



The Case for Cloud-Based Dentistry

Winter 2015

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We've heard many times that perception is reality. That seems to be the case when it comes to the uneven acceptance of cloud computing in dentistry.

The objective of this paper is to help dentists, dental clinicians, dental practice managers, clinic and practice administrators, and dental practice owners understand the objections to, and benefits of, cloud-based digital solutions.

The core digital solutions mentioned in this paper are electronic dental records (EDRs) and integrated practice management (PM) systems. Dental practices can run them on client/server systems, or "from the cloud." Practices have used EDRs and PMs on client/server systems for much longer than those on cloud-based systems.

When a user's PC (the client) is the "requesting machine," and the server is the "supplying machine," and both are connected via a local area network (LAN) or a wide area network (WAN), this is a client/server architecture. Cloud computing is the use of the same resources (EDRs and PMs) delivered as a service over the Internet. Cloud computing entrusts remote services with dental office data, software, computation, backup, and upgrades. Cloud computing also allows a practice's computing devices to more efficiently use the limited memory of their devices. Cloud-based dental software is a service, not a product.

The problem of uncertainty

Cloud computing in dentistry costs less while advancing clinical and administrative efficiency. It makes dentists happier and improves the chair-side experience for patients. So what's the problem?

The answer, in a word, is "uncertainty."

While dentists have been sold on the value of EDR and integrated PM automation, they're accustomed to purchasing and implementing client/server-based systems. "Solid" and "reliable" are among the perceived performance benefits of client/server systems. That is, in part, because each system resides inside a practice. You can "see" where the system is in your office and manipulate it directly from other computers in your office connected to your server. If there's a problem, you "fix it" right there in your office.

However, relying on "the cloud" to deliver comprehensive digital solutions can sometimes instill fear along with a feeling of less control for dental professionals who are responsible for maintaining clinically accurate data, reliable administrative automation, and secure patient information.

Top ten objections to cloud computing

The top ten objections to cloud computing¹ are real and they can influence whether a practice selects a cloud-based EDR and PM system or chooses a client/server configuration. The purpose of this paper is not to debunk the top ten reasons for not selecting cloud services. Rather, the reader should keep their eyes wide open to fully understand the objections and benefits of cloud computing for dentistry. So what are the primary objections?

1. **Poor networks** – Using cloud-based services still requires a dental office to have well functioning LANs and/or WANs. Some dental practices won't buy cloud services because the legacy networks inside their offices won't support high traffic volumes and rich media (large digital radiography data files, for example.)

2. **Upfront investment** – Many cloud applications and systems come with upfront investment costs. For some practices, tight budgets prevent the investment, which can include costs for migration, customization, training, and ongoing operations.
3. **Bandwidth restrictions** – While the cloud is ubiquitous, high-speed networks are not. Many parts of the nation do not have Internet access levels that make cloud computing a viable alternative to on-premises servers, storage, and applications.
4. **Immature technologies** – Although businesses (all industries) spent more than \$100 billion on cloud products and services in 2012, many dentists today may feel that cloud-based EDR and PM systems don't have the features they need – or, that they are difficult to use.
5. **Lack of understanding** – A surprising number of professionals in dentistry are not aware that proven cloud options are available; they don't have an appreciation for what cloud services can do for their practice.
6. **Endless recurring fees** – A main benefit of cloud computing is converting information technology (IT) costs from a capital to an operational expense. While there are certain tax and accounting benefits that come with IT as an operational expense, the nature of continuous (monthly subscription) fees sometimes scares potential users.
7. **Data integrity** – is not data security. Data integrity is ensuring data remains available and true. Some customers believe clinical and administrative data may become corrupted if it's placed in the cloud and managed by third parties. Also, in the event of data loss or corruption, there are concerns that vendors won't be able to effectively recover lost data.
8. **Performance anxiety** – Dentists and their staff worry that a cloud solution will be slow, which could hamper productivity. Outages are another concern. Every user of a cloud application wants to know the resource will be available and work when it's needed.
9. **Lack of control** – Giving up control over IT systems and applications is hard for many practices. Years of investment may have been made. Systems and staff have been developed to support the IT infrastructure. And some practices "just don't want to" hand over administrative IT functions to a third party.
10. **Data security** – Data security is not the same as data integrity – and remains the number one concern of virtually all cloud-computing clients, regardless of the industry! There are concerns about malware, hackers, or system failures that could compromise data security. These concerns persist despite several studies that show cloud services are typically more secure than individual companies with on-premise IT infrastructures.

Cloud computing in dentistry: still a good idea?

In a word, **yes.**

While there may be valid objections and concerns for seriously considering a cloud-based EDR and PM system, let's start by acknowledging there are unique considerations for a dental practice:

- › What is the size of the practice?
- › Is the practice new or has it been around for a while?
- › What does the future look like for the practice: Rapid growth? Solid and steady? Struggling?
- › How much EDR and PM technology does the practice use currently? In the past?
- › How is IT handled in the practice?
- › Is there a perception that too much time is being spent managing IT in the practice?
- › Is there proof that too much time is being spent managing IT in the practice?
- › How up to date is the practice's current inventory of computer hardware?
- › What kind of high-speed, broadband Internet connection can the practice access?
- › How reliable will the Internet be – in the practice area – to carry and retrieve all the critical data needed, minute-by-minute?
- › If the practice upgrades any part, or all, of its existing EDR and/or PM system, how much training will it need?

Although these do not represent all the questions practices should ask as they evaluate a cloud computing solution, they are a solid start and an example of the practice evaluation that should happen before evaluating potential EDR/PM vendors for dental practice cloud-based solutions.

Cost-wise, what's the upside of a cloud solution?

A cloud-based EDR and integrated PM solution can provide significant advantages to a dental practice. While cost has been cited as a potential barrier to using the cloud in dentistry, it's usually a main driver for selecting a cloud-based solution, for many reasons.

Infrastructure (i.e. wiring) must be built out, regardless of the software system type selected. But the similarities end there. The actual servers in a client/server deployment – along with their monitors, redundant power supplies, and surge protection – can comprise a healthy portion of a client/server purchase and installation budget. And that's before the power button is pushed "on." More time is required for software installation, configuration, testing, and training. Lots of equipment and software inside your office has to work properly to use the system. On the other hand, with a cloud-based solution, after you sign a software service agreement with a vendor, it can be as simple as it sounds: Download, self-install, test, train, go-live.

When you choose an EDR cloud provider, make sure it provides an option for as much customer support and system training as you think you'll require. But there's no question that you can get your practice to "go-live" with a cloud-based EDR faster and less expensively than you can with a client/server solution. And there are more cost savings.

Cost of data storage in a client/server setup can be significant. Digital photography, x-rays, and 3-D studies all require significant on-site storage equipment. And the more data you store, the more data must be backed up. All of that means more equipment – all on a recurring basis as you accumulate clinical and administrative patient data. And the cycle becomes larger and more frequent with every new office you add, or as the practice adds more patients and patient volume increases.

Finally, and still on the cost front, maintenance is a big difference. Maintenance is a big cost with client/server systems and a not-so-big cost with cloud-based systems. In fact, if you have a client/server system, you'll need to dedicate one of your staff people, at least part time, to maintain the system and manage upgrades, which can be very time consuming and adds further costs. And because the IT function is so critical to a practice, owners often put their best people in charge of these systems, shifting some of their work focus away from patients.

It's not uncommon for smaller practices to have a local person install a client/server system (usually a friend), start out strong, and then falter as the IT portion of the practice becomes more demanding.

On the other hand, the maintenance and upgrade process for cloud-based systems is predictable, automatic, and part of your service agreement. That, in and of itself, is one of the best reasons for using a cloud-based EDR. That's because when all the IT "stuff" is happening in the background, you and your staff can devote full attention to patient-focused tasks. And, at the same time, you feel more at ease knowing you're running the latest EDR software your vendor has to offer – all the time.

More reasons for the cloud in dentistry

While cost savings remain the number one reason dental practices purchase cloud-based EDR and integrated PM systems, there are other important advantages:

- › **Security** – Yes, while this is the biggest concern potential cloud users have, you can be certain that any vendor worth consideration will make a big deal about how secure your data will be with them. They have to – cloud computing is not a viable solution without proven security protocols to ensure your private data stays private.
- › **Backups** – Worth mentioning again. You don't back up your data. That's done for you. Automatically. If a software failure happens with a client/server system, the practice is left to scramble: Which patients owe what? What's the roster of current appointments? How long will it really take to get the system up and running again?

- › **Data restoration** – Simple and fast. After any kind of disaster in your office, after you restore your Internet connection, you'll be up again with all your data, as if it never happened.
- › **Access** – Having access – anywhere, anytime – to patient clinical and administrative data puts you and your staff in total control, all the time. Take emergency after-hour calls and be as informed as if you were in the office. Provide critical consults from wherever there is Internet access.
- › **Application upgrades** – happen automatically. No downtime for upgrades. Ever.
- › **Open communication** – Cloud applications speed communication and improve productivity. Office staff can check real-time insurance eligibility. Clinicians can bill insurance from the operatory. Instant communication with dental labs can include every kind of radiographic image. And using the Internet for patient prescriptions, to order from vendors, and to refer patients to specialists, is becoming commonplace.
- › **Scalable for growth** – It's easier to grow (or shrink!) when you're using a cloud-based IT solution. There's no extra equipment and personnel typically required for client/server architecture. You'll avoid repeating up-front costs for equipment-heavy client/server systems every time you expand your practice. Conversely, you'll avoid unwanted equipment inventories should you need to reduce the size of your practice... or upgrade your server equipment to next generation technology. (Moore's law is still alive!)

One specific cloud-based system to consider

For more than 35 years, QSIDental®, Irvine, California has been the only vendor consistently implementing and supporting dental practice organizations that manage 100 or more clinical practice locations per single practice entity. One of the most trusted names in integrated EDR and PM systems for dentists now offers a leading cloud-based solution – QSIDental Web®.

The QSIDental Web platform is not a "lite" version of the company's industry-leading legacy client/server system. It provides every layer of integrated clinical and administrated functionality a demanding practice requires from a comprehensive EDR and integrated PM system. It was developed from the ground up using the latest technology for web-based performance and flexibility.

QSIDental Web is a Web 2.0 solution making it to the short list of many dental practice evaluations of potential cloud-based systems, not only because of the system's features but also because of the earned reputation of excellence and trust associated with QSIDental.

Conclusion

While there are a variety of objections to cloud-based systems, the benefits of that technology are substantial and compelling.

From a cost perspective, initial return on investment (ROI) from cloud-based EDR and integrated PM systems comes from a decrease in technology expenses, since no servers or related backup hardware is needed on-site. Ongoing ROI from a cloud system comes in many layers, including reduced costs and hassles for software upgrades, improved communication with patients, and faster, more reliable communication with business stakeholders (payers, vendors) and clinical stakeholders (pharmacies, dental labs, colleagues/peers).

Some practices leverage their new cloud-based EDR and PM system as a marketing tool. Because they always have the latest and best software, they tell patients about their system and show them the benefits. Patients today like technology and appreciate dental practices that show they strive to stay on the leading edge. In fact, many practices have used their transition from a client/server system to a cloud-based system as a "marketing event." When patients feel as if they are part of the transition they often become ambassadors for a practice and more engaged. In short, they enjoy being part of a practice that is successful.

In conclusion, keep your eye on the technology horizon. Cloud-based applications are growing in every industry. Because cloud-based systems are less costly and more efficient, they contribute to business growth and profitability. Information of any kind stored locally is becoming a thing of the past. The cloud is quickly becoming the universal access and delivery standard for everything in our lives.

Overall, regardless of the objections and benefits of cloud-based EDR and integrated PM outlined in this paper, practices should base their decision on 1) an application's features, benefits, and value, and; 2) whether a cloud-based solution would be better for a specific practice, including its staff, workflows, available IT budget, culture, ancillary resources, patient profiles, Internet access, and the technology acumen of key staff members.

Contact us at **855.510.6398**

1. channelnomics.com/2013/03/04/top-10-customer-cloud-objections/

By Larry Walsh, March 4, 2013, from the Cloud & Technology Transformation Alliance (CTTA) State of the Cloud Channel Study 2013.

More information about QSIDental Web is available at:

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