



## NEW WIRED AND WIRELESS NETWORK MAKES AIRPORT OPERATIONS MORE AGILE, AVAILABLE, SECURE AND COMPLIANT

### Executive summary

**Customer name:**

Fraport Slovenia, Operating Fraport Slovenia International Airport

**Industry:**

Transport

**Location:**

Ljubljana, Slovenia

**Number of Employees:**

250 to 499

**Challenge:**

- provide secure, highly available and regulatory compliant wired and wireless access to information and services,
- enable modular, agile and cost-optimized growth, enabling support for ever growing enterprise, supporting services and passenger demands,
- enable staff mobility and productivity.

**Solution:**

- Dell Wired and Wireless network infrastructure with Management System.

**Results:**

- Increased network performance with significant increase in data transfer speeds,
- Improved, highly available access to Central information and services,
- Wireless Coverage for Enterprise users, Landing Platform, Passengers and Cargo Terminal.
- Ability to satisfy compliance and accelerate expansion plans.

### Challenge

Fraport Slovenia operates Ljubljana Jože Pučnik Airport, the main Slovenian international airport, which covers 97% of all air passenger traffic in Slovenia. It is an environmentally and socially responsible company, with a nearly 55-year-old tradition, and has

Boštjan Rakovec, CIO of Fraport Slovenia, recalls: “Despite these challenges, no serious incidents which would have affected basic airport processes were risen, and none of production processes disrupted due to transport network unavailability.”

*The Slovenia National Airport assures Secure and Highly Available wired and wireless network while improving staff efficiency and guest experience. New platform Encourages Agile foundation for Collaborative Enterprise applications with guest and public friendly access to Airport and Internet services.*

been owned by the German company Fraport AG since 2014. As a significant stakeholder, the company has been involved in a wider chain of logistics services in Alpe-Adria region. The location of the airport is ideal for developing air connections and airline industry activities as it is located in the crossroads of traffic flows between the Pannonian Basin and the Po Valley, and the corridor from the Middle East to the European Union, running through the Istanbul strait. The number of passengers and the volume of cargo handled at Ljubljana Airport has been constantly increasing over the years. Positive trends in air traffic are being reflected in improved company business results.

Low throughput, costly maintenance, inability to upgrade existing network at reasonable cost, no support for modern security and compliance standards were a heavy burden for highly dedicated yet outnumbered IT staff. For reliable business and customer service, the Airport needed an agile network with built-in redundancy, IT process automation, so being able to support business process, at highest possible, cost optimized level.

Airport wired network was old and outdated, providing low bandwidth for modern Enterprise applications demands. Only basic security and no high-availability services were available. Wireless network was available only on certain spots and mostly covering basic airport business processes.

**“We wanted to provide an existing Airport network user, be it internal employee, supporting services company, airline or passenger with optimum access to information and services,”** says Rakovec, **“and we also needed to prepare for future growth and Airport service development.”**



## Main challenges were:

- Providing modern, high bandwidth, clustered network Core and Data Center operations to support Primary and Disaster Recovery Data Center infrastructure and services high availability.
- Providing uninterrupted, secure and segmented access for heterogeneous wired and wireless clients to resources they expect and demand.
- Efficiently solving domain specific problems like:
  - warehouse coverage,
  - open-space (Landing platform) coverage with highly demanding roaming users (vehicles, baggage and plane handling systems, and catering services),
  - providing secure, yet controlled wireless Airport Services and internet access to passengers and Airport guests not only on terminal but also with supporting services (car rentals, bars, etc.).
- Providing internal IT staff with proactive management tools, helping them discover and resolve possible network transport issues before they arise and cause problems to services which Airport is providing to its users.

## Solution

The Ljubljana International Airport chose a Dell® Wired and Wireless Network solution from local partner FMC. "Since Airport is obliged to follow Public Procurement National Law, we were unable to prefer any principal or local partner solution. Obviously Dell and FMC were aligned closest to our vision. In addition to Dell and FMC being aligned closest to our vision, they offered the right expertise, best solution and services, supported by management tools for data and wireless," says Rakovec.

The initial project focused on several problem domains in wired and wireless part of the network. The first part was focused on optimizing the Core, Data Center and Access networking infrastructure. This was built using guidelines from a validated Dell Datacenter and Dell Networking Campus Switching and Mobility Reference Architecture. Design was additionally optimized and approved using **Dell Active Fabric Manager**. In addition to using **Dell S-series Core and Data Center Series Switches** and **Dell N-series Switches** for wired access infrastructure high availability we also used modern clustering technologies and achieved high availability. Traffic is partitioned and delivered as a virtual LAN (VLAN) service within a multi-tenanted environment. In total nearly 2000 access ports and over 240 Core and ToR ports is provided for client to core services interconnection. "VLAN capabilities were a key differentiator and something that with demanding agility of networking infrastructure services and growth is a must-have," says Rakovec. "Not only several Airport Enterprise segments, every partner company within the airport now has an option for a separate Layer 3 VLAN."

Whole network is centrally managed using the **Dell OpenManage Network Manager** for early possible problem monitoring, simplified

administration, configuration, backup, and monitoring.

Increasing mobility was another very demanding target. Geographically vast and dispersed airport operations were connected using a **Dell wireless network W-series**, comprising Dell W-215 and W-275 Series Access Points and Dell W-5500 Series Wireless Controllers. The wireless network consists of comprehensive 72 internal and external access points and two controllers. IT can be accessed by staff, airport partners and public users, using smartphones, tablets and PCs. In Wireless particularly several problem domains such as providing services for Enterprise users, covering the Landing Platform, Passengers Terminal and Cargo Terminal with Warehouse, have effectively been solved.

## Results

The airport built a communication network which contains elements of high availability/clustering in its very essence. It is secure and provides not only an accelerated information but application performance. It increased a data transfer speeds compared to the previous network for the factor of ten in core and access, and is designed for future bandwidth growth with current investment protection. More importantly, with VLAN implementation network infrastructure is more agile to support the future needs.

Management is also much easier. It is performed by current IT staff with the help of management tools and process automation. Since internal team was fully involved in the project from its design to the final parts of implementation, they are familiar with every detail, thus being owners of the solution.

Regulatory compliance, which is very thorough in the aviation industry, is easier to satisfy since the airport has greater visibility and

control over its IT environment. If we take a look at primarily network assessments for example, we can see that they are not only easier to conduct but also to benchmark against the standards demanded by the European Union and aviation industry regulators.

Last but not least, airport operations are more productive and efficient. And since owners have great expects about Airport expansion, the infrastructure and IT processes for supporting future growth be it in volume, services or information/application access, is ready.

## Next step

Fraport Slovenia, as an operator of Slovenian National Airport has already taken great steps in its IT environment transformation, yet it still has ambitious plans for the future. The model where Wired and Wireless Segments were made available to the public and partners was introduced. As part of a new business model where the airport provides the underlying infrastructure and charges operators for deploying their own systems will be expanded to whole IT networking infrastructure. This will assure stable campus infrastructure with zero interference with local IT islands, where class of service will expand level unimaginable before this renovation.

New applications such as IP telephony, captive portal for wired and wireless users, passenger information system and some others, which might be important for Fraport Slovenia will be provided to its users - Enterprise, Partners and Passengers.

