The Server Labs G-Cloud 14 Service Description

G-Cloud 14 Service Definition - Microsoft Azure

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1 Introduction

This document provides you with a description of each of The Server Labs' Cloud Services on Microsoft Azure

If you wish to receive further information please contact sales@theserverlabs.com

2 Service Definition

https://azure.microsoft.com/en-gb/services/

Azure Virtual Machine - Windows	Cloud Compute Services. Azure Windows Virtual Machines / VMs
Azure Virtual Machines - Linux	Cloud Compute Services. Azure Linux Virtual Machines / VMs.
Azure Virtual Machine - Scale Sets	Cloud compute services. Auto scaling virtual machines for high availability.
Azure Cloud Services	Cloud compute services. Deploy highly available, infinitely scalable applications and APIs.

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Azure Batch	Cloud-scale batch job scheduling and compute management.
Azure RemoteApp	Windows remote application delivery to Windows, iOS, Mac OS X and Android devices.
Azure Service Fabric	Cloud fabric service. Build and operate always-on, scalable, distributed applications.
Azure Container Service	Cloud container service. Deploy and manage containers using the tools you choose.
Azure Redis Cache	Cloud Redis cache. High-throughput, consistent low-latency data access to power fast, scalable Azure applications.
Azure Storage - Blobs	REST-based blob object storage for unstructured data in the cloud.

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Azure Storage - Tables	A NoSQL key-value store for rapid development using massive semi-structured datasets and tables.
Azure Storage - Queues	Reliable messaging for scenarios including workflow processing or communication between application components.
Azure Storage - Files	Fully managed file shares that use the standard SMB 3.0 protocol.
Azure Storage - Disks	Reliable, economical cloud storage for data big and small.
Azure Storage - StorSimple	An enterprise hybrid cloud storage solution that lowers costs.
Azure Virtual Network	Provision private networks, optionally connect to on-premises datacenters.

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Azure ExpressRoute	Dedicated private network fiber connections to Azure.
Azure Traffic Manager	Geo-route incoming traffic to your app for better performance and availability.
Azure Load Balancer	Deliver high availability and network load balancing performance to your applications.
Azure DNS	Host your DNS domain in Azure for outstanding performance and availability.
Azure VPN Gateway	Establish secure, cross-premises VPN connectivity.
Azure Application Gateway	Highly scalable websites with HTTP load balancing and delivery control

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Azure API Management	Publish, manage, secure and analyse your APIs in minutes.
Azure Automation	Simplify cloud management with process automation.
Azure Backup	Simple and reliable cloud-integrated backup as a service.
Azure BizTalk Services	Get started quickly with Hybrid Connections using Azure Biztalk services.
Azure Cortana Intelligence	A fully managed big data and advanced analytics suite that enables you to transform your data into intelligent action. Cortana Intelligence Suite enables core analytics scenarios such as real-time recommendations, customer churn forecasting, fraud detection, predictive maintenance and many more.

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Azure Data Catalog	Stores, describes, indexes, and provides information on how to access any registered data source. In other words, it makes data source discovery trivial. It facilitates collaboration and is designed to help close the gap between those who seek information and those who create it.
Azure Data Factory	A fully managed service for composing data storage, processing, and movement services into streamlined, scalable, and reliable data production pipelines.
Azure Data Lake Analytics	Makes big data analytics easy by letting you focus on writing, running and managing jobs, rather than operating a distributed infrastructure. Queries that transform your data and extract insights handle any scale instantly by simply setting the dial for how much power you need.
Azure Data Lake Store	Stores data of any size, shape and speed in a webhdfs compliant service for batch, streaming and interactive analytics. Works with existing IT investments for identity, management and security and also integrates seamlessly with operational stores and data warehouses so that you can extend current data applications.
Azure Developer Tools	Visual Studio family of tools 2015 is a set of rich development environments for creating stunning applications for Windows, Android, and iOS, as well as modern web applications and cloud services
Azure DevTest Labs	Fast, easy, and lean dev-test environments.

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Azure DocumentDB	Blazing fast, planet-scale NoSQL.
Azure Event Hubs	Cloud-scale telemetry ingestion from websites, apps and devices.
Azure Functions	Listen and react to events across your stack.
Azure HDInsights	Microsoft's Hadoop-based managed service that brings an Apache Hadoop-based solution to the cloud. Quickly provision clusters, scale up or down to manage cost and performance or delete clusters whilst persisting the data.
Azure HockeyApp	Develop, distribute and beta-test your mobile apps.
Azure IoT Hub	Connect, monitor, and control millions of Internet of Things IoT assets.

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Azure IoT Suite	Capture and analyze untapped Internet of Things (IoT) data to improve business results.
Azure Key Vault	Safeguard and maintain control of keys and other secrets.
Azure Log Analytics	Collect, search and visualize machine data from on-premises and cloud.
Azure Machine Learning	An integrated development environment, using drag-and-drop and simple data flow graphs to set up experiments, for people without deep data science backgrounds. Start mining data for predictions and publish models as web services. ML Studio also features a library of sample experiments and sophisticated algorithms from Microsoft Research.
Azure Mobile Engagement	Increase app usage and user retention.

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Azure Notification Hubs	Send push notifications to any platform from any backend.
Azure Power BI Embedded	Embed fully interactive, stunning data visualizations in your applications.
Azure Scheduler	Run your jobs on simple or complex recurring schedules.
Azure Search	Cloud search service for web and mobile app development
Azure Security Center	Prevent, detect and respond to threats with increased visibility into and control over the security of your Azure resources.
Azure Service Bus	Keep apps and devices connected across private and public clouds.

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Azure Site Recovery	Orchestrating your disaster recovery plan.
Azure SQL Data Warehouse	An enterprise-class, distributed database capable of processing massive volumes of relational and non-relational data. A cloud data warehouse that combines proven SQL capabilities with the ability to grow, shrink, and pause in seconds. SQL Data Warehouse is also deeply ingrained into Azure, it easily deploys in seconds.
Azure SQL Database	The developer's intelligent cloud database.
Azure SQL Server Stretch Database	Dynamically stretching SQL Server databases to Azure.
Azure Stream Analytics	A fully managed low latency, high throughput stream processing solution that enables you to process millions of events in seconds with temperal queries.
Azure Active Directory - Basic	Cloud Identity. Basic identity and access management for cloud and hybrid applications and users.

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Azure Active Directory - Premium	Cloud Identity. Helps IT protect access to applications and resources across the corporate datacenter and into the cloud, enabling additional levels of validation such as multi-factor authentication and conditional access policies. Monitoring suspicious activity through advanced security reporting, auditing and alerting helps mitigate potential security issues.
Azure Active Directory - B2C	Consumer and Citizen identity and access management in the cloud.
Azure Active Directory - Domain Services	Your domain controller as a service
Azure Multi-Factor Authentication	Added multi factor autehntication MFA security for your data and applications – without added hassle for users
Azure App Service - Web Apps	Create and deploy mission-critical web apps that scale with your business.

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Azure App Service - Mobile Apps	Building engaging iOS, Android and Windows apps
Azure App Service - Logic Apps	Develop and deliver powerful integration solutions with ease
Azure App Service - API Apps	Quickly build and consume APIs in the cloud using the language of your choice
Azure Cognitive Services - Emotion API	The Emotion API takes an facial expression in an image as an input, and returns the confidence across a set of emotions for each face in the image, as well as bounding box for the face, using the Face API.
Azure Cognitive Services - Face API	Detect one or more human faces in an image and get back face rectangles for where in the image the faces are, along with face attributes which contain machine learning-based predictions of facial features.
Azure Cognitive Services - Language Understanding Intelligence Service	Understand language contextually, so your app communicates with people in the way they speak using a powerful dialog engine that enables you to maintain context, author and execute any dialog in few steps.

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Azure Cognitive Services - Recommendations API	Provide personalized product recommendations for your users using 'frequently bought together' or 'item to item' recommendations.
Azure Cognitive Services - Speech API	Converts spoken audio to text. The API can be directed to turn on and recognize audio coming from the microphone in real-time, recognize audio coming from a different real-time audio source, or from within a file. Real-time streaming is available providing partial results whilst streaming.
Azure Cognitive Services - Text Analytics	The API returns a sentiment score generated using classification techniques for English, French, Spanish and Portuguese text. The API returns a list of key talking points in the input text, and topics when comparing multiple documents. The API can also detect language of the text for 120 languages.
Azure Cognitive Services - Web Language Model API	Automate a variety of standard natural language processing tasks using state-of-the-art language modeling APIs: insert spaces, calculate how often particular words appear together or the probability that a particular word tends to follow, or return a list of the most likely words to come next.
Azure Media Services	Encode, store, and stream video and audio at scale.
Azure Media Services - Azure Media Player	Your content. Multiple devices. One player.

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Azure Media Services - Content Protection	Deliver content securely using AES encryption or multi-DRM common encryption such as PlayReady and Widevine.
Azure Media Services - Encoding	Studio Grade encoding at Cloud Scale.
Azure Media Services - Live and On-demand Streaming	Deliver content to virtually any device at scale.
Azure Media Services - Media Analytics	Speech and vision services at enterprise scale, with security, compliance and reach.
Azure Content Delivery Network (CDN)	A fast and modern global CDN for high-bandwidth content.
Azure Visual Studio - Application Insights	Detect, triage and diagnose issues in your web apps and services.

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Azure Visual Studio - Team Services	Services for teams to share code, track work, and ship software – for any language, all in a single package. It's the perfect complement to your IDE.
Azure Operations Management Suite	Manage and protect your resources across on-premises datacenters and Azure.

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3 The Server Labs

The Server Labs (TSL) is a 100% privately founded IT Consultancy and Software Development Company with headquarters in the UK and offices in Germany and Spain and now established as a leader in Cloud Computing services. The Server Labs focuses on the design and implementation of IT architectures and advanced software engineering projects working with the most advanced technologies to provide its clients cost-effective, scalable and high performance solutions. The Server Labs has been using the Cloud since 2006 and working with its customers in the cloud since 2008 and was one of the first European partner's of Amazon Web Services.

The Server Labs has clients in many different industry areas such as space, finance and telecoms. We collaborate with our clients to obtain success, committed to innovation, enjoying what we do every day and growing with every challenge.

The Company's mission is:

- To provide ***expert services*** in the field of IT architectures and advanced software engineering
- To ***improve radically the software development process***
- **To help organisations achieve better business results through the correct use of latest technologies**
- To have ***100% satisfied clients***
- To create high quality ***innovative software solutions***, providing added value to our customers

The specific value, experience and expertise that The Server Labs can provide for e-LfH are:

1. **Technical excellence** and capability to act as lead on architectural decisions and as technology expert in software and system subjects.
2. **Architecture experience at software and system level.**
3. **Proven experience in HPC and Big Data Projects**
4. **Real cloud computing experience, at IaaS, PaaS and SaaS levels, and for both compute power as well as storage solutions in different clouds.**
5. **Quality control based on ISO9001 for all software systems developed**
6. **Technological excellence**, especially in the main technologies required for the project, including HPC, web services and security technologies.

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All our architects and engineers are experts with an average of 10 years' experience in the planning, design and development of complex software systems. Our multinational team has been a pioneer in Java technologies, Object Oriented Analysis and Design and distributed architectures, and has the required hands-on experience in many state of the art technologies. In the last few years, The Server Labs has positioned itself as a leader in Cloud computing services, helping organisations move to the Cloud at all levels. For more information on current projects being undertaken by The Server Labs in Cloud computing, please see Appendix B.

Our experience working across several industries has given us a good understanding of the different requirements so we are able to provide the solution that best suits each particular business and reuse the lessons learnt in the other industry sectors when applicable. Our clients span organisations such as Banks (BNP Paribas, BBVA, Caja Madrid) , the European Space Agency (ESA), Madrid Underground (Metro de Madrid), ICCAT, Amadeus, TRAGSA, TIBCO (a leader in Messaging and Service Bus architecture systems), O2 and Telefonica, Vodafone, ORACLE, several, Sun Microsystems, TUI and Marsans travel, etc. Most recently, we have been architecting, optimising and implementing the migration into the AWS cloud of the Genomics England IT infrastructure, this work followed on from our involvement in the optimising of the HPC infrastructure for the 100k genome project.

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4 Selected Customer References

BNP Paribas

Implementation of the Enterprise Development and QA platform

BNP Paribas' department for Risk Systems Development undertook a strategic change programme merging the technical architecture of a number of its key applications to streamline and unify the services they provide internally.
In order to consolidate tools and best practices we customised and implemented our own Enterprise Development Platform which covers the entire application lifecycle from development to ops with its integrated framework.

The implementation of the integrated platform enabled a substantial productivity increase based on a fully controlled, standardised development environment

How we helped

- Integration and customization /Implementation of The Server Labs development and quality control platform for BNP Paribas Risk Systems
- Consolidation of languages and tools
- Controlling and assuring the quality and standardization of development practices.
- Automation of quality and reporting processes.
- Automation of projects office.

Results

- Fully integrated and controlled development environment
- Increased project productivity and quality

Helix Nebula

European Science Cloud

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The Server Labs forms part of an exclusive European partnership led by CERN, EMBL and ESA with the aim to establish a federated, sustainable and secure high-performance cloud computing platform. Supported by industrial partners it will provide stable computing capacities and services that elastically meet demand.

How we helped

- We provide our technical expertise based on the successful development of complex Cloud architectures as well as Grid processing in the Cloud both in science and industry environments
- Development of the EC2 bridge in the Helix Nebula BB

Participants

- Consortium formed by: CERN, EMBL and ESA, Atos, Capgemini, CloudSigma, Interoute, Logica, Orange Business Services, SAP, SixSq, Telefonica, Terradue, Thales, The Server Labs and T-Systems, along with the Cloud Security Alliance, the OpenNebula Project and the European Grid Infrastructure (EGI.eu).

- Flagship use cases for testing and deployment of the science Cloud:

    - Cern: HPC Processing of LHC data
    - ESA: Supersites Earthquake data
    - EMBL: Genomic processing

Results of the initiative

- Successful deployment of the science Cloud for flagship projects

ESA

Gaia project

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Moving the Gaia project's data processing to the cloud provided ESA with savings of around 50% compared to using in-house hardware. At the same time it provides a level of scalability which means that the work will be notably accelerated.

ESA's ambitious Gaia project aims to create a three-dimensional map of unprecedented size and precision charting the composition, formation and evolution of over one billion stars (around 1% of our Galaxy)

We have provided state of the art architectural solutions for different areas of the project including data management, High Performance Computing, creating a development platform for all the international teams involved and project management.

How we helped

- Design of a Cloud-based solution for the data processing reducing its cost by approximately 50% whilst increasing the flexibility of the testing activities
- Collaboration in the implementation of a distributed computing framework to improve performance.
- Deployment of a development platform that allows the different teams to work in a distributed environment enabling release management, automated testing, continuous integration and quality assurance.
- Database tuning.

Results

- Substantial cost reduction: the developed solution provides an estimated reduction of 50% of Total cost of ownership (TCO)
- Higher performance: Improved performance in the distributed framework being 6x, 7x times faster (in different areas of the processing)
- Productivity boost due to our development platform.

"The Gaia AGIS Cloud experiment has been very successful for us. It indicates that bringing the data processing to The Cloud can provide us with savings of up 50% compared to using in house hardware. An additional advantage is that it gives us the ability to scale to far more processors that we could have in house which means essentially that we can finish the job sooner"
William O'Mullane, Gaia Science Operations Development Manager, European Space Agency

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Eumetsat

Technology assessment for the MTG programme

When Eumetsat was planning for a near real-time data processing function for its Meteosat Third generation programme (MTG) it became apparent that this would require an unprecedented level of computing power. Its on-demand re-processing of batch data pushed compute requirements to a speed up to 30 times faster than real time with much higher data volumes than seen in the existing systems.

We have led the feasibility study and the design of prototypes to evaluate grid, cloud and supercomputing architectures to determine the most suitable option and right technologies for the MTG programme to thus enable a long-term reduction of costs.

How we helped

- Technical assessment and cost evaluation of current technologies for Eumetsat's HPC/Big Data needs
- Development of the prototypes
- Evaluation of results and recommendation

Results

- Recommendation to create an architecture based on a hybrid cloud

International Commission for the Conservation of Atlantic Tunas (ICCAT)

Electronic Bluefin Tuna Catch Documentation

The development of an Electronic Bluefin Tuna Catch Documentation system (eBCD) enables the complete tracking from catch to end-market distribution of all Atlantic bluefin tuna operations.
The new electronic system provides greater accuracy and traceability via real-time information helping to more effectively detect and prevent illegal, unreported and unregulated fishing.

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Together with Tragsa we are part of the project team to design, develop and implement an Electronic Bluefin Tuna Catch Documentation system (eBCD) for the International Commission for the Conservation of Atlantic Tunas (ICCAT) replacing the previously used manual and paper-based process with a real-time information system.

The solution will enable the complete electronic operability of the catch documentation programme, tracking from catch to end-market distribution all Atlantic bluefin tuna operations.
It will maximize use and performance for end users, providing maximum security and reliability to the system.

How we helped

- Architecture, design and implementation of the eBCD
- Application quality assurance
- Cloud hosting and infrastructure
- User training and maintenance support

Results

- Management of 5000 eBCD/year
- Support for more than 100 concurrent users
- High speed connectivity between service provider and ICCAT Secretariat

Amadeus

Implementation of the TSL Continuous Integration Platform

Amadeus' Internal Information Systems department decided to implement the TSL Continuous Integration platform into their development process in order to optimise the software development cycles and improve development quality, control and automation of the delivered applications.

The Internal Information Systems department works with many developers on a variety of projects. Therefore a standardised platform was vital in order to efficiently reassign team members to activities according to their availability ensuring that neither results nor schedules are compromised. The

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development platform allows constant tracking of project development health and quality ensuring that simultaneous tasks and projects are running smoothly.

How we helped

- Implementation of the TSL Continuous Integration platform
- Creation of a common framework providing clear mechanisms, standards, tools and conventions enabling the effective execution of both internal as well as external outsourced projects
- Optimization of the current development lifecycle as well as overall development quality, control and automation of the delivered applications
- Seamless transition to Agile development technologies

Results

- Reduction of error prone conditions
- Constant measurability of project health

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"With the support of *The Server Labs (TSL)* we have recently undertaken a development platform and processes optimisation project for the development of our internal applications in Madrid. The project outcome has been more than satisfactory.

In addition to implementing effective quality control, *TSL* has helped us to create a framework where best practices are formalised and enforced through a Continuous Integration and Release Management platform.

Because we work with many developers on a variety of projects it is crucial to have a standardised platform in place so team members can be reassigned to activities according to their availability. This way results and schedules are not compromised. We track project development health and quality constantly which is key to keeping simultaneous tasks and projects running smoothly."

Luis-Fernando Gonzalez
Web Solutions Manager, Group Internal Information Systems
Amadeus IT Group SA

CNIO

Migrating the data processing to the Cloud

The Spanish national cancer research organisation CNIO experienced that its vast computing requirements increasingly led to processing bottlenecks causing delays in sequencing projects and research programmes.

The Server Labs have worked with CNIO to help them overcome the bottleneck of data processing in its research programmes.

In an initial feasibility study, The Server Labs established how to transfer CNIO's computing requirements to the Cloud, aiming to make the processing more agile whilst substantially bringing down cost and reducing the need for in-house infrastructure.

How we helped

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- Assessment to transfer CNIO's computing requirements to the Cloud enabling agile processing whilst reducing the need for in-house infrastructure
- Created a framework which incorporates all of the strengths of the cloud, in particular data durability, publishing mechanisms and audit trails to make results of experiment reproducible
- Designed and delivered data transfer

Results

- Development of a robust cloud-based platform to perform on-demand genomic processing tasks (at the same time enabling experiment results to be more easily reproduced, stored and published.)

IT Cost reduction of ca. 30% through Cloud-based processing

BBVA

1. Cloud Security

BBVA needed to develop a new secure cloud model able to keep confidential data safe whilst providing a highly productive platform based on Openstack and SDN for the development of internal applications. The new private cloud environment uses continuous delivery with automated security mechanisms.

In addition to substantially reducing the risk of security breaches based on web services the automation of the most important security operations tasks are now based on SDN solutions allowing a reduction of development time by over 20-30%.

How we helped

- Design of the project architecture and definition of the security platform and API services
- Deployment of the security platform and all operational processes
- Development of security policies
- Defining Best Practices for security

Results

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- Automation of the most important security tasks based on SDN solutions
- Security policy is already applied by default decreasing develop time by over 20-30%
- Quick response time when facing changes in the integration processes
- Reducing the risk of security incidents based on web services

2. Corporate Security Application

The Server Labs (TSL) has developed and implemented an entirely new version of BBVA's corporate security application Faro. The application which has won a national award for the best application in the area of security has been unified and streamlined throughout all countries in which BBVA operates making its management and maintenance more flexible, transparent and cost efficient.

The new flexible, efficient and scalable application supports the management of all security functions of the BBVA group including for example dashboards, financial control, incident management, inventories and security personnel.

How we helped

- Development and implementation of a new and revised version of BBVA's global corporate security application Faro
- Deployment
- Designing the modular, multi country architecture
- Coordinating the multiple actors (Client, data centre, development team) for the go-live
- Deployment of TEST and development environments in the cloud

Results

- Flexible, transparent and cost efficient application management and maintenance
- Highly agile application
- Cost reduction - estimated 20% decrease of FTE in the corporate security area

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Working with The Server Labs has been a very positive experience. This has also been demonstrated by the success and public recognition of our latest programme, the development of a unique technology platform for our global corporate security management.

The Server Labs has been instrumental in the design and development of its scalable and streamlined architecture enabling the worldwide rollout.

The Server Labs really stood out with its superior technical knowledge on all levels, its responsiveness and agility, and acting as our right hand throughout the entire project.

Inés Díaz Ochagavia
Director Production Corporate Security
BBVA

3. Continuous Integration Platform

With over 50 systems exchanging financial information using more than 2200 interfaces, maintenance costs and operational risk are high. BBVA wanted to significantly reduce the number of interfaces, unify the data format and thus be able to lower maintenance costs, quickly respond to changes, and centralize monitoring.

BBVA designed its new continuous integration and quality environment employing The Server Labs Enterprise Development Platform in the Cloud.

The development platform does not only control quality and improve productivity but is also instrumental enabling homogenized and standardised developments for all of BBVA's development projects, and as such providing a corporate reference architecture.

How we helped

- Supporting project organization and management
- Simplification of existing processes
- Development of integration processes, using a common framework.

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- Design and development of common components, allowing later reutilization in other projects
- Design and development of auxiliary tools (maintenance, monitoring of existing processes)

Results

- Fast response to changes in the integration processes.
- Reduction of incidents in the integration software in operational environments.
- Standardization of developments.

4. Technical audit of Tugestionline

The Server Labs provided a technical audit driving the design and execution of a series of tests to boost the performance of BBVA's TuGestionLine. The web application, constantly growing in users, provides online accounting counselling for businesses and individuals.

How we helped

- Full analysis of the system architecture
- Design and execution of a series of tests to provide an accurate diagnostic about the web application's performance, quality and reliability
- Identification and quantification of possible improvement points to optimize performance, system stability and ability to deal with load peaks
- Load and capacity tests

Results

- Delivered a full performance analysis with a complete set of code fixes, reconfigurations and recommendations in to improve functionalities
- Web load time was substantially reduced tangibly improving the user experience

Webtools

Migrating e-encuesta.com to the Cloud

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The growing business of Webtools' leading online survey application e-encuesta.com with its pronounced peak-times was increasingly causing server overloads limiting the number of clients that could be served simultaneously.

In order to give the application the ability to flexibly react to changing demand it was necessary to change its data centre-based system to a Cloud-based structure.
We successfully adapted the architectural base and executed the smooth migration of e-encuesta.com from a traditional data processing centre to the public Cloud using The Server Labs Rapid Cloud Transition as its central tool.

How we helped

- Designing a robust and efficient cloud architecture specific for the client's project.
- Security upgrades and enhancements to the administration of application.
- Development of a self-healing architecture, allowing that when problems are detected the architecture is able to react and reset the environment
- Provide a pre-emptive support to the client in order to make sure the application is evolving properly in time and the system is up to date.

Results

- Substantial reduction of operating cost
- Service now fully aligned to e-encuesta's needs
- Resources elastically aligned with e-encuesta's usage
- Improved performance and user experience: much higher response time and uptime
- Almost unlimited scalability supports its business in its continuous growth
- Increased reliability and stability of the environment

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The Server Labs

Founded in 2004, THE SERVER LABS is specialized in the design and agile deployment of technology solutions in the area of enterprise integration, software engineering, cloud computing architectures and Big Data. Through our offices in the UK, Spain and Germany we offer our customers cutting-edge, cost-effective, scalable and high performance solutions enabling them to stay competitive with the most suitable and innovative IT technologies and solutions.

The list of our customers includes renowned organisations such as the European Space Agency, leading banks in Europe and Government bodies.
Our services span from early strategic technology consulting and architecture services to the full implementation and agile deployment solutions.

More information about The Server Labs is available on www.theserverlabs.com

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Metro de Madrid

1. Enhancement of real-time driver information system

Metro de Madrid required a set of new functionalities and developments to enhance the efficiency and reliability of ARCO, the real-time information system for its train drivers.

The improved design of ARCO brings scalability to the system through a new component, allowing growth in both lines and functionalities, and increasing the system's reliability. At the same time it helps resolve capacity issues, bringing down use of CPU for the exchanged components, freeing up valuable compute power for other systems.

Delivered on-time and successfully installed on a live environment, we provided an iterative delivery solution, based on Agile methodologies, developing and releasing the new functionalities on a progressive basis.

We aimed to improve the overall software quality with each new developed component, as well as by refactoring the ones to be modified.

How we helped

- Development of an iterative delivery solution based on Agile methodologies for progressive development and release of the new functionalities
- Improvement of the overall software quality through new development components and refactoring of those to be modified

Results

- Successfully delivered a new version of ARCO, packaging items of several software layers
- Notable improvement of the overall project management initiating the use of collaborative tools like Jira

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2. Code Audits

We performed a number of code audits on applications developed by Metro in order to provide visibility of the quality of the code thus enabling informed decisions about the future courses of the respective projects.

How we helped

- Comprehensive analysis of the applications in question and quality of their code
- Flagging up potential problems and areas of improvement

Results

- Metro gained a complete overview of the code quality and was able to make information-based decisions on the further project development
- In some instance the analysis enabled a strong position for renegotiation with previous providers the improvement of code quality
- Documentation of alternative solutions
- Overall reduction of code decreasing the potential for errors

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Unit 4

Scalability certification of the Unit4 Health application

In order to present their Health application to medium and large hospitals Unit4 wanted to validate its performance and sustainability with a substantial load of users.
After creating a virtual cloud environment we ran tests simulating a real life load with up to 4,000 concurrent users injecting 4 new users every second.

The simulations confirmed that Unit4's Health application was performing well above average results achieved by reference hospitals.

How we helped

- Creating a virtual environment using Amazon Web Services
- Planning, set up and execution of simulations
- Application and Database fine tuning, and recommendations for optimal configuration.

Results

- Various simulations were successfully concluded confirming the application's ability to handle a large number of concurrent users surpassing the results of reference hospitals.

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