

THE PROBLEM: SEARCHING AND SHARING DATA

Searching for, and securely sharing, your data, in multiple formats, across platforms and between organizations and business partners, is a difficult proposition. Data sharing has become a high-priority in many market sectors, but there are numerous practical challenges to delivering on this difficult challenge: disparate database systems with differing schemas, structured (tabular database information) versus unstructured data (Microsoft Word documents, PDF files, web pages, etc.), varying security requirements, and performance and cost considerations.

Visual Analytics' Digital Information Gateway (DIG) solves this problem. DIG provides the means by which you can search and share your data, regardless of structure, location or format, within your organization, or outside your organization, securely, efficiently and cost-effectively.

DIG: SEARCHING AND SHARING DATA SOLVED

How does DIG solve this challenge?

HOMOGENIZED DATA

DIG provides a layer of "abstraction" for each data source under its control, "mapping" a standard schema to the columns of each shared source. When a user receives query results, all columns returned adhere to this schema, regardless of the name given to any column in the source database. Differences between sources are hidden from the end-user, giving the end-user the illusion of querying a single, vast, database.

HIGH DATA VOLUMES

DIG promotes a higher degree of data consumption when compared with standard web sites or Portals. This is due to the automation, and multi-faceted nature, of the federated search. Giving users access to more of your data as well as the data of other agencies, can boost the value of your data to that user.

INSTANT SOA

What's Instant SOA? It's the instant transformation of your data into a **S**ervices **O**riented **A**rchitecture that can be leveraged by anyone with access to the DIG network. DIG exposes shared data sources as Web Services, allowing any web service client to access the shared data. The DIG SOA framework provides a robust set of Web Service APIs that enable existing client applications to easily use your data.

DIG is designed to access any type of data, and provides a ready-made set of web services that are generic and that put you in control. This is made possible by a modeling framework that allows each data source to be mapped to the standard schema. Once your data is controlled by a DIG server, that data can be exposed as a web service – without any additional programming.



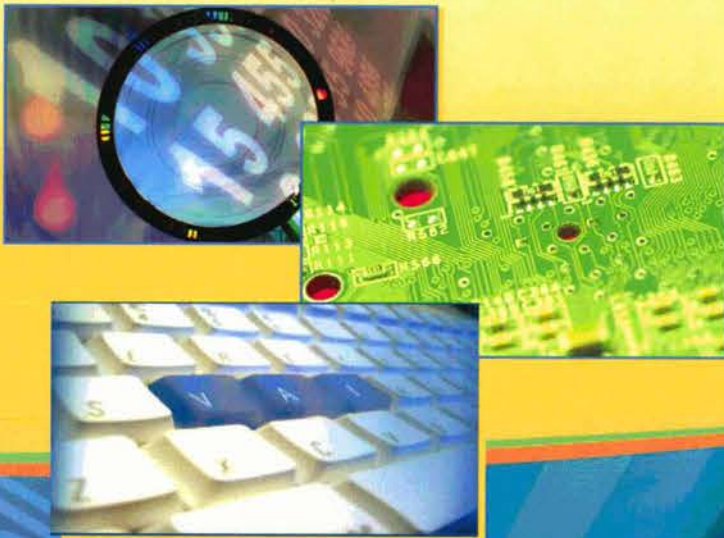
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DIG Overview



Superior Pattern Discovery Solutions...
...for every organization

FEDERATED SEARCHING

DIG uses a distributed, clustered network approach to executing searches. Multiple DIG servers distribute and respond to queries, thus distributing workloads across servers, improving query response time for the end-user.

This same approach allows secure "outbound" sharing of data between departments and to business partners. Any location wishing to share data may install a DIG server that manages the sharing activity. The data managed by each DIG server can be shared, or restricted from sharing, as dictated by local policy or as required by service agreements. Share a little, or share a lot, or only share yes/no notifications of matches - all of this is configured through a graphical user interface.

SIMPLE TO QUERY

The user interface for the DIG query client is simple to use. The interface resembles any number of Internet search engines making it immediately understandable to the average end user. DIG also supports a simple query language for advanced users.

WORD-LEVEL INDEXING

All the data managed by DIG can be word-level indexed to speed performance. When a user queries for "John Smith," this query is federated across participating DIG servers, and is searched for in every column indexed by DIG. This allows a user to find references to "John Smith" in dedicated columns (like First_Name or Last_Name columns), in a "Notes" or "Comment" column, as well as in unstructured data.

Because the queries are federated, and because word-level indexing happens for all columns in all shared sources, a phrase like "John Smith" can even be found in a source where no dedicated name fields exist.

SINGLE POINT OF QUERY

All of the data in a DIG network is automatically available from a single query user interface. When a user enters a query, the query is distributed across the DIG network, executing against both structured and unstructured sources.

SECURE SHARING

All access to data is controlled at each DIG server and the data streams between servers are encrypted. Any column of a database can be shared, or not. DIG provides for both user-level and group-level access at the data source, table or column level. DIG also enables application-specific, row-level security to be applied through an open, plug-in framework.

VIRTUAL DATA WAREHOUSE AT YOUR FINGERTIPS

In essence, DIG provides a "virtual" data warehouse, without the expense and work of creating a traditional, "real," data warehouse. DIG consolidates your data, without the need to physically move the data from the source to a warehouse. This approach also reduces the latency issues normally associated with traditional data warehousing, in that a recurring ETL (Extract, Transfer and Load) process must be applied to the original source data to introduce it into the warehouse.

A PICTURE IS WORTH

Below is a graphic displaying a common approach to configuring a DIG network.

