Dependable and Controlled Access to *Cloud ERP*

The typical offering has multiple weaknesses

Introduction

A company's ERP is a critical business application supporting critical processes. If a well-implemented ERP is suddenly 'unavailable,' it will effectively shut down many key business processes and be costly in terms of dollars and customer confidence. An extended outage duration may cause permanent damage to the business.

Buyers should obviously be diligent in containing aspects of the 'ERP deal' that jeopardize or confuse legitimate and defensible access to and control of the ERP. This is especially true for ERP that is, to some degree, managed and controlled remotely—which we'll call *Cloud ERP* in this white paper. This is because factors that endanger legitimate buyer access and control to ERP are significantly higher with typical *Cloud ERP* than with perpetual ERP licenses owned and usually run at the ERP buyer's business location.

It's important to understand that most sellers of *Cloud ERP* will firmly resist meeting the buyer's objective shown in this document. Fundamentally the ERP companies believe such buyer goals will disrupt their objectives for customer control which has impressive impacts to improved revenue potential over time. Once the ERP has been implemented, the buyer is locked down and cannot easily escape the commercial relationship. This combined with the typical awful commercial terms offered is fertile ground for exploiting ERP buyers over time.

Therefore there is a large amount of ERP industry smoke and mirrors in the way of reaching appropriate ERP access costs and terms that are controlled initially and over time. This white paper shows important areas to consider when arranging dependable and controlled buyer's access to *Cloud ERP*.

Multi-tenant or Single Instance ERP

Many cloud applications, including *Cloud ERP,* are offered in a shared company environment called multi-tenant. That is groups of customers running from one instance of the ERP application and common hardware and management rules. This is compared to a single-tenant setup, in which the buyer has their own instance of the ERP application (for development, testing, and production) preferably running on one or more dedicated server(s).

In general it is significantly easier and less costly for the ERP seller to manage and update a multi-tenant cloud environment, instead of hundreds or thousands of individual installs. This is arguable the key reason ERP sellers are increasingly moving

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to the multi-tenant delivery option. Unfortunately it appears the cost savings in the multi-tenant approach are only going to the ERP seller's bottom line. EAI-SoftSelect has found the proposed lifecycle costs of *Cloud ERP* are generally higher than what ERP buyers have paid for all-in costs of perpetual licenses run at the buyer's business.

Multi-Tenant *Cloud ERP* Issues: Multi-tenant ERP carries some form of the following typical issues for a particular company seeking appropriate access to new ERP:

1. ERP development flexibility reduced: This refers to the likely reduction in options and depth of tools offered in modern ERP to extend and modify the ERP business process functions, data collected, interfaces, workflows, metrics, and integrations. This refers to application modifications conducted in a layer above the core application code and business logic (NOT source code customizing). This limitation is especially relevant for buyers that do a better job designing appropriate future-state processes, metrics, and integrations which increases the need for such development.
2. Timing of application upgrades and patches: As an application has more flexibility in development tools, this increases the care of accepting upgrades and patches. This further underscores the natural pressure to limit many application extension and development options in a multi-tenant ERP environment that could create obstacles to a mass upgrade.
3. Application hosting options and buyer's controls reduced: If the ERP seller fully handles the ERP hosting, then the buyer's alternate hosting options are effectively eliminated. This lack of options has ramifications as will be developed in following topics in this document.
4. ERP hardware performance risks: In a virtual multi-tenant environment, the buyer shares CPU and memory space with other customers, and performance can often vary from one application instance to another. This is often referred to as the *noisy neighbor* problem. It does not exist in a single instance environment.
5. Application legal control options reduced: Multi-tenant *Cloud ERP* access is almost always sold by a periodic subscription fee to pay for access for a specific period of time. No licenses are owned and lost is the achievable additional control that comes with such ownership. See more in the following section called *Commercial Terms Related to ERP Access.*
6. Regulated industries objectives constrained: Any business that handles data that is sensitive, especially customer data, has potential issues with data security constraints and limitations in a multi-tenant ERP. Hybrid cloud options are evolving that enable portions of data and processes to be controlled at a different location for the buyer.

Cloud ERP Performance Related to Hardware and Internet Access

Cloud ERP offerings, that provide and manage all aspects of ERP delivery, generally claim unrestricted scalability of their application to meet the various demands of customers. 'Scalability' generally means that ERP users can add as many new users, modules, and transaction loads, as they like and the application will remain available and responsive.

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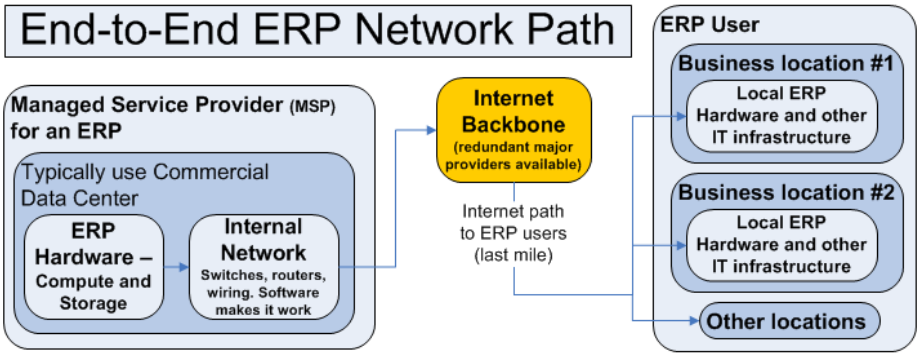
Cloud ERP providers are presumed to have the skill and motivation to get this right. They also have economies of scale with hundreds, if not thousands of customers. However *Cloud ERP* providers have no incentive to have over-capacity, but instead make hardware, software (databases, operating systems, virtualization, and other infrastructure software), and Internet access investments to support reasonable customer needs, not unlimited needs. These *Cloud ERP* offerings would therefore show signs of strain if demand exceeded the plans or there were other issues with the *Cloud ERP* provider or their business partners.

Because of the various issues of a multi-tenant environment, as described earlier in this document, this section on *Cloud ERP Performance Related to Hardware and Internet Access* will be presented in terms of one or more dedicated ERP application servers being used—not multi-tenant.

Entities Involved: The following diagram shows the three key parties involved with the objective to deliver dependable access to *Cloud ERP*.



Managed Service Provider (MSP): This is the first entity that orchestrates the ERP application hosting and is typically an independent *Managed Service Provider* (MSP). The duties of this role could also be provided by the ERP company or even the ERP buyer. Included in the MSP's responsibility is to arrange proper Internet bandwidth with one and preferably multiple Internet backbone providers.

Server hardware (CPUs, memory, and storage), related network infrastructure to gain access to the Internet, and a professional security and resilience environment is increasing offered by commercial entities called *Bare metal service providers* or called *Metal as a Service*. The *Metal as a Service* model offers many of the same rapid scaling benefits that virtualized cloud services offer while avoiding the security and performance risks/limitations of a multi-tenant virtualized server environment.

The MSP also typically manages the ERP, operating system, and other components in the software stack. The ERP buyer needs to understand what constitutes strong hardware and network infrastructure for a particular ERP and for the level of ERP usage contemplated before evaluating a particular MSP's approach and costs.

Internet Backbone Providers: These are the large telecom companies that work with government regulators and local jurisdictions to manage and improve the general Internet backbone. As noted in the prior section, the MSP has primary responsibility to arrange proper Internet bandwidth to dependably deliver the ERP application traffic between the data center and the internet backbone.

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ERP Users: At the other end of the Internet pipe is the ERP user, who is responsible for arranging and managing effective access in the 'last mile' from the Internet backbone providers to its various ERP user locations. Managing the ERP buyer's *last mile* can also be outsourced.

Cloud ERP Application Management and Performance

Usually one or more *Managed Services Provider*(s) handle maintenance, upgrades, and troubleshooting of the *Cloud ERP* application, but these services can also be provided by the ERP seller or even the ERP buyer (directly or with contract management from the ERP seller or appropriate experts).

Monitoring Performance

Overall performance is affected by all three participants (in the diagram above-MSP, Internet Backbone provider, and who manages the last mile) in how they select and manage all software, hardware, and Internet access under their control that affects *Cloud ERP* delivery. Two participants could be performing well and third entity involved could be the bottle neck that is compromising ERP performance. Therefore all three need to be monitored and to do so in separate processes.

Of the three participants, the one with the most 'going on' and most chance for performance degradation is the MSP. The MSP also is typically responsible for arranging appropriate data center servers and strong and redundant Internet backbone service providers typically all the way to the *last mile* before the ERP users. Therefore there should be availability and responsiveness performance standards in place, that are automatically monitored, and that carry some sort of penalties for a lack of performance. As noted earlier there are monitoring approaches that can separate the performance of the three entities involved—so any lack of performance for any of the entities can be pin-pointed. Otherwise ERP users may endure slow and undependable access to their ERP with no practical way to establish who or what is responsible. Comprehensive monitoring is critical to managing performance with multiple parties, a thousand miles of Internet lines, and many points of potential degradation.

There are many performance monitoring solutions, for all participants, from open source options to polished commercial offerings. An earnest MSP should have proactive monitoring as a default element of their offering.

IT Infrastructure Risk

A key *Cloud ERP* attribute is that the computer hardware holding the ERP application and data is managed by another entity—somewhere else. Bandwidth and the speed of light make the location of the ERP hardware appear insignificant on first look. However, increased distance does introduce more IT and communication infrastructure, all of which is subject to compromise due to spikes in usage demands, component failure, cyberattacks, natural disaster, terrorism, failed commercial enterprises and more.

The application should therefore be hosted closer, not farther from the bulk of the ERP application users.

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Back-up Options to Access the ERP

As described above there are reasons the ERP application might not be available to the ERP users, perhaps for extended periods. Because of this, it would be prudent to plan alternate back-up access to server resources at a different location so some or all operations can continue if the normal *Cloud ERP* is unavailable. It's not technically difficult for sellers to build such an ERP usage continuity capability, but it's rarely done and in our experience never proactively offered by the pure-play *Cloud ERP* vendors. The key reason is the *Cloud ERP* culture and sales orthodox emphasizes that 'Cloud Computing' is the obvious way of the future and completely dependable and safe, so the buyers don't need to think in terms of such back-up options.

Further, the existence of such back-up plans opens options for the buyers to not be as dependent on the *Cloud ERP* sellers—which weakens the overall control and culture of the *Cloud ERP* sellers that enables more opportunistic cost increases over time and company valuations tied to such rosy revenue projections.

Commercial Terms Related to ERP Access

Cloud ERP sellers tend to have the attitude that they're selling a monthly high-tech service such as internet access or web hosting. Contracts governing access to *Cloud ERP* often reflect this attitude with a stunning disconnect from the realities of the commercial relationship and the critical commercial controls a buyer should legitimately possess when attempting to arrange dependable and cost effective access to any mission-critical business application, like ERP.

This objective for proper control is underscored in that the risk profile between parties is radically different. The ERP buyer is at risk of not operating if the ERP become unavailable and the seller is at risk of a very small portion of their revenue if the buyer does not pay or leaves.

The effect of multiple poor commercial terms of typical *Cloud ERP* contracts, is that the providers can 'turn off the switch' to the *Cloud ERP* for effectively any contract breach—real or imagined. Practically, the ERP sellers would not 'turn off the switch' as a first recourse, but the specter of this option creates an intimidating environment in which the buyer has no effective options but to bow to the will of the seller—except for executing the radical step to select, pay for, and implement another ERP. See our white paper on ERP contracts.

Innovative and respectful sellers of *Cloud ERP* will take the above issues seriously and should find ways to offer a commercial relationship that protects buyer's legitimate interests. Unfortunately, many *Cloud ERP* sellers, especially the larger ones, are immersed in this abusive commercial culture and have literally trained themselves and their processes to firmly resist being changed. They actually believe their expectations of prospective customers are reasonable. The buyers will endure excuses and claims that the sellers have given all they can on various matters—however very little of this is true if the buyer knows how to navigate and control the process to purchase *Cloud ERP* access.

Unfortunately many buyers have blindly accepted this type of commercial relationship, which is one key reason this situation with poor commercial terms has become worse in recent years. However, new buyers are becoming increasingly aware of the commercial terms risk of the typical *Cloud ERP* offering and are pushing back. At Engleman Associates, we see this with most clients when they're educated about the risks and their options. Enough of this pushback will be the basis for eventual fundamental changes to the *Cloud ERP* industry direction and attitude.

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Cloud ERP Access Cost Approach

Cloud ERP is usually offered in a subscription model for the ERP application and hosting. This is mostly because the sellers:

- Believe they offer a service and not a product. This is reflected in the commonly used alternate name for Cloud business applications, which is 'Software-as-a-service' or SAAS.
- Believe periodic ongoing ERP access payments will be more attractive to buyers than the typically larger upfront initial amount for perpetual ERP licenses (note: *Cloud ERP* sellers may still attempt large upfront costs).
- May have technical or administrative issues with releasing ERP access in another way.
- Have a financial incentive to maintain the status quo—as the industry assumes the current poor cost control terms that most buyers accept is a path to increased ERP seller revenue over time.

Notwithstanding the typical subscription arrangement of *Cloud ERP* offerings, most *Cloud ERP* sellers can be competitively pushed to offer, other arrangements—including (1) decoupling the ERP software access and hosting, and (2) perpetual licenses in the 'Cloud'.

Decoupling the ERP software access and hosting: To gain access to the benefits of dedicated ERP hardware listed earlier in this document, the ERP software application has to be offered as a separate offering. Some ERP sellers offer this proactively as an option and others may only have a multi-tenant offering with no practical options for decoupling.

Perpetual licenses: A buyer has compelling reasons to own the ERP licenses, regardless of who hosts the ERP. Key reasons for direct ownership of ERP licenses are:

- Control: License ownership provides an increased level of control to the application and critical business data if there's a commercial dispute (especially if not hosted by the ERP seller but an independent MSP or the buyer). Most of these control issues were detailed in an earlier section on *Multi-Tenant or single instance ERP.*
- Cost reduction options: Ongoing cost of upgrades and support can usually be reduced or stopped if the buyer determines these items are losing value or the ERP user is planning to migrate away from the ERP in the foreseeable future. With *Cloud ERP*, periodic payments are mandatory until the buyer stops ERP usage. And because they are mandatory, there are little to no reasons for the seller to discount at future negotiating moments—but instead raise prices.
- An asset: The ERP license is owned and has value—even if accessed in the Cloud. This point could be material for a future acquirer, of the company user the ERP, who generally understands that with the subscription approach the buyer owns nothing and has tenuous commercial controls.

Be aware that most pure-play *Cloud ERP* offerings will lead with generalized statements that the cost to access their ERP is less expensive than classic on-premise ERP. Over time this is almost never true based on the nature of typical control the sellers have over the buyers in a *Cloud ERP* environment.

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The key to initial and ongoing ERP access cost control is to understand what ERP access is needed, arrange discounted pricing to access (usually around 50%), and most importantly put in place ongoing cost increase terms that are tied to a favorable escalation process, such as an inflation index. Much more on ERP access cost control.

Implementation of *Cloud ERP*

Whether a modernized ERP software is deployed in the 'Cloud' or 'on-premise', this has no connection to what effort will be needed by a business to design future business processes/metrics and migrate to a new ERP. The only difference is the relatively minor effort to set up some hardware and install the ERP with an on-premise project.

Whether *Cloud ERP* or on-premise ERP, the main factors affecting implementation effort are capabilities and complexity of the ERP application, strength of the implementer; and readiness, talent, and capacity of the buyer to lead the ERP implementation effort. **Therefore any claims of an 'easier implementation' from any *Cloud ERP* application vendor, if true, can only mean less functionality or fewer configurability options compared to other ERP solutions without such limitations.**

Conclusion

Everything is going to the *Cloud*—so say the pure-play *Cloud ERP* sellers and many of their industry analyst friends. And many ERP sellers that started with on-premise ERP are following along as they have created 'Cloud versions' and many have Cloud lingo in their branding.

However, as this paper points out, this unquestioned 'Cloud movement' is not quite the nirvana many proclaim and the term 'Cloud' may actually hold the more typical meaning of obscurity, danger, and lack of direction. You know, 'Head in the clouds' or 'There are dark clouds of the horizon'. Conversely this paper points out positive aspects of *Cloud ERP*, 'the cloud's silver lining' while containing the negative aspects.

The current undesirable aspects for how most *Cloud ERP* is sold will likely be forced out over time in favor of more fair default techniques and terms. This opinion is based on many ERP selection projects at Engleman Associate, Inc. in which most ERP buyers, once briefed, understand why the typical *Cloud ERP* approach and offer' holds many problems and join the growing force pushing back to the current unbalanced and frankly abusive *Cloud ERP* industry and culture. Also helping to correct the situation will likely be some *Cloud ERP* providers who find that being proactively fair with prospects is a way to win more projects and potentially more revenue over time as compared to continuing to push this current one-sided status quo.

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