

success story



Objective achieved:
final customer satisfied!

where

- Bluebox Service**
- North Italy shopping centre

what

- tService remote control:**
- remote WEB access to the system
 - information in real time
 - analysis of system performance

why

- to understand the real reasons for a malfunction
- to support the customer in proper system configuration

The tERA service platform technology and Blue Box service professionalism and experience, at the customer's service.

The corporate mission of Blue Box, a leader in the HVAC industry in Italy and throughout the world, has always included satisfying the customer's needs and ensuring an absolute standard of excellence.

To achieve that goal, Blue Box has based its after sales service on the principle of total quality. Always close to its Customers, it is an expert and accessible partner. The local presence of highly specialized technical personnel and the availability of the head-quarter technical team gives the customer absolute confidence that they can count on a quick response.

The experience described here put this excellent team to a tough test. But customer satisfaction was achieved on time thanks to the technological support offered by the new tERA service platform. tService, which was used to remotely control the system, became a useful tool in the hands of the Blue Box service team to ensure that the customer's problem was solved.

In fact, as often occurs, a system malfunction can be the result of numerous causes that are difficult to identify.

The machine, facility and centralized management must be perfectly integrated in order to ensure the best environmental comfort for the customer.

In such a complex scenario, a detailed analysis is needed to understand the real problem in the system. Sometimes, local assistance personnel must refer to technicians at the main office.

For an international company like Blue Box, centralized management of this support can become difficult. Therefore, the use of remote control solutions becomes a valid assistant in reducing service management costs and ensuring maximum service to the final customer.

Carel proves itself to be not only a supplier of continually innovative machine controls, but a technological partner for creating winning solutions.



Description of the system

The system is inside a recently restructured historic building in the centre of a city in northern Italy. The building is used for commercial purposes.

The lack of natural gas supply and the desire to use radiant heat/cooling lead to the selection of polyvalent type units able to supply hot and cold water independently according to the request from the system. The building is divided into 3 zones for system purposes, each one of which has a Blue Box unit.

The system is made up of 4 pipes, two for cold water and two for hot water; between the Blue Box units and the distribution system a tank with 4 attachments is installed which thus hydraulically divides the primary circuit, with a fixed flow rate, from the secondary circuit, with a variable flow rate. This solution is very convenient from an energy point of view but very complex to manage. The integration of all of the components is locally managed by a BMS that regulates all of the components of the system. The division of the building in 3 distinct zones made it difficult to identify a common setting for the BMS control system for the customers, especially since the commercial activities operating in the building are rather dissimilar in terms of work hours and internal logistics and therefore with different overall temperature and humidity requirements.



top efficiency

Energy savings, precision and guaranteed comfort, with electronic thermostatic valve and the precise power supply regulation.



energy efficiency performance

High energy efficiency means greater respect for the environment and significant cost savings.

Blue Box service operation

Following start-up, the customer complained that the system was malfunctioning. Dissatisfaction due to failure to reach the required comfort levels placed the air conditioning machines under scrutiny. As often occurs, in fact, the complexity of the plant is not considered - only the sensation that "the machine doesn't work" remains.

Following the problems signaled by the polyvalent units, Blue Box found themselves in a position of not being able to fully understand if the problems were due to incorrect configuration/construction or incorrect management of the system; the problems were different between the 3 units that make up the system and identifying a common cause or a single resolution to the problem was impossible.

Our technicians' repetitive operations directly in the system were not conclusive due to the inability to fully understand the thermal dynamics of the building and, with them, the variation of the thermal requirements throughout the day.

tService support

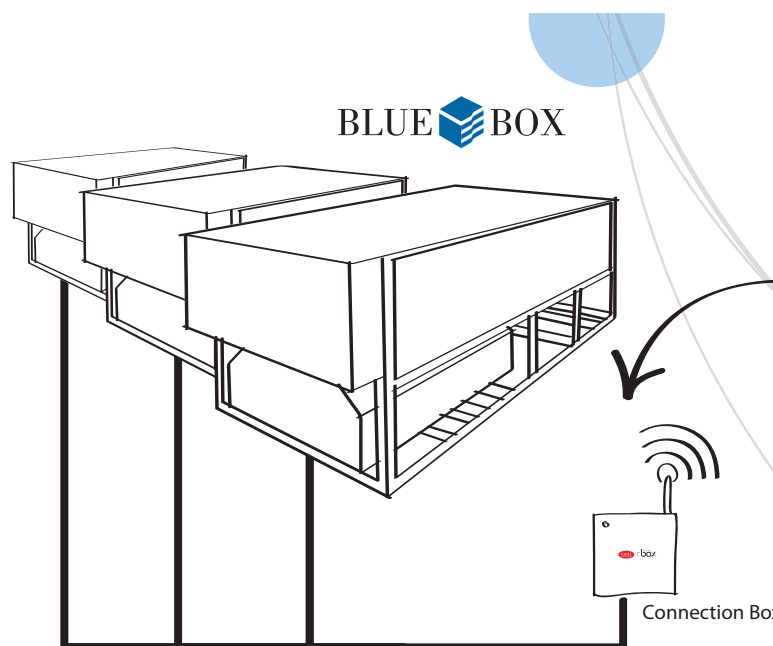
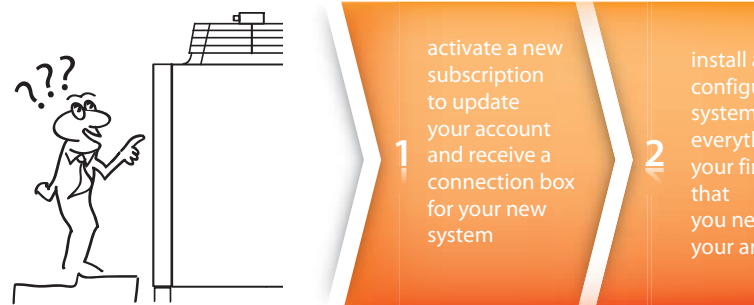
Blue Box thus decided to use the tService remote service in order to monitor the temperatures and operation 24 hours per day. From identifying the need to actual use of the tool was a quick journey. The activation of the new service required the simple installation in the system of a single connection box linked by serial line with the 3 polyvalent machines. The configuration was then inserted via WEB in the Blue Box central office, defining the list of information needed for analysis.



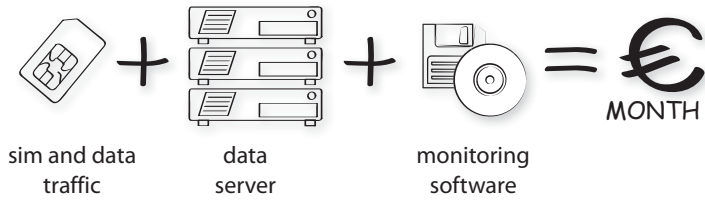
wireless connectivity



cloud computing

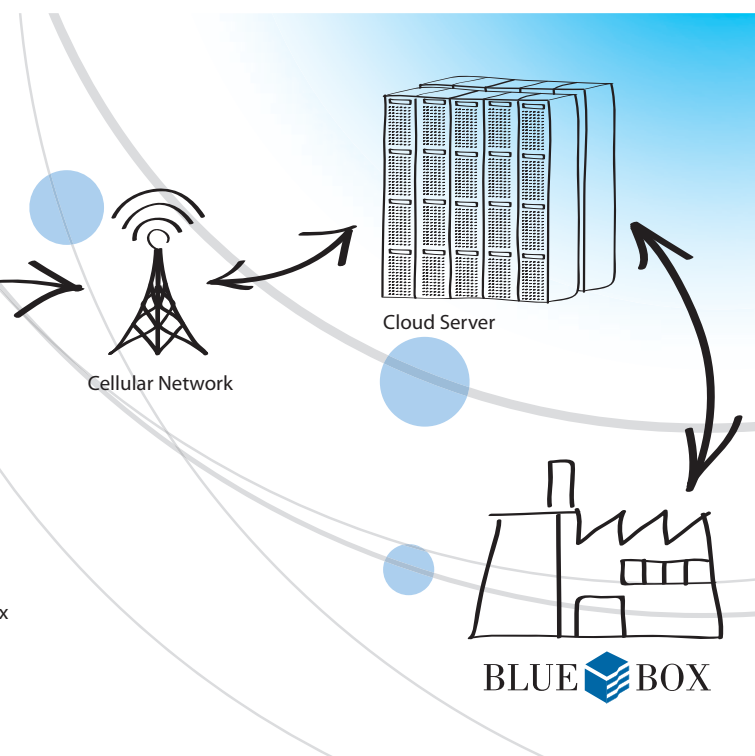


Thanks to GPRS wireless connectivity, no support was necessary on the part of the final customer in order to allow access to the data. Thus, in just a few days, all of the data needed to describe the actual system operation was available to the Blue Box service team, accessible by both local assistance personnel as well as the central office. All of this was achieved with no worries or time and energy expenditure for managing the connection infrastructure: tService, in fact, includes the data traffic, SIM, server and supervisor SoftWare that are made available to the customer by CAREL through a simple monthly subscription.



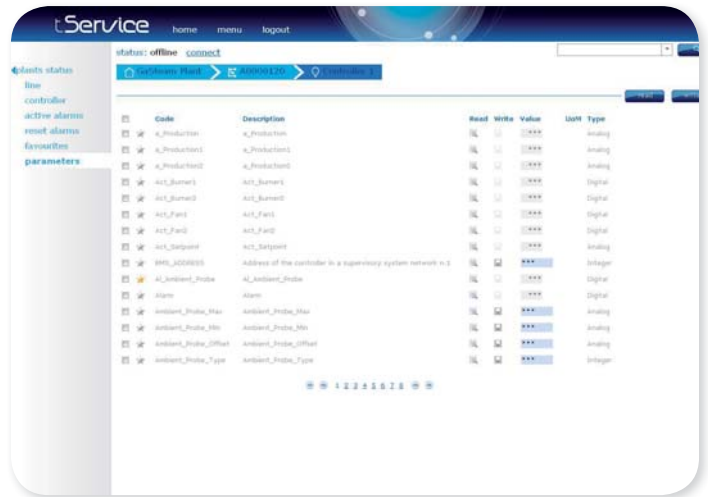
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analysis

the system is at
your service, a
new site is now
connected in
your systems...
**GOOD LUCK
WITH YOUR
WORK!**



Real time monitoring

The analysis began with real time monitoring of the operational parameters of the machine. tService allowed the variables of greatest interest to be monitored for each machine with views that could be configured by the user. For more in-depth inspections, hundreds of variables were available to the technicians to get a picture of the actual status of the system, instant by instant. The machine terminal with all of its information also became available to the technical team at the central office. So, from the Blue Box office they had a complete view, as if they were in front of the machine.



Analysis of system operation

As hours passed, reports and graphs allowed them to get a clear view of the operation of the machine during the various times of the day. In particular, trends of the critical system parameters were analyzed when the shopping centre opened or closed or when there were larger flows of people inside the building.

The global graphs allowed them to start from an overall view and then quickly and efficiently focus the analysis for the most critical periods and variables. For further study, the data was exported into a table to highlight the correlations between the various machine parameters. The system data, already transformed into useful information by the monitoring system, thus became clear and unequivocal indicators of the real reasons for the system malfunction in the hands of the Blue Box service team.



Conclusions

Joint data analysis and signalling of critical operational conditions effectively solved every problem. tService analysis thus led to the identification of the problem linked to a not entirely correct management of the system by the final customers.

It was thus discovered that some of these systems were excluded for too long causing almost instantaneous variations of the temperatures read by the Blue Box units precisely when they were being re-enabled by the BMS system, creating the problems the customers were complaining about.

This synergistic activity made it possible to achieve a BMS setting that fully utilized the intrinsic features of the system, to the complete satisfaction of Blue Box, the designer and, above all, the final customers.

From a potentially critical situation where due to general dissatisfaction the customer began to doubt the reliability of the system, Blue Box managed to provide a positive image of itself due to the high degree of professionalism and support provided to the customer. To reach this objective, tService was a valid ally: with an immediately ready and available solution, data analysis was simple and effective.

In fact, tService offers not only supervisor SW which is the result of Carel's experience over the years in the HVAC market, but also a complete technological infrastructure. The activated service is available to every authorized user: from the team at the central office accessing it via PC to the local technicians using a tablet or smartphone.

This offer allowed Blue Box to optimize its support and maintenance service and offer the final customer new added value services that already are and can become an even more distinctive element in this company's HVAC market.



reduction in
maintenance costs



customer
satisfaction



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