

# REDFIN

## Redfin Accelerates Time to Market for Critical Customer-facing Real Estate Applications

“Today more than ever our market has become highly virtual, including house broker tours and office visits. Efficiently deploying and running applications that enable this environment is crucial for us to remain competitive in this highly dynamic market”.

-Anna Bates, Engineering Manager

### Executive Summary

Platform9's Managed Kubernetes solution enables this discount retail brokerage to achieve its key technology transformation objectives and effectively deploy critical customer facing real estate applications. The DevOps team values the managed services element of the Platform9 offering with its robust SLA, SaaS management model and proactive support team.

Top 5 benefits include:

1. Cloud-Native Time to Market with significant cost savings  
*"We estimate we saved over \$400,000 in new personnel costs and hundreds of engineering hours that we would have incurred without the Platform9 managed solution. Our new application roll-out time has decreased from several days or weeks to minutes or hours. Redfin developers can now experiment with existing applications and create new microservices blazingly fast."*  
-Anna Bates, Engineering Manager
2. Scale of the public cloud and efficiency of a managed solution
3. No lock in to proprietary solutions
4. Delivering on the potential of microservices architectures.
5. Future-proofing for additional application deployment.

### Customer Background

Redfin is a Seattle based discount online and in presence real estate company founded in 2004 with operations throughout the United States. It's mission is to "redefine real estate in the customer's favor". They achieve this with a business model based on sellers paying Redfin a small fee, either 1 or 1.5% to list the seller's home. They value using technology and customer facing applications to reach more buyers effectively, and using this reach to lower commissions and capture more satisfied clients.

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## Key Facts

### Platform9's SaaS architecture - The next generation standard for managed Kubernetes

Delivery of a consistent customer experience and elimination of operational complexity.

Speed of application deployment

Full end-to-end process automation

### Customer Requirements and Challenges:

Redfin has, since its inception, been a technology driven company, beginning with its original use of online home listings to drive customer value and engagement. The recent COVID crisis has drastically changed the real estate selling model, with tours, viewing and home sales all becoming almost exclusively virtual. Redfin has quickly ramped its technology focus with applications that can give it a competitive advantage, including:

- Customer facing Mobile and Web applications
- Virtual home tours
- Home fixer-up estimates
- Payment calculator
- Home appraisals
- AI and Machine Learning workloads that give it important information on customer trends and buying patterns.

As part of its continuing digital transformation initiative, the company wanted to roll out these strategic applications effectively to its customer base while evolving its internal applications development efforts to a containerized microservices model. Historically, Redfin managed all applications using a monolithic stack but realized they needed a more effective approach.

Before moving to a fully managed Platform9 Kubernetes model, Redfin first tried open source/DIY Kubernetes running with AWS but ran into several challenges.

Challenges	Description
<b>Redfin starting building Kubernetes clusters on AWS using Kops to install, operate and delete Kubernetes clusters in the cloud but lacked the operational expertise for effective ongoing operations</b>	The Redfin team, with limited staffing, did not have the Kubernetes manpower and knowledge to keep up with the Day 2 operational challenges involved when running Kubernetes. Redfin also did not want to have large pools of Kubernetes expertise on staff to support their environment
<b>Redfin had slow application rollout cycles</b>	Before Platform9, new application roll-out time could take from several days to weeks due to lack of K8s environment expertise.
<b>Redfin could not upgrade smoothly to new versions of Kubernetes. Their first upgrade had significant issues and they had not attempted another upgrade until working with Platform9.</b>	As the Redfin environment grew, so did the operational challenges of running Kubernetes in production. Before Platform9, Redfin did not have the resources to manage clusters properly, and did not upgrade past Kubernetes v1.11 because of this. Not upgrading also robbed Redfin of innovations in the newer versions of Kubernetes.

Challenges	Description
<b>Redfin wanted to minimize operational complexity across their underlying infrastructure as they grow and scale.</b>	Redfin's past operational experience had been complex. Tight coordination among multiple engineering groups was needed and this stalled production operation and wasted significant time.

### Finding the Right Solution

Redfin considered various Kubernetes solutions but quickly realized outsourcing Kubernetes to a commercial distribution or public cloud implementation often involves getting locked-in to proprietary technology stacks that add unneeded costs and services over time. There are often minimum package costs and mandatory fees plus proprietary technology used that is not easy to migrate away from. Integration fees for combining services purchased can also be expensive. Alternative Kubernetes solutions that Redfin tested were hard to install and bring up and the support model to guide Redfin through troubleshooting issues was nonresponsive and subpar.

They then engaged Platform9 for a fully managed Kubernetes approach with a strong SLA and no lockin..

### Benefits of the Platform9 solution

Redfin saw Platform9's software as a service (SaaS) Kubernetes cluster management as a way to deliver an experience like native public cloud services. The SaaS management model, which entails automating the entire lifecycle of managing Kubernetes deployments, would offload all the operational complexity that Redfin did not want to deal with. This would also push logic and computing to the edge using cloud-based microservices for effective application rollout. Platform9's unified native developer API, which supports multiple environments, was also a key factor in this decision.

Benefits	Description
<b>Delivery of a consistent customer experience and elimination of operational complexity.</b>	The Redfin infrastructure team is significantly less burdened with day to day operations. They can execute seamless upgrades and keep cluster performance and security up to date. They no longer need to coordinate with multiple engineering teams and stall production operations. Redfin estimates they have saved over \$400,000 in new personnel costs and hundreds of engineering hours in the deployment. Redfin also benefits from Platform9's Industry leading SLAs, access to certified Kubernetes experts and real-time remote monitoring.
<b>Speed of application deployment</b>	Redfin developers can now experiment with existing applications and create new microservices blazingly fast. Deployment of new applications has gone from days or weeks to minutes. Building software through microservices has increased agility and helped developers be more productive and make better architectural choices.

Benefits	Description
<b>Full end-to-end process automation</b>	The Platform9 solution fulfilled Redfin's need for end to end automation of all processes, including cluster creation, bootstrapping and CI/CD pipeline for application releases. This ensured faster time to market for applications.
<b>Cloud Provider Choice</b>	Redfin can use whichever Cloud Provider they choose and to use any cloud ecosystem tools that are available without limitations- e.g. Spinnaker, Istio, Terraform
<b>Quick access to the latest open source features through upgrades</b>	Platform9 manages the upgrades to Kubernetes, in coordination with Redfin, achieving zero disruption to running workloads and allowing Redfin to quickly benefit from open source innovation.
<b>Unlocking the power of Microservice Architecture</b>	Redfin has realized the promise of containerized microservices architecture in effectively deploying new applications.
<b>Flexibility of a Hybrid Solution</b>	Redfin enjoys the flexibility of running applications and services within an on-premises private cloud as effectively as the public cloud. This is all achieved via a single pane of glass management approach.
<b>AWS environment expertise</b>	Platform9, besides providing Kubernetes expertise, worked in a consultative fashion, providing significant insight into Redfin's AWS environment, optimizing it and providing a firm basis for ongoing operations. This cemented Platform9's trusted adviser position.
<b>Preparation for the Future</b>	Redfin feels the experience gained in microservices, containerization, and hybrid cloud deployments as being solid preparation for key future development imperatives.

## Conclusion

Platform9's SaaS managed cloud solution enables Redfin's key mission: optimizing the operations of its residential brokerage business, minimizing time to revenue and maximizing competitive advantage of critical customer facing applications.

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