



**500–600**  
servers patched in four hours

**\$80,000**  
savings on Oracle licenses

## Appriss

### Industry and Location

Government, healthcare | United States

### Product and Services

SUSE Linux Enterprise Server

SUSE Linux Enterprise High

Availability Extension

SUSE Manager

Appriss enjoys speed, reliability and high availability with easy management and no vendor lock-in, thanks to SUSE

# Success Story

## At-a-Glance

To meet users' demand for timely 24/7 year-round access to its huge nationwide databases of criminal records, pharmacy data, crash reports and more, Appriss solutions require an OS that is fast, highly available, flexible and secure. Twice, Appriss has chosen SUSE® Linux Enterprise Server (SLES) for these qualities of service. Then as the number of its servers grew, Appriss adopted SUSE Manager to reduce patching time and minimize exposure to security vulnerabilities.

## Overview

Partnering with public safety, health care and leading private and public organizations, Appriss delivers solutions that prevent fraud, mitigate risk, fight crime, ensure compliance, increase public safety and save lives. These solutions are used by more than 90 programs in 50 states.

## Challenge

At the core of each Appriss solution is a database consisting of huge amounts of relevant data collected from state and federal agencies as well as retail organizations across the United States. Users log in to these databases from the web and perform searches, or set "watches," for specific individuals; they then receive an automated online or phone notification when a tagged event occurs.



Two examples are Appriss' flagship VINE (Victim Information Notification Everywhere) and NPLeX (National Precursor Log Exchange) solutions. VINE alerts victims of crime when the criminals who preyed upon them are released from prison. NPLeX is an electronic service that monitors the sale of over-the-counter cold medications containing pseudoephedrine, a key ingredient in the manufacture of methamphetamine. If an individual trying to buy one of these drugs is beyond the legal limit in his or her purchasing history, NPLeX alerts the cashier, blocking the sale.

In short, Appriss solutions require speed, reliability and high availability to be able to process the data and notify users in near real-time, potentially 24/7 year-round. Because of these demanding conditions, Appriss has faced several IT challenges over its 20 years of business. About 10 years ago, Appriss decided to rewrite its software on JAVA to improve its solutions' performance and enable the software to make automated calls and emails, a critical functionality today. At the time, its solution functionality ran on Windows, but Appriss needed a platform that could run Java faster and more, efficiently.

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**TRAVIS ACKERT**

Infrastructure Manager

Appriss

More recently, after years of running its massive Oracle databases on HP-UX, it was time for a change. Oracle support for HP-UX was phasing out. Running HP-UX entailed other limitations as well. Travis Ackert, infrastructure manager at Appriss, says, “As a technology manager at Appriss, I look to avoid vendor lock-in. When we were on HP-UX, we were not only tied into Hewlett Packard for their software, but tied to the hardware as well.”

That was not the only issue. Ackert explains, “I had to assign two dedicated personnel to HP-UX and send them to special training.” One day, the unthinkable happened. Both HP-UX specialists were sent to a conference and were in flight when an HP-UX issue occurred. Although they were able to fix the problem from 30,000 feet, the handwriting was on the wall for HP-UX.

Appriss’s successful business growth and the resulting virtual and physical server expansion produced the third challenge. Ackert explains: “Every year we come up with maintenance tasks, a list that needs to be done just to keep things running. That list always includes patching the servers quarterly. A couple of years ago,

we were lucky to patch all of the servers every two years.”

## Solution

### Choosing Linux

In all of these cases, Appriss chose SUSE solutions. Due diligence in replacing its Windows servers revealed that Linux was the fastest and most efficient operating system for running JAVA-based applications. Appriss liked the affordable SUSE subscription model — and chose SLES to replace its Windows servers.

### Ensuring availability

To replace HP-UX as the operating system running its databases once again, Appriss chose SLES. Ackert says, “SUSE is based on open source and uses standards-based technology; there’s no vendor lock-in.” In addition, with SLES the entire Appriss IT team of nine could handle the SUSE OS.

What’s more, the price of a SUSE subscription was right and conducive to growth. “The SUSE unlimited virtual machine li-

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cense allowed us to scale cost-effectively by adding an unlimited number of virtual machines to a licensed physical server at no extra charge,” says Ackert. He also liked SUSE support. When the company migrated to SUSE Linux Enterprise, it had some performance issues with the databases. SUSE sent in high-end technical consultants who fixed the problem at no charge.

SUSE helped with other improvements, too. When Ackert joined the company, it was experiencing outages in its Citrix Xen hypervisor. The company switched to SUSE’s Xen hypervisor and purchased and installed the SUSE Linux Enterprise High Availability Extension (SLE-HA). This eliminated outages and improved uptime. The High Availability Extension sits on top of SLES and enables Appriss to create a robust, redundant virtual platform on two physical servers where Appriss has spun up many instances of SLES for individual services. If one of those two pieces of hardware were to fail, all the VMS running on it can be started up on the other system instantly – maintaining availability.

Today Appriss has 500 to 600 servers (a combination of physical and virtual machines) running the SUSE Linux distribution. These servers run the company’s JAVA applications, databases and web, FTP and

email workloads. Most of these servers are located in two data centers in Louisville, Kentucky. In addition, Appriss has been spinning up virtual instances to the Amazon Web Services (AWS) public cloud.

### Accelerating system management

The final piece of Appriss’ SUSE solution is SUSE Manager, which automates updating, patching, upgrading and configuring Linux servers across physical, virtual and cloud environments from a single console. When Appriss saw SUSE Manager at a SUSE event, the product immediately clicked as the remedy to the company’s time-consuming maintenance burden. Appriss bought and installed the product and today manages all its servers faster and more accurately with SUSE Manager.

### Results

Moving to SLES and SUSE Manager has produced measurable results as well as less quantifiable, but no less real, benefits. Replacing HP-UX with the SUSE Linux distribution as the operating system for its databases yield about \$80,000 in savings in Oracle licensing costs for Appriss. However, according to Ackert, “The

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big win and the savings are that I no longer need to have dedicated personnel assigned to HP-UX and send them to training. Now, if there’s a problem with a database server, all nine of my engineers know how to work with Linux so they can all jump in and fix it.” The result was greater operational efficiency and less risk of downtime — at no extra effort or cost.

Also quantifiable is the time savings generated by SUSE Manager. Ackert says, “SUSE Manager has improved our patching process dramatically. Before, I was lucky to get every server patched within two years. Instead of spreading out the patching among all the engineers, now I have one engineer who can patch all of them quarterly.”

Faster patching also means better security. “The initial reason to buy SUSE Manager was its ability to respond quickly to issues that need patches, such as OpenSSL vulnerabilities,” Ackert says. In one such incident, after SUSE rapidly sent the security patch, using SUSE Manager, a single member of the IT team patched the entire SUSE Linux environment in four

hours — and expressed surprise at praise from the company chief security officer: “I clicked 10 buttons in SUSE Manager and all the servers started patching themselves. I was done within four hours, so I don’t know what they’re thanking me for.”

High availability is another benefit. SLE-HA helps minimize unplanned as well as planned downtime. If one machine in a cluster has an outage, the extension switches processing to another machine in the cluster, preventing downtime. And Appriss is now looking at adding the SUSE Live Patching technology, which can patch servers without downtime.

Finally, a key benefit for Appriss is the flexibility they get from SUSE’s open source, standards-based technology. “SUSE is very adaptable,” says Ackert. “That allows us to build on top of SUSE as a platform. Appriss is now looking at some open source software that will allow it to move its virtual machines from one data center and network to another or to and from AWS and not be tied into a physical infrastructure. “It’s all about flexibility,” Akert says.

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## Benefits

- Unlimited VM expansion per server at no extra cost
- Improved security — with four-hour patching time for 500–600 servers
- Greater operational efficiency and less downtime risk—with 9 IT staff (versus 2) capable of servicing Linux
- Reduced patching time for all servers — from every two years to quarterly
- Cost savings of \$80,000 on Oracle licenses

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