Achieving Green Business Goals with SaaS Efficiencies and IntraLinks

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper
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EMA™ IT & DATA MANAGEMENT RESEARCH, INDUSTRY ANALYSIS & CONSULTING

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Executive Summary

Increasingly, businesses are seeking ways to reduce both operational costs and their impact on the environment. Software as a Service (SaaS) solutions offer a new paradigm in green operations for many industries with external and consolidated IT resources used across locations and geographies. SaaS-based solutions that transform and optimize business process collaboration efforts allow an organization to reduce costs, meet regulatory compliance objectives, and achieve green business goals by leveraging opportunities for resource optimization and the reduction of paper consumption, document shipping, and travel requirements. By leveraging SaaS solutions provided by IntraLinks, organizations can reap green benefits while transforming business processes and eliminating the need to internally manage server consolidations, virtualization services, and both hardware and software upgrades.

Introduction: Green Marketplace Primer

Business operations have an enormous impact on the environment. Consider that every business trip and each document composed, delivered, printed, mailed, faxed, or emailed contributes in varying degrees to a company's "carbon footprint" as well as to other environmental consequences. The co-dependency of business operations and environmental conditions is often referred to as "sustainability," or the process of ensuring that a consistent level of natural resources is maintained to uphold the existing productivity and profitability of commercial enterprises.

Green operational practices have become popular as they help organizations achieve sustainability by reducing short-term expenses related to consumption and contributing to the long-term preservation of natural resource availability. The largest consumption factors include infrastructure operation (technology and facilities), transportation, shipping and the use of disposable materials, such as paper. The carbon footprint associated with paper can be substantial. For every million pages of paper consumed (200 cases), over 12 tons of CO_2 is emitted into the atmosphere.[1]

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The foundation of green operational practices is based on the "triple bottom line" principle which defines an enterprise's success based on its economic, environmental and social performance. Just as the logging industry learned they need to plant a tree for each one they cut, corporations today are increasingly embracing the reality of resource preservation and conservation as a requirement to their future plans for commercial success.

Technology solutions are integral to nearly every present-day business objective. In aggregate, they require millions of servers, workstations, and other information technology (IT) components. While cost is always a consideration, their impact to environmental sustainability is often unaccounted. Evolving from the need to reduce the impact of these components, "green IT" processes and solutions achieve a variety of business economic and social responsibility goals. ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) analysts define green IT as "products, services, and practices designed to improve the efficiency of computing resources in such a way as to reduce the environmental impact of their utilization."

1 Environmental impact estimate was made using the Environmental Defense Fund Paper Calculator (http://www.papercalculator.org) and assumes each case of paper weighs 52lbs and contains no recycled content.

Today, green solutions are considered fundamental to any economically viable business plan. These solutions provide a wide range of direct benefits including:

Reduction of Operational Costs

According to EMA primary research, 94% of all organizations that introduce green initiatives do so with cost reduction as one of their most important business drivers.[2] A fact not surprising as overall reductions in energy consumption, IT purchases, and travel expenditure can have a profound effect on improving corporate profitability margins. For instance, a solution that automates inter-company paper-based processes can enable significant cost-savings related to raw materials and travel while reducing environmental impact.

Demonstrating Social Responsibility

Despite common belief, many enterprises introduce green initiatives specifically aimed at reducing the carbon impact of their operations to meet sustainability goals for altruistic reasons. In fact, according to EMA survey data, social responsibility is the second-most common reason for the introduction of green initiatives (behind only cost reduction) with 86% of respondents indicating this as a critical driver.[2]

Achieving Regulatory Compliance

Various associations and agencies continue to introduce regulatory compliance initiatives aimed at achieving environmental and conservation goals. According to a report issued by the Organization for Economic Co-Operation and Development (OECD), the top three most common environmental compliance programs target energy use, global warming (greenhouse gas production), and toxicity.[3] Compliance initiatives have also been enacted to eliminate the toxic dumping of electronic components (commonly called, "e-waste"). Europe has been leading this charge with the enactment of the Waste Electrical and Electronic Equipment Directive. Implemented in 2002, the directive holds manufacturers responsible for the disposal of electronic components at end-of-life. The state of California adopted a similar program in 2007 as part of its Restriction on the Use of Certain Hazardous Substances (RoHS) legislation.

Generating Carbon Offset Credits

Somewhat related to achieving regulatory compliance are programs that generate revenue from reduced utilization of energy and carbon production. Popularly referred to as "cap and trade," these programs place hard limits on the amount of energy that can be consumed and/or carbon generated by commercial and industrial enterprises. If a business uses less than its resource allotment, it earns certificates for the difference which can be traded to another company that exceeds its resource allotment.

Green certificate trading is well-established in a number of countries worldwide – most prominently Italy, France, Great Britain, Australia, Belgium, Sweden, Denmark and the Netherlands. In the United States, congressional legislation is pending for the introduction of a national program.[4] As of this writing, only Connecticut, Pennsylvania and Nevada have active utility-based cap and trade programs underway. Twenty-four states, however, have adopted compliance market programs.

2 "The True Value of Green IT – An EMA Research Report", October 2008

3 "Towards Green ICT Strategies: Assessing Policies and Programmes on ICT and the Environment", June 2009

4 There are principally three bills currently in review by congress: The Kerry-Boxer bill (S. 1733), the Waxman-Markey bill (H.R. 2454), and the Lieberman-Warner bill (S. 2191). It is unclear at the time of this writing which bill, if any, will pass and what provisions will be included in the final edition.

Voluntary markets for renewable energy certificates – such as the Climate Registry, the Voluntary Carbon Standard, the California Climate Action Registry, and The Gold Standard's Voluntary Emission Reduction standard – have also been established in or extended to the U.S. Although voluntary energy certificates carry reduced premiums versus certificates from regulated markets, a fully functional market has yet to emerge as limited regulatory oversight carries greater instances of fraud, creating a need for increased transparency. Secure reporting and activity audit trails can improve buyer confidence and help to broaden this emerging category.

Meeting Site Limitations

Utilities may impose limits on the amount of power that can be drawn by individual consumer locations to ensure baseload capacity is not exceeded. Organizations served by utilities observing these restrictions must carefully monitor and manage their electricity use – often by adopting and reporting on energy efficient practices.

Increasing Marketing and Business Opportunities

Green programs make good press. Many businesses have found significant marketing opportunities in otherwise unattainable media outlets from the introduction of environmentally friendly processes. Public companies may be able to associate with stock funds – such as the Winslow Green Growth fund, the Green Century Balanced fund, and the Sierra Club Stock fund – that focus on socially responsible companies. Additionally, once companies have established a sustainability program, they may gain the opportunity to work with suppliers and customers who would otherwise be constrained by environmental policies and regulatory compliance restrictions.

Green Solution Categories

A wide variety of green operational practices, products and services are used to maximize the benefits articulated above. Discrete solutions can be used independently or in coordination with each other to transform business processes. There are many solutions that target business operations – from addressing infrastructure management to decreasing the need to travel, ship goods, and consume materials. The most impactful IT-based infrastructure solutions fall into the categories discussed below:

Server Consolidation

Dedicated servers are typically sized well beyond performance and computing requirements.[5] Server consolidation replaces a large number of redundant platforms with a few powerful and energy-efficient devices. By reducing the total number of supported servers in an IT infrastructure, organizations can significantly reduce hardware, software, environmental (HVAC, networking) and energy consumption costs. The greatest efficiencies can be achieved by pooling resources from multiple business entities – which is a primary value proposition for Cloud and SaaS solutions.

Virtualization

A primary facilitator for data center consolidation is server virtualization. In its most common usage, end users will access independent systems whose computing services are performed on a single hardware platform. System management and administration is also simplified.

5 Based on the traditional practice of sizing servers at twice that of maximum expected performance requirements

Hardware Efficiency

Hardware improvements reduce energy consumption while increasing computing densities, enabling more processes to run on fewer physical assets. For instance, new chip sets from leading hardware providers such as IBM, Dell and HP allow CPUs to throttle back power utilization during non-peak periods to reduce direct energy consumption and heat dissipation. Although these "greener" platforms can replace less efficient servers, the greatest value is achieved when consolidating resources across multiple enterprises, such as with a multi-tenant SaaS solution.

E-Waste Reduction

Computing hardware is composed of extremely toxic material including lead, mercury, cadmium and hexavalent chromium. Halogens are commonly added to the plastic resin casings of computer equipment as a fire retardant, making recycling difficult and costly. Although vendors like Dell, HP, and IBM have established "take-back" programs to promote recycling, reducing the need for new devices via virtualization and leveraging external or SaaS solutions are more effective methods for reducing e-waste.

Telecommuting and Remote Services

Carbon-based transportation is one of the most significant sources of greenhouse gas emissions. Businesses that enable employees to avoid commuting and other travel will significantly lower their carbon footprint.[6] IT services that achieve this goal include Internet-based conferencing and collaboration solutions, electronic data transfers, and remote access to corporate assets. Remote services including secure data transmission and SaaS-based content exchanges also reduce the need to transport manuals, binders, documents and storage media such as CDs, DVDs and external drives.

Green Solution Category	Sample Providers
Server Consolidation	Dell, HP, IBM
Virtualization	VMware, Citrix, Microsoft
Hardware Efficiency	Dell, HP, IBM
E-Waste Reduction	Apple, Dell, HP, IBM
Telecommuting Services	CrossLoop, GoToMeeting, SkyFex, WebEx, YuuGuu
Remote Access	Bomgar, GoToAssist, IntraLinks, Kaseya, LANDesk

Figure 1: Sample vendors that provide green IT solutions

The Emerging Use of Green Solutions

According to EMA primary research, 57% of organizations have implemented green initiatives at the enterprise-level. Incidence of green programs is twice as common in large enterprise firms than in mid- and small-sized businesses. EMA research identified server consolidation, improved hardware efficiency and virtualization as the three most popular IT initiatives with green benefit currently in adoption.

All three of these initiatives are more effective when used to streamline operations by leveraging large-scale SaaS solutions. Although more often implemented for convenience and cost-reduction than for green benefits, telecommuting and remote access solutions are also increasing in adoption. Europe has

6 Actual carbon savings will depend on many variables including the amount of travel distance reduced and the type of transportation that would have been used.

the greatest incidence of corporate green initiatives with 74% of surveyed organizations reporting adoption. Only half the businesses surveyed from Asia-Pacific and North America report active green programs.

Discrete Manufacturing firms (excluding high tech) lead all industry sectors in adoption of green initiatives and solutions. According to EMA survey data, 71% report investments in environmentally related programs. Financial institutions are a close second (68%) followed by high technology companies (65%). The lowest adoption rates are in government institutions – only 36% have deployed green initiatives. Recently, however, U.S. federal entities are employing mandates to improve energy effectiveness and reduce their environmental impact.

As above, many organizations are challenged by lack of knowledge, time and/or resources regarding the implementation of impactful green initiatives. SaaS and other external IT service providers are uniquely positioned to address these challenges as they possess the expertise to quickly and effectively implement meaningful programs while leveraging resource consolidation across multiple business entities. For instance, IntraLinks, a provider of SaaS based business process collaboration solutions, enables participating organizations to reduce environmental impact while simultaneously reducing management overhead and labor cost.

Greening Your Operations with IntraLinks

IntraLinks provides SaaS based solutions leveraging resource consolidation and remote services to help reduce operational costs, decrease the time needed to perform a business process and meet green business goals.

The primary focus of the IntraLinks solution is a content collaboration and distribution platform that addresses various business processes including strategic corporate events (such as facilitating acquisitions and divestitures), standard enterprise processes (such as contract management for corporate counsels) and complex, industry-specific functions (such as study site start-up for pharmaceutical clinical trials).

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By leveraging IntraLinks' SaaS approach, organizations can significantly reduce IT-related capital expenditure because they do not need to invest in their own hardware, manage server consolidation, virtualization or maintain costly software upgrades. With an intuitive interface, guided workflows, and one-click content filters, IntraLinks enables fast, secure and cost-effective business process collaboration.

As a SaaS solution, the IntraLinks platform utilizes shared physical resources that consolidate computing requirements across multiple organizations. Less hardware translates to less energy consumption, lower operating costs (for support staff, HVAC, networking, etc.), reduced e-waste and a smaller carbon footprint. Backup and disaster recovery costs are also reduced.

IntraLinks streamlines collaboration projects while virtually eliminating the often significant need for paper during document review, approval, execution and archiving. Reduced printer usage leads to cost savings related to less power and toner consumption while lowering e-waste (fewer toner cartridges). Document transportation is significantly reduced further decreasing environmental impact.

IntraLinks reduces these impacts by securely and digitally distributing data to users across the globe. Since the service is accessible from any Web browser – at home, in the office, or even when mobile – the solution has the added benefit of significantly reducing the number of personnel that need to travel to physically receive and respond to informational documents, contracts, approvals, or procedural updates.

By its very nature as an external service provider, IntraLinks helps organizations meet company-wide energy and e-waste reduction objectives. Enterprise projects can grow in scope without associated energy costs or carbon emission increases. Organizations that transition to IntraLinks may even see a reduction in energy consumption, enabling them to lower operational costs, earn carbon offset credits, and take advantage of power company incentives in participating locations.

The Green Value of SaaS-Based Business Process Collaboration

Business process collaboration projects encompass a wide-variety of use cases. With a platform such as IntraLinks, these projects can be simply deployed and easily managed to achieve enterprise green objectives.

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Consider, as an example, mergers and acquisitions (M&A) which involve many documents and thousands of pages. It is crucial that these documents be reviewed quickly and securely. With IntraLinks, the document delivery and diligence process is digital. Files do not need to be printed or shipped and updates are instantly available for review. High data security alleviates the fear of papers falling into the wrong hands and proof of compliance is available via detailed audit reports. As a SaaS solution, there is no need to purchase on-site servers or other IT resources, preventing additional energy consumption and eventual e-waste. With this approach, more parties can participate in the business process from more locations without needing to print and ship additional copies of documentation or requiring personnel to travel to a physical data room. As a result, IntraLinks significantly minimizes the environmental impact of excessive paper consumption and travel within the M&A process.

The economic and environmental values that are achieved from the utilization of IntraLinks' approach to managing M&A transactions are quantifiable. Within a single deal, the sell-side costs associated with photocopying and printing tens of thousands of pages, physical data room facilities, and staff necessary for monitoring the data room and managing computing services over the course of several months quickly add up to expenses that easily exceed $100,000. With the IntraLinks M&A solution, these operational expenses are eliminated. Environmental impacts are also mitigated.

Looking at just the carbon impact, consider a typical scenario for a large deal which involves 5 different buyers, each with deal teams consisting of 15 or more people. Assuming these 75 individuals plus 5 people from the sell-side deal team each travel an average of 2500 miles by air, their transportation to the meeting site alone will result in the emission of 34 tons of CO_2,[7] which can be completely eliminated with the introduction of virtual transaction processes. Additionally, a half-ton of CO_2 emissions is prevented for every 10,000 pages of paper that do not require printing.[8]

A different use case involves clinical trials sponsored by life sciences companies. Throughout the clinical trial process, there are numerous scenarios where sensitive information needs to be rapidly and securely distributed to (and collected from) hundreds or even thousands of individuals around the world. Critical information, such as the details of a serious adverse event, like the hospitalization of a trial participant, needs to be delivered to relevant parties within a specified period of time. The process is highly regulated and requires accurate confirmation of delivery along with other information for compliance reporting. Prior to the availability of SaaS-based solutions, life sciences organizations typically either express shipped documents – contributing to air and ground transportation greenhouse gas emissions – or faxed the critical clinical documents, creating additional paper and power costs and contributing to e-waste. By providing a digital, SaaS-based environment for secure document delivery, IntraLinks eliminates the multiplier effect of physical paper consumption and distribution, minimizing associated costs and environmental impact.

To quantify this example, let's assume that a large pharmaceutical company needs to ship more than one million clinical trial safety packages per year. At an average of $20 per package for overnight shipping, eliminating the need to physically ship documents will result in savings of more than $20 million annually in addition to eliminating costs associated with staffing and printing. From a green perspective, assuming each package contains just two pages and an envelope, the production of more than 36 tons of CO_2 emissions from the paper creation and 24 tons of CO_2 emissions from document delivery[9] will be prevented.

These value propositions represent only a portion of the financial and environmental savings opportunities that can be achieved by embracing secure, digital processes for business collaboration.

EMA Perspective

Green IT and green operational concepts are primarily built on the principle of doing more with less. Consolidation practices achieve this precept very well, allowing faster and more powerful processing to occur on fewer physical systems that are optimized for greater energy efficiencies. Most discussion on consolidation focuses on the condensing of resources *within* an organization.

A changing paradigm for green solutions is only now being introduced by SaaS and cloud service providers where consolidation practices can be achieved across a large number of businesses and industries. Many businesses do not have large enough internal data centers or sufficient IT support resources to maximize the value from consolidation initiatives. IT service providers can harness the collective resource reduction potential of both large and small organizations to deliver significant energy efficiencies and e-waste reduction.

7 As determined by the on-line calculator provided by Carbonfund.org (http://www.carbonfund.org/Calculators#Home) for travel between Chicago and Miami

8 Based on Environmental Defense Fund Paper Calculator results identified in the introduction of this paper

9 Assuming 15 tons of paper delivered from New York to Miami as identified by the Scandinavian Airlines Emission Calculator for cargo (http://sasems.port.se/EmissionCalc.cfm?lang=1&utbryt=0&sid=cargo&left=cargo)

SaaS and cloud service solutions can achieve greater value in consolidation by hosting a series of like services on common servers. Even large enterprises typically consolidate onto multi-purpose platforms requiring multiple software installations and data storage structures. With a service such as IntraLinks, a common application can be leveraged to support a large number of clients, providing greater opportunities for improved computing efficiencies. Solutions that transform processes and operations for business benefit while also delivering significant green benefit should be considered above solutions that only address one benefit or the other. Whether green practices are adopted for financial, social, or regulatory compliance reasons, SaaS-based solutions, such as IntraLinks, provide clear and quantifiable reductions in environmental impact.

About IntraLinks

IntraLinks® is a leading global provider of Software-as-a-Service solutions for securely managing content, exchanging critical business information and collaborating within and among organizations. IntraLinks' cloud-based solutions enable organizations to control, track, search and exchange time-sensitive information inside and outside the firewall, all within a secure and easy-to-use environment, eliminating the inherent risks and inefficiencies of using email, fax, courier services and other existing solutions to collaborate and exchange information. Professionals from organizations in industries including financial services, pharmaceutical, biotechnology, consumer, energy, industrial, legal, insurance, real estate, technology, and government agencies, have used IntraLinks solutions to transform slow, expensive, information-intensive tasks into streamlined, efficient, real-time business processes.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that specializes in going "beyond the surface" to provide deep insight across the full spectrum of IT management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise IT professionals and IT vendors at www.enterprisemanagement.com or follow EMA on Twitter.

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