The Evolution of Software

How Technology is Revolutionizing Investment Accounting, Reporting, and Reconciliation Solutions
Technology is constantly evolving into something better, faster, and more powerful. Computers have been standard business tools for about half a century—yet 50 years seems like a blip when considering how quickly the original 30-ton vacuum tube machines evolved to the sleek 11-inch, two-pound laptops of today. Computers have changed the world into something that previous generations could never imagine, and new technologies have transformed the way business is done today.

Thanks to ever-evolving technology, institutions now have more software choices than ever before. But an abundance of choice can be overwhelming, especially when accompanied by unfamiliar technology buzzwords—hosted, virtual, web-based, web-scale, cross-platform, installed, cloud, hybrid—that are ambiguous and esoteric. Companies looking for a solution that streamlines data aggregation, reconciliation, and investment accounting and reporting services often consider the solution’s software format an ancillary factor—or they don’t consider it at all. As long as the investment solution provides core data management and accounting services, does it matter whether it’s in the cloud or installed on the computer?

When you understand the inherent features of different software delivery methods, it becomes clear that behind those technology buzzwords are tangible benefits and drawbacks, which can have real impacts on your organization’s efficiency and bottom line.
The Software (r)Evolution

If you have ever texted on a smartphone, streamed movies on Netflix, sent emails through Gmail, or even just used a web browser, then you have used cloud computing technology. The breezy term cloud computing belies the heavy impact that this technology has had on the software world, and on the world at large. People access the cloud through their everyday activities without even realizing it, and many companies now purposefully use the cloud to improve their business. When cloud software is used to perform a specific business service, it’s called software-as-a-service, or SaaS.

In 2006, The Economist wrote:

Something momentous is happening in the software business. Bill Gates of Microsoft calls it “the next sea change.” Analysts call it a “tectonic shift” in the industry. Trade publications hail it as “the next big thing.” It is software-as-a-service (SaaS)—the delivery of software as an internet-based service via a web browser, rather than as a product that must be purchased, installed and maintained. The appeal is obvious: SaaS is quicker, easier and cheaper to deploy than traditional software, which means technology budgets can be focused on providing competitive advantage, rather than maintenance!

In the years since Gates and The Economist declared cloud computing (or SaaS) “the next sea change,” SaaS technology has evolved to be even more efficient and effective, and has revolutionized how the world does business. A 2011 study comparing SaaS to traditional software declared that “traditional software is already dead,” and analysts predict that “over the next six years almost 90 percent of new spending on Internet and communications technologies, a $5 trillion global business, will be on cloud-based technology.” Yet even as The New York Times declares this “the era of cloud computing,” many organizations are still using outdated installed software for their investment accounting and analytics.

Installed software is outdated legacy technology leftover from mainframe systems. For the majority of computer history, the primary way to purchase software was to buy individual licenses for programs on dedicated computers that served specific functions. Organizations are often still using installed solutions simply because they are unaware of how new technology can improve their current processes. Many investment and accounting professionals have used installed software their entire career, so they wonder why change now? Adding to the confusion are the vendors who claim to be SaaS-based, but really provide the same old legacy software, just hosted by their servers instead of yours.

True SaaS solutions represent a full paradigm shift—not just a location change from the clients’ computers to the vendor’s servers. As companies explore moving to a web-based platform, they can end up disillusioned by these so-called SaaS solutions that haven’t actually evolved their services to incorporate the benefits of advanced cloud technology. Many software solutions are updating their formats to utilize the web in some capacity—but that doesn’t mean they have the industry expertise, scalability, or customizations that are inherent to a true SaaS solution.

For example, “hosted” solution models—which are often thought of as hybrids of installed and SaaS—employ web-based software to host data on a third-party server through an internet-enabling solution such as Citrix. In this configuration, server security is maintained by the hosting vendor, but all data-based tasks are typically still managed manually by the client. These models tend to include the same old inefficiencies and problems of traditional installed solutions—just tied to a website log-in instead of a user license.

True SaaS solutions not only embrace the software evolution to the cloud, they also use the intrinsic benefits of the cloud to create a more efficient and effective way to do business. A best-in-class SaaS solution offloads the entire client burden of installing, maintaining, and upgrading the software; takes advantage of the inherent scalability and efficiency benefits of the cloud; provides dedicated client services with deep-rooted industry expertise; and overall “promises not just cheaper IT, but also faster, easier, more flexible, and more effective IT.”

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Comparing Installed and SaaS Solutions: Data Management

Clean, accurate, and timely investment data is critical. That’s why it’s vital to understand your investment accounting, analytics, and reporting solution’s inner workings. After all, you trust this system with the data and processes that are integral to your business.

This table focuses on how installed software compares against SaaS solutions in managing this important data.

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<th>Software Function</th>
<th>Installed Solution</th>
<th>SaaS Solution</th>
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<td><strong>Data Security</strong></td>
<td>While installed systems sometimes provide a feeling of control over data, that feeling comes with heavy responsibilities. Organizations that rely on installed software are typically responsible for on-site data security. This means investing in secure systems and servers (and security upgrades when needed), constantly being aware of any new cyber-threats, pre-empting (or solving) data security attacks, performing in-depth security audits and testing against attacks, and overall providing fool-proof physical, environmental, and other operational security measures.</td>
<td>SaaS solution providers must make security their top priority, because their business success depends upon it. A best-in-class SaaS provider invests heavily in secure systems and servers, compliance reviews, and intrusion testing. They stay up to date on security enhancements and regulations, and have teams dedicated solely to ensuring your data is secure. With these dedicated resources, SaaS solutions typically provide security measures far beyond what an installed vendor or in-house IT department can usually support.</td>
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<td><strong>Data Integration</strong></td>
<td>While installed systems can play a central role within overall operations, they are often stitched together with discrete modules that are not fully integrated with other core functions. In some cases, an on-site IT department can provide workarounds or help integrate the modules. But meeting this integration challenge takes expensive resources that aren’t always available. In most cases, staff must manually intervene to address breaks and true up data, often using many separate databases and spreadsheets. As a result, manual data processing becomes an endless chore. Even worse, with manual data management and integration, data entry mistakes can introduce errors that lead to serious downstream consequences.</td>
<td>Investment and accounting professionals who are tired of manually aggregating investment data, performing reconciliation, and resolving exceptions will benefit from the automation a SaaS solution provides. SaaS solutions can seamlessly integrate tasks and systems in ways that installed solutions simply cannot. With a SaaS solution, data-intensive functions like aggregation and reconciliation are automated and integrated to produce accurate and timely investment data. The SaaS vendor’s specialists monitor this automation, and immediately address any issues. But they only intervene in cases where a human is truly required—as opposed to an installed solution, where internal employee resources have to spend time lining up and comparing data, and performing basic data entry. As a result, data is more reliable, more accurate, and more timely. And employees can focus on more important tasks than data entry.</td>
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<td><strong>System Scalability</strong></td>
<td>Scaling an installed solution to meet new needs adds yet another internal IT burden. Installed systems were simply not designed to quickly accommodate new asset types, strategies, or shifting markets. They were not built to accommodate future growth opportunities. The vendor might be able to help support some scalability issues when they come up, but typically the burden falls on the internal IT department.</td>
<td>Using the power of automation and modern technology advances, SaaS solutions are inherently built to scale. Scalability is so synonymous with web-based solutions that any definition of a true SaaS system mentions scalability: “A major purpose of cloud computing is to provide scalable and cost effective on-demand computing services which meet quality demands in an efficient manner.” A SaaS solution is customizable in many ways, and can easily stretch or shrink to meet each individual company’s needs.</td>
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Comparing Installed and SaaS Solutions: Cost Analysis

The cost of a new investment accounting and reporting solution extends beyond just the price tag at contract signing. Purchase decisions must also include consideration of how a solution can naturally cost or save your organization money—especially in terms of support, maintenance and upgrade fees, hardware and implementation, employee training, and ongoing internal resource costs.

This table outlines the basic operational costs of installed and SaaS solutions, so you can effectively compare each solution’s total cost of ownership against that solution’s value-add.

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<th>Installed Solution Cost</th>
<th>SaaS Solution Cost</th>
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<td><strong>Hardware</strong></td>
<td>Expensive, because it usually requires installation on the organization’s own servers by their own IT staff.</td>
<td>Zero, because true SaaS solutions require no hardware installations or maintenance from the client.</td>
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<td><strong>User Licensing Fees</strong></td>
<td>Expensive licensing fees are typically the bulk of the cost incurred with an installed solution. And the fees don’t end there, since the total cost of ownership for licensing and maintenance typically increases whenever a new user is added to the system, and whenever the license comes up for renewal.</td>
<td>Varies, depending on the SaaS provider’s pricing plan. Because SaaS solutions can run on any computer that has a web browser they don’t have licensing fees in the strictest sense of the word. Instead, licensing fees are more like general product fees, and are formatted differently according to each provider’s business model. Some don’t charge licensing fees or licensing renewal fees per user, while others do charge some variation of fees. Most likely these fees will contain the bulk cost for any SaaS solution, but will be configured differently across different providers.</td>
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<td><strong>Maintenance Costs</strong></td>
<td>Varies, but vendors will typically charge a fee to upgrade to the latest versions of their software. Additionally, internal IT resources are usually needed to perform the upgrade and test the updated solution.</td>
<td>Zero, since best-in-class SaaS solution providers include continuous product enhancements, scalability, and technological improvements at no extra cost.</td>
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<td><strong>Implementation and Training</strong></td>
<td>Typically very expensive in overall cost, including valuable employee time. Companies usually need to install the software on their own, or hire a consultant. Implementations can take months or years, and often include the additional costs of on-premise visits and internal IT support.</td>
<td>Minimal, since there’s no software or hardware to install, there’s a minimal cost in internal employee time or resources. Usually implementation is handled off-site by the vendor themselves, and as such is much more automated, efficient, and streamlined than with installed solutions. The SaaS technology also makes the whole process quicker, since it can be automated and easily adjusted as needed.</td>
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<td><strong>Internal IT Cost</strong></td>
<td>Very expensive during implementation, and often requires ongoing internal IT support for upgrades, maintenance, and training.</td>
<td>Minimal to zero, because most true SaaS solutions require little to no internal IT support.</td>
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Choosing the Right Solution

Installed systems have a long history. But as companies examine their business needs they often find they’ve outgrown their installed software, and instead need a solution that can align with their goals as they are today and adapt to support them through any changes in the future. Installed systems simply aren’t equipped to meet today’s complex investment challenges.

In 2007, Cambridge University published an in-depth study on the evolution of technology in industry, which concluded that “…no rational business would choose to own software and the associated infrastructure if its needs could be met without them. SaaS services increasingly allow these needs to be met without the intermediation of user-managed software.”

Since then, the software evolution to the cloud has allowed SaaS to grow at unprecedented rates, with no slowing down in sight. A recent Gartner study on SaaS determined that:

Initial concerns about security, response time and service availability have diminished for many organizations as SaaS business and computing models have matured and adoption has become more widespread. Usage and vendors’ on-demand ecosystems continue to evolve to provide additional business and technology services, more vertical-specific functionality, and stronger communities of partners and buyers.

In The Everest Group’s 2014 Enterprise Cloud Adoption Survey, the management consulting firm found that “It’s no longer a question of whether cloud is the right strategy, but rather how you will leverage the cloud’s abundance of resources to outpace your competition.” SaaS technology is a key competitive advantage for forward-thinking organizations all over the world. SaaS solutions can easily support even the most aggressive growth plans, as they seamlessly streamline investment and accounting operations while allowing companies to stay focused on their core goals.

Understanding the differences between installed and SaaS investment accounting and reporting software—and the ways the software delivery method can solve different business challenges—is a vital part of choosing the investment solution that best suits your company. With an awareness of the pros and cons inherent to installed and SaaS systems, you’ll be able to look past any bells and whistles when choosing a solution provider. You’ll know if the technology can really live up to what’s being promised and if the vendor can truly support all your organization’s priorities—today, and into the future.

CLEARWATER ANALYTICS is a SaaS company that is helping thousands of companies improve their overall investment accounting operations. Clearwater has modernized investment accounting and reporting, replacing legacy systems with an automated, web-based approach. Clearwater provides companies with the tools to eliminate manual processes, automate complex data aggregation and reconciliation, improve regulatory reporting, reduce costs, and focus on what they do best.

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