

# Imtech ICT Uses Junosphere To Drive Adoption of The New Network

## Summary

### Company:

Imtech

### Industry:

Information and Communications Technology

### Challenges:

- Conduct realistic and highly customized pre-deployment training for customers purchasing networking equipment
- Secure a solution for a cost-effective and flexible lab environment to enable hands-on training
- Ensure a high degree of repeatability and accuracy in the lab scenarios

### Selection Criteria:

A realistic lab environment without the costs and limitations of a physical lab.

### Network Solution:

- Junosphere

### Results:

- Reduced time required to build out a customer lab environment from two days to two hours
- Improved repeatability of tests due to Junosphere's ability to save the exact testing configuration and topology for future use
- Increase customer satisfaction by providing a realistic and risk-free lab environment

Imtech ICT is a technical solutions provider that has a proven track record in delivering highly complex infrastructure projects and carrier class networking solutions to enterprise and service provider customers worldwide. Imtech's expertise in high performance networks and dynamic infrastructures gives the company the unique capability to design tailor-made, best-of-breed solutions to meet the specific requirements of each customer. Imtech ICT employs over 2000 technology specialists across Europe with annual revenues of €500M.

## Challenges

As a leading provider of networking infrastructure solutions based on the Juniper Networks portfolio, Imtech frequently works with customers who are upgrading their networks—often from a competitor, but also loyal customers who are upgrading to the latest-and-greatest Juniper products. To help customers get the most from their new network infrastructure, Imtech also offers its customers a host of professional services to help with the design, installation and implementation.

One of the popular services offered by Imtech is a highly customized pre-deployment training program that allows service provider customers to train and educate their employees on the new network infrastructure they are purchasing. Allowing employees to familiarize themselves with the new Juniper routers and network infrastructure before deployment can dramatically reduce risk of downtime on the production network, and also improves employee productivity.

Prior to Junosphere, running these tailored training programs could be a time consuming and costly activity. Because of the individual nature of each program, setting up a replica of the customer's network took a lot of time and a lot of network gear—often taking several days to set up the physical lab. The size of the network test bed was also limited by the number of network elements that could be acquired and accommodated from a practical perspective. The risk of mis-configuration and of unintended changes happening in the physical lab was also high.

*“Junosphere is a valuable tool for us as a technology solutions provider; and it can also be a valuable tool for network operators to help them run their networks more efficiently.”*

Alex Walker, Professional Services Consultant, Imtech



## Solution

Imtech learned about Junosphere shortly after it was launched in late 2011. Junosphere is an industry-first virtual networking environment where users can create and run networks using the Juniper Networks® Junos® operating system, complemented by a host of partner tools for network design and testing. The networks created within Junosphere use the same Junos operating system that powers Juniper routing platforms, yet they run in a highly flexible and risk-free virtual environment. That means that users such as Imtech can perform many of the same testing, training and design exercises they would normally do in a physical lab.

Imtech was also pleased with the support for partner ecosystem tools, such as Spirent Virtual TestCenter. Generating traffic with the Virtual TestCenter allows Imtech to cost-effectively test and demonstrate router capabilities like quality of service (QoS) configurations and multicast routing.

Moreover, they can also do things that just aren't possible with a physical lab. For example, one of the things that impressed Imtech about Junosphere is its scalability—because Junosphere network elements can be spooled up on demand, they can test much larger network designs than would be feasible in any physical lab.

Junosphere is now the preferred choice for Imtech's customized training services—rather than a physical lab—and the majority of its courses now leverage Junosphere. When a customer has

purchased or is evaluating a new network infrastructure project, Imtech uses Junosphere to mock up a replica of that particular network. Imtech then trains the customer on the replica of their future physical network, giving the customer unparalleled confidence in their network solution while at the same time educating employees on the new equipment with valuable hands-on time.

## Results

With Junosphere, Imtech has reduced both the set up time and the costs for its training services, while at the same time improving the quality of the service they offer. Alex Walker, a professional services consultant with Imtech, described one case study that illustrates the value of Junosphere.

The customer—who operates a large pan-European network—had purchased a significant quantity of Juniper Networks MX Series 3D Universal Edge routers to upgrade its network backbone. Prior to deployment the customer wanted to both validate the behavior, and educate its engineering staff on some of the new multicasting capabilities they would be adding with the new MX Series. Mr. Walker helped the customer achieve both goals using Junosphere.

In Junosphere, Walker constructed a 16 node network and configured to replicate the multicast design the customer would be deploying in their production network. Using the Junosphere network, Walker trained four groups of engineers, each with its own secure "sandbox" to experiment in (figure 1).

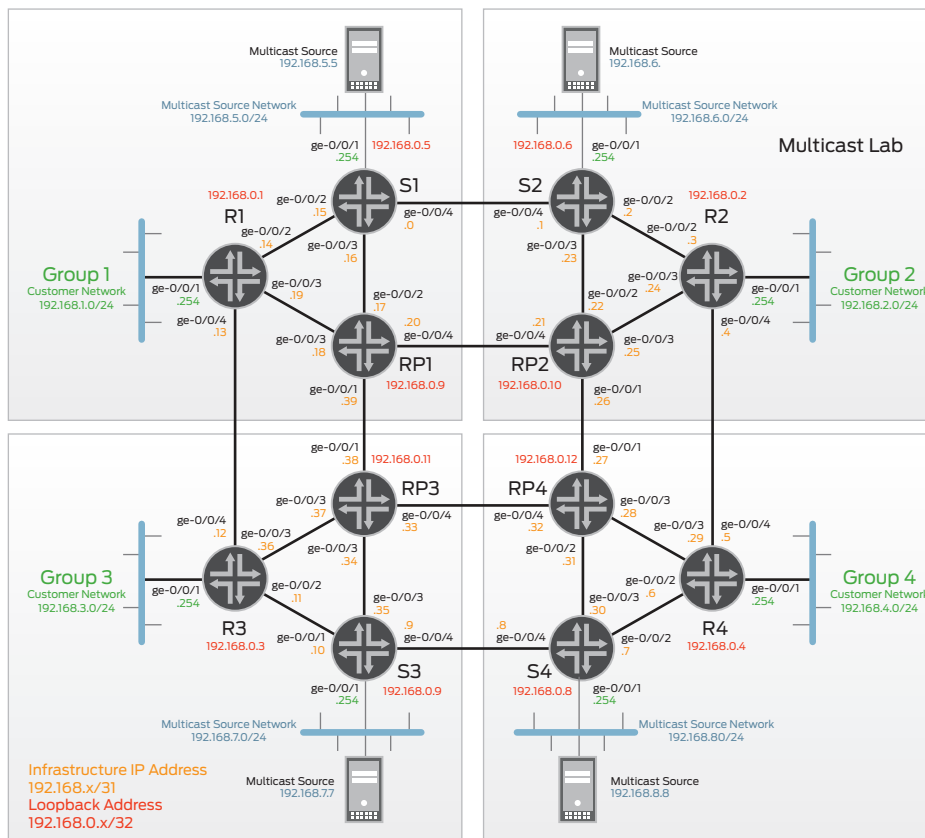


Figure 1: Representative diagram of the lab Imtech constructed for one of its service provider customers.

“Before Junosphere, running this customer training exercise would have required me to reserve 16 lab routers,” said Walker. “Even if I could get the routers, it may have taken me days of physical set up in the lab to configure the tests. With Junosphere I was able to construct the lab environment in a matter of hours.”

Just as important as the speed was the accuracy and repeatability of the tests. Walker explains:

“With a physical lab, other employees can easily come in and ‘borrow’ a router for their own tests or unplug something accidentally. An incident like this could waste valuable time troubleshooting. With Junosphere we have the topologies saved, so resetting the test back to the starting point is as simple as clicking a button.”

This training course was also re-used to train other groups of engineers, and here Imtech saw another significant cost saving: because the topologies and configurations were already created and saved within Junosphere, it allowed Imtech to set up a replica the course was completed in a matter of minutes (as opposed to hours).

In addition to using Junosphere for working with customers prior to deployment, Imtech has also been successful in selling Junosphere to end-user customers. More than once, a customer has been so impressed with the value Junosphere provides after the training that they purchase Junosphere for itself.

“Junosphere is a valuable tool for us as a technology solutions provider; and it can also be a valuable tool for network operators to help them run their networks more efficiently,” said Walker. “Many of our customers recognize this value immediately.”

## Next Steps and Lessons Learned

Imtech plans to continue using Junosphere as key part of its network technology solutions business. Imtech recognizes that Junosphere will never totally replace physical labs, but for many types of training, design and testing exercises Junosphere offers significant advantages over a traditional physical lab. Having a tool like Junosphere available helps Imtech better meet the needs of its customer base and ultimately increases the value they provide.

## For More Information

To find out more about Juniper Networks products and solutions, please visit [www.juniper.net](http://www.juniper.net).

For more information on Junosphere, please visit [www.juniper.net/junosphere](http://www.juniper.net/junosphere).

To read more about Imtech, please visit <http://imtech.com/EN/ICTUK>.

## About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at [www.juniper.net](http://www.juniper.net).

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