Leveraging Hosted IT Infrastructure: In Support of IT and Clinical Care

Even though many healthcare providers are hesitant to allow a third party to host their critical data, this option empowers many providers with a stable IT environment as a means to meet CMS, HIPAA, Meaningful Use and other regulatory requirements.
While many vertical industries have enlisted third parties to host their critical IT systems, historically the healthcare industry has been slow to outsource its IT infrastructure. Healthcare delivery organizations (HDOs), in particular, have been reluctant for regulatory and business reasons. Fear of not being in compliance with privacy and security requirements under HIPAA (Health Insurance Portability and Accountability Act), the Department of Health and Human Services' Office for Civil Rights and the Joint Commission has been a major barrier. By applying Total Cost of Ownership (TCO) methodology, HDOs have determined that hosted services are not necessarily less expensive than on premise installations. Even emotional factors have impacted the decision-making process, with IT directors and their departments believing that their influence in the organization will be reduced if their resources are reduced.

**Healthcare transformation driving a paradigm shift**

While these concerns still exist, the paradigm is shifting from having HDOs' IT infrastructure managed in-house to being hosted in the cloud by third parties. The shift is being driven in large part by the current healthcare transformation to improve the quality of care in a cost-effective way. The recent HIPAA omnibus rule, which – among other things – expands the list of companies and individuals who must now be treated as business associates, puts the onus of ensuring security on cloud providers. Under the rule, cloud providers that do not sign business associate agreements (BAAs) are not exempt from responsibility if breaches occur on their network. HDOs are concluding that outsourcing is less risky now that security rests on the cloud providers.

The perception of cloud computing is changing. IDC Research’s report, U.S. Healthcare Provider Predictions for 2014, revealed that the majority of CIOs participating in its survey felt that they could provide better security in the cloud than they could in their on-premise deployment. As a result, adoption to the cloud is “flourishing,” according to IDC Research Director Judy Hanover, in an interview with Healthcare IT News. KLAS’s Cloud Computing Perception 2013 report also highlighted that survey respondents who use the cloud gave it an average satisfaction score of 4.5 out of 5 on security. That satisfaction is translating into more trust and value being put in the technology itself. Indeed, Porter Research’s September 2013 report, Healthcare Industry Reaches Tipping Point: CIOs Now Demand the Cloud for

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**Checklist: Assets of a Robust Hosted IT Infrastructure Provider**

**Medical Grade Data Center Infrastructure:**

- Security: 24x7x365 manned video surveillance, monitored, internal and external; three-factor security; multiple tiered access points; security logs.

- Modern fire suppression

- Redundant power: geo-redundant power grids powering redundant power supplies, N+1 or greater backup power generation, thoroughly maintained, load tested weekly and failover tested monthly, and ability to proactively switch hospital systems before a risk event hits.

- Redundant cooling: enterprise-class HVAC units, N+1 or greater system redundancy, thoroughly maintained, hot aisle/cold aisle 24-inch raised floor providing optimal cooling.
Shared Savings and Interoperability, revealed that 58 percent of the nation’s leading healthcare executives place a high importance in cloud-based technologies.

Aside from HIPAA regulations, federal mandates such as Meaningful Use and the transition to the ICD-10 code set are also driving this paradigm shift. These mandates are requiring HDOs to input and extract more data and turn that data into meaningful, actionable information. As a result, demands on HDO infrastructure capabilities have increased dramatically over the last five years, according to Todd Forgie, vice president of Hosted & Managed Services for MEDHOST, market-leading provider of enterprise, departmental and healthcare engagement solutions to more than 1,000 hospitals. “Over the last 20 years, the median age of hospital plants has gone up by 28 percent,” he said. “We’re not investing there. Our data centers aren’t getting better. And yet the requirements that are involved here are exponentially greater. We have a real divergence in terms of capabilities and requirements.”

With such a high demand for more robust capabilities, investment in data centers is required to achieve economies of scale. However, with HDOs operating on margins of two to three percent, according to Forgie, making significant investments in IT infrastructure is cost-prohibitive. More importantly, he pointed out: “It’s not core to what a hospital is doing: It’s not patient care and it’s not a new service line. It’s just not an area of investment.”

Valley Regional Hospital: Hosting to maximize resources

As the paradigm shift continues its course, HDOs are discovering numerous benefits to outsourcing their IT infrastructure. Valley Regional Hospital, a 25-bed community hospital in Claremont, NH, is leveraging a hosted IT infrastructure to achieve its goal of replacing its legacy IT system to redirect maximum resources to patient care. Previously, the hospital, which is the only critical-access hospital in the state to be accredited by The Joint Commission, was challenged with ensuring that its IT staff of 4.5 full-time employees could support its users. “We have become so reliant on clinical systems to help us make sure we are providing the right care to the right patient at the right time every time,” said Peter J. Wright, president and CEO. IT staff, therefore, was “like a physician to the patient” and needed to become a true 24-by-7 operation. While equipped with pagers, the IT department

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**Checklist: Assets of a Robust Hosted IT Infrastructure Provider**

**Medical Grade Hosted EHR Services:**

- ✓ Enterprise networking team availability
- ✓ Highly trained and skilled system engineers with deep operating system, hardware and EHR application experience
- ✓ 24x7x365 help-desk staffing to handle routine help-desk calls
- ✓ Software release management
- ✓ Hardware and operating system patch management
- ✓ Application security
- ✓ Advanced physical security
- ✓ Monitoring of day-end and month-end reporting
- ✓ Dedicated customer support contacts and teams

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was staffed for daytime needs only. When an outage occurred after hours, physical travel by IT staff from home to hospital resulted in downtime. Since moving to a hosted model through MEDHOST, Valley Regional Hospital boasts an uptime of 99.5 percent, according to Wright.

While the IT department gave up ownership of its IT infrastructure, it gained peace of mind and valuable time by transferring responsibilities to MEDHOST, which comprises a highly skilled team of system engineers and dedicated customer support contacts and teams. By relying on MEDHOST’s medical grade data center infrastructure and EHR services, security, fire suppression, power and cooling, Wright noted, “We don’t worry about technology upgrades anymore. The backend maintenance system is in the hands of experts whose professional reputation is at stake.” Previously the IT department’s legacy systems were always several releases behind as a result of a lack of confidence in release management. Likewise, patch management was delayed because of fears of the impact on operations and potential downtime. “In short, I’ve shifted the headache to somebody else,” he said.

The shift has afforded the IT staff a clearer understanding and a greater focus on its roles and responsibilities. The expertise to work on multiple hardware and operating systems and increasingly complex clinical applications now rests on MEDHOST. By spending more time getting clinicians trained on the electronic health record (EHR) system, for example, the IT staff has helped drive clinician adoption and proficiency. “They really feel like they have a hand in providing care – helping those who help others every single day,” Wright said. By creating a culture focused on helping providers, which has been rewarding and satisfying for the staff, the IT department has experienced no turnovers in the last five years. Not only does this save costs, it also retains institutional knowledge in the department.

MEDHOST’s hosted IT infrastructure has also helped Valley Regional Hospital meet federal mandates and prepare for future requirements. Despite a late start hampered by financial constraints, the hospital was one of the state’s first hospitals to attest to Meaningful Use Stage 1 criteria. Besides freeing IT staff to provide comprehensive EHR training to clinicians, hosting enabled speed to market with its EHR deployment. “Rapid and highly structured implementation helped increase the use of our EHR to achieve core measures for Meaningful Use Stage 1,” Wright said.

**Cost equation supports hosting**

With industry predictions pointing to a 20 percent drop in healthcare revenue over the next five years – and hospitals already operating on slim margins – being cost-efficient with resources is critical. MEDHOST covered Valley Regional
Hospital's system improvement costs, which helps to reduce spikes in the hospital's IT spending while at the same time providing the latest technologies. The community hospital also realized that hosting reduced its financial risk for future investments that may be required by regulatory agencies as Meaningful Use continues to evolve and as value-based purchasing becomes more prevalent. “[With hosting], we know it’s very predictable what our expenses are going to be every year,” he said.

Forgie contends that the TCO tactical approach is flawed, as it does not take into account soft costs – such as lost business user productivity as a result of downtime or inability to get systems deployed rapidly to meet federal mandates - which are not easily quantifiable.

He recommends that HDOs conduct a strategic fit analysis that maps out their best pathway, which includes a PESTLE approach of looking at the political, economic, social, technological, legal and environmental factors within an HDO and a SWOT approach that analyzes an HDO’s strengths, weaknesses, opportunities and threats.

HDOs all face numerous challenges such as inadequate IT staffing for complex systems that are being required to meet current and future federal mandates and shortened hardware upgrade and replacement cycles. As a result, they must make strategic decisions regarding cost-efficient capital and operational spending. Referencing consulting firm A.T. Kearney’s procurement analysis, Forgie recommends outsourcing for noncore IT capabilities such as application management and IT management, which are not a key competitive differentiator and do not provide a significant increase in competitive advantage from future investments.

In support of the patient

Forgie pointed out that more and more HDOs are moving to outsourced solutions as acceptability of hosted IT infrastructure continues to grow. “Part of the reason they’re moving in is not only because it’s becoming more acceptable now, but I know that future forward this is the place for me [HDOs] to be,” he said. But at the heart of the matter - especially for Valley Regional Hospital - the decision to shift has always been patient-centered. “To me, every single day I make sure that my team doesn’t lose focus about why we’re there: it’s the patient. We’re there for the patient,” Wright emphasized. “I’m there to make sure that the managers and the senior managers have everything they need so that they can take care of the staff on the front line. It’s all about the staff on the front line taking care of the patient.”
Multiple layers of physical security ensure only authorized resources gain access to the equipment. Multiple generators and uninterruptible power supply systems, connected through an automatic transfer switch, allows for power system maintenance without downtime requirements.