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# Field Service Management in the Cloud

The Rise of Cloud Applications for Mission-Critical Tasks

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## Introduction

Since the introduction of cloud applications for customer relationship management in 1999, cloud architecture has become a driver of business innovation. Over the years, industry perception about on-demand solutions has changed from risky and inferior to viable and cost-effective. Today, cloud solutions run many mission-critical tasks for enterprises large and small.

Despite this evolution in technology and attitude, the field service management environment remains hampered by traditional software installations and manual processes. For many enterprises, system updates are often costly and cumbersome. With on-premises solutions and proprietary devices, implementing change means upgrading hundreds or thousands of machines, training staff, and having internal IT staff deploy updates over many months.

But there's another, better way to manage field technicians and increase efficiency while improving customer service. Cloud solutions are ideal for the mission-critical environment of managing field service workers and customer communications. The technology has no major up-front costs and is quick to deploy, and updates are easy and efficient. To remain competitive, service providers must embrace the power of the cloud or else risk failing their customers and losing revenue.

## The On-Demand Difference

As with so many industries today, field service is being driven by the speed of the internet. The divide between companies that embrace cloud solutions and those that remain on-premises grows wider with every new web-enabled smartphone used in the field or on-demand feature made available. An enterprise that utilizes cloud applications for field service scheduling, routing, and communications can realize previously unobtainable savings and efficiencies within a few months—as compared with years with traditionally installed applications. Web-based systems can also be updated immediately and can scale to match company growth without requiring major capital investment. The flexibility of cloud solutions allows them to be integrated with existing systems far more easily than installed applications.

Major benefits to cloud applications for field service management applications include

- » **Rapid deployment.** The typical implementation can be up and running in just a few months.
- » **Improved reliability.** Web-based systems have almost no downtime; they're always available.
- » **Reduced paper.** With 24/7 access to vital documents, cloud applications reduce paper consumption by delivering information via any internet-enabled device.

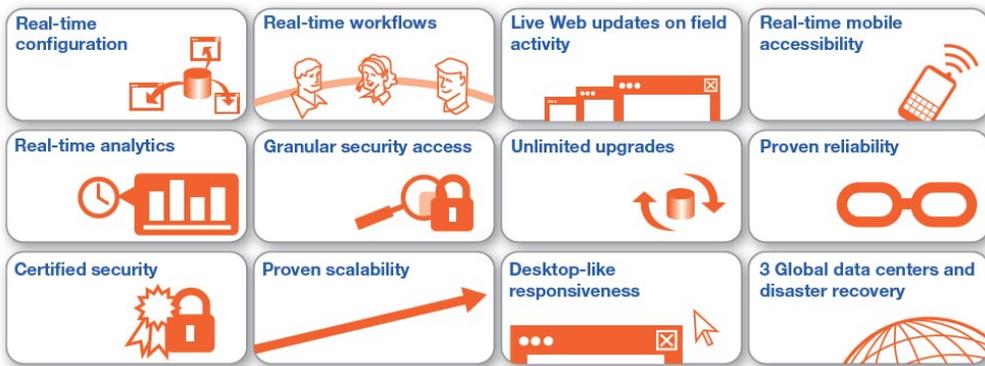


Figure 1. The advantages of cloud applications for field service management

## Total Cost of Ownership Versus Monthly Cloud Subscription

Conventional wisdom favors a model of owning software: after up-front investment and installation, the system is paid for. The cloud approach involves ongoing monthly payments rather than capital investment. Although conventional wisdom favors owning—which is one reason so many enterprises have outdated legacy systems—the total cost of ownership and long-term impacts on business must be considered.

Figure 2 illustrates a basic cost comparison between an installed system and a cloud system over 10 years. It is based on some flawed but common cost assumptions.

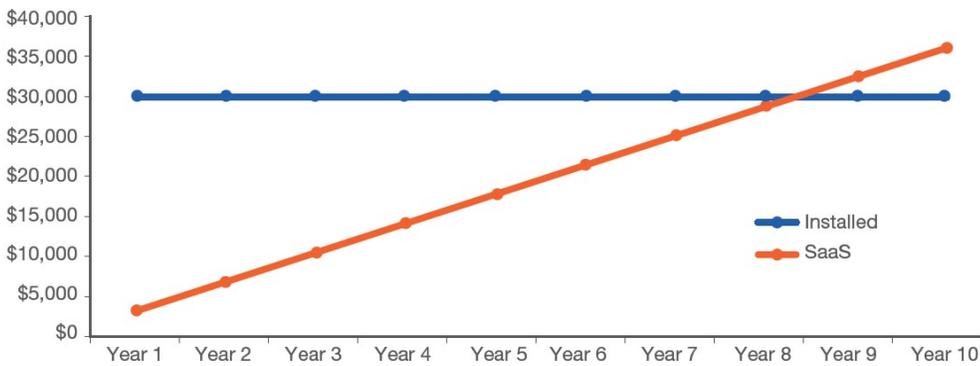


Figure 2. Using common assumptions about costs, the installed, manual system costs US\$30,000 versus the cloud system that costs US\$36,000.

According to Figure 2, an installed system has lower costs than a cloud system over time. However, there are several hidden costs of ownership for on-premises field service management software, including

- » **In-house IT support for repairs.** With cloud solutions, system support is part of the monthly fee. With multiple clients using the same software, problems are found more quickly and automatically repaired. On-premises software typically requires internal IT support, and repairs from vendors can be costly.
- » **Potential missed revenue.** Quick updates that cloud vendors provide can potentially improve efficiency, lower expenses, and increase revenue. But those opportunities are lost or slow to be realized with installed systems, and updates require more capital investment.

- » **Lack of accountability.** Once the software is installed, the software vendors are no longer involved in the business process. Because they've been paid, these vendors have low incentives to quickly make improvements or repair problems. With cloud solutions, the monthly subscription model holds vendors more accountable and forces them to continually improve the product and earn their fees.
- » **Difficult scalability.** Smaller enterprise service providers may have to buy systems larger than they need, and therefore overpay until they grow into the software. Likewise, installed software may become too limited as a workforce expands, and a new solution or expensive upgrade is required. Many cloud models work across all enterprise sizes, and have a fee scale based on number of users.

Now consider the model's true cost comparison, taking into account all the hidden costs associated with an installed solution. Figure 3 illustrates a more realistic cost comparison between an on-premises software installation and a cloud solution.

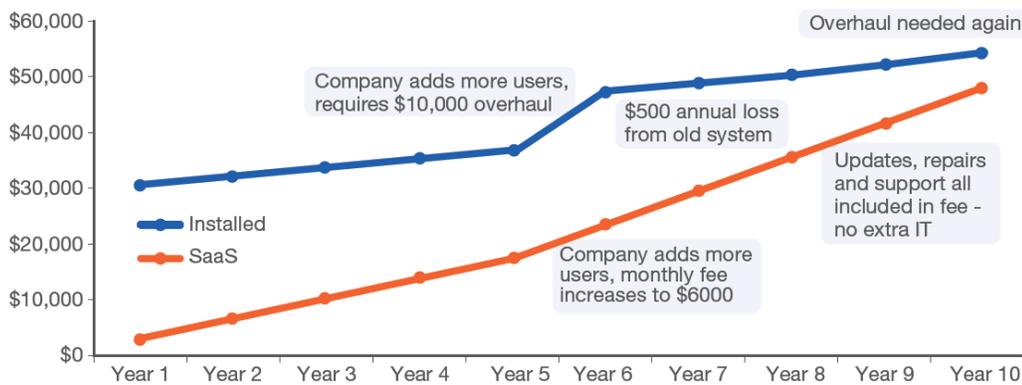


Figure 3. The installed, manual system costs US\$54,500 versus the on-demand, cloud system that totals US\$48,000.

## A Day in the Life of a Field Service Worker

A field service organization managed via a cloud solution works far more efficiently than one using an installed application. Consider the difference in Joe the Cable Guy's workday:

### Installed, Manual Application

Late in the evening, dispatch schedulers organize the next day's appointments manually. It's an ad hoc process, with general work zones assigned but little attention paid to criteria such as where Joe lives, his skill set, his optimal routing to reduce drive times, or an accurate idea of how long each appointment will take.

The routes are printed out, and in the morning Joe drives 15 miles to dispatch to get his schedule. Sometime mid-morning, a customer isn't home and Joe calls dispatch with the update—it takes 5 minutes to get through—before moving on to the next appointment across town. Meanwhile, a customer just down the street has called with an emergency and needs to be seen right away. The manual system can't connect Joe with the last-minute appointment, and an opportunity is lost.

Later in the day, Joe is running late, pushing back the arrival times for all his subsequent appointments. Dispatch doesn't know how long Joe's appointments will take, so they have no way to adjust his route and those of other technicians to meet the appointment times Joe will now miss. Frustrated subscribers phone the call center asking, "Where's my tech?" and dispatch can only provide a vague time frame. The results of this negative cycle are reflected in customers' poor perception of Joe's employer.



## Cloud Application

The automated scheduling software takes all the appointments for the next day and evaluates them against Joe's individual work history and skills, appointment locations, and promised times to customers. The system then creates schedules and routes in just a few minutes. Depending on the solution and the client, schedules for 10,000 workers could be developed in less than five minutes.

In the morning, Joe logs in to the cloud system from home to get his schedule and route. No need to waste time and gas going into the main office for a paper copy. The route has been optimized with Joe's home address in mind and is available on-demand from his smartphone, tablet, laptop, or any web-enabled device. When he's ready, Joe clicks a button in the system to notify dispatch and begins his workday.

The system accurately predicted that his first appointment would take 30 minutes, and Joe clicks a button when he starts and when he's done to let dispatch know the job was completed on time. A follow-up survey is sent to the customer, while Joe's history is updated with the appointment information for future scheduling.

The next appointment is more complicated than expected. When Joe realizes this, he immediately adjusts his schedule to reflect the extra hour he'll need to finish the job. In real time, dispatch gets the update and realizes that it will delay two subsequent customer appointments. From one master screen, dispatch compares the schedules and routes of other nearby technicians and sees a gap in Mike's day. Dispatch moves the appointments to Mike's schedule, and Joe and Mike immediately see the revisions. Both technicians continue with their day, using the cloud system to update dispatch as they go. Subscribers have shorter wait times and are happy to have proactive communications and follow-up. Joe completes more appointments and enjoys being thanked for arriving on time, while dispatch knows everything going on in real time and can make adjustments as needed.

## Conclusion

### Benefits to Enterprises

In today's competitive environment, operational efficiencies and excellent customer service are key differentiators. Cloud applications allow service providers to constantly improve their systems and quickly take advantage of new technologies. Cloud architecture also provides a lower total cost of usage, with automatic updates, scalability, and high vendor accountability.

Depending on the cloud solution deployed, service providers can

- » Increase daily job completion rates by 40 percent
- » Improve on-time performance by 30 percent
- » Reduce dispatch staff by 45 percent
- » Decrease miles driven by 40 percent
- » Cut overtime by 75 percent
- » Improve customer satisfaction to 90 percent
- » Reduce inbound "where's my tech?" calls by 50 percent

### Benefits to Field Service Employees and Contractors

Cloud solutions for field service management save field technicians time and reduce work frustration. By providing a system available 24/7 via the web, field service workers can access and update their schedules right from home, eliminating the need to report to the main office. They also can easily communicate with dispatch in real time via the online system, alleviating the need to call in for manual schedule updates.

Many installed programs require expensive proprietary devices and up-front license fees. The cloud model allows field service employees and subcontractors (a majority of the workforce for enterprises in many industries) to access their daily schedules and routes, as well as communicate with dispatch in real time, from any web-enabled device. Cloud systems also automatically apply updates—no installation of patches or manual upgrades required, so technicians are always working from the same system as dispatch.

### Benefits to Customers

Customers also benefit when enterprises use a cloud solution for field service management. By providing dispatch and field service workers with a web-based, real-time system for managing schedules and routing, companies can increase on-time appointment arrivals and complete more service calls daily. That means customers wait less and have a better overall customer service experience.

Because updates are immediate, the process is simplified for enterprises that want to create consumer websites for tracking technicians. This can improve customer-technician-dispatch communication and drastically reduce customer frustrations.

**TABLE 1. BENEFITS TO CUSTOMERS**

| <b>Benefit</b>        | <b>Cloud Solution</b>              | <b>On-Premises, Installed Solution</b>    |
|-----------------------|------------------------------------|---|
| <b>Cost</b>           | Low up-front; monthly subscription | High up-front; internal IT support        |
| <b>Deployment</b>     | 3–4 months                         | 12–18 months                              |
| <b>Updates</b>        | Applied automatically              | Installed manually                        |
| <b>Reliability</b>    | 99.9 percent uptime                | Varies based on system and support        |
| <b>Devices</b>        | Any web-enabled                    | Proprietary or specific operating system  |
| <b>Support</b>        | Included in subscription           | Servers and IT staff paid for by company  |
| <b>Scalability</b>    | Pay per user, one size fits all    | System may be too big, or can be outgrown |
| <b>Accountability</b> | High; vendor must earn monthly fee | Low; vendor is paid up-front once         |



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