



*Case Study*

# IGNITETECH'S SCALEARC HELPS DELL ACHIEVE ZERO DOWNTIME ON DELL.COM

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## Company

Dell

## Industry

Technology

## IgniteTech Product

ScaleArc

## Customer Website

[www.dell.com](http://www.dell.com)

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Dell is an American multinational computer technology company that develops, sells, repairs and supports computers and related products and services.

### OVERVIEW

In preparation for Black Friday 2013, the operations team supporting Dell.com sought a solution that could handle the onslaught of consumer web traffic while maintaining high availability and performance. In particular, the team was eager to increase the uptime, scalability and throughput of the SQL Server deployment supporting the website.

After discussing with Microsoft alternatives for Availability Groups using DNS, the operations team turned to IgniteTech's ScaleArc database load balancing software. The Dell team selected, tested and deployed ScaleArc's software within 6 weeks, well in advance of the Black Friday deadline.

### CHALLENGES

- Handle 10x traffic for Black Friday and the holiday season
- Avoid downtime during maintenance of database tier
- Ensure continuous availability during database infrastructure changes
- Leverage AlwaysOn capabilities with no application changes



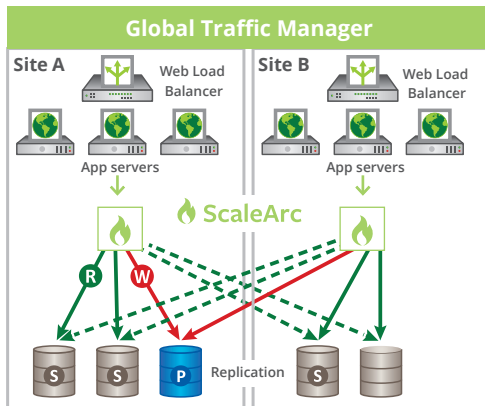
“Along with improving uptime and performance, ScaleArc also speeds development because we don’t have to code HA into the apps.”

**Justin Roan**  
IT Director, Dell

### INTEGRATION WITH SQL SERVER 2012 TO ENSURE HIGH AVAILABILITY

To take advantage of the high availability benefits of SQL Server 2012, the operations team deployed ScaleArc software between their web application and SQL Server database environment to enable database auto-failover and load balancing. ScaleArc works with SQL Server 2012/2014 and AlwaysOn to leverage replication and augment failover, holding connections and queueing queries during failover to prevent Dell’s customers from experiencing errors or performance issues.

During the initial Black Friday week, ScaleArc supported significant traffic surges, including more than 5 million requests per hour across different portions of the site. The team delivered 100% uptime throughout the week, enabling billions of dollars in transactions.



- ScaleArc deploys transparently — no app changes, no database changes
- ScaleArc runs in two data centers, with automatic read/write split
- ScaleArc supports geo-aware load balancing to enable clusters to span separate data centers

#### Continuous App Availability

Auto-Failover In or Across Data Centers	Zero Downtime Maintenance	Transparent Scale Out

#### As part of projects for:

Data Center Modernization	Database Upgrades	Cloud Migration

**All enabled without any changes to the app or database**

### ZERO DOWNTIME MAINTENANCE

After the initial deployment, the Dell.com IT team wanted to move to zero downtime maintenance, using ScaleArc’s failover technology to take the load off the servers to bring them offline for patching. Like all companies, Dell isn’t always able to complete the desired patching process within a maintenance window, forcing a rollback. Incomplete patching leaves database servers vulnerable to identified security risks. ScaleArc enables Dell to eliminate maintenance windows and avoid any application downtime while keeping servers fully up-to-date with patches. The company is now able to direct traffic to the other database servers in the cluster when one server is taken down for patching, eliminating all downtime.



With ScaleArc, maintenance windows are completed 100% of the time — even in the middle of the day. This approach also enabled a physical database infrastructure upgrade without any downtime of database servers. After updates are complete, the team adds the servers back to the cluster, and ScaleArc automatically resumes sending traffic to them.

### **SCALABILITY AND HIGH PERFORMANCE FOR IMPROVED CUSTOMER EXPERIENCE**

Using ScaleArc’s software, Dell.com’s IT operations team identified “bad” queries that were slowing the website. Caching the responses to these particular queries halved page download times. In addition, the company has reduced server CPU and query count, further aiding application availability and performance. As a result, Dell.com customers now have a much better experience online.

### **AUTO-FAILOVER FOR HIGH AVAILABILITY ACROSS REGIONS**

Dell needed strong failover not just within one data center but across multiple locations. With traditional cross-region failover, database uptime — and therefore Dell.com — takes a hit. The result is application errors and, more importantly, decreased customer satisfaction.

With ScaleArc’s automatic failover capabilities, Dell has been able to move to an active/active architecture, enabling multiple data centers to serve application traffic at the same time and deliver 100% uptime. The ScaleArc software automates and accelerates the failover process for unplanned server failure by effectively steering and load balancing traffic across the data centers.

### **RESULTS**

- Delivers 100% uptime despite significant traffic surges
- Provides 3x to 5x query read capacity increase
- Supports scale out using AlwaysOn without updating the website code, using automatic read/write split
- Enables zero downtime of applications during database patching or maintenance

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### **LEARN MORE**

To learn more about how IgniteTech’s ScaleArc solution can help enable uptime, performance and scale for your critical applications visit [ignitetech.com/scalearc](https://ignitetech.com/scalearc).