

## TELECOM ITALIA SPEEDS DELIVERY OF INNOVATIVE PROTOTYPES WITH SPRING

Telecom Italia is Italy's premier telecommunications company, providing fixed-line and mobile telecommunications, Internet, media and news in Italy, as well as throughout Europe and in Brazil. The IT Innovation Group within Telecom Italia is responsible for innovating new applications, as well as finding new development technologies to support prototype development and production.

### CHALLENGE

"The main problem in the past was that we had to deploy a number of heavyweight Java EE application servers from some well known vendors for applications that didn't really require that kind of environment," explains Marco Ughetti, Senior Software Architect in the Information Technology Innovation Group, Telecom Italia. "When we used that environment, productivity during development was low. The bloated application server took a long time to start, and it was challenging to test applications because we needed to restart the container every time."

Ughetti recounts that unit testing was very difficult and it was a problem to find bugs. In addition, the environment required too much code, and consequently, the applications were too hard to maintain.

Telecom Italia's IT Innovation Group also had problems with how code was written, prior to the introduction of Spring. This large company has many software factories using many different legacy technologies. Without a standard platform like Spring to guide development, Ughetti says that some developers mix code, making it more difficult to read, debug, maintain, modify and add capabilities to applications.

Another challenge Ughetti encountered was that different applications developed in the same application server had to use different versions of the same library. Ughetti says this issue was very difficult to solve, and introduced the risk of a heavyweight application server requiring too much memory in order to generate multiple instances of the server.

"We needed to find a way to develop and test without a heavyweight container," Ughetti says. "In the IT Innovation Group, our projects have a very short deadline – we have to show a prototype in a few weeks to a month – so we have to be able to develop faster."

### SOLUTION

Now, the Telecom Italia IT Innovation Group uses Spring, the de facto standard platform to build, run and manage enterprise Java applications. The first application the IT Innovation Group developed in Spring, a web application that transmits healthcare data from a patient's wireless mobile device to healthcare professionals, is already successfully in production. The group is currently prototyping an innovative service layer based on Spring.



### SPRINGSOURCE RESULTS

Spring delivers the following business results to Telecom Italia:

- Faster Project Delivery – development, testing and debugging is reduced by 30%
- Better Quality Code
- Rapid Developer Ramp Up
- Easy Integration
- Leveraging the Advantages of OSGi with SpringSource dm Server

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## TELECOM ITALIA SPEEDS DELIVERY OF INNOVATIVE PROTOTYPES WITH SPRING

### BENEFITS

Spring delivers the following business results to Telecom Italia:

#### Faster Project Delivery

"Using Spring, our development time, debugging and testing is reduced by 30%," Ughetti confirms. "This is a critical advantage because of our tight deadlines for prototype delivery."

"Development is much easier in Spring, and we achieve much higher productivity without using a heavyweight application server," he adds. "Now, we can deploy on lighter, easy-to-use application servers such as Apache Tomcat, the world's most popular application server."

#### Better Quality Code

Spring shows the developer the right way to write code, according to Ughetti. He says that Spring promotes proven design patterns for the developer to follow. Without Spring, the developer is not directed to follow the data object pattern, and, therefore, is more likely to write code that can cause problems down the line.

"With Spring, we write better code," Ughetti verifies, pointing out that better code means faster and more efficient maintenance and problem solving. "Better written code means it is easier to understand an issue and fix it."

#### Rapid Developer Ramp Up

Because Spring promotes the use of patterns, it makes it easier for a novice developer to start building applications right away in Spring. This helps boost the productivity of Telecom Italia development personnel regardless of the experience level.

#### Easy Integration

"In the IT Innovation Group, we choose an application development platform like Spring so it can help us be more productive, but our software factory also must be able to integrate our solutions into the production environment," explains Ughetti.

"Since our server-side architecture is mainly based on Java, we find that applications developed in Spring are easy to integrate with our production environment," he continues. "We can easily integrate Spring into all our different application servers, including Apache Tomcat. Spring is a good tradeoff, because it allows us to develop and test faster, but it is also good for our software factory because they can easily integrate our new software applications into the production environment without having to make any major changes."

#### Leveraging the Advantages of OSGi with SpringSource dm Server

SpringSource recently introduced SpringSource dm Server, a completely modular, OSGi-based Java server designed to run enterprise Java applications and Spring-powered applications with a new level of flexibility and reliability. The SpringSource dm Server is based on the new SpringSource Dynamic Module Kernel (dm Kernel), which harnesses the power of Spring, Apache Tomcat and OSGi technologies.

"SpringSource dm Server is a great idea and we plan to use it in the future," Ughetti states. "One of the advantages of SpringSource dm Server, thanks to OSGi, is the ability to deploy different versions of the same library and share them between applications. Then we can have different applications using different versions of the same library without having to pack the libraries inside those applications. The benefits are that we deploy each version of the library only once; our application does not need to include the library and this results in a lower footprint. SpringSource dm server also helps to isolate the deployed applications in a better way, and we can deploy more applications in the same application server."

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**SpringSource, Inc.**  
 411 Borel Avenue  
 Suite 101  
 San Mateo, CA 94402  
 USA  
 +1 800-444-1935