The future of cloud computing is, well, cloudy

Behind the hype is the reality that cloud computing offers great promise, but it’s not right for everyone and everything – just yet.

Story by Rick Berg

If you buy into the rhetoric of some technology pundits, you might conclude that you’re way behind the curve if you have not yet migrated your business-critical processes to that sometimes nebulous technology environment that’s come to be known as “the cloud.” The truth is that while cloud-based applications are great tools for many processes and companies, you still have to do your due diligence to see if it’s right for your company and your needs.

Steve Engmann, president of Appleton-based Competitive Strategies Inc., is an avowed cloud protagonist, but he notes that business owners and executives considering a move to the cloud need to consider a number of critical issues.

For example, Engmann said, the issue of data ownership needs to be clear. “Who owns the data? There is nothing worse than spending years pumping data into a system, then finding out when the solution no longer does everything you want, that there is no easy way to get your data back out or to access any company information in the future,” Engmann said.

One of the often-cited advantages of cloud computing is that software updates are usually automatic, relieving clients of the need to monitor the status of their software. However, said Engmann, even that feature has a potential downside.

“Just recently we had a client that had integrated a cloud-based billing and service solution with their internal accounting system,” Engmann said. When the solution provider updated the software without informing the client, “the upgrade broke the integration link and caused all sorts of unexpected surprises and costs.”
The case for the cloud
That being said, Engmann and others believe that the cloud offers much promise to business owners and executives weary of software version fatigue and the need to maintain an ever-expanding technology infrastructure.

Ed Luck, managing consultant for cloud and infrastructure enablement at Skyline Technologies in Appleton and Green Bay, said small business owners are especially vulnerable to changing technology needs.

“For the small business guy, the cadence has always been to buy a server, make it last as long as he can and hire a system integrator to come in yearly to fix things as they break,” Luck said. “It’s a very reactive model. The challenge has been that as the equipment becomes older, it becomes even more of a problem.”

In addition, according to Luck, growing data structures and software requirements demand that businesses continue to expand their onsite infrastructure.

“The value add for cloud services is that you don’t need that big infrastructure footprint anymore, and you don’t need to worry about version upgrades, because cloud platforms give you the capability to expand and always be current,” Luck said.

Adam Simpson, president of Netsonic in Green Bay, said despite the many advantages cloud computing can offer, many businesses remain resistant.

“The number one reason for the resistance is that people don’t like change,” Simpson said. “Also, they’re reluctant because there’s a lack of understanding and a lot of confusion in the marketplace about what the cloud is and what it can do. The reality is that it’s a technology that allows you to scale to your needs at any time, it’s flexible, you have access to on-demand resources and there’s no single point of failure.”

Simpson said most of his company’s clients are in the cloud to some extent.

“A lot of people don’t want to go all-in with the cloud, but almost all of them are there in some way,” Simpson said.

A better fit for some applications
Tom Maurer, director of technology solutions for the Appleton-based accounting firm Schenck SC, said he hasn’t seen a lot of his large business clients moving their enterprise accounting platforms (generally known as enterprise resource planning or ERP software) to the cloud. That’s because those solutions are not well-supported in the cloud at this time. On the other hand, he says, accounting platforms for small to mid-size businesses, like QuickBooks and Sage 300 Online, have been widely adopted. Schenck provides both of those solutions, as well as enterprise solutions like Sage 500 (formerly MAS 500).

Even so, Maurer said, some of the third-party add-ons for ERP platforms, including customer relations management systems and credit card processing, work well in the cloud, so some clients maintain a mix of on-premise and cloud solutions. Schenck CIO Jim Tarala has seen the cloud from both sides now – as a user for Schenck’s internal IT needs and as a provider for Schenck’s clientele. The story is mixed, he says.

“We’ve used cloud solutions for a decade or more,” he said, “and we found that there was not as much initial upside as we expected. We used a project management solution that

The cloud defined

Ask 10 people for their definition of cloud computing and you’ll likely get 10 different answers. These definitions, courtesy of the National Institute of Standards and Technology, will do as well as any:

Private cloud. The cloud infrastructure is provisioned for exclusive use by a single organization comprising multiple business units. It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.

Public cloud. The cloud infrastructure is provisioned for open use by the general public. It may be owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud provider.

Hybrid cloud. The cloud infrastructure is a private and public cloud infrastructures, bound together by standardized or proprietary technology that enables data and application portability.

In addition, NIST defines three different cloud service models:

Software as a Service (SaaS) uses the provider’s applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (web-based email, for example), or a program interface. The consumer does not manage or control the underlying cloud infrastructure such as network, servers, operating systems or storage.

Platform as a Service (PaaS) deploys cloud infrastructure to host consumer-created or acquired applications. The consumer does not manage or control the underlying cloud infrastructure (network, servers, operating systems or storage), but has control over the deployed applications and possibly configuration settings for the application-hosting environment.

Infrastructure as a Service (IaaS) provisions processing, storage, networks and other fundamental computing resources where the consumer is able to deploy and run operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure, but has control over operating systems, storage and deployed applications.
top reasons the cloud might not be right for you

① You are concerned about how you retrieve your data if you change solutions.
② You have limited bandwidth.
③ You are concerned about lack of control over software changes.
④ Cost analysis tells you that cloud subscription services will be higher than your on premise solution.
⑤ You are not convinced that your data will be secure.

For some businesses, data storage is one of the first processes to migrate to the cloud. “Small business owners are very protective of their data and want to maintain control over the systems they use,” Engmann said. “Yet, from a disaster recovery and business continuity standpoint, they realize having an automated, off-site backup makes sense and actually adds a layer of protection to their data.”

“The great advantage of cloud-based data storage is that it allows you to scale up or down as your data needs grow,” Simpson said.

Credit card processing is also a popular cloud solution, since it takes the PCI compliance issues out of the hands of the business and into the hands of the supplier.

What doesn’t fit

Luck notes that “legacy applications” that businesses have developed in the past may not be good cloud candidates simply because the conversion cost is likely to be prohibitive. “Heavy lifting” applications like AutoCAD might also be problematic because “latency issues related to bandwidth might become a choke point as users try to access the platform.”

Most agree with Maurer that core business processes or line of business applications like accounting software are least likely to migrate to the cloud at this point.

“While some companies are moving core accounting to the cloud, this is still probably the area that a lot of companies are
keeping in house,” Engmann said. “Over time, more companies will move core accounting to the cloud, but it may be that they choose only for someone else to provide the hardware in the cloud and they still maintain control over the software that is running on the hosted server.”

Maurer says even ERP platforms are likely to move to the cloud at some point as the technology matures. He points to a study conducted by the research firm Gartner, which found that 47 percent of organizations surveyed had plans to move their core ERP systems to the cloud within the next five years. Just 2 percent said they already have core ERP operations in the cloud, according to Forbes magazine, which published the study.

The biggest “doesn’t fit” scenario relates not to applications, but to the Internet environment in which a business exists.

“You have to ask how reliable your internet connection is,” Engmann says. “Companies need to invest in high speed, reliable connections at all locations to avoid downtime or slow processing speeds.”

“We are sometimes geographically challenged in terms of connectivity – especially in the rural areas,” Maurer says. “Sometimes organizations simply don’t have access to the kind of bandwidth needed to run mission-critical applications in the cloud.”

Words to the wise
Sorting through the options and deciding if the cloud is right for your business – and if so in what capacity – is usually aided by some expert consultation.

“We help our clients list out the advantages, disadvantages, costs and savings involved with each option available,” Engmann said. “The factor that most people miss is thinking about five years from now. You need to consider how to get the data back if you’re using cloud-based software owned by someone else. Your data has tremendous value and this one factor can sway any decision.”

“My first step in meeting with a customer is to understand their business drivers and what their needs are,” Luck said. “We do both on-premise and cloud solutions, so in some cases we find that they have functions that need to stay on premise and are not a good fit for the cloud.”

“There’s always going to be a need for a dedicated onsite environment for some processes, so there’s not ever going to be 100 percent adoption,” Simpson said. “It’s not the be-all-end-all, but we’re continuing to see businesses recognizing the advantages the cloud can provide.”

“Adoption of the cloud is definitely growing, but I don’t think it’s ever going to be 100 percent,” Maurer says. “We try to help clients look at their options and see what fits.”