

Can you access all the data you need?



JUMPER

www.jumpernetworks.com

1

Life sciences research is generating vast amounts of data. Genetic databases are estimated to be doubling in size every six months. There are 968 molecular biology databases listed (NAR 2007) and the number of currently available biological pathway databases has reached 215 (Galperin 2007). The biological science community is highly fragmented with the diversity of data increasing as explosively as its volume. Different disciplines act autonomously, producing data repositories and analytical results using cheap, commodity technology to continuously generate substantial quantities of different kinds of data. Access to this type of information for any organism of interest no longer poses a problem. The real challenge is searching, accessing, and trusting much of this highly propagated data residing in highly-fragmented and widely distributed databases. There is a significant need for new methods and new technology that allow the mountain of data to be effectively channeled for study and exploitation. Significant discoveries and insights in life sciences will depend on the ability to leverage targeted and related data for analysis from multiple distributed data silos.

2

Insight drives drug discovery. Insight comes from connecting the dots in genomic, molecular, and clinical data research. Every scientist hopes that insight resides in processing that next set of data. In such a highly fragmented data landscape scientists continually struggle with how to access all of the data necessary to make decisions. Nowhere is this more evident than in efforts to combine and correlate large, varied scientific data sets. Unfortunately, the key items like audit trails, dependencies, and annotations are rarely kept and hardly ever published with the raw data. This information is typically captured in notebooks and spreadsheets. It is isolated, can be lost or stolen, and if a target becomes a drug compound that audit trail becomes a nightmare. For drug discovery to significantly advance, there needs to be improved methods of capturing the annotations, workflow, and observations that result from processing the pathway data downloaded from both primary and secondary databases. The challenge is how to provide a comprehensive view of all the data, regardless of the data sources? Informed decision making requires researchers to connect all the information related to the data collected and combined from a wide range of proprietary and public data sets used to shed light on disease mechanisms. At Jumper we help you leverage this strategic asset that exists in abundance throughout your extended-enterprise.

3

Jumper is an innovative informatics solution to share both data and knowledge.

It provides a set of powerful tools for capturing knowledge, sharing information, and collaborating with researchers across the organization. Jumper provides linked data technology that allows the aggregated pathway data to provide greater biological insight than with each individual source. Our technology delivers cost-effective and highly-flexible solutions that allow organizations to web enable their structured data, to link it in meaningful ways, and to unleash the flow of collaborative knowledge across the organization. Jumper tools allow end users to directly build an effective knowledgebase from their browser, including the ability to annotate any data (at the column or attribute level, or pixel level of an image), link data expressed in Bayesian models, and enabling cross-platform even cross-domain search of this data. It can be implemented alongside any traditional storage engine including Oracle, DB2, MSSQL, MySQL, and DICOM based storage systems. Jumper is easily deployed with a pre-configured web-interface for deployment on your Intranet. With our unique approach you can start in one department with a single project and grow organically to meet your needs. Jumper puts the volumes of distributed public and proprietary data sources, and their knowledge, at your fingertips so you can become more streamlined and effective in your R&D efforts.