



Gravity Mainframe Cloudification

Game changer for Mainframes

The project is a radical change to the Santander IT systems, delivered in a way that nobody in the industry has tried before

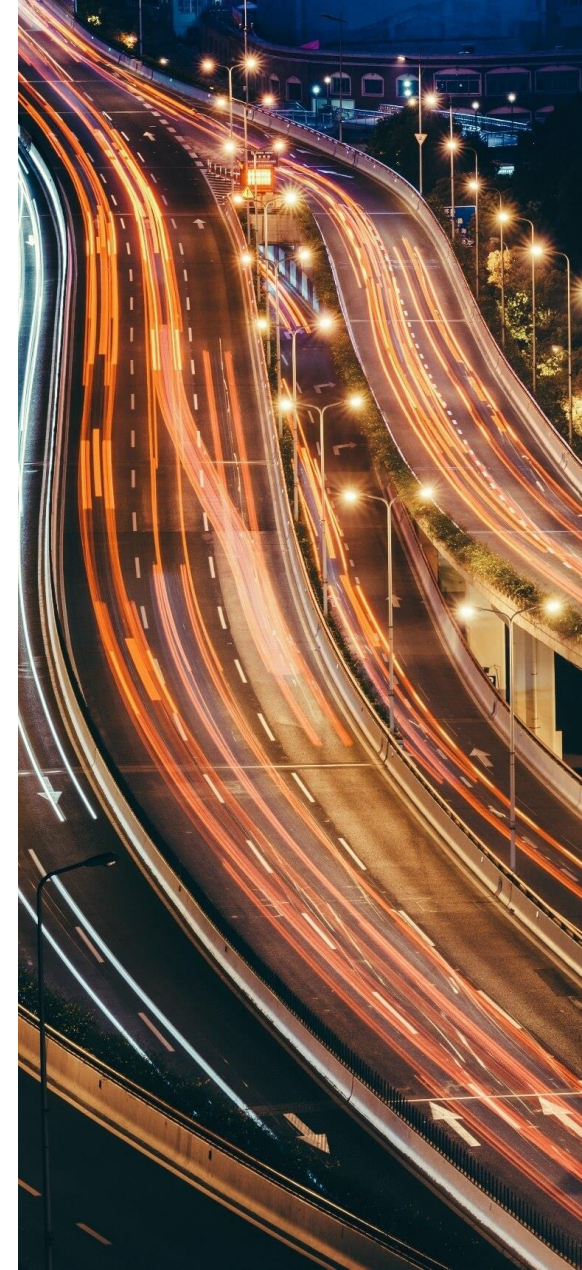
Gravity is a **transformational project**, consisting of the migration of the entire Santander mainframe core banking system to the cloud (both private and public).

This is a huge breakthrough as it delivers a **new and modern banking core system** for the next decade, keeping **current processes and data**. At the completion of the programme, **more than 1 trillion technical executions** will be managed every year by the Gravity platform within Santander's systems.

The Project delivery has been **grounded in 5 main** points:

- **Highly Scalable and resilient architecture**
- **Dual Run Testing Strategy**
- **Fully Automated comparison tools**
- **Comprehensive Real-time monitoring metrics**
- **Skilled large team with experts from the old and the new**

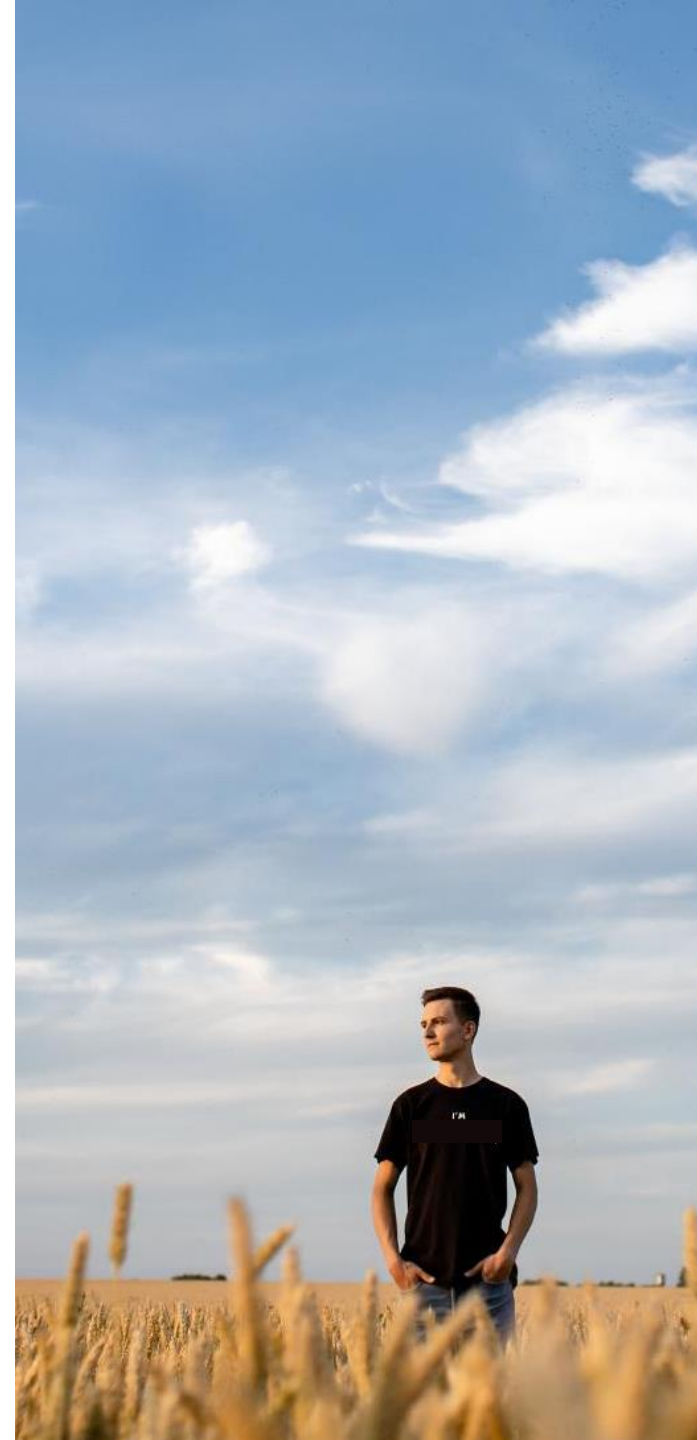
Supported by Oracle and **Accenture** as key Technology and Service Integration partners for Santander Banks deployed in our private cloud.



What is the Impact?

Gravity has brought unparalleled **benefits both for business and IT** and also helps to keep costs under control:

- **Commercial data** directly, easily and securely **accessible**
- **Business events** are captured, distributed, and shared **in real-time**
- Fully native **APIfied platform**
- Real-time business dashboards, providing business **agility and faster decision making**
- New stack at the forefront of the latest technology, **reducing the time to market** from weeks to minutes
- 360 modernizations of the backend ensure the system **long-term sustainability**
- Better position for price negotiations due to **no vendor lock-in**



Native event driven platform

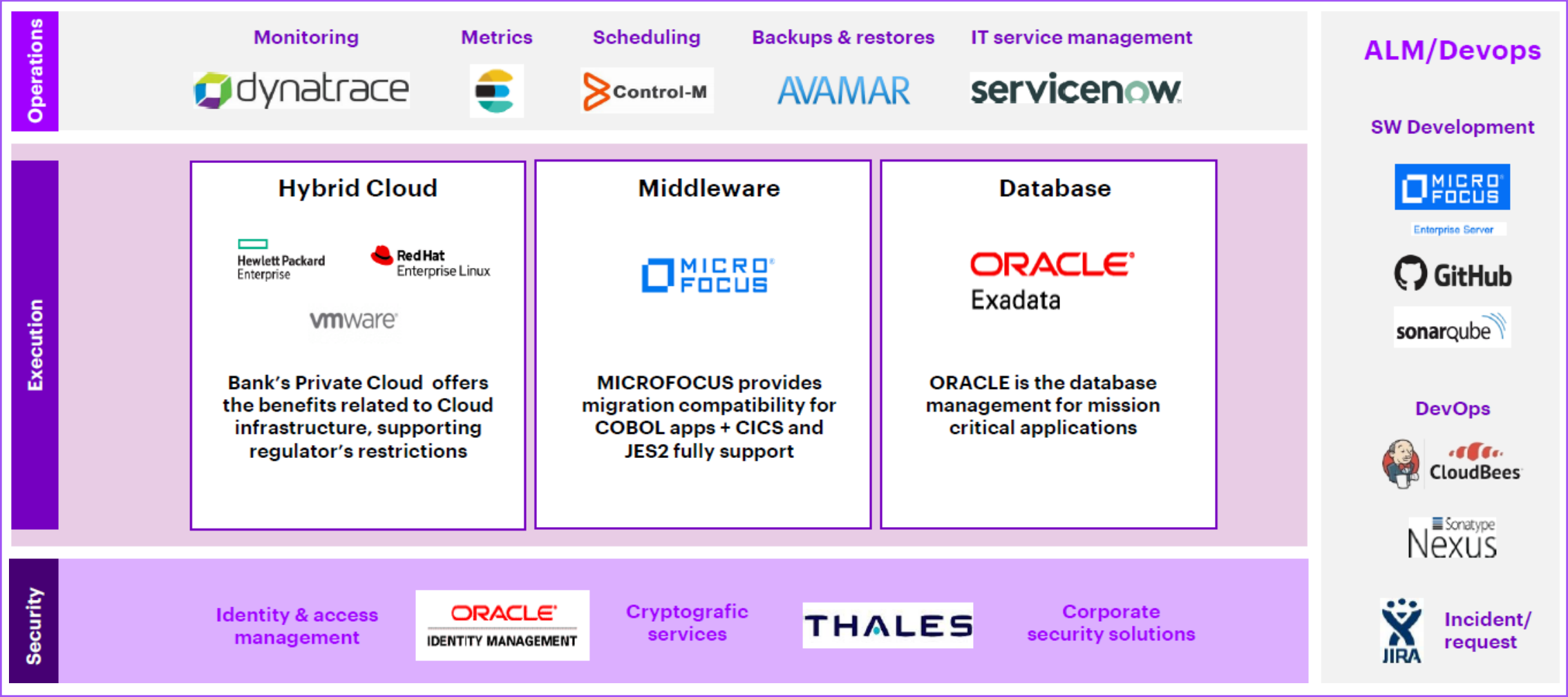
+300 APIs

+300 real-time events

New talent

Material TCO Savings

New Architecture with focus on the capacity management, availability, technical continuity and service manageability principles





How Oracle Cloud Infrastructure help us

The new solution developed was able to beat the Mainframe from different angles:

Performance

Performance batch

- **+25% elapse time improvement**

Performance Online

- Proven for **+10.000 TPS** with response times within SLA

Scalability

Exadata

Cloud@Customer

providing quick scalability from quarter-rack to full-rack on-demand

Resilience

Oracle **RAC** Exadata:

RPO=0 and RTO=0

Oracle Sync **Data Guard**

RPO=0 and RTO<120s.

Oracle **ZDLRA**



Gravity will help transform Santander into a 'digital-native' company, with the agility and capabilities to offer the best customer experience, while continuing to provide the solid security for data and assets we've always delivered our customers. The initiative is an important next step in the bank's transition to a common tech stack that is utilised across the group's footprint for the benefit of both customers and shareholders. We are now closer to Santander's aim of becoming the best open financial services platform.

Dirk Marzluf, chief operating and technology officer at Banco Santander.



Santander's successful cloud platform is built upon world-class capabilities - both in-house and through third-party providers. This gives Santander's 16,500 software developers and engineers a modern, high-performing environment to create customer-centric applications and increases the bank's ability to attract top talent. Santander's cloud programme also reduces the bank's energy consumption for the IT infrastructure by 70%, contributing to Santander's responsible banking targets.

For more information

<https://www.santander.com/en/press-room/press-releases/2022/05/santander-digitalizes-its-core-banking-with-cloud-technology-to-improve-service-and-efficiency>

<https://www.santander.com/en/stories/7-questions-on-how-gravity-is-transforming-santander>

<https://www.santander.com/en/press-room/press-releases/2023/09/santander-named-most-innovative-bank-in-the-world-by-the-banker-magazine>



Thank you.