



RED HAT ENTERPRISE LINUX POWERS WEATHER SERVICES FOR 2006 WINTER OLYMPICS

Fast Facts

Industry:	Services
Geography:	Italy
Goal:	To provide fast, reliable weather forecasting for the 2006 Winter Olympic Games
Solution:	Platform: Red Hat Enterprise Linux 3 ES Software: Red Hat Cluster Suite, Red Hat Application Server Systems Management: Red Hat Network
Benefits:	• Reliable and secure • Solid support • Simple systems management

Arpa Piemonte, Italy's Environmental Protection Agency for the Piedmont region, is responsible for monitoring the region's environment. Their services make it possible for groups to evaluate the environmental impact of plans and projects. They also provide technical and scientific support and consultancy regarding environmental protection.

Arpa Piemonte will provide weather service to the 2006 Winter Olympic Games in Turin, Italy. The service entails real-time snow and weather forecasting, which gives organizers, participants, and spectators updates on climatic conditions in the areas where the games will take place. Sluggish performance, inaccurate reporting, or system down-time are not options—the whole world will be watching.

That's why Arpa Piemonte chose Red Hat® Enterprise Linux® to support the applications that develop their physical-mathematical forecasting models.

A COMPLEX OPERATION...

The weather service for the 2006 Winter Olympics requires a team of approximately 60 meteorologists, snow experts, technicians, and assistants who guarantee snow and weather monitoring and forecasts 24 hours a day. The weather monitoring network in the Olympic area includes almost 60 stations near indoor and outdoor Olympic venues, an automatic radiosonde system located at Cesana Pariol, and a wind/temperature profiler in the Turin metropolitan area.

There are two main meteorological offices—the Weather Operation Centre (WOC) in Turin and the Weather Local Centre (WLC) in Sestriere. The WOC provides large-scale regional forecasts and monitoring, as well as coordination and support for the Main Operations Centre. The WLC produces local forecasts, gathers snow data, evaluates the risk of avalanches, and distributes information to tourists.

Weather Information Centres (WICs) are located at each of the outdoor Olympic venues, ensuring collaboration between weather support staff, competition organizers, sports teams, and technical staff.



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...REQUIRES POWERFUL TECHNOLOGY

For the Turin 2006 Winter Olympic Games, Arpa will rely on Red Hat Enterprise Linux to meet the dual requirements of high service reliability and system security. Arpa chose Red Hat as their solutions provider in November 2003, and had everything installed four months later. "We decided to choose Red Hat because it meets our requirements perfectly and integrates with other open source and freeware solutions which are already being used," said Vito Carambia from Arpa Piemonte's Forecasting and Environmental Monitoring Department.

RED HAT PROVIDES THE TOTAL SOLUTION

The system is configured as a high reliability cluster-- two servers running Red Hat Enterprise Linux 3 ES, Red Hat Cluster Suite, and Red Hat Application Server. Both servers are connected to a shared storage facility.

Red Hat Cluster Suite guarantees reliability and architectural scalability. This not only protects Arpa Piemonte's critical data, but also ensures high data-service availability for managed applications users. Red Hat Cluster Suite also provides management tools for the application environment and the cluster.

This Red Hat cluster will be used to address and coordinate regional forecasting and environmental monitoring. It loads data into the database, executes applications used in forecasting (java, servlet, jsp), and runs the Apache web server, the Postgresql database

server, the Tomcat5 web application server and the FTP Server. There are also testing and development environments and workstations that utilize Fedora Core 3.

FORECAST IS CLEAR

So far, testing has produced excellent performance results, and expectations are high for the 2006 Winter Olympics. In fact, Arpa Piemonte is already considering using Red Hat Enterprise Linux in a new high-reliability configuration.

"In addition to reliability and security, Red Hat provides good online and field support, ensuring ease of management and system updates, as well as completeness and adaptability of available services," said Carambia. "We are very satisfied with our choice and with the support we have received from the Red Hat team in Italy, both on the commercial and technical side. Some characteristics in particular have proved very useful, such as the Red Hat Network update mechanism which allows complete software management, making it easy to maintain security and keep the system constantly updated."

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