Oracle Enables Research at Scale

Oracle has been deeply involved with the research community for more than a quarter century now. Recent advancements we've made in the cloud deployment of high performance computing infrastructure and advanced analytics solutions are focused on one goal - Accelerating Enterprise Research at Scale. Our advancements in key technologies including Big Data, Machine Learning/AI, and IoT, coupled with the far more cost-effective and elastic cloud delivery model - have radically changed what is possible in data driven research.

Oracle's Commitment to Academic Research

In addition to providing critical applications and technology solutions to thousands of education and research organizations worldwide; Oracle has a long standing tradition of supporting and partnering with academic research institutions through other key programs:

- **Oracle Cloud Innovation Accelerator** partners with educators, researchers, students, and university-affiliated entrepreneurs to harness the power of cloud computing in accelerating scientific discovery, and creating innovative solutions that make a significant impact to our world. This program grants Oracle cloud credits and provides technical mentorship to selected applicants.

- **Oracle Labs** seeks to identify, explore, and transfer new technologies; investing in research collaborations with faculty, research directors, and principal investigators at universities, labs and nonprofit research organizations worldwide.

- **Oracle Academy** Oracle Academy advances computing education globally by offering a complete portfolio of education resources for teaching and not-for-profit academic research to more than 6 million students in 128 countries.

- **Oracle Education Foundation** engages Oracle employees as volunteer coaches to lead school students in projects at the intersection of STEM disciplines.

Furthermore Oracle is active in major industry groups like Internet2, Educause, AACRAO and HEUG; and shares innovations through participation in groups such as IMS Global and PESC.

"CERN and Oracle have been collaborating for more than 30 years. Over this time, Oracle has provided CERN with both hardware and software solutions that are essential to our research programmes..

Oracle has also been a key partner in **CERN openlab** *since 2003, working with us to tackle the future ICT challenges faced by the research community. One of our current collaborative projects focuses on testing Oracle Big Data Discovery in our unique and challenging environment: we are using it in reliability-assessment studies for a potential successor accelerator to the Large Hadron Collider. Other ongoing projects focus on Oracle's growing array of cloud solutions."*

ERIC GRANCHER
HEAD OF DATABASE SERVICES
GROUP, IT DEPARTMENT
CERN — EUROPEAN ORGANIZATION
FOR NUCLEAR RESEARCH

Oracle's Academic Research Solutions

Oracle's Academic Research Platform is a comprehensive set of modular solutions addressing the ever-increasing need to collect, manage, analyze, and collaborate on data. Our solutions bring new levels of performance and scale to:

- Ingesting and integrating data securely from structured and unstructured sources, to gain improved insight for decision-making and enhanced usability.

- Implementing a governance strategy to better manage data quality and uniformly secure access to sensitive data like protected health information (PHI) and intellectual property (IP).

- Provide enterprise-wide Big Data environments inclusive of high-performance computing infrastructure, Big Data Visualization tools, advanced & predictive analytics, R and machine learning / AI – to accelerate discovery cycles.

- Enable streamlined collaboration networks between academia, government and commercial entities to facilitate communication & data sharing to enhance opportunities for obtaining additional grants and private funding.

KEY COMPONENTS

- **High Performance Cloud Infrastructure**
Industry's highest-performance compute, storage, data integration, and security tools – all designed for maximum elasticity and simplified researcher provisioning.

- **Big Data**
Pre-configured Hadoop & NoSQL platforms with embedded Big Data Visualization & Advanced Analytic tools, coupled with high speed data connectors to simplify data acquisition.

- **Internet of Things**
End-to-end solution for a comprehensive, scalable, and cost-effective IoT architecture to bring data from connected sensors & products to existing enterprise systems.

- **Security**
The world's most renowned data security capabilities threaded into every layer from database and storage – all the way to data access, anonymization and visualization.

Oracle platform and infrastructure cloud technologies help simplify and standardize systems, strategically allocate resources, and improve overall institutional agility
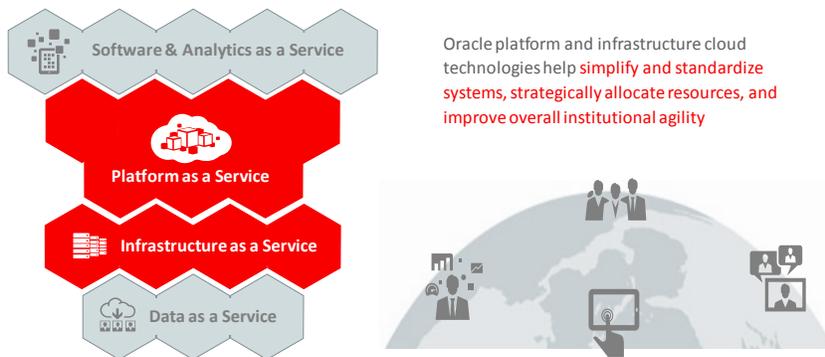
Figure 1. Oracle Academic Research Platform – Integrated, Simple to Deploy Architecture

Data at the Core

Data is a key enabler of research and its most important asset. It's critical to have a scalable infrastructure that enables the use of all data; i.e. data that is currently collected, data that is currently available but cannot be used because it is unstructured or cannot be extracted, data that is collected from sensors, and data that a new application not even developed today will provide. Optimizing availability & secure access to data is paramount to accelerating research and discovery cycles across every discipline.

Oracle is focused on securely bringing together data from disparate sources, both structured and unstructured, to gain insight for decision-making and enhance usability for researchers. Oracle's comprehensive portfolio of cloud-based solutions makes it all possible.

A Call to Action

The potential impact of these technologies for research is inescapable. Start your conversation with Oracle about these timely and unique solutions today!

CONNECT WITH US

blogs.oracle.com/oracle

facebook.com/oracle

twitter.com/oracle

oracle.com

FOR MORE INFORMATION
Contact: 1.800.ORACLE1

Integrated Cloud Applications & Platform Services