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## Overview

### The need

Università di Bari needed a system to help local businesses speed time to market, cut transportation costs, waste fewer products and improve product quality.

### The solution

The university worked with IBM to architect a comprehensive IT transformation, deploying a cloud-based solution that leverages IBM System z servers, IBM software and storage, and IBM Global Technology Services.

### The benefit

As a result, local businesses shortened time to market; minimized transportation costs; and gained the ability to quickly assess demand, increase profits and avoid waste.

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# Using IT architecture to transform a local economy

Founded in 1925, Università di Bari is located in the Puglia region of Italy. This institution of higher learning is organized into 12 colleges covering agricultural science; arts and philosophy; biotechnological sciences; economics; educational science; foreign languages and literature; law, mathematics, physics and natural science; medicine and surgery; pharmacy; political science; and veterinary medicine.

## Leveraging IT to achieve groundbreaking business innovation

The southern Italian region of Puglia is an area with an economy primarily based on small and midsize agriculture and food product businesses. In an effort to sustain economic development for the area, Università di Bari wanted to build a system that would help allow local fisherman, wine growers and others to contract for services through a portal that would enable them to decrease time to market, lessen transportation costs, reduce the number of wasted products and improve overall product quality.

## Empowering local business with world-class computing power

Università di Bari worked with IBM to architect a comprehensive IT transformation, deploying a cloud-based solution that leverages IBM System z servers, IBM software and storage, and IBM Global Technology Services. The solution enables the university to deliver computing services to the local community through an IBM System z mainframe and cloud computing, allowing multiple entities to efficiently tap into heavy-duty computing power at minimal cost.



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### Integrated

- Leveraged System z virtualization technology to integrate workloads of several clients onto one server, with each workload running in its own virtual server
- Integrated sensor, marketplace and GPS data with mainframe systems to better monitor shipping via truck, improving efficiency and the accuracy of projected delivery timeframes

### Automated

- Automated server maintenance by leveraging System z technology, allowing IT staff to focus on changing client requirements for new or existing services
- Gained the ability to automatically analyze data from trucks, helping to proactively determine potential maintenance issues or identify less congested traffic routes

### Secured

- Used a System z platform that has security at the core of its design and meets some of the highest levels of security certification in the industry
- Deployed each client workload in its own virtual server so that it is isolated and independent from the other virtual servers in the system

### Transformed

- Deployed a cloud computing solution on a System z mainframe designed to run multiple workloads on a single server
  - Leveraged cloud computing to allow multiple entities to tap into heavy-duty computing power at minimal cost
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### Integrating multiple workloads onto one server

Università di Bari leveraged valuable System z virtualization technology features to integrate the workloads of several clients onto a single server, with each workload running in its own virtual server. In addition, the IT infrastructure integrates sensor, marketplace and global positioning system (GPS) data with mainframe systems at the university, in the private sector and at government regulatory agencies. This allows users to better monitor shipping via truck, improving efficiency and the accuracy of projected delivery timeframes.

### Automating a wide range of hardware maintenance

Automation technology plays a large role in the solution implemented by Università di Bari. Many activities that typically need to be done manually and repeatedly in a distributed server farm only need to be done on a System z server or can be eliminated altogether, allowing the IT staff to focus instead on meeting changing client requirements for new or existing services. Additionally, the university has created a logistics solution for the trucking industry. Trucks installed with sensors transmit data on temperature, humidity levels, routes and traffic congestion through the cloud to be analyzed in real time by the IBM System z mainframe. The server automatically analyzes the resulting data, helping to proactively determine potential maintenance issues or identify less congested traffic routes.

### The security to instill local users with peace of mind

Security is at the core of the System z design, allowing the platform to meet some of the highest levels of security certification in the industry. The IBM platform enables Università di Bari to deploy each client's workload in its own virtual server, knowing that it is isolated and independent from the other virtual servers in the system. Knowing that sensitive data and assets are more secure and protected with the System z mainframe's leading cryptographic and encryption capabilities provides Università di Bari's clients with a virtually unparalleled level of confidence.

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## Solution Components

### Software

- IBM DB2® V9
- IBM WebSphere® Process Server
- IBM WebSphere Business Modeler
- IBM WebSphere Enterprise Service Bus
- IBM WebSphere Integration Developer
- Web services

### Servers

- IBM System z9® Business Class
- IBM System Storage® DS6800
- IBM 3592 enterprise tape drive/write once, read many (WORM)

### Services

- IBM Global Technology Services
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## Using cloud technology to transform industry operations

Università di Bari deployed the cloud computing solution on an IBM System z mainframe, which is specifically designed to run multiple workloads on a single server and for the deployment of mission-critical applications and data. For example, using a touch screen installed on fishing boats, local fishermen can immediately determine demand in the local fish marketplace. Fishermen enter the type of fish just caught and instantaneously start a virtual auction with wholesalers on the docks. If the price is acceptable, the system automatically provides the necessary distribution between boxes to allow the fish to be packed before the boat arrives at the pier.

## Big benefits for small and midsize local businesses

The solution developed by Università di Bari and IBM offers new levels of opportunity to businesses in the region, helping them decrease time to market and minimize transportation costs. They are also now able to more quickly and accurately assess demand for their products and sell them profitably or avoid wasting them by giving them to nonprofits.

By providing real-time status of transportation logistics and marketplace demand for particular fish and wine products, local transportation companies can make adjustments for routes and deliveries. The solution also enables local fishing companies to begin product auctions in near real time—creating demand while the fish are still being caught. Winemakers are also able to understand marketplace demand for products and better ensure environmental quality by monitoring soil isotopes.

## For more information

To learn more about smarter computing from IBM and how we can help you integrate, automate, secure and transform your IT, contact your IBM sales representative or IBM Business Partner, or visit:

[ibm.com/smartercomputing](http://ibm.com/smartercomputing)

For more information about Università di Bari, visit:

[www.uniba.it](http://www.uniba.it)



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