



Executive Briefing:
**Network Infrastructure
Management for the
Electronic Health Record**



Electronic health record (EHR) is heralded as the solution for improving quality of patient care, in addition to enhancing provider effectiveness and lowering costs. The Health Information Technology for Economic and Clinical Health (HITECH) Act, implemented in 2009, was designed to overcome economic barriers to EHR adoption by providing incentive payments to healthcare organizations.

The approach that a healthcare organization takes to implement an EHR solution will translate into the success of the outcome. With many elements to manage, a comprehensive plan that addresses all potential challenges and leverages supporting strategic partnerships, is crucial to the success of the implementation.

The Challenge

With a multi-site EHR deployment, as is the case with a distributed medical group or independent physician association (IPA), a critical consideration is the deployment and ongoing management of a sound wide area network (WAN) infrastructure.

Whether the healthcare organization decides to deploy an on-premise or a cloud-based EHR solution that leverages a hosted service, the challenge of deploying and managing the network infrastructure and the associated underlying carriers can prove immensely challenging.

First, there is the decision of selecting a private network infrastructure, or leveraging a public Internet connection, while observing the security requirements established by the Health Insurance Portability and Accountability Act (HIPAA). Many organizations opt to leverage a virtual private network across an Internet connection, to avoid the complexity and cost associated with building and supporting a private network.

Second, there is the sizing of the network, to ensure the quality of the connection. With EHR representing not one but possibly multiple applications (e.g., scheduling, patient records) requiring near-real-time access, medical organizations must ensure adequately-sized and symmetrically configured connections, which tends to drive up the cost of these connections.

Third, there is the selection of the underlying carrier. Considering the importance of a site's access to the hub (whether it's the

"vCom has worked with our project teams on implementation, production support, upgrades, router repairs, moves & relocations, invoice questions and growth. In addition, our account team has arranged for executive review of our joint workflow processes on a semi-annual basis. We are very pleased with their performance and follow-through."

CIO, Muir Medical Group IPA



hosted service provider's data center or the organization's own data center), the quality of the carrier's network is crucial to ensuring a successful implementation, which tends to also drive up the cost of the implementation. Despite the ubiquity of inexpensive and high-bandwidth broadband solutions, those solutions and associated providers do not offer satisfactory Service Level Agreements (SLAs), or tend to leverage network oversubscription, which in turn drives down quality and reliability.



Once the right carriers and solution are selected, healthcare organizations face the challenge of implementing and managing their services, connectivity, spend, and inventory. With limited resources and no off-the-shelf tools, many struggle to manage the carriers on their own. In order to enable multiple practices and physician offices, they might settle for dealing with multiple carriers directly, and accept the painful results:

- Lack of visibility or control of inventory, even for the most organized IT departments
- No or limited aggregate buying power
- Multiple numbers to call for service or support, and hours wasted on hold
- Lack of expertise in managing service delivery, and being subject to poor practices by the carriers
- No clear or consolidated billing; a stack of unclear invoices laden with errors

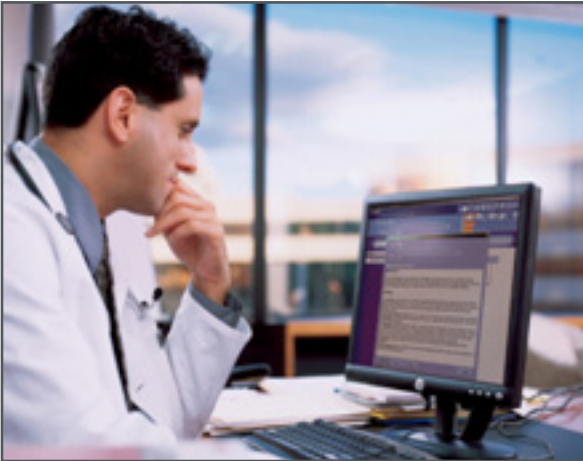
The Solution: TMaaS

With a documented track record supporting IPAs like Muir Medical Group IPA (MMG) and Independent Physicians of El Camino Hospital (IPECH), vCom Solutions has revolutionized the way these organizations manage the implementation and ongoing support of the telecommunications environment to support electronic healthcare records. vCom's Telecom Management as a Service (TMaaS) helps customers like MMG and IPECH regain control over their expenses, achieve greater visibility, and ultimately save money.

Through its cloud-based telecom management software tools and expert professional services, vCom guides customers through the complete telecom lifecycle. This includes carrier selection, procurement, project management, technical support, bill consolidation and cost allocation of all connectivity services.

The Pioneer and the Early Adopter

As a pioneer of EHR integration in Northern California, MMG partnered with vCom in 2007 to implement and roll out the network infrastructure to support its initiative. A group of early adopters, eager to test the selected, hosted EHR platform, helped MMG's management team iron out all the challenges of building a model that could be replicated across the entire 560-physician-member medical group. vCom worked with MMG's project team, as well as its IT support organizations (software manufacturer, hosting service provider, application support team and hardware support consultants), to test multiple provider networks, and verify



hardware configuration to support an optimal implementation.

With over 60 physician practices online, the MMG-vCom team has rendered the implementation process to a “cookie-cutter” exercise, streamlining the service delivery and ongoing management of the network infrastructure on which MMG’s reliable EHR platform runs.

Having refined the roll-out process with Muir Medical Group, vCom replicated the model, with minor changes, to early EHR adopter, IPECH, which was founded with the mission and purpose of promoting physician independence and success

through electronic clinical integration and efficient practice.

The Formula

Step 1: Sourcing

With a carrier agnostic approach, and a focus on reliability, vCom sources from more than a dozen Tier 1 and Tier 2 ISPs, and offers medical groups like MMG or IPECH an important value proposition: a reliable carrier network with a robust SLA. Leveraging the buying power of all its clients, vCom is able to obtain significant savings without a compromise in quality, thereby providing the physician practices peace of mind, at a significantly reduced cost. For additional simplification, vCom bundles standard hardware that meets the medical group’s requirements for security software support and functionality. For additional fault tolerance, vCom leverages technologies like ADSL, Cable or EV-DO, to provide backup Internet connectivity, in the case of a primary circuit failure.

Step 2: Deployment

To ensure the success of each implementation, vCom assigns a dedicated team of installation coordinators and implementation engineers to manage the order and deployment process of carrier services. vCom’s installation team works with the medical group’s project team and IT support vendors to ensure a successful outcome and seamless implementation for the physician practices.



Step 3: Management

Installations are managed and coordinated with the various vendors by leveraging vCom’s vManager software platform. Trouble tickets, account inquiries or change requests across all offices, services and carriers can be opened and tracked easily. vCom’s technical support engineers work with the medical group’s staff to ensure expeditious trouble resolution.



Step 4: Billing Consolidation

Not only does vManager act as a centralized view of all inventory and associated orders and tickets; it also offers a consolidated view of all billing across offices and carriers. It provides extensive spend analysis reporting, affording the medical group visibility into telecom costs. The result is a single invoice and secure portal to manage telecom spend across multiple carriers and locations.

The Outcome

Building their program in partnership with vCom, IPECH now has 65 doctors' offices online. They remain very lean, using vCom as their partner in managing connectivity, dealing with the carriers, and holding down costs. The vCom team meets with IPECH every

"Great team; great project management; great communication."

Executive Director, IPECH

week, implements each doctor's office with a primary and secondary line, and then provides ongoing support. According to David Katz, Director of Ambulatory Technology, "vCom provides the support and analytics that are critical to managing our business, and they help us hold down costs in a way that we just couldn't do without them."

MMG has implemented a practice management check-in/check-out system plus an EHR system for 60 physician practices, supporting 60,000 HMO members. Using vCom, they support their T1 lines with no FTEs to manage the carriers. They rely on vCom to make sure the services are up and available, and although they leverage six different carriers, they access a single invoice through vCom's vManager portal. As a result of their efforts, MMG was named a Finalist in the 2011 Healthcare Informatics IT Innovator Awards.

About vCom

vCom Solutions revolutionizes the way organizations manage their entire telecom lifecycle. vCom customers gain control over inventory, expenses and carrier relationships, achieving better business intelligence that improves the bottom line. vCom's Telecom Management as a Service (TMaaS) solution includes a suite of cloud-based telecom management software tools, complemented by a full portfolio of professional services.



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