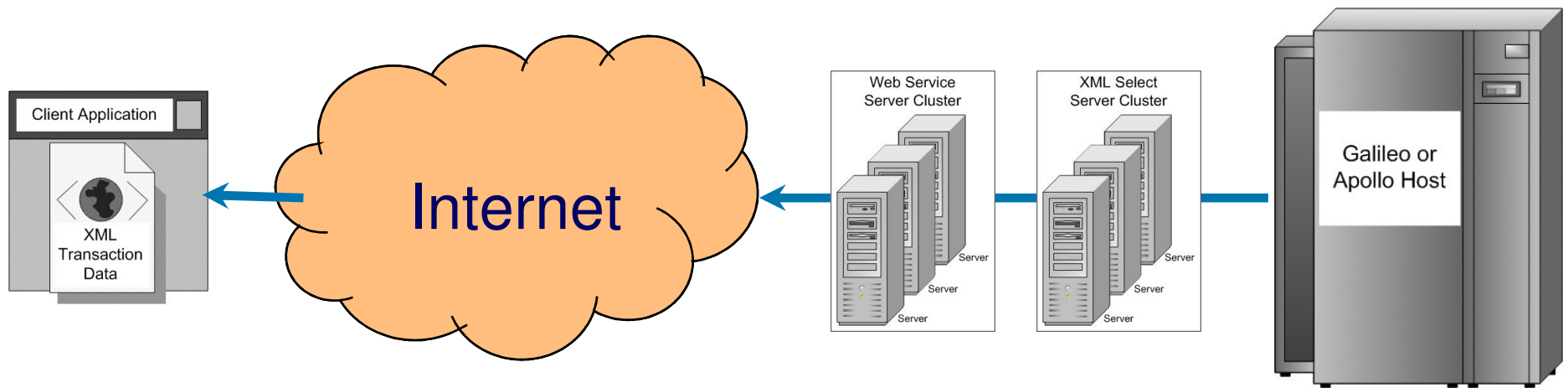
XML structured data is then wrapped in a simple object access protocol (SOAP) “envelope”...



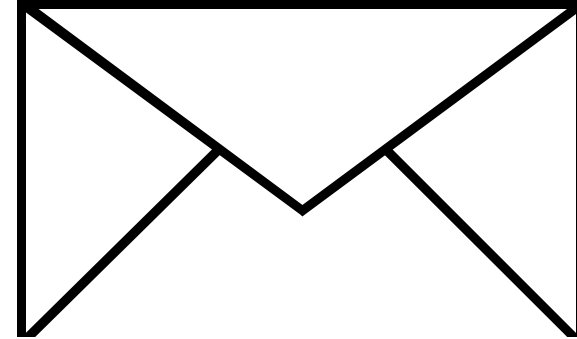
Request is sent from the client application to the Host via the Internet...



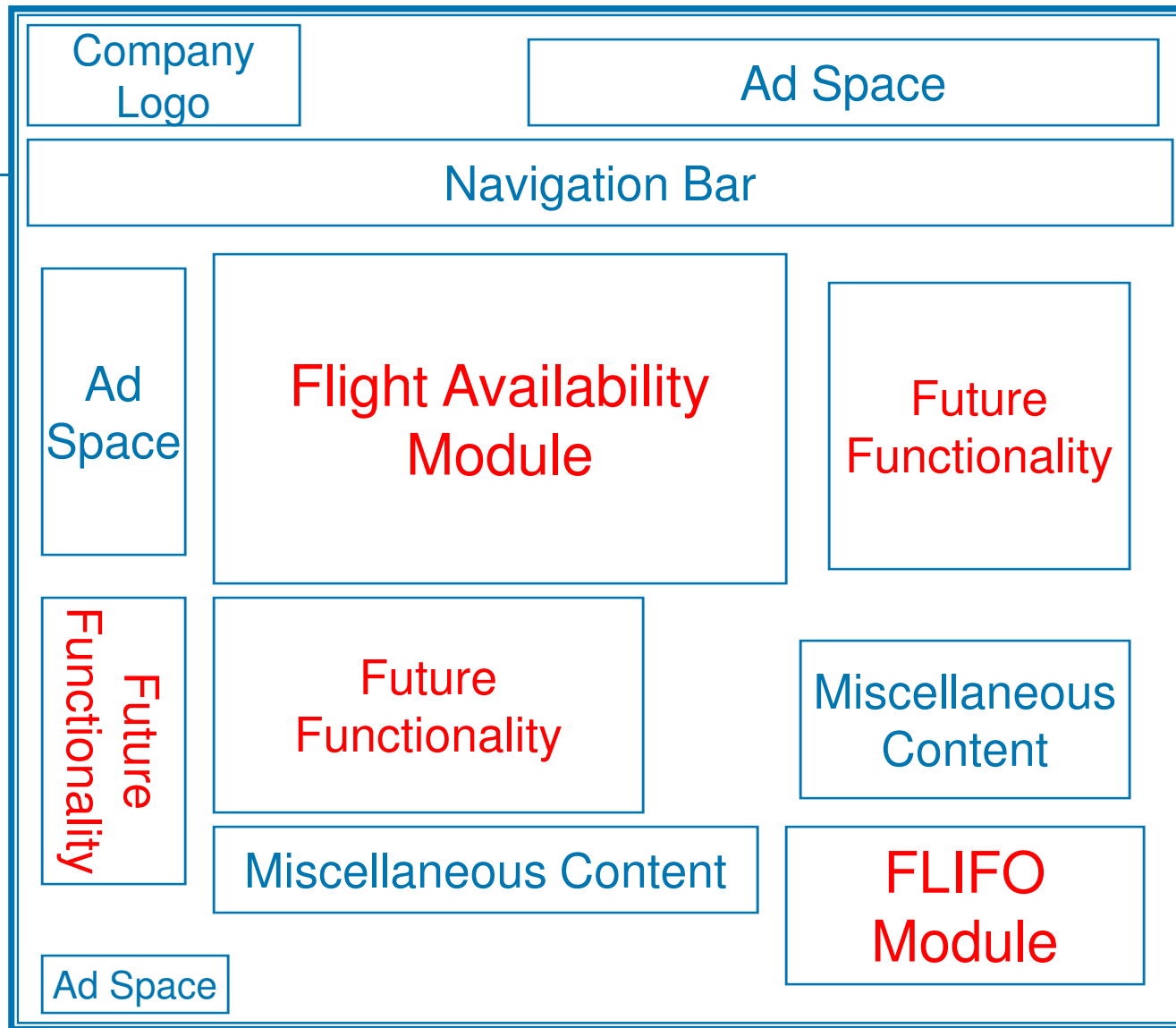
Response is then sent back from the Host to the client application via the Internet...



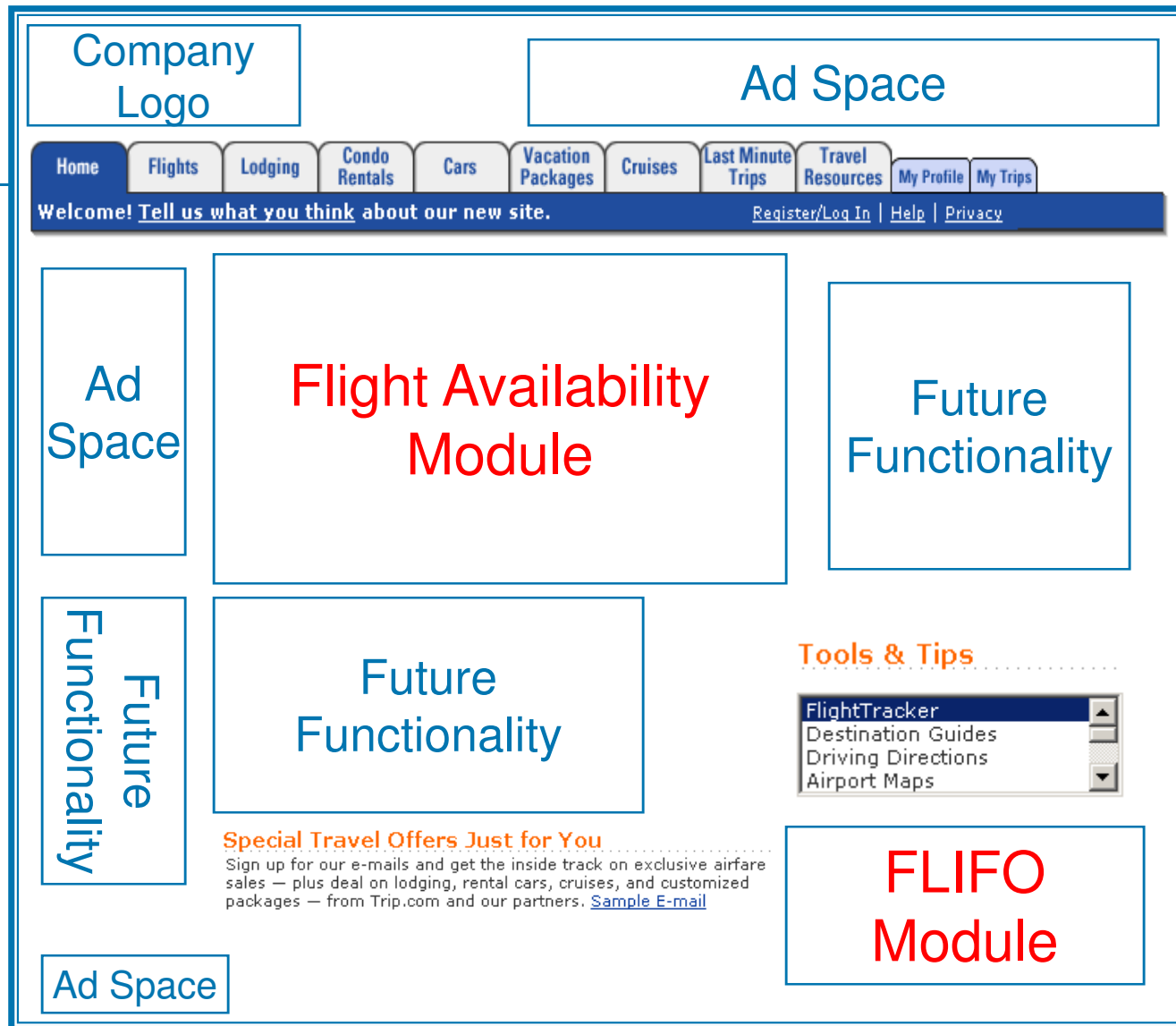
The XML structured data is then retrieved from the SOAP message and sent to the business logic layer of the application



Example of using GWS to create a travel web site or application...



First sketch out the layout...



Use VB Script, C++, Java, etc. to start building site functionality...

```

<tr>
  <input type="hidden" name="Sequence" value="core">
  <input type="hidden" name="Mode" value="html">
  <input type="hidden" name="template" value="TextResults2.htm">
  <table border="0" cellpadding="0" cellspacing="0" width="500" bgcolor="#ffbbcd">
  <td width="190" class="headerGreen">Text Translator</td>
  <td width="160" align="center">
    using System;
    using GWSSample.DataObjects.Auth;

    Namespace GWSSample.DataObjects.FlightInfo
    {
    /// <summary>
    /// Summary description for FlightInfoRequest.
    /// </summary>
    public class FlightInfoRequest
    {
        public string Airline;
        public string FlightNumber;
        public DateTime Date;
        public string Origin;
        public string Destination;
        public WSAuthData ApolloProfile;
        public WSAuthData GalileoProfile;
        public FlightInfoRequest()

        {

        }
    }
  }
</td>
</table>
<br>
<p class="footer"><a href="link.htm">Link to this Site</a>
  | <a href="comments.htm">Customer Comments</a> | <a href="terms.htm">Terms
  &Rights Reserved<br><font face="Arial, Helvetica, sans-serif" color="#000000;" size="1">
</p>
</table>

```

Incorporate GWS into code to access content and encapsulated business logic...

The screenshot shows a travel website layout with several key components:

- Company Logo** and **Ad Space** at the top left.
- A navigation menu with buttons for: Home, Flights, Lodging, Condo Rentals, Cars, Vacation Packages, Cruises, Last Minute Trips, Travel Resources, My Profile, and My Trips.
- A welcome banner: "Welcome! Tell us what you think about our new site." with links for Register/Log In, Help, and Privacy.
- A central **Travel Planning** form with tabs for Flights, Hotels, and Cars. It includes search criteria (Schedule, Price, Calendar), required fields for From, To, Leave, and Return dates/times, a "Look up Flights" button, and a "Host to Access" dropdown set to Galileo.
- A **Tools & Tips** section with a list: FlightTracker, Destination Guides, Driving Directions, and Airport Maps.
- A **Flight Information** form with fields for Airline Code, Number, Date, Origin, and Destination, and a "Flight Info" button.
- Annotations: "Ad Space" (left), "Future Functionality" (center and bottom), and "Galileo Web services" (right, pointing to the Galileo dropdown).

Develop presentation layer for travel content from GWS request/response...



Joe's
Travel



Out with the old, in with 10,000 new minivans!
Mmmm. New car smell. Go!



Home

Flights

Lodging

Condo Rentals

Cars

Vacation Packages

Cruises

Last Minute Trips

Travel Resources

My Profile

My Trips

Welcome! Tell us what you think about our new site.

[Register/Log In](#) | [Help](#) | [Privacy](#)

new-er
Mmmmm.
New car
smell.
[Click Now!](#)

Travel Planning

Flights Hotels Cars

Search By
 Schedule
 Price
 Calendar

Required fields are marked with *.

*From:

*To:

*Leave: [28 [Tue] v] [Jan, 2003 v] [Morning v]

*Return: [28 [Tue] v] [Jan, 2003 v] [Morning v]

[Look up Flights](#)

Host to Access: [Galileo v]

Future
Functionality

Future
Functionality

Future
Functionality

Tools & Tips

- FlightTracker
- Destination Guides
- Driving Directions
- Airport Maps

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Flight Information

Required fields are marked with *.

*Airline Code: *Number:

*Date: [28 [Tue] v] [Jan, 2003 v]

Origin: Destination:

Origin and Destination must be airport codes.

[Flight Info](#)



Add logos, advertising or messaging to make it even more valuable...


Mmmmm. New car smell.
[Click Now!](#)


Travel Planning

Flights
 Hotels
 Cars

Search By:
 Schedule
 Price
 Calendar

Required fields are marked with *.

*From:
 *To:
 *Leave: 28 [Tue] Jan, 2003 Morning
 *Return: 28 [Tue] Jan, 2003 Morning

[Look up Flights](#)

Host to Access: Galileo

- ### Hot Deals
- [NOW! No booking fees](#)
 - [Deals around the world](#)
 - ["New Year, New You" Giveaway](#)
 - [Save on a car with Avis](#)
 - [Book online & save \\$50](#)
 - [Big Apple vacation deals](#)
 - [Vegas, from \\$86/nt](#)

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HOT HOTEL deals around the world
[Book Now!](#)

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- ### Tools & Tips
- [FlightTracker](#)
 - [Destination Guides](#)
 - [Driving Directions](#)
 - [Airport Maps](#)

Flight Information

Required fields are marked with *.

*Airline Code: *Number:
 *Date: 28 [Tue] Jan, 2003
 Origin: Destination:
Origin and Destination must be airport codes.

[Flight Info](#)



As more GWS eBLs become available, incorporate them into code...

Potential customers

> Know your target market

- Listen for Key Words during conversations with your customers: “customise”, “internet”, “application”, “booking engine”, “API”, “structured data”, “online”
 - Qualify your customers
- 3rd party software developers with a need for access to content using cost efficient and effective technologies
 - Mid-Large size subscribers with at least 50K+ segments per year with no/weak online presence and access to IT resources
 - New online subscribers looking to update their web site online booking engine technologies
 - Non-traditional companies with a need for access to travel content for their business

Sample sales scenarios

> Scenario #1:

- Type: Large agency with home based agents and access to IT resources
- Problem: Agency has agents that work “virtually” and they need a customised application that will give their agents anywhere, anytime access to travel content
- Solution: Develop customised browser-based application

> Scenario #2:

- Type: Large agency with home based agents and access to IT resources
- Problem: Agency wants to increase revenue by 20% over the next 3 years
- Solution: Enter new distribution channel – Internet Sales

> Scenario #2:

- Type: Third party developer with access to IT resources
- Problem: Vendor looking for next killer application for travel agencies
- Solution: Build a web based automated eticketing application

Competitive information

- > Galileo was the first GDS to introduce an API product utilising Web Services architecture
 - Launched in the US in 2002, Launched in AU/NZ in 2003
- > All of our GDS competitors offer API solutions
- > Amadeus API
 - Utilises XML requires comms application on client side
 - Not a Web Services solution
- > Sabre recently launched Web Services in APAC
 - No known customers in the region
- > Abacus
 - Abacus WebLink XML

The 3C Process

- > Consultation, Capacity Planning & Collaboration
- > Not a 'certification' process
- > Enables Cendant TDS to perform an evaluation of how a customer uses the GWS or XML Select
- > Benefits include:
 - Reduced number of support phone calls and AIS request
 - Higher customer satisfaction
 - Improved system resource capacity forecasting
- > Initially for new GWS and XML Select customers
- > Plan to revisit existing GWS and XML Select customers

Details of The 3C Process

- > Copy system is granted after contact is received
- > Call from AIS to customer to review project
 - plans for development, overall key project target dates, volume expectations, implementation plans
- > Schedule next check point meeting to review
 - Status of problems, design directions, changes to key target dates or volume expectations
- > Guidance on the business logic approach and needs for optimal efficiency
- > Once a customer requests Production access, a final application evaluation will be executed and final sign-off coordinated by a System Engineer from the API Technical Support team

Pricing

> License Fee

- License is for an annual, enterprise-wide, world-wide agreement

> Support/Maintenance Fee

- Little support on installation is required
- Support will be more focused on the functionality the customer wants to provide

> Excessive Transaction Activity (ETA) fees

- GWS introduces ETA charges based upon a look-to-book ratio
- All transactions in excess of the 250 to 1 ratio will be chargeable.
- Galileo's focus is on optimisation, support and maintenance of each customers' applications, so that each look-to-book ratio is below this threshold

Sales Tools

- ARC / TDSnet
- The GWS sample site can assist you in the sales process
 - <http://testws.galileo.com/GWSSample>
- The site contains:
 - Help Files
 - Sample Code (with working flight availability and FLIFO functionality)
 - Getting Started Code – supports C#, VB.net, Java, Perl
- There are 3 levels of security.
 - The Overview section will be accessible by anyone
 - The Documentation section will be available to anyone we are in negotiations with and we are under NDA with
 - The Code section will only be accessible to licensed GWS customers