ZEBRA

SUMMARY

VAIL RESORTS
EXPERIENCE OF A LIFETIME™

Customer
Vail Resorts, Inc.

Industry
Hospitality

Challenge
Improve guests' experiences as they prepare to board ski lifts by replacing aging handheld barcode scanners with a new technology to scan season passes.

Solution
Zebra P330i UHF RFID card printer

Results
- Resorts can now better understand aggregate skier behavior patterns and use this information to further improve the guest experience.
- Reduced season pass fraud due to increased information available at the time of scanning.
- Improved the guest experience by making it possible for them to have their ski passes scanned without having to unzip jackets or drop poles — providing ease of lift access unmatched by any other resorts.
- Integrated social media so guests are able to track their vertical feet, earn pins for on-mountain achievements and share photos on Facebook and Twitter via the EpicMix application.

Vail Resorts Delivers the "Experience of a Lifetime™" with First-of-Kind RFID Lift Access

Vail Resorts, Inc., through its subsidiaries, is the leading mountain resort operator in the United States. The company's subsidiaries operate the Vail, Beaver Creek, Breckenridge and Keystone mountain resort properties in Colorado, the Heavenly Ski Resort in the Lake Tahoe area of California and Nevada, and the Grand Teton Lodge Company in Jackson Hole, Wyoming. The company also operates RockResorts, a luxury resort hotel company, and Vail Resorts Development Company, its real estate planning, development and construction subsidiary.

Challenge

For properties in the Vail Resorts family, the accolades never cease:

- "Vail has a 'wow factor' that other resorts lack," says *SKI Magazine*.

- Breckenridge is #1 for its terrain park and pipe, according to *Freeskier Magazine's* poll. Keystone's terrain park is also consistently ranked as one of the top by *Freeskier* and *Transworld Snowboarding*.

- The National Ski Area Association has recognized Beaver Creek with its Best Overall Customer Service award for three consecutive years.

In fact, all five Vail Resorts ski destinations rank in SKI Magazine's top 20 resorts in North America. Skiers concur, with 10.2 percent of all skier visits — 6.2 million — taking place at the company's resorts.

Not ready to rest on its laurels or decades of awards, Vail Resorts keeps raising the bar in terms of guest experiences. With a simple mission of creating the "Experience of a Lifetime," the company set out to enhance guest experiences even further for the 2008-2009 ski season.
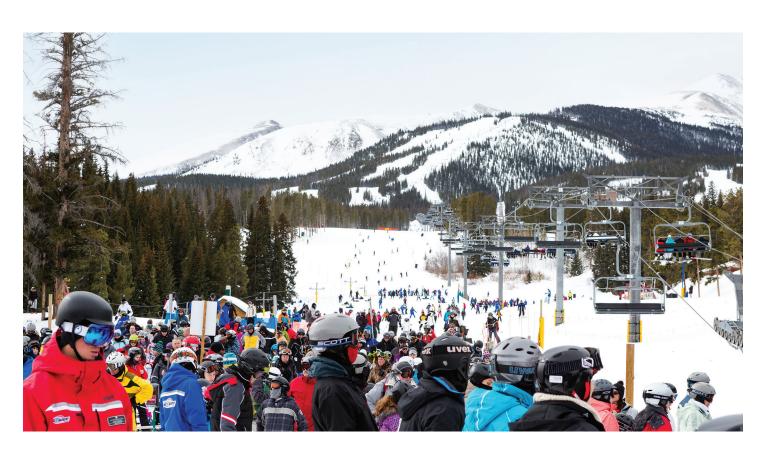
Vail saw an opportunity to improve guests' experiences as they prepare to board ski lifts. Instead of replacing aging handheld barcode scanners, Vail looked into new technologies for scanning guests' season passes. In past ski seasons, guests needed to physically present their season passes for barcode scanning which oftentimes required them to unzip their jackets and fumble for their season pass.

Solution

Through the company's internal evaluation process, Vail's technology team looked at various solutions, including RFID-based gates and turnstile systems widely used at European ski resorts. However, Vail quickly saw the drawbacks of installing turnstile systems.

"We felt that gates and turnstiles can sometimes inhibit the guest experience, rather than enhance it," said Andy Shenberger, senior director of IT, Vail Resorts, Inc. "Permanently affixed gates/turnstiles can also inhibit the snow grooming process in base areas and requires a huge physical footprint and significant capital investment."

Based on the maturity of the alternatives and Vail's specific needs, the evaluation team selected ultra-high frequency (UHF) RFID tagging with handheld scanners/computers.

The resulting solution is unlike any currently available in the ski industry today:

- **UHF cards instead of HF tags** — UHF offers greater flexibility due to longer read ranges. The company can inexpensively add and move read points and gather group data without guest interaction.

- **Handheld scanners instead of gates** — Using handheld scanners significantly reduces costs and impact to the mountain, as well as enhances the guest experience.

- **Passive detection in specialty areas** — Passive scanning via an overhead antenna for on-mountain lifts allows resorts to read RFID-enabled passes as guests board lifts without any proactive guest interaction.

Compared to the other printers Vail looked at, Zebra only requires one cable for the printer to be networked, which turned out to be a significant benefit.

As part of that solution, Vail chose Zebra® UHF cards and the Zebra P330i UHF RFID card printer to print season passes at its corporate fulfillment center in Colorado, retail centers and resorts. Zebra partner ExtenData, an enterprise mobility solution provider, supplied the Zebra P330i printers for the Easy Scan system.

"As we looked at printers, we wanted a vendor that would partner with us rather than simply sell us boxes," Shenberger said. "Zebra was by far the best choice. We felt that Zebra would be a strong partner that would work with us on optimizing passes for our environment and that would be there years from now."

Additionally, Zebra printers offered significantly better integration with Microsoft software. Vail was able to use existing Microsoft print functionality, which allowed for easy deployment and integration. This helped Vail avoid costly customization and minimize client-side changes.

Compared to the other printers Vail looked at, Zebra only requires one cable for the printer to be networked, which turned out to be a significant benefit. While it seemed like a small factor, Vail felt the second cable would increase the complexity of the printers.

To maximize readability of cards close to the body and under layers of clothing, Vail's IT team worked closely with Zebra to choose a card that met their data and security requirements, while maximizing the read range and read speed when worn by skiers. They tested various configurations in Zebra's lab before settling on Zebra's patent-pending inlay design and chip set from NXP Semiconductors. The documentation and empirical data that Zebra provided — as well as insight into the current and projected future of the RFID market — helped guide the decision to what Vail felt was the best chip set to use.

In-lab tests evaluated various wear scenarios such as number of clothing layers, proximity to skin and wear location, as well as distance from the subject and speed of the subject. The cards also provide extreme durability over several ski seasons.

Additionally, the UHF card provides superior security over the previous barcoded-only cards. The UHF chip serves as a strong barrier to duplication, preventing counterfeiting.

Zebra also created custom printer firmware to increase the throughput and security of the media for Vail's specific environment. "Zebra has very much been a partner in all this. They have been fantastic to deal with, with very quick turnaround times," Shenberger said.

The season passes include a barcode, RFID inlay and a magnetic stripe, giving Vail guests access to multiple experiences on just one card. The stripe allows guests to connect their passes to a credit card, if desired, to use for lunch, a hot drink or other services at the resorts — freeing them from having to carry wallets.

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Andy Shenberger, Senior Director of IT

Over the course of two years, Vail tested the Easy Scan system in its harsh mountain conditions — with wind chills well below 0º F — with more than 1,000 Vail Mountain Ski School and Ski Patrol employees. Trials allowed the company to establish best practices scanning and wear procedures for staff and guests.

"We had an overwhelming response from the pilot group regarding the significant customer service improvement of not having to present passes for scanning, while maintaining the personal touch of interacting with a person instead of a gate," Shenberger said.

Results

Vail Resorts officially launched the Easy Scan system in August 2008 for all resorts. In total, it installed 268 Zebra printers across its corporate fulfillment center, retail locations and resorts. In the Spring of 2008, guests began buying Epic Passes online and in person. During their peak, the central office printed more than 10,000 full-color UHF-enabled passes per day.

When resorts opened that November, the system performed exactly as designed in the mountain conditions. Lift staff simply point handheld scanners at zipped jackets to read the passes. "While it was a very complex project for us to design/implement, to our guests it seems simple and is working flawlessly," Shenberger said.

Vail Resorts accomplished three key goals in implementing the Easy Scan system. Resorts can now better understand aggregate skier behavior patterns in a manner never before possible. This provides the resorts with information that can be used to further improve the guest experience in the future.

The company also reduced season pass fraud due to increased information available at the time of scanning. Lift staff see a photo of the person on the handheld scanner and can ask questions to verify identity. Resorts reported a dramatic increase over prior years in the number of fraud incidents detected.

Yet the greatest gains have come in the guest experience — the ability to offer ease of lift access that is unmatched by other ski resorts means that guests move faster through the scanning process, and as a result, are able to spend more time on the mountains. And with the growing adoption of social media, guests are now able to track their vertical feet, earn pins for on-mountain achievements, share photos on Facebook and Twitter and even race against Olympic Gold Medalist Lindsey Vonn via the EpicMix application.

"It's been a home run. Families with children don't have to unzip jackets or drop poles to scan passes," Shenberger said. "We positively changed the dynamic of how ski resorts interact with guests, and more importantly, we gave our guests a way to focus on why they're visiting our resorts — the experience, the epic skiing and the scenic beauty of the mountains — rather than on the scanning and lift validation process."

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