

## Behind the Clouds: Interoperability and Physician EMRs

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There is a fast-growing body of information out there on cloud computing and its emergence as a compute utility for both public/Internet and privately-hosted applications. If you haven't read much about it yet, let me (as principal author and editor of same) shamelessly recommend a whitepaper that Dell Perot Systems is creating about the emerging role of cloud computing in healthcare information systems. This potentially useful document is in the final edit stages and we will send you a copy at your request. Just click here and let us know: [meditechsolutions@dell.com](mailto:meditechsolutions@dell.com)

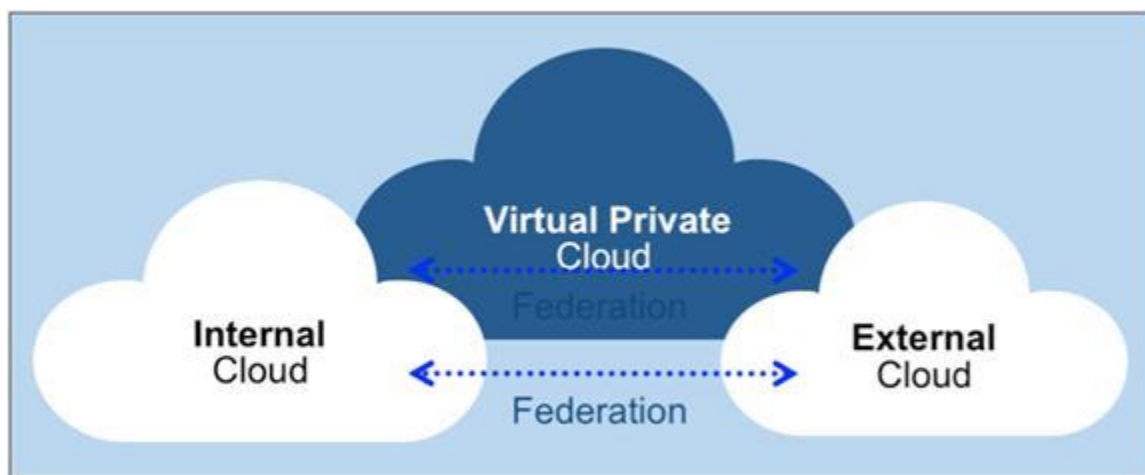
Today, I'd like to spend a little time on Interoperability and Physician EMRs that are being deployed both as traditional hosted applications as well as in a cloud model.

### What Is Cloud Computing?

"Cloud Computing" is the unfortunately vague term we're all using today for any application or technology infrastructure, from online banking and healthcare portals to remote backup and full blown disaster recovery, that's delivered as a service to end users through either a public or private network.

The infrastructure components of a cloud—the IT backroom you don't see when you consume a service—is a remarkably simple, disciplined approach to technology management which used to be called grid utility computing. Grids are intentionally simple networks of processors, storage, and memory, virtualized to the greatest degree possible, scaled for economy, and usually managed behind a single pane of glass.

Grids to support clouds are what Google has built for years. Dell Services builds them today to support services like JSite for Disaster Recovery and MSite for MEDITECH Hosting. And they're also what we are recommending our customers build for on-site infrastructure as they evolve their data centers to support advanced clinical applications.



*Diagram courtesy of VMware, Inc.*

## **My Cloud or Yours?**

This “internal cloud” you might consider building will let you take advantage of reduced operational costs through virtualization and pooling of critical resources. More importantly, it will position you eventually to dynamically access or “federate with” services in external clouds on private networks—or with the Internet through a series of secure API’s and network protocols being developed and released at a breakneck pace. It is probably not an unreasonable prediction that many common, minimally-customized utility applications like e-mail, back office automation, customer mailing lists, quality review, and drug interaction checking—to name a few—will be sourced by hospitals and healthcare providers via cloud-based utilities rather than internal data centers. This trend will be driven by simple economics, as well as operational clarity and mission focus. When acquiring the application “over the wire” is just as good and costs the same as doing it in-house, the service will move out into the cloud, and may never come back. Nonetheless, some healthcare IT applications, either for reasons of customization, privacy, or security, will likely always stay in private clouds.

## **ARRA you ready?**

As deadlines loom for implementing Physician EMRs and true EMR interoperability within communities of care in the United States, some hospitals and healthcare providers are taking a hard look at gaining fast compliance—and maximum reimbursement—by subscribing to pre-built HIEs, or Healthcare Interoperability Exchanges, and Physician EMRs offered as cloud-based services, also known as the “SaaS” or Software-as-a-Service model. There are a lot of potential benefits to both approaches.

**Healthcare Interoperability Exchanges—** There is much that must be done to ensure the smooth flow of data from the physician’s office to the hospital, to the pharmacy, to the outpatient clinic, to the Personal Health Record. HIEs often involve the complex configuration of database middleware, interface engines, record locator services, continuity of care records, Physician EMRs, and hospital-based EMRs. For most hospital IT departments, these HIE’s will be complex startups leveraging specialized knowledge that will generally need to be acquired from the outside and will likely never be used again once a stable applications environment evolves. Developing this highly specialized expertise for a one-off project with some ongoing maintenance is an “interesting” project at best, and a distracting and draining project at worst. Pointing your network interfaces over a VPN to a secure, cloud-based service run by HIE specialists and offered to you at virtually no risk for a monthly fee could make a lot of sense.

**Physician EMRs—** The partial relaxation of the Stark laws and safe harbor rules, as well as growing communities of hospital-affiliated physicians, have made ambulatory or Physician EMRs an agenda item for the IT team of many hospitals. The systems are not exactly the HCIS’s in miniature that hospital-based IT staff often expects. Physician EMRs are notorious for frequent software updates, high help desk call rates, and widely varying standards of user accountability that often do not match the culture of the providing hospital. Beyond cost, the attractiveness of sourcing these products via a cloud model may well be speed of delivery and firewalling the hospital’s critical IT assets from the counterculture shock of supporting a Physician EMR.

One especially nice thing about this delivery model is that it entails little risk. Dell Services offerings, for example, which today include NextGen, Allscripts, eClinical Works (and more to come) can be purchased by the seat, by the month as the needs of your organization evolve. If you don’t like it, you build up your own capabilities and wind down ours. If you do like it, it can free your staff to drive important patient safety and physician adoption initiatives around advanced clinicals or technology evolution in the data center.

As healthcare applications evolve and mature, and expectations around them grow, it forces a constant re-examination of IT priorities and delivery methodology. Our goal at Dell Services is to help you create a strategy and environment that provides the flexibility of the IT business model that works best for you. Only your team can determine what mix of private cloud and public cloud services is right for your organization. We are committed to growing the capabilities and services to help you succeed—no matter which model you choose.

*Jim Fitzgerald is CTO of the MEDITECH Solutions Group within Dell Services. After seventeen years and three owners, he just won't go away. We tried hiding the office behind a cloaking device, but he modulated his phaser frequency to penetrate the blanking field. If you want to expand the discussion on cloud or any other technology initiative he can be reached via e-mail at [meditechsolutions@dell.com](mailto:meditechsolutions@dell.com). Or if you'd like a copy of the whitepaper on cloud computing let us know as well.*