IBM

eurobits technologies

Business challenge

To capitalize on international growth opportunities, Eurobits wanted a more flexible and scalable platform for its open banking services, with the ability to keep client data in defined jurisdictions.

Transformation

Under pressure from regulators, the banking industry is opening up to allow new competitors to handle payments and account aggregation. For Eurobits—which helps banks give trusted third-parties access to account information—this change represents a significant growth opportunity. To preserve its first-mover advantage, Eurobits migrated to IBM® Cloud™, gaining the flexibility, scale and resilience it needed to serve a rapidly growing client base.

Results

Faster
and more flexible scaling of services removes barriers to growth

Security-rich
single-tenant cloud servers give confidence to financial-services clients

Compliance
with local data protection laws facilitates international expansion

Eurobits Technologies

Transforming the financial landscape with robust, security-rich services on IBM Cloud

Eurobits is the European pioneer of account aggregation services for banking. Serving the largest financial institutions across Europe, including BBVA, Santander (Spain), ICA Banken (Sweden), La Banque Postale (France) and KBC (Belgium), Eurobits provides highly secure and seamless connections between banks, telcos, utilities and payment providers in 17 countries. Eurobits has been heavily involved in the development of the EU's second Payment Services Directive, and also provides electronic invoicing services through an API.

"IBM API Connect enables us to deploy and manage APIs easily and cost-effectively, helping Eurobits stay at the forefront of payment platform capability."

—Arturo Gonzalez, CEO, Eurobits

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Gearing up for growth

As a pioneer in banking account information services, Eurobits helps banks work together so that their customers can easily pay from and manage their bank accounts at multiple banking providers. To support both of these activities, Eurobits provides secure APIs that enable trusted parties to securely share customer account details, and allows customers to transfer funds without logging into their own bank.

In January 2018, the EU Revised Payment Services Directive (PSD2) entered into force. This directive enables bank customers to use third-party providers to manage their finances. Payment service providers will be legally required to support PSD2 in September 2019.

Arturo Gonzalez, CEO, explains: "Eurobits was the first player in Europe in what is now called open banking, and for many years we were playing in a pretty empty field. With PSD2 and other developments, open banking is now a very strong market force, not only in Europe but all over the world. We wanted to move into this fast growing space with its huge opportunities; speed was crucial, because we knew our first-mover competitive advantage would not last forever."

Eurobits needed to build a new infrastructure with sufficient flexibility to support growth in clients,

Architecture

eurobits
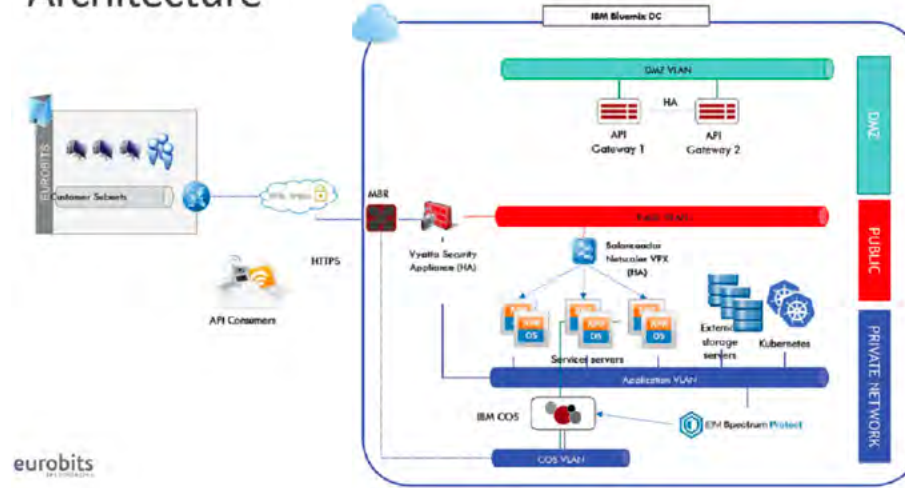
transactions and geographic coverage. The company was hosting its core systems on co-located hardware in a third-party data center. Although this environment was fully virtualized, the underlying physical infrastructure still acted as a brake on the company's development. Every time Eurobits outgrew a server, it had to wait for its service provider to complete upgrades or to provision additional hardware.

"We needed greater flexibility, both to be able to grow the business on a steady basis and because our computing requirements rise and fall unpredictably," says Arturo Gonzalez. "With international expansion in mind, we also had to be able to comply with local data protection laws, central bank regulations and fintech laws that require financial data to

remain in-country. To meet these requirements, we sought a cloud provider with a global presence."

Further, the new world of open banking requires different operational models. Some service requests are for financial information on a daily or even intra-daily basis, while others require only one-time access for a data snapshot. All of these services require suitable APIs to connect to and use the Eurobits service.

The previous Eurobits model for deploying APIs to banks lacked scale and sophistication. While it had worked well for the relatively small set of clients and transactions in the past, Eurobits knew that it needed a more flexible model to cope with the rapid growth in demand for its services.

Testing the Waters

After analyzing offerings from all the major global cloud vendors, Eurobits chose IBM Cloud as its strategic platform. "IBM had something unique," says Arturo Gonzalez. "Our customer base is mostly banks and FinTechs; and in terms of security perception, banks do not want their data on multi-tenant environments. The biggest differentiator for IBM was that we could have a hybrid solution where the most critical information would go through a single-tenant architecture, and we could use a multi-tenant architecture for less critical information."

As the first stage in its cloud migration, and to test the IBM Cloud before fully committing, Eurobits created a disaster-recovery (DR) environment in an IBM data center in Paris for its existing VMware vSphere deployments. VMware vSphere Replication synchronizes entire virtual machines from the production deployments—initially in the third-party data center—to IBM Cloud bare metal servers. An orchestration tool automatically deploys contingency virtual-machine infrastructure in the IBM Cloud should Eurobits need to failover its production environments.

"Working with IBM Services gave us confidence, because we could actually talk directly to people for support, whereas the other big cloud players provide only anonymous or automated support," says Arturo Gonzalez. "When you run into

technical difficulties, the ability to work with real people definitely adds value."

Migrating critical workloads to the cloud

Following the success of the DR initiative, Eurobits and the IBM Cloud services team moved to the next step: the migration of all production environments to the cloud. The team used VMware vSphere High Availability to set up three replica clusters for its VMware ESXi servers on IBM Cloud bare metal servers in Amsterdam; and the initial DR environment for VMware remains in Paris. For systems where dedicated servers are not required, Eurobits uses IBM Cloud offerings including VMware vSphere on IBM Cloud, VMware vCenter Server on IBM Cloud, and IBM Spectrum Protect™ Plus on IBM Cloud for backing up and protecting VMware data.

Eurobits employs VMware APIs to automate the creation and migration of virtual machines for its production deployments on the IBM Cloud, using both its own scripts and scripts supplied by IBM. All the VMware virtual machines will be backed up to the Paris disaster recovery data center.

Eurobits initially migrated 30 VMs to the IBM Cloud, and today runs approximately 50 VMs. Mani Ghelichkhani, IT Director, explains the drivers for this growth: "We are a growing business, adding more users, and IBM Cloud gives us the ability to support expansion combined with high availability—and develop new products."

Eurobits also uses IBM Cloud file storage for a large file repository connected via NFS to some of its production servers, and IBM Cloud block storage for backed-up disk images.

Accessing new revenue streams

To address its challenges around the growing diversity of services offered through APIs, Eurobits selected IBM API Connect® on IBM Cloud, which has enabled the company to tap into a new segment of the market.

Arturo Gonzalez comments: "As the number and variety of engagement models grow, it would be virtually impossible to roll out our own API delivery model. IBM API Connect enables us to deploy and manage APIs easily and cost-effectively, helping Eurobits stay at the forefront of payment platform capability."

Pablo Rovira, CRO / CMO at Eurobits, comments: "IBM API Connect enables us to publish APIs to a marketplace where smaller clients can consume and pay for services as and when they need them. Before, Eurobits was strongly oriented towards large B2B clients, and our client relationships involved daily face-to-face contact. The cost of that delivery model shut us off from smaller potential clients. IBM API Connect gives us great flexibility and has lowered the cost of entry to our services, opening up an entire new market."

Microservices on Kubernetes

The second stage in Eurobits' cloud migration is containerizing applications. The company uses IBM Cloud Kubernetes Service to create a more resilient and elastic architecture that scales with changing client demands. For account information services, for example, Eurobits uses Java-based microservices in containers to significantly accelerate every stage from development to production whenever one of its 400 bank connector services needs updating. As the bank connectors share many physical and logical resources, using a container-based approach instead of multiple VMs enables better utilization of IT resources and also improves performance.

Arturo Gonzalez comments: "IBM Cloud Kubernetes Service allows us to move from a fairly monolithic architectural approach to a more distributed approach that uses microservices and allows us to individually manage each bank connector."

Mani Ghelichkhani adds: "Given the technology we need to use to get all the information from the bank accounts of the end-users, each piece of software needs to be independent from the others. Containerization enables us to perform corrective actions in any connector without impacting the overall architecture of our aggregator solution. The DevOps team is really happy about how this technology will make their lives easier when staging into production after we apply corrective or developmental patches to a service."

Extreme flexibility

Running on the IBM Cloud gives Eurobits the performance, availability, scalability, flexibility and security it needs to stay ahead of competitors in the fast growing and increasingly international market for open banking services. VMware vSphere on IBM Cloud bare metal servers gives Eurobits dedicated computing power to speed through transactions without the potential security risks inherent in a multi-tenant landscape. What's more, the company can rapidly extend its core systems onto new bare metal servers, enabling it to meet emerging client demand.

"One of our major clients is about to run a big marketing campaign that will multiply their user numbers by a factor of 10 or 20 within the space of a month or two," says Arturo Gonzalez. "VMware vSphere on IBM Cloud gives us the extreme flexibility we need for this kind of scenario. Running on the IBM Cloud also supports our ongoing international expansion, enabling us to scale seamlessly in size and geography."

Highly secure and compliant

Where local regulations require personal and financial data to remain in-country, IBM's global network of cloud data centers will make it easier for Eurobits to comply by simply firing up local instances of the required services. Both VMware virtualization and Kubernetes containerization are ideally suited to support the rapid redeployment of existing functionality in new locations. Architecting applications as microservices and deploying them on IBM Cloud Kubernetes Service also improves horizontal scalability and overall application uptime. Finally, there is a security benefit in the isolation of services.

In summary, Eurobits clients are mostly banks and FinTechs that require compliant, security-rich, high-performance solutions with proven recovery capabilities to support business continuity. By meeting these requirements, IBM Cloud enables Eurobits and its clients to comply with stringent regulations in multiple geographies. In particular, the use of bare metal servers keeps data and transactions physically isolated from other environments on the cloud, giving confidence to Eurobits' risk-averse clients.

Always open for business

The use of VMware High Availability technology within the production cloud center helps keep vital account information and payment services available at all times. And with a full DR solution on the IBM Cloud, Eurobits can rapidly and reliably restore services in the event of an unexpected outage, and at lower cost of ownership than in its previous hosted landscape.

"If a service goes down, it is now much easier to automatically bring it back up," says Arturo Gonzalez. "In practice, this means less downtime and faster recovery, and we expect these metrics to improve once we complete our migration to a reactive architecture with Kubernetes—the biggest benefits are yet to come."

He concludes: "The fact that Eurobits works with IBM gives our clients in the financial services industry a high level of comfort and trust. We needed to accomplish this migration in order to succeed in a market that is growing extremely fast, and that places heavy regulatory challenges and restrictions on us. With the backing of the IBM Cloud, we face these challenges with confidence."

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Solution components

- IBM® API Connect®
- IBM Cloud™
- IBM Cloud Bare Metal Servers
- IBM Cloud for VMware Solutions
- IBM Cloud Kubernetes Service
- IBM Spectrum Protect Plus on IBM Cloud
- VMware vCenter Server on IBM Cloud

Take the next step

To learn more about the IBM Cloud for VMware Solutions portfolio, please contact your IBM representative or IBM Business Partner, or visit the following website: ibm.com/cloud/vmware