Raising research to new heights: Oracle – Mythics Internet2 research cloud solution

Technology solution to streamline research

Research universities operate at the highest level of activity, driving breakthrough innovations, accelerating discoveries, and advancing the understanding of the world, from analyzing the physics of black holes or developing new cancer treatments to understanding weather patterns on Mars.

Regardless of the field of study, researchers want to focus on experimentation, collaboration, and testing hypotheses, and they need technology to accomplish their work. However, researchers don't want to spend time spinning up servers and patching the network. Instead, they need a turnkey cloud IT infrastructure solution, so they can spend their valuable time on what matters — research.

A high-speed cloud solution for university researchers

Mythics, a Platinum-level member of the Oracle Partner Network, has launched a provisional service as part of the Internet2 NET+ Cloud Services Program. The effort will provide differentiated Oracle Cloud services to Internet2 members, InCommon participants, and connected higher education institutions through regional partner programs.

The technology —Oracle Cloud Infrastructure

With Oracle Cloud Infrastructure (OCI) as the basis of Mythics' NET+ offering, researchers can enjoy:

- High-performance computing power to process more data faster to accomplish more research.

- Built-in flexibility to easily increase or decrease computing capacity as research needs change.

- Access to the largest Platform-as-a-Service portfolio of any cloud vendor to efficiently build, deploy, integrate, secure, and manage enterprise applications.

- Peace of mind that the technology platform already meets the security requirements of most grant funders since the OCI platform is certified to meet a broad set of international and industry-specific compliance standards, such as ISO 27001, SOC1, SOC2, PCI DSS, HIPAA/HITECH, and FedRAMP.

Oracle Partner Solution Brief

Benefits of the Internet2 Oracle Cloud Services Offering by Mythics

The cloud service program is designed to meet the challenges of researchers and offers:

- **Peering** — whether through the Internet2 Peer Exchange (I2PX) with layer 3 routed access or through direct private peering, researchers can get secure, scalable, agile networking options to OCI across multiple availability domains.

- **Pricing** — with a discounted, community pricing structure, researchers get predictable, cost-effective pricing across all Oracle platform and infrastructure-as-a-service offerings.

- **Portal** — to make self-service requests to procure Oracle Cloud Services. This portal includes robust approval, tracking, and reporting so both researchers and campus administrators have transparency into monthly cloud costs across the organization.

- **Experts** — to support researchers with IT expertise on the most current best practices on the ever-evolving cloud architecture and technologies for new builds on OCI.

High-performance computing with Oracle Cloud Infrastructure

Cloud computing is a game-changer for research. By reducing the cycle times to prototype, setup, and test complex research workloads, researchers can process more data faster and see results much more quickly to perform more experiments. And, the Mythics NET+ Oracle Cloud Services agreement makes it easier than ever for researchers to utilize high performance cloud technologies with cost-effective pricing and on-demand support. Consider these benefits.

Flexibility

With Mythics' NET+ Oracle Cloud Services, researchers have flexibility to increase or decrease server capacity at any given time, with help from a professional partner to fine tune the infrastructure. No more purchasing for maximum data throughput, leaving the excess capacity as a sunk cost sitting idle until the experiments and analysis needed the max processing power. No more reserving shared servers from the central IT data center and carefully planning or limiting the number of tests to fit the allotted server space. Cloud computing changes all of that.

Transparent pricing

When budgeting for IT solutions, it's critical to look at all the costs, not just the initial investment. A seemingly inexpensive cloud solution can come with hidden fees that blow the budget. For example, some leading cloud vendors charge for data egress. The user can input as much data as desired, but then they are hit with significant fees when they extract their data. However, with the NET+ Oracle Cloud Services offering by Mythics, there are no surprises from unexpected fees. Because the agreement takes advantage of NET+ consortium pricing and is based on bands of computing workloads, researchers get predictable pricing. Plus, as the volume of cloud computing increases as more and more researchers at a single university deploy instances of OCI with NET+ Oracle Cloud Services offering by Mythics, additional discounts kick-in to keep costs low for everyone.

Internet2 Overview

Internet2 is a U.S. non-profit computer networking consortium created to accelerate ground breaking research. The organization operates the Internet2 Network which provides computer network services for research universities, corporations, government agencies, and nearly 100 international partners.

About Mythics

Mythics is an award winning systems integrator, consulting firm, managed services provider and elite Oracle platinum resale partner representing the entire Oracle product line of cloud, software, support, hardware, engineered systems, and appliances.

Compliance and security

Most research grants require that the technology meets specific privacy and security regulations, like HIPAA, FISC, GDPR, and SOC. With past research efforts, most people have had to conduct due diligence or implement additional security software to ensure that the technology solution complied with grant requirements. Since OCI meets the vast majority of security regulations, researchers can review the list of validated compliance standards to see if their security requirements are covered. If so, there's no need for additional security measures with the NET+ Oracle Cloud Services offering by Mythics. Moreover, the Internet2 Peer Exchange (I2PX) provides layer 3 routed access or direct private peering to maximize security for remote, collaborative research teams.

Simplified procurement and deployment

Mythics NET+ Oracle Cloud Services agreement offers a user-friendly portal with a catalog of services and use cases to accommodate the needs of most major research institutions. With the portal, a university's central IT staff can manage all OCI instances across the university so researchers can easily order and deploy the cloud computing they need. To provide autonomy to researchers, the central IT team can also grant permissions so individual researchers can procure and deploy services in a self-service model.

Technology expertise and support from Mythics

Mythics and Oracle have collaborated to address the unique challenges that researchers face to procure, deploy, and use technology infrastructure. The net result is the NET+ Oracle Cloud Services Offering by Mythics — a turnkey cloud solution that takes advantage of Internet2 consortium pricing, and with support from Oracle, Mythics' team of cloud architects, engineers, and consultants take the IT burden.

Customer success with Mythics NET+ Oracle Cloud Services

Cardiff University takes advantage of surge computing with OCI

Gravitational-wave astrophysics, a new field of observational astronomy, attempts to better understand the physics of gravity, general relativity, and quantum physics. This highly complex field of research calls for collecting data with gravitational detectors and immediately generating triggers to estimate the position of gravitational waves in the sky. The process requires sudden bursts of computing power that is not practical with a traditional university on-premises data center.

Researchers want to focus on their research. With the NET+ Oracle Cloud Services Offering by Mythics, they don't have to deal with the underlying technology platform.

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Oracle is committed to developing practices and products that help protect the environment

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"The University of Bristol is proud to be working so closely with Oracle to explore the prospects of doing things in a different way. It is undoubtedly the case that high capability computing is ever more central to the science endeavor. Being able to access these capabilities in the Oracle Cloud lowers barriers to entry so that more exploratory research, more groundbreaking and innovative research can be done."

Professor Guy Orpen, Deputy Vice-Chancellor for the Temple Quarter Enterprise Campus, University of Bristol

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"With the new 800-171 FISMA standards upon us, we are very concerned that many of our disparate research computing environments may not meet new security requirements. Centralizing governance and control of security for all research is becoming a top priority."

Research CIO from a top five U.S. research university (88% funded by federal grants)

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