

A HEALTHCARE EXECUTIVE'S



GUIDE TO THE CLOUD



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WHAT IS THE CLOUD, AND WHY DOES IT MATTER TO MEDICAL PRACTICES?



Over the past few years, cloud computing has been transforming technology. While there has been a lot of hype around the concept, it is no passing trend. It is a fundamental shift in how we use technology. Though its applications can be complex, the concept is simple. Cloud computing refers to accessing computer applications and storage over a network, such as the Internet, rather than running them on a local device. Users access a server or network of servers, usually in a data center, which runs applications and stores data. Because the computing is happening on these servers (“in the cloud”), data can be stored safely and in multiple places, and information and applications can be accessed from any device.

However, like any new technology, cloud computing can be intimidating because of the number of its possible applications, and the growing number of businesses and business models springing up offering cloud services.

This eBook will explore the opportunities that the cloud provides for medical practices, factors that decision makers at these practices should consider before making the switch, and finally, best practices for transitioning to a cloud-based technology infrastructure.



Why Your Current Systems May Be More Expensive Than You Think

While most industries have rapidly adapted to the cloud ecosystem, less than one-third of medical practices have moved to the cloud. Many healthcare managers, concerned about cost, privacy, and security, think it is safer to keep medical records in house, and cheaper to keep current software and hardware systems.


They may be underestimating the true cost of their current practices.

Medical practices of all sizes are outgrowing their IT infrastructure. With one of the highest rates of data needs of any industry, being able to scale and secure data in-house can be prohibitively expensive and time consuming – especially since traditional IT is less scalable and secure than using the cloud.

Traditionally, the healthcare industry has been slow to adopt new technology infrastructure. Many medical practices keep their servers and desktops 2 to 3 years longer than average for other industries. After 3 to 5 years, the risk of hardware failure is high, and aging IT infrastructure becomes a ticking time bomb that can devastate your organization when it fails.

Meanwhile, hardware depreciation schedules are accelerating. An organization can easily find itself on an endless hamster wheel of upgrades and purchases trying to keep up. While moving to the cloud may seem like the newest spin on the hamster wheel, it may be the way to step off this wheel for good and start reaping the benefits of advancement in computing power and organization.

Instant Savings: Save Money with the Cloud

According to the CDW Cloud Computing Tracking Poll, [88% of healthcare organizations that use cloud computing reduced IT costs by an average of 20% per year.](#)  Moving to the cloud can save money instantly in the short run, while also leading to greater savings and efficiency over the long run.

- **Lower software and hardware costs.** MGMA reports indicate that a typical single-physician clinic spends around \$10,000 on hardware and hardware maintenance annually. Moving to the cloud eliminates a large chunk of this spending, up to around 70%.
- **Lower IT support costs.** Having your hardware in the cloud means you don't need to manage the manpower to run it in-house. Outsourcing your technology allows you to focus on what you do best: caring for patients.
- **Pay as you go, only for what you use.** With the cloud, you pay as you go only for what you use, like you would with any other utility, such as electricity or water. This ensures you receive the maximum value and are only paying for exactly what you need.
- **Switch from CAPEX to OPEX.** Moving to the cloud eliminates capital investments in hardware. With an OPEX model, you can expand and contract quickly with immediate impact on your finances.
- **Receive government funding.** Cloud computing can help a clinic get paid for its effort by meeting Stage-1 Meaningful Use Criteria for Medicare and Medicaid reimbursements. Federal incentives for using Electronic Health Record (EHR) technology can result in \$39,000-63,750 in additional funding for your practice.



Long-Run Returns: Increase Efficiency with the Cloud

Market analysts estimate the US healthcare system is so inefficient that 24 cents of every dollar are wasted on administrative and billing expenses. Improvements in workflow processes and time allocation can be difficult to quantify and may be mistakenly underestimated in a cost-benefit analysis. Improved workflow not only saves time, energy and money, but also provides a better experience for everyone, increasing patient satisfaction and office morale.

- **More reliable IT infrastructure.** Reduce downtime and outages tied to system issues, and prevent data loss, outages and security risks.
- **Faster payment.** The average day sales outstanding (DSO) of paper claims is 31 days – but 93% of electronic claims are processed within 14 days.
- **Fewer rejected claims.** Industry experts report that the average rate of claim rejection is as high as 30%. [Cloud software can boost claim acceptance rates to 95 - 99%.!\[\]\(065aacad479feea1b3f501fa02b79a7a_img.jpg\)](#)
- **No more lost paper slips.** Industry experts estimate that up to 10% of paper charge slips are lost and never billed.
- **Improved time usage.** Leading cloud software offers industry best practice workflows and eliminates time wasted on clunky software, manual tasks, and paperwork.



Flying Free: Scalability and Mobility in the Cloud

Scalability

Even small medical practices have data needs comparable to large organizations in other industries. Unlike in-house hardware infrastructure, cloud storage easily and seamlessly scales with growth. Ever-growing patient data can be securely stored. No matter how fast you grow, your cloud will grow with you, seamlessly.

By using cloud solutions, a small medical practice with a staff of 5 people can open a new office without needing to factor in the space, costs, personnel and real estate of managing servers on site.

Scaling down is just as simple. In the cloud, practices have just the amount of IT infrastructure they need, when they need it.

Mobility

With cloud computing, doctors can access practice management software and patient information from anywhere with internet access – at home, the office, or on the road – anytime. Without needing to step foot in the office, doctors can securely access records, fill prescription requests, and update charts and schedules right from their desktop, laptop, smartphone, or tablet. Medical professionals can perform work from anywhere with no impact to workflow, improving the quality of care for patients while improving work-life balance and efficiency for themselves.



Flying Safe: Security in the Cloud

One of the biggest concerns for healthcare providers in moving to the cloud is the security and privacy of patient data. However, moving to the cloud can usually increase data security, especially for smaller offices. Cloud infrastructure is continually evolving to meet the growing security requirements of heavily-regulated industries like healthcare, and legitimate cloud service providers have strict security protocols designed to comply with different regulatory mandates, including HIPAA, PSQIA, and the HL7 EHR Interoperability Model. However, not all cloud providers are equal, and stringency of security varies. Finding providers who meet high security and privacy standards is crucial for medical practices. Good providers will provide security benefits such as:

Industry Expertise. Leading cloud providers are able to devote resources to solving security issues that smaller customers cannot afford. Since the cloud provider scales security and controls over an entire network, individual practices benefit from a level of investment they'd be unable to leverage on their own. Cloud providers typically provide a uniformly high level of security and privacy control that continually improves over time.

Redundancy and Protection. Having data backed up at secure locations in separate geographic locations shields it from the risks such as natural disasters, equipment misuse, tampering, and other physical vulnerabilities faced by paper files and in-house hardware.

Automatic Updates in Software. Cloud software is maintained and updated by the provider, ensuring your software is as secure and up-to-date as possible. Some practice management software keeps pace with regulatory changes and automatically updates medical codes and rules in the software.



Improved Monitoring. A single, integrated and secure database platform makes information available without the risks inherent in cobbling together multiple platforms and sources. A cloud network can also offer a level of constant monitoring that's simply impossible with paper-based and client-server software models. Paper files can be lost or misplaced and there's little ability to determine exactly who has touched or altered a record.

Regulatory Compliance. Most leading cloud providers are HIPAA compliant and many exceed the required compliance regulations. However, this will vary by provider. Recent HIPAA updates now make cloud service providers as liable for HIPAA compliance as their healthcare clients

CLOUD READINESS CHECKLIST

[DOWNLOAD NOW](#)

Find out if you're ready for the cloud



From Here to There: Transitioning to the Cloud

Because of all these benefits, medical practices are increasingly moving to the cloud. [Cloud technology for the healthcare industry is expected to grow 20% annually over the next several years.](#) Most of the early problems with using the cloud have been addressed to the degree that the cloud can now be classified as a mature technology. The cloud is becoming a necessity for doing business in the 21st century.

The client-server model has become a relic of the past, and the future is in the cloud.

Medical practices in particular have a unique opportunity to reap major benefits from moving to the cloud, thanks to the confluence of a number of factors. Many healthcare organizations have aging infrastructure in need of modernization, while also feeling pressure to cut costs, increase efficiency and mobility, collaborate with other organizations, and adopt new technology initiatives such as EMR. This places practices in a perfect situation to make the leap to the cloud, where they can have access to the newest technologies impacting the industry and remain in compliance with ever-changing government regulations.

So, what does it take to gain these benefits and move to the cloud? Let's take a look at the steps to transitioning to the cloud.

Taking Flight: The DIY Guide to Buying the Cloud

Deciding to move to the cloud is only the first step towards getting there. Understanding both your particular IT needs and goals and how the cloud market works is crucial when deciding to implement cloud infrastructure.

Step 1: Research the Cloud Model

Because the cloud is not just a service or product, but rather a paradigm shift in computing, there is no one company that can provide you with all of your cloud technology needs. Rather, you will need to find a few providers who provide different pieces of the cloud puzzle. First, it's important to understand a little more about how the cloud works to understand the offerings out there. Make sure you understand the three main types of cloud service models and the three main types of cloud deployment models.

The Three Cloud Service Types

- **Software as a Service (SaaS).** SaaS companies offer software such as email, CRM software, practice management software, or EHR software that runs in the cloud to their clients. Many practices already use cloud software to assist some or all business operations.
- **Infrastructure as a Service (IaaS).** IaaS companies offer virtual machines, servers, and storage to the client, who can run applications or store data on them. Finding a reliable and secure IaaS provider is key for safely storing medical data.
- **Platform as a Service (PaaS).** In a PaaS model, providers offer a computing platform through the cloud for application developers to build and run software on. Medical practices will generally not need to use PaaS solutions.

The Three Cloud Deployment Models

- **Public.** A public cloud solution refers to infrastructure owned by the solution provider, accessible to users via the Internet. Services like Amazon AWS and Google are examples of public cloud providers. A public cloud solution will not meet all the privacy and security needs of a medical practice, although it may be part of its larger cloud strategy.
- **Private.** A private cloud solution refers to a system operated on behalf of a single organization, maintained within a corporate firewall, and accessible via a direct connection only (not via the Internet). Private cloud can offer many benefits, but tends to be more expensive to set up and can share many of the same disadvantages of an on-site data center.
- **Hybrid.** Hybrid cloud solutions combine the options above. A hybrid cloud with a portion on a private cloud and a portion on hardware owned by the practice is likely the best option, offering the redundancy of the private cloud with day-to-day access. Yet, the best solution will vary on the needs of each individual practice.

Step 2: Evaluate Your IT Needs

Once you have an idea of what's possible, determine what you need. Every organization will have different needs based on their particular situation. Some general considerations every business will need include:

- **Bandwidth.** By moving your applications and storage to the cloud, you put your business at the mercy of your network. Make your cloud seamless by evaluating your bandwidth options and ensuring you have enough. Increasing network traffic without updating its capacity is like trying to funnel a nine-lane highway into a two-lane road. Make sure you have the bandwidth you need.

- **Legacy systems and migration.** Migrating to the cloud is not the same as just moving data. Do you have legacy servers, storage arrays, and/or tape backup systems with data that needs to be moved to the cloud?
- **Phone systems.** With Voice Over Internet Protocol (VOIP), you can host your telephony services on the cloud. Is it time to update your phone system?
- **Email solutions.** What email services does your practice need? Do you have an email continuity plan in the event of an outage? What mission-critical and patient-safety activities require 100% email uptime?
- **Disaster recovery.** Do you have a cloud-based disaster recovery plan? Are you prepared for the worst?
- **Software.** Which cloud-based software is best for your needs? Do you have cloud-based software for practice management, EMR management, and other operational necessities?
- **Hardware.** What devices do you want to use in your practice? Running software on the cloud frees up your choice of suitable devices.

Step 3: Leverage existing relationships

If you already use practice management or other software, you can often reach out to them for advice. For small practices with limited resources, this can sometimes feel like the only option. However, cloud software is a different space than cloud-based hardware, and your software provider may only have a cursory knowledge of other aspects of the cloud marketplace. Personal and local relationships and networks can also provide information about appropriate providers and next steps for your situation.

Step 4: Reach out to providers

Now that you understand what you are looking for, reach out directly to major providers, such as AT&T, Rackspace, and CenturyLink. Research their offerings, and establish relationships with sales reps from the companies that meet your standards. Ask any questions and discuss any concerns you have.

Step 5: Compare your options

Once you know what options are available and what providers have to offer, compare them to find out which is best suited for your practice. When evaluating a provider, make sure to consider the following factors:

- **Credibility and long-term reliability.** One of the most important things to consider is the credibility of your provider. How long have they been around? Will they still be around in 10 years? The cloud market has exploded over the past few years, leading to a number of service providers with unproven track records. With sensitive patient data on the line, finding proven and trusted partners is paramount.
- **Customer service and responsiveness.** Establishing a solid, working relationship with your providers is crucial, as you will be entrusting the core of your IT operations to them. Finding a provider who is responsive and provides great customer support will ensure you are able to respond to any issue that may arise.
- **Security practices.** Not all providers offer the same degree of security and privacy. Ask providers about their security practices, regulations compliance, and experience with healthcare data.
- **Value.** While you want to ensure you are going with a provider with leading-edge security, best practices, and responsive support, you obviously want to do it at a reasonable price. Who provides the maximum value and offers pricing that fits your budget?

3 Reasons Why DIY Solutions May Fall Short

For small practices, navigating the complexity of moving to cloud-based solutions can be overwhelming. Problems with a DIY approach to instituting cloud solutions include:

- **Not enough time.** Researching the marketplace and finding the best options requires a heavy investment of time. Most practices don't have the resources to become experts in the cloud.
- **Not enough attention from providers.** Smaller practices can often have a hard time getting attention and guidance from large cloud providers, who may be focused on delivering services to larger organizations. Smaller providers who can give that attention may not have the expertise and track record to back up their offerings.
- **Difficulty finding neutral and qualified advice.** Guidance from other service providers can be helpful and given with the best intentions, but may lack the field expertise and be swayed by personal bias. A service provider's job isn't to find the optimal solution for you. They want to make sure you are buying what they have to offer.

This leaves medical practices caught in the position of having to either learn the cloud market on their own, blindly trust their providers, or shell out for expensive consultants and systems integrators. Fortunately, it's no longer necessary for organizations to go it alone. A quality cloud broker can alleviate these pitfalls, save your organization time and money, and help navigate your way to an optimal complete cloud solution.

Getting Help: The Cloud Broker Model

Medical practices don't need to become an expert in the cloud in order to reap the benefits. Through working with a cloud broker, a practice can find and implement the best cloud solutions that work for their specific needs and goals. Cloud brokers connect end users to cloud services, and offer a number of unique benefits:

- **No cost.** Some cloud brokers provide their services completely for free, with no extra fee on top of what you pay your provider. The brokers are paid by the cloud providers in return for connecting users to their services. But since they work with a number of providers equally, they are not beholden to any one provider and can provide a wider perspective without bias.
- **Get the best rates.** Cloud brokers have longstanding relationships with providers and use these to make sure their clients get the best rate possible. You can also compare the prices and offerings of different providers all in one place.
- **Personalized approach.** A broker will work with you directly to find the best solutions for you, individually tailor options to fit your practice, and answer any questions you have. Whether you don't know where to start or have detailed requirements, a broker can work with you wherever you're at to get you what you need in the cloud.
- **Long-term relationship.** Turnover among sales reps in the cloud industry is high. Working with an experienced broker can be a dependable and consistent relationship for the long haul, no matter how the industry changes. Your broker should be your advocate in the cloud market.
- **One-stop shop.** Dealing with multiple cloud service providers can be overwhelming. Working with a broker gives you a one-stop shop for all of your cloud services. Your broker can help manage and integrate your relationships with different providers.
- **Industry expertise and research.** A good cloud broker knows the industry as well as, or better, than anyone in the field. They keep up with the industry so you don't need to, and can identify solutions and options that may be unnoticed by others.

ABOUT OPEX TECHNOLOGIES

With a passion for helping clients drive business and increase revenue, Opex Technologies (formerly doing business as DigiTel Services) was founded in 2003 with the goal of becoming the trusted resource for Network, Cloud, and Infrastructure solutions.

Headquartered in Raleigh, NC, near the Research Triangle, we advise companies of all sizes on how best to implement the most effective and affordable OPEX technology solutions.

While we work with small to medium business as well as large enterprises, we are unique in that we are truly a hybrid consulting and brokerage firm rolled into one. Moreover, we partner with over 40 leading Network, Cloud, and IaaS providers to find the right solutions at no cost to our clients.

Leveraging decades of industry knowledge and experience, we aim to earn our clients' trust by delivering technology solutions that are relevant, strategic and the engine of growth.

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