Clearing up the Cloud Haze
Selecting the Right Staffing and Scheduling Technology for your Healthcare Organization

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OPTIONS FOR CONTROLLING COSTS

The rollout of the Affordable Care Act is causing considerable anxiety for healthcare organizations. While all of the implications of the Act are not yet clear, the need to control costs is a given. For most healthcare organizations, staffing is the largest non-capital expense, and therefore, a prime candidate for cost-saving consideration. Many organizations are turning to automated staffing and scheduling technology as a means to better utilize this expensive resource, and to thus drive down costs.

One area of strong interest for implementation of healthcare technology is cloud computing. Research firm MarketsandMarkets predicts that the overall health care cloud computing market will grow to $5.4 billion by 2017. Unfortunately, there is a lot of confusion surrounding what cloud computing is and how it compares to other forms of application deployment. This paper will clear up the current hazy notions about deployment options, including on-premise, remotely hosted, Cloud and SaaS, and will discuss the benefits and drawbacks of each approach so you can make an educated decision on what is right for your organization.

Defining the Options
An important place to start for any discussion of cloud computing or other deployment options is a definition of terminology. One of the causes of the confusion in terminology is that where the application resides is often mixed up with how it is paid for, so let’s start there.

There are basically two options for where the application will reside—it will either be on-premise, meaning physically located on the organization’s computer hardware network, or remotely hosted, meaning the application is run off-site on hardware servers belonging to a third party hosting service.

How you pay for the applications and related services can be a little more complicated. Generally, you either purchase the application through a license agreement that gives you the right to use the application for a set timeframe, or you lease the application for a specified period of time, such as three or five years, for which you pay a specified amount each month or quarter. Under a license agreement, there is typically a large upfront payment followed by optional, smaller yearly fees for support, maintenance and enhancements. Under the specified period lease, there is normally little or no upfront costs and the monthly fee includes support, maintenance and enhancements.

Where the application resides

<table>
<thead>
<tr>
<th>ON-PREMISE</th>
<th>REMOTELY HOSTED</th>
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<tr>
<td>Application is physically located on the organization’s computer hardware network.</td>
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</table>
How you pay for the application

LICENSE AGREEMENT
Right to use the application. Large upfront payment followed by, smaller yearly fees for support, maintenance and enhancements.

LEASE THE APPLICATION
Lease for a specified period of time, such as three or five years, for which you pay a specified amount each month or quarter. Normally little or no upfront costs and the monthly fee includes support, maintenance and enhancements.
Clearing Up the Cloud Haze

Here is where the complications and confusion come in. Some people refer to the leased application approach as Software as a Service (SaaS), while others refer to it as Cloud computing. But the two terms do not mean the same thing.

Research firm Gartner defines cloud computing as “a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service to customers using Internet technologies.” Gartner then further defines SaaS as one of several cloud computing options. Under Gartner’s definition, remotely hosted applications as well as applications delivered through SaaS fit the cloud computing definition. Therefore, for the purposes of this paper, we will define the three deployment options as on-premise, remotely hosted and SaaS. Cloud computing covers both remotely hosted and SaaS-based application deployments.

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CLARIFICATION ON CLOUD COMPUTING

Research firm Gartner defines cloud computing as “a style of computing in which scalable and elastic IT-enabled capabilities are delivered as a service to customers using Internet technologies.”

CLOUD COMPUTING

Remote Hosted

- Vendor-supplied implementation
- Operation and upgrades
- Software ownership

SaaS

- Faster implementation
- Little or no capital expense
- Frees up internal IT resources
A January 6, 2014 Information Week article cited research from MarketsandMarkets that estimated the North American health IT market would grow at a compound annual growth rate of 7.4%; reaching a total value of $31.3 billion in 2017, compared to $21.9 billion in 2012. The MarketsandMarkets report also stated that the value of the US market, which accounts for nearly three quarters of North American HIT revenue, will rise to $22.6 billion in 2017 from $15.9 billion in 2012.

And a lot of that healthcare technology will be deployed in the cloud. According to a recent report by CDW, the market is showing an upward trend, as 39% of organizations are implementing or maintaining a cloud solution. This is up from 28% in 2011. Even more impressive are the findings of a KLAS Research survey that reveals 71% of health care providers were deploying or planned to deploy cloud technology. However, the report does caution that despite the large percentage, many health care providers are actually uncertain what cloud computing is and how it can be used. Therefore, while cloud adoption is rising, it is important to understand each deployment option and select the one that best meets your healthcare organization’s unique needs and requirements. We’ll start by examining the benefits of each approach.

### Comparing Deployment Options

<table>
<thead>
<tr>
<th>Where the application resides</th>
<th>Deployment Options</th>
<th>How you pay for the application</th>
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<tbody>
<tr>
<td>3RD PARTY SERVER</td>
<td>SAAS</td>
<td>LEASE</td>
</tr>
<tr>
<td>3RD PARTY SERVER</td>
<td>REMOTELY HOSTED</td>
<td>LICENSE</td>
</tr>
<tr>
<td>YOUR NETWORK</td>
<td>ON-PREMISE</td>
<td>LICENSE</td>
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Staffing and Scheduling

Benefits of SaaS Deployment
Many companies are turning to SaaS deployment of new applications because they are often faster to implement with little or no capital expense and do not unduly tie up in-house IT resources. Some specific benefits of this approach include:

- **Minimal Set-up Costs** – Little or no upfront license fees or hardware costs are involved.
- **No Capital Expense** – Costs can be expensed as incurred as part of operating expense.
- **Faster Implementations** – Applications are often implemented in weeks rather than months using healthcare industry templates.
- **Limited IT Costs** – Internal IT resources are limited to providing any necessary integration to in-house systems. On-going operation, support, upgrades and maintenance are provided by the vendor.

- **Equipment** – Only internet access is required. All back end computing hardware, system back-up and data-base storage is handled by the vendor.
- **System Currency** – The vendor keeps the applications up-to-date with all maintenance and enhancements so you are always operating with the most recent version, with no upgrade costs or latency.

Clearly, SaaS deployment has many benefits that make this approach attractive for healthcare organizations. Read why Baylor Scott & White Health — Central Texas selected a SaaS solution to meet their scheduling needs.

SaaS – Baylor Scott & White Health — Central Texas
The central division of the recently merged Baylor Scott & White Health (BSWH) is one of the nation’s largest multi-specialty group practices. It includes 12 acute care hospital sites, one emergency hospital site, and more than 140 clinics at more than 70 primary care and specialty clinic locations. The scope and size of the organization exponentially increased the challenge to meet the fiscal demands of rising labor costs and improve employee engagement without compromising patient care.

Several members of the leadership team joined together to embark on a search to find the right staffing and scheduling technology that would be easy to use, provide the organization with the ability to share staff across the enterprise, provide transparency, be quick to implement and have minimal impact on their internal resources.

The team at BSWH – Central Texas found the answer to their demands with API Healthcare’s web-based staffing and scheduling solution which incentivizes shared governance through self-scheduling and visibility to qualified open shifts. Intrinsic to SaaS technology is the speed to implement, as well as the unique ability to interface with other technologies, even ones from different vendors.

API Healthcare was able to exceed BSWH - Central Texas’ expectations by executing against a rapid time line achieving implementation within 30 departments in just 11 weeks, and a total of 120 departments in nine months.

“We asked API Healthcare to deliver 30 departments in 11 months, which we felt was very aggressive,” said Jeremy Pelley, IS director business and corporate applications. “What we received by far exceeded all expectations. Part of that can be attributed to the nature of SaaS technology, but without the team and excellent service delivered by API Healthcare, it would have been next to impossible to achieve such a large number of implementations in such a short period of time.”

With API Healthcare’s web-based solution, BSWH – Central Texas has technology that provides a holistic view of their entire workforce. Critical information such as professional credentials, hours worked and expertise are shared across the entire organization, which helps ensure the most effective and efficient use of staff. The SaaS solution provided BSWH – Central Texas low upfront costs, minimal work for internal resources and quick implementation requiring less time spent on implementation and training.
El Centro Regional Medical Center (ECRMC) is an acute-care organization, which has been serving the health care needs of the Imperial Valley in California since 1956. Over the years their facility has grown to 161 beds with over 1,000 employees. This independent, rural hospital is located at the south end of the San Andreas Fault, east of San Diego. According to the U.S. Geological Survey (USGS), one of the strongest threats for earthquakes along this fault line is in El Centro, and therefore, designated as a very high risk area.

In April, 2010, El Centro took a direct impact from a major earthquake with a 7.2 magnitude - equivalent to 32 times the strength of an atomic bomb. The primary data center that housed the critical ECRMC workforce data was hit with significant damage causing the building to be condemned.

Employees and departments were forced to move to remote locations throughout the community and the IT servers were relocated into a temporary mobile data center. It took over 13 months of demanding and tedious work to recover and migrate the essential workforce management data and systems.

For ECRMC, these events brought on the realization that the data must be remotely hosted at a location outside the San Andreas fault-zone and any other type of area threatened by impending disaster. The physical remote data center would provide additional data protection with features like redundant power supplies, fire suppression systems, strong physical security and raised floors. In addition, remote services would help avoid additional costs to expand the IT team to manage the database and system updates. After evaluating the cost of adding just one database administrator including salary and benefits, remote hosting proved to be the most cost-effective option.

“We realized remote hosting was the most effective answer for providing high levels of disaster preparedness that could not be provided or afforded through our IT infrastructure,” said Alex Wells, chief financial officer, El Centro Regional Medical Center. “After embracing the API Healthcare remote hosting technology we not only ensure ECRMC data integrity, but the cost of the monthly service fee is offset by the time, money and resources saved resulting in a strong return on investment.”

Since 2011, API Healthcare remote hosting and services have been a winning solution for ECRMC protecting critical workforce data from a major earthquake that is sure to come.
Staffing and Scheduling

Benefits of On-Premise Deployment

Traditional implementation of applications on-site at your facilities is also a viable option and has its own unique advantages, such as:

- **System Control** – You have full access and control over the system and data files so you can use them however best meets your unique needs.

- **Data Security** – You retain complete control over your data without any third party access to confidential information.

- **Functional Fit** – You own the applications so they can be tailored to your exact needs.

- **IT Support** – You have complete control over operation of your systems, including when upgrades or maintenance are applied.

- **Lowest Cost of Ownership** – While upfront costs are higher, on-going maintenance costs will be less than either SaaS or remotely hosted options.

For some healthcare organizations, system control and data security are sufficient reasons alone to warrant on-premise deployments. But it is important to fully understand your organization’s requirements, preferences and investment policies in order to make your deployment proposal acceptable to the executive team.

On-Premise – Ellis Medicine

Located in upstate New York, Ellis Medicine is one of the largest providers serving the Albany, Troy and Schenectady communities. The product of a state mandated consolidation of three area hospitals, Ellis Medicine is comprised of four campuses and ten additional service locations. With 438 beds, Ellis supports a workforce of 3,400, plus 600 affiliated physicians.

Fully aware of the impact on staffing the consolidation of three hospitals would have, and how it might disrupt the patient experience, the leadership team at Ellis Medicine developed a specific plan designed to tackle retention, recruitment and engagement. The selection of the right integrated workforce management system was the cornerstone of that plan.

“We liked that API Healthcare’s solution was developed specifically for healthcare and that we were able to build our solution to our specific challenges, which included maintaining complete transparency and creating accountability across the entire organization, at every level,” says Paul Milton, executive vice president and COO of Ellis Medicine.

Ellis Medicine experienced tangible results from implementing the API Healthcare workforce management system on-premise, including a reduction in overtime expenses resulting in a savings of almost $2 million and they had a significant decrease in unscheduled absences.

Sara Zappi, director of human resources at Ellis Medicine comments, “With help from API Healthcare, we are a single aligned organization that has achieved financial viability without compromising quality of care. We have also achieved high employee satisfaction scores, which is remarkable considering this was accomplished during a time that is traditionally disruptive to employee morale. Having state of the art technology to drive an engaged workforce allows us to support our entire team today and in the future.”
FITTING DEPLOYMENT OPTIONS TO YOUR NEEDS

While cloud deployments are getting lots of hype, and may turn out to be right for your organization, it is much more important to examine your organization’s requirements and policies before making that assumption. Proper analysis upfront can save a lot of headaches down the road. Here are some key areas you should examine in order to make an educated decision on deployment options.

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<thead>
<tr>
<th>System and Data Control</th>
<th>Deployment Recommendations</th>
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<tbody>
<tr>
<td>My organization requires internal control of all systems and data</td>
<td>On-premise</td>
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<tr>
<td>My organization allows external management of systems and data with trusted partners</td>
<td>Remotely Hosted, SaaS</td>
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<tr>
<th>Implementation Resources</th>
<th>Deployment Recommendations</th>
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<tr>
<td>My organization has sufficient, qualified resources to implement systems in-house</td>
<td>On-premise</td>
</tr>
<tr>
<td>My organization lacks sufficient, qualified resources to implement systems in-house</td>
<td>Remotely Hosted, SaaS</td>
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<tr>
<th>IT Support</th>
<th>Deployment Recommendations</th>
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<tr>
<td>My organization has a full IT team dedicated to managing and maintaining all of our systems</td>
<td>On-premise</td>
</tr>
<tr>
<td>My organization has a limited IT team that is pulled in many directions</td>
<td>Remotely Hosted, SaaS</td>
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<th>Budgeting and Capital Expense</th>
<th>Deployment Recommendations</th>
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<tbody>
<tr>
<td>My organization has a capital expenditure budget allocated for a new system</td>
<td>On-premise, Remotely Hosted</td>
</tr>
<tr>
<td>My organization does not have a capital expenditure budget and would prefer a monthly payment plan</td>
<td>SaaS</td>
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</table>
SELECTING THE RIGHT VENDOR

Equally important to selecting the right deployment approach that best meets your organization’s requirements is selecting the right vendor to partner with on your chosen path. This is especially critical if you choose the remotely hosted or SaaS approaches since you will be inextricably linked during the duration of the contract.

Here are some criteria to consider when evaluating vendors to partner with on this journey.

• **Vision for the Future** – The healthcare industry is changing so rapidly that any system implemented today must be quickly adaptable to future needs. This requires a vendor who has a realistic vision of the future based on deep expertise and long track record in the healthcare industry, and who has therefore developed systems that are agile and adaptable to likely changes.

• **Strong Client References** – No matter how good a vendor’s presentation or system appears, the real telling point is how well they have been able to implement and service other healthcare clients with requirements similar to yours. Talk to several of each vendor’s clients. Ask industry analysts about the vendor’s clients they have spoken with. Make sure you have a full picture of how, and how well, the vendors have solved problems just like yours.

• **Healthcare Expertise** – Critical care needs, 24/7 operations, highly-trained and specialized staff — healthcare is like no other business. Don’t settle for a generic solution built for other industries. Similarly, don’t put your trust, and your future, in the hands of any vendor who does not have specific healthcare experience and expertise.

• **Excellent Client Service** – Whether it is understanding your strategic business needs, providing guidance on leading practices, successfully managing an on-premise implementation, maintaining 24/7 up-time for your remotely hosted system, or ensuring your SaaS-based deployment is always up-to-date and accessible, client service is a huge factor in whether your system will be a long term success. Make sure this aspect of the selection process is delved into in some detail during each of your client references.

“With help from API Healthcare, we are a single aligned organization that has achieved financial viability without compromising quality of care.”

Sara Zappi, director, human resources, Ellis Medicine
CLEARING UP THE CLOUD HAZE

As you look for the right staffing and scheduling solution, or any other workforce management solutions, for your healthcare organization, make sure you go beyond all the hype and examine the real factors that will drive long term value and success.

While cloud solutions are all the rage at the moment, and have some important advantages, they are only one of your deployment options. Make sure you understand the terminology vendors are using and match the deployment options to your healthcare organization’s unique requirements, preferences and investment policies. Then carefully research the vendors to learn which has the healthcare expertise, vision, service and track record to be the best long-term partner. Once you make the effort to get past the initial haze, cloud or otherwise, you’ll be able to select the best deployment option and vendor for your unique needs.

References

1 Brian T. Horowitz, Cloud Computing in Health Care to Reach $5.4 Billion by 2017: Report, eWeek, July 6, 2012


3 Ken Terry, Health IT Growing Rapidly Through 2017, InformationWeek, January 6, 2014


5 Brian T. Horowitz, Cloud Computing in Health Care to Reach $5.4 Billion by 2017: Report, eWeek, July 6, 2012
ABOUT API HEALTHCARE

API Healthcare (www.apihealthcare.com) is focused on workforce optimization solutions exclusively for the healthcare industry. The company's staffing and scheduling, patient classification, human resources, talent management, payroll, time and attendance, business analytics, and staffing agency solutions are used by more than 1,600 health systems and staffing agencies.

Founded in 1982, API Healthcare has been rated by KLAS in the Top 20 Best in KLAS Awards Report (www.KLASresearch.com) as the top time and attendance provider system for the last 12 years (2002-2013) and the top staffing and scheduling solution in 2012 and 2013.

Bryan Dickerson, Director of Product Management, oversees the design and development of all API Healthcare software and hardware. His priorities include the migration to new technologies, team building and strategic product expansion. He joined API Healthcare in 1989 as a programmer and has been integral in many corporate initiatives. Bryan has a Bachelor's degree in Computer Information Systems from the University of Wisconsin, Stevens Point and is a member of the Healthcare Information and Management Systems Society (HIMSS) and the College of Healthcare Information Management Executives (CHIME).

API Healthcare was named category leader in 2013 Best in KLAS awards for

- Staff/Nurse Scheduling
- Time and Attendance