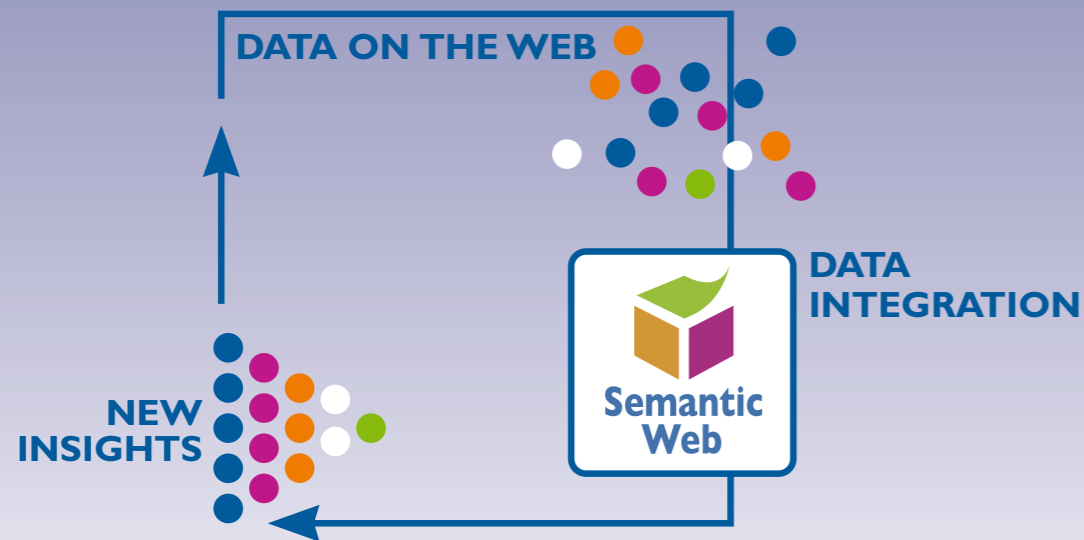# Open your Data

Semantic Web

A Web of Data

On the Web today one finds primarily documents, not data. What would a Web of data look like? Instead of copying details of an airline reservation by hand into your calendar, imagine simply dragging and dropping the data from the airline site into your calendar and it showing up at the right date and time.

Similarly, imagine dragging photos taken with a GPS-enabled camera over a map to plot your vacation itinerary with thumbnails. Using the date stamps of the same photos you could then drag them over your calendar to create a travel log. The more data you have that software recognizes, the more you can do with it.

One of the most valuable things you can do with your data is to link it with other data. The Semantic Web takes the benefits of integrating data within databases, and extends the capability to all data that is accessible on the Web. Manufacturing, supply chain, marketing and sales data can now be merged across a company, without requiring any of the source data to be modified.

You can participate in the Semantic Web with your existing XML or relational databases. And by participating, you can merge your data with other Semantic Web data, adding value to your data and learning more from it. The flexibility of the Semantic Web will let you discover ways to use your data you never imagined.

Open your data to the Semantic Web.

Maximize the Value of Information

Use Cases:

Data Integration in Life Sciences

Life sciences companies need their data models to be adaptable, so that they can integrate new data sources as scientific knowledge advances. They need to re-use medical and drug discovery data in unanticipated ways to develop more personalized medicines. Semantic Web technologies provide the necessary flexibility to achieve these goals.

Decision Support in Automotive

Automotive engineers need a strong knowledge of the design of cars to diagnose a problem, and identify the best path for fixing it. The Semantic Web can be used to integrate data sources and help guide decision-making. Checking the data for consistency is simple. And systems are scalable as it is easy to include information on new car models as they are released.

Web Search in Retail

On Web sites, products are frequently hidden behind unexpected headings, making them hard to find. Semantic Web helps shoppers find products from many starting points. Multiple parameters can also be selected to rapidly reduce the field of search. Customers can search specifically for a red, empire style, knee length dress, made of cotton.

Geospatial Mashups

Increasingly mashups are being created on the Web. Geospatial data is commonly overlaid with photos or information about local resources such as coffee shops, or houses for sale. The Semantic Web provides support for mashups using a standards-based approach. This allows others to build on existing work, creating a platform for sharing knowledge.

Read more case studies:
http://www.w3.org/2001/sw/sweo/public/UseCases/

Open your Data

Semantic Web Scenario: Recruiting

Acme Architecture's hiring process required months of discussions with different recruiting firms. Each firm required information in different formats, making it cumbersome to initiate searches. Search results (lists of candidates) were also in different formats, making it difficult for Acme Architecture to evaluate and compare them.

Now, using the Semantic Web, Acme Architecture performs a single query directly across the databases of all the recruiting firms. That's it!

As the results are in a single format, they can be filtered and sorted automatically, and searches can be refined based on additional criteria.

By using the Semantic Web, Acme Architecture reduces the cost of finding and sharing information, increases the value of its data, and can evolve at low cost as its needs and business partnerships evolve.

Furthermore, all of this can be done without requiring the recruiting firms to agree on a single format themselves.

How does it work?

Acme Architecture and its partners agree to use an open standard (RDF) to represent their data. They do not have to change their own data; they just share information about how it is organized. The data representations can be extended to make them more powerful if necessary (OWL). Acme can then retrieve data from all of the different data-bases using a single query (SPARQL).

Although Acme Architecture is fictional, this scenario is based on real experience with Web standards.

Additional Semantic Web benefits:

O Add new data sources easily, including data on the Web.
O Merge results with other data and learn even more.
O Create queries that include hierarchy (e.g. categories of jobs)

Learn more about the Semantic Web:
http://www.w3.org/2001/sw/

W3C® Semantic Web