▶ video case

chapter 3   E-commerce Infrastructure: The Internet, Web, and Mobile Platform

case 3.1   ## How Freshdesk Uses Amazon Web Services

watch the video at   https://www.youtube.com/watch?v=oZJJr7P7uNs

summary   In this video, you will learn how Freshdesk, a startup company, used Amazon Web Services' cloud services to build its online helpdesk platform. L: 2:50

case   Freshdesk is a cloud-based platform that offers Software as a Service (SaaS) solutions for common customer service functions, such as automated handling of customer support tickets, maintenance of community forums, live chat support and phone support, and an automatically updated knowledge base that converts common customer service responses into permanent articles. Businesses sign up for one of several payment plans depending on their budgets and needs, ranging from as low as $15 per month to pricier plans for businesses with more significant customer service demands.

Founded in 2010, Freshdesk has found a niche among companies requiring a customer support platform that could scale along with their growth. Along with competitors Zendesk and Salesforce.com's Desk.com, Freshdesk has experienced rapid growth, reaching over 100,000 customers as of 2018. As an SaaS-based platform, Freshdesk realized that it made more sense to move its own operations to the cloud than to invest heavily in its own in-house

infrastructure. So while thousands of companies are now relying on Freshdesk for their customer service software, Freshdesk itself relies on Amazon Web Services (AWS) to house its software platform.

When Amazon revamped its retail computing infrastructure over the course of several years starting in 2003, it also had the idea to sell access to its virtual servers to other companies in need of computing power. Today, AWS has grown far beyond that initial idea, offering a full suite of remote computing services that are distributed across 11 geographical regions across the world to maximize availability and speed. AWS data and applications are stored redundantly in multiple regions to ensure uninterrupted uptime. The most well known AWS service is the Elastic Compute Cloud (EC2), which offers virtual computing power to customers to run their own computer applications. Customers pay by the hour for the computing power they use and select the geographical location that optimizes speed. Amazon's own flagship retail website is also housed on EC2 and is fully powered by other AWS services. AWS also includes products for databases, networking, security, analytics, mobile services, deployment and management, enterprise applications, and more.

When Freshdesk decided that it would use the cloud to power its software platform, it selected AWS over competing services like Google Compute Engine and Microsoft's Windows Azure Virtual Machines. AWS appealed to Freshdesk because of its wide variety of services, its rapid scalability, and its pay-as-you-go payment plan. AWS Enterprise Support also helped Freshdesk minimize its costs further by picking the most efficient services for operating its platform. For Freshdesk, that meant Amazon Redshift database services and Amazon OpsWorks deployment and management services.

Amazon Redshift is one of Amazon's data warehouse services. The primary selling points of Redshift are its scalability, its ability to seamlessly integrate with all of the major business intelligence tools needed to run queries on and analyze the data it contains, and its built-in encryption feature. Building a data warehouse is a challenging task, requiring expensive investment and in-house infrastructure and staff. Scaling the system to grow as the business grows is also challenging. Freshdesk preferred to use Redshift for its data warehousing needs for these reasons.

As with the rest of AWS' offerings, payment for Redshift is pay-as-you-go, with options to commit to full years of service for a discount. There are also options for type of storage. Dense Storage (DW1) nodes allow for very large data warehouses using hard disk drives. Dense Computer (DW2) nodes allow for higher performance with large amounts of RAM and solid-state disks. DW1 nodes are more cost-effective, but DW2 nodes are better for performance. Scaling is as easy as updating the number of nodes in your Redshift console.

Redshift houses Freshdesk's data, but Amazon OpsWorks manages its software applications, the cornerstone of Freshdesk's business. OpsWorks is an application management service that allows companies to use Amazon's computing resources to deploy and run their applications. Coding and operating applications is a complicated, time-intensive task. OpsWorks minimizes the effort required for Freshdesk to maintain its customer service applications. With OpsWorks, Freshdesk can use Amazon's application servers and databases, and use simple tools to manage application deployment, software configurations, software package installations, and database setups.

OpsWorks offers more convenience tool than other Amazon offerings like CloudFormation or EC2, at a cost of some customizability. But it also offers more customizability than Amazon's Elastic Beanstalk service, which is intended to simplify the application deployment process as much as possible. Freshdesk opted for OpsWorks to maintain control of its applications, while allowing Amazon to manage many of the tasks relating to the operation and deployment of the applications. An increasing number of businesses are turning to remote computing services on the cloud to reap benefits like these.

video case questions

1. Why was Freshdesk a good candidate for remote computing services on the cloud?

2. What was Freshdesk's experience working with AWS?

3. What made Amazon Redshift and OpsWorks good fits for Freshdesk?