The Cloudburst: Hitting New Heights With Cloud-Based Environmental Software

White Paper

Enviance
Cloud computing seems to be the latest buzzword in technology. Companies from Apple to Microsoft are newly touting applications and capabilities “in the cloud.” While the general benefits of cloud-based software are more commonly known, few companies with compliance obligations and environmental personnel understand the significant benefits that cloud-based systems offer for environmental data measurement, management and reporting. This white paper explores the advantages of environmental management in the cloud and what additional value can be achieved using a cloud-based system for environmental data.

**Why Would Anyone Choose the Cloud?**

Traditional client/server software has been a staple of businesses for decades and successfully so. Why would anyone choose cloud- or web-based software for their business needs over traditional software? Companies in all market sectors are realizing the general benefits afforded by cloud-based software. These benefits include:

- **World-class software for any enterprise** – Software in the cloud is managed and maintained remotely by the software provider. In addition software updates, upgrades and security are the provider’s responsibility, which means that organizations of any size can benefit from cloud-based software without the time and personnel required by traditional software solutions.

- **Cost savings** – The pricing model of cloud-based systems allow companies to lease or “rent” without the upfront cost of a traditional software license purchase. In addition, businesses save by having no additional hardware, installation, maintenance or personnel costs.

- **Time savings** – The online delivery of cloud-based software means not only quicker and easier deployments for companies, but that applicable personnel can access the application and the data it houses via the Web anytime, anywhere.

- **Understanding the broader impact** – Cloud-based systems can offer comparisons of results between
companies or comparison to an industry index. In addition, clients benefit from the ability to create an index for an industry or market segment and compare their performance to that index.

- **Information exchange** – Web-based software also enables the exchange of information between communities, enabling companies to share non-competitive information that can yield great benefit when trying to assess risks.

**The Cloud Advantage**

In addition to these benefits that all companies in all sectors experience when using cloud-based software, however, organizations can experience specific advantages when managing their environmental data in the cloud. These include:

- **Agility** – Cloud software is designed to be flexible and easily configured for the end user. While traditional EHS software deployments require in-house personnel to provision users, manage security and change the underlying data scheme, cloud-based systems support these operations at runtime, without downtime and by the end user. As a result, environmental personnel have the ability with cloud-based environmental software to meet their changing needs and requirements without involving IT for administrative or development tasks that can take days or weeks.

- **Interoperability** – Cloud software needs to be able to integrate with client data sources. As a result, the market has shifted to favor cloud applications given their ability to connect to disparate data sources. For example, cloud technology is able to utilize web services to integrate to data that sits behind a firewall in a legacy system. In addition, there are many third party providers that provide connectors and SaaS integration platforms. These capabilities have enabled some cloud-based software providers to receive many millions of measurements daily from customers, from a wide variety of data sources such as data historians, SCADA software, SAP and CRM packages, relational databases and Excel files.

- **Scalability** – Cloud architectures are designed with scalability in mind. This means that an EHS group can store large amounts of historical data in a cloud environmental system with no problems or hiccups. This is critical when recording measurements from automatic monitors at hourly or minute intervals that can have compliance ramifications. For
instance, many regulations work on rolling six or 15 minute averages. It’s simply unacceptable to evaluate these measurements on a daily or less frequent basis. Traditional EHS software, in contrast, is generally not designed for pluggable or horizontal scalability since it needs to only handle one customer at a time.

- **Data consolidation** – Storing all relevant EHS data in a single application – available at all times – is transformative. Data from otherwise disconnected data sources can be compared, calculated, aggregated and analyzed on a systemic and automatic basis. Security can more easily be managed. Processes and workflow triggered by data events can be tied back to those events and historically recorded.

- **Knowledge feedback** – Storing all environmental data in a single, centralized location for an organization is just the tip of the iceberg in terms of how environmental data can be utilized. Some cloud-based environmental systems use data from a client to create a feedback/process loop for proactive environmental management.

- **Knowledge networks** – Similar to social networking technology, cloud software is uniquely positioned to leverage the knowledge of multiple customers – in real-time – in order to help those companies improve their own operations. Upcoming environmental business intelligence applications in the cloud will offer the ability to seamlessly share data between and across customers, enabling companies to draw inferences on how they compare to their peers in aggregate, which allows them to make better business decisions. As an example, a business may learn that they are in the 95th percentile for energy intensity – energy consumption per unit of product produced – in its industry sector and decide to take action to reduce their energy consumption.

In addition, these upcoming applications will offer the ability for two participating client organizations to share non-proprietary data between each other to help improve best practices and solve challenges in the supply chain. A supplier may elect to publish their emissions, for example, to show a retailer that they are improving and use the data as a competitive advantage over other suppliers.
Reporting from the Cloud

Reporting almost always accompanies regulatory compliance and many organizations also choose to leverage reports for sustainability, corporate social responsibility and even financial purposes as well. Cloud-based environmental software enables organizations to gain even more value throughout their reporting process.

The agility of environmental software in the cloud means that new reports can be defined, or existing reports modified on the fly, enabling both the most accurate and desired report possible without resorting to a developer modifying a traditional corporate report on a database server somewhere within the organization.

In addition, since cloud-based environmental software is both scalable and interoperable – and offers true cross-source environmental data consolidation – businesses have no reason for any critical pieces of data to be missing from a report. The accuracy of distributed data is often suspect, and different spreadsheets from different facilities creates gaps in client reports. Companies benefit from a single location with all the data needed to generate accurate and comprehensive reports.

With the key benefit of “knowledge feedback,” whereby report metrics can be continually checked and evaluated against defined limits, there are no surprises with the output of a report. Businesses can be aware on an hour by hour, day by day basis exactly how they stand on any given requirement or regulation with no surprises when it comes time to run and submit a report to internal or external stakeholders.

Collaboration, Cloud-Style

Cloud-based environmental software currently enables users to collaborate across business processes, assign and delegate tasks and workflows, comment on and track the history of ongoing workflows, and share reports and dashboards with key performance indicators for the group to see.

Leading cloud software vendors in the EHS sector are preparing to enable the sharing of configured application “actions” that can be reused repeatedly. In addition, leading vendors anticipate enabling the potential for data-driven, intelligent collaboration not just across users, but across client organizations through knowledge networks. For example, a supplier and a vendor may collaborate to engage on a specific project, such as a water or energy reduction initiative. By sharing data between the supplier and vendor, the result is lower cost for the both.

Leveraging the Cloud for Business Transformation

Cloud environmental software has long allowed companies to quickly adjust to changing regulation schemes and proactively adjust practices well before compliance
problems arise. The flexibility and scalability of a cloud platform allows adaptation to changing regulations and business operations in a matter of days as opposed to weeks or months. This enables EHS organizations to focus on compliance and sustainability instead of software and data sources.

It has become increasingly important, however, for environmental data to be leveraged as another metric that impacts the bottom line. Let’s face it: regulatory fines cost money. In contrast, addressing potential inefficiencies and costs in the supply chain can save money. Reducing resource consumption and becoming more efficient with energy also saves money. In a cap-and-trade scheme, reduced greenhouse gas (GHG) emissions become a form of currency. And shareholders – as well as the public – are increasingly demanding that companies share their sustainability performance and are judging them against competitors by that performance.

All of these indicators are informed by the raw and aggregate environmental data that a cloud-based environmental platform digests and calculates for businesses on a daily basis, numbering in the hundreds of millions of measurements handled daily for top vendors. This raw information is precisely what can be automatically leveraged by the software to elevate environmental data from simply a regulatory issue to a corporate financial matter.

**Conclusion**

Cloud-based environmental software provides distinct advantages over traditional client/server software. Companies can leverage cloud technology to optimize their environmental data and business with the systematic abilities to:

- Record and track the EHS regulation to which they are subject
- Define, complete and track repeatable processes for managing EHS events
- Share key metrics with stakeholders inside and outside the EHS group
- Easily report on data and performance

Cloud environmental platforms become a critical centralized, always available repository for the environmental institutional knowledge that will grow with the business and their needs.

**About Enviance**

Enviance is the leading provider of Environmental ERP software. With more than a decade of experience providing environmental data management and expertise, Enviance’s proven system is used by the world’s largest corporations and government agencies.

Enviance maintains deep domain expertise in EHS management and technology, and has
more than 17,000 users in more than 49 countries, including American Electric Power, Pfizer, Syngenta, Sempra Energy, U.S. Army, Chevron, Fujifilm, Conoco Phillips and DuPont. Industry leaders have used Enviance to streamline GHG management since 2006.

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