Adding a new global dimension to life sciences research

Overcome geographical barriers and accelerate time to results for globally distributed research with Databiology and IBM Cloud

Cutting-edge research in life sciences or healthcare not only means pushing the boundaries of knowledge; it often requires stretching the limits of high-performance computing (HPC). Whether you are focused on cancer genomics, medical diagnostics or crop science, pan-omics research involves advanced application pipelines, massive volumes of biomedical data, and some of the world's most powerful infrastructures. At Databiology, we are at the intersection of applications, data, and infrastructure, providing globally distributed organizations with the freedom and agility to quickly and confidently adopt the latest technologies. And we have now incorporated IBM® Cloud into our platform, enabling us to deliver important new capabilities to our customers.

Meeting the challenges of your work

Our platform, Databiology for Enterprise (DBE), provides information management and orchestration for the life sciences and healthcare sectors. You can deploy DBE on premises, on cloud, or in a hybrid environment.

DBE enables you to operate your instrument-to-insight lifecycle based on best-in-class solutions, managed across geographical locations. In a global research organization, you will have data sets in various locations, and you will be subject to regulatory restrictions that prevent you from repatriating unprocessed data for further analysis.

You will have a vast application catalog, where many applications will be tied to specific locations and will not be easily portable.

DBE has been designed with the enterprise and its distributed data, applications, and infrastructure in mind. With DBE, you can process your data through all of your favorite applications, workflows, and web services on any number of compute platforms of your choice. You also benefit from extensive functionality such as access controls and credential management, automated data management, tracking, collaboration, and project management (see sidebar).

Advantages of DBE and IBM Cloud

The addition of IBM Cloud means new choices to run your solution. You can quickly connect your IBM Cloud account to your DBE instance, bring your applications to the cloud using Docker containers, and execute your workloads. Key features and benefits of using DBE and IBM Cloud include: Geo specifying: You can benefit from the IBM Cloud global presence with data centers in more than 40 locations around the world, in all major geographies. Easily designate the IBM Cloud data center where your workload should be executed or set up rules in DBE to ensure data stays within a certain country on IBM Cloud. By bringing the IBM Cloud infrastructure to the data instead of the other way around, you can also save time and reduce the costs of data transport.

databiology

As easy as online shopping

Using an online "shopping cart" approach, the DBE graphical interface makes it easy for you to:

- Search any data and metadata, including internal and external biomedical research or reference data, and select your data sets for analysis
- Choose a pre-configured analysis package or bring in your own applications and pipelines
- Instantiate hardware for storage and compute capacity at the touch of a button
- Configure extensive project management and user access controls

DBE performs the orchestration by connecting the data for analysis to the compute environment and delivering the software stacks using the Docker tool chain. Analysis is managed and monitored by DBE, including communication with the **IBM Cloud** application programming interface (API).
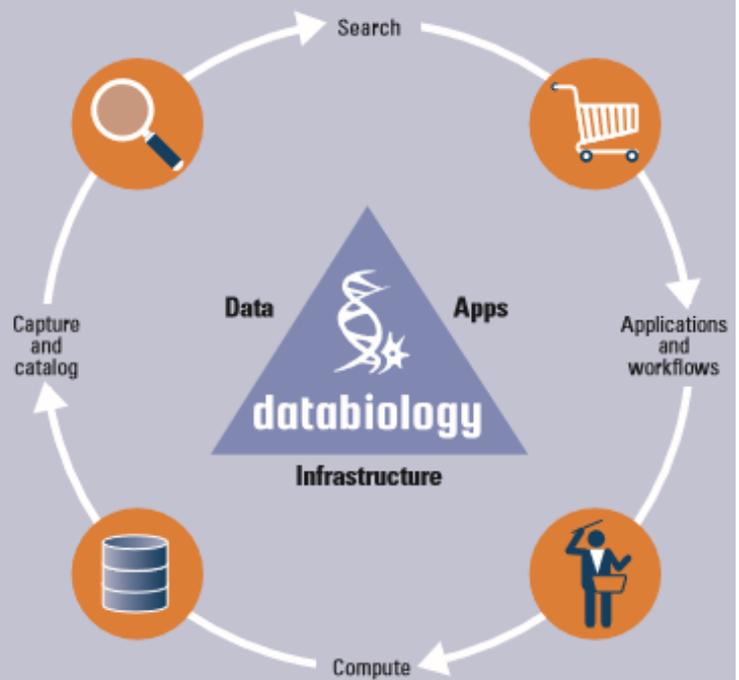
Bare metal: Not only can you get on-demand cloud capacity, you can also set up predefined bare-metal infrastructures—dedicated servers and storage in IBM Cloud data centers that are ready within hours. You gain the security benefits of full physical isolation from others' workloads, and raw compute capacity that is equivalent to your on-premises HPC. Another great advantage is the ability to easily exchange data between your on-premises data centers and your IBM Cloud environment.

IBM POWER8® performance: Gain substantial increases in computation speed with IBM Power Systems™ servers uniquely available on IBM Cloud at short notice. These servers, with POWER8 processors running Linux, deliver high performance critical to demanding work such as genomic pipelines. The servers also leverage the enhanced I/O, memory bandwidth, and threading parallelism of the POWER8 architecture. With IBM Cloud bare-metal resources, you can scale compute capacity up or down as needed.

Global flexibility to meet today's challenges

Databiology on IBM Cloud gives you the flexibility you need to collaborate effectively on organizationally and geographically distributed projects. Re-create environments at the touch of a button, helping to enable repeatable research results. You can re-run the same computation but use different parameters, different data, or a different version of the software. Databiology's unique architecture lets you future-proof your processes by always working with best-in-class solutions, today and tomorrow, while continuing to incorporate your existing body of research.

For more information

To learn more about Databiology for Enterprise on IBM Cloud, visit: www.databiology.com/about

Call us today to learn more or get started with Databiology for Enterprise on IBM Cloud.

IBM Cloud

www.databiology.com

201 Spear Street, Suite 1100, San Francisco, CA 94105, USA +1 415 426 3592

Magdalen Centre, The Oxford Science Park, Oxford OX4 4GA United Kingdom +44 186 578 4426

databiology