



Chairman Dan Blair  
Vice Chairman Nanci Langley  
Commissioner Mark Acton  
Commissioner Ruth Goldway  
Commissioner Tony Hammond  
Postal Regulatory Commission  
Washington, D.C.

January 5, 2009

Dear Commissioners,

We have read with interest the PRC's monumental and seminal publications of December 19<sup>th</sup> & 20<sup>th</sup> regarding the Universal Service Obligation and the PRC's opinions on postal and non-postal services. The PRC staff and contributing authors are to be complimented for an outstanding job in crystallizing the opportunities and challenges the USPS now faces, explaining how we've arrived at this juncture, and encouraging stakeholders to think outside-the-box on how to ensure its long-term sustainability. We have noted the invitation for public comment on the USO Report and we appreciate the opportunity to respond.

Enclosed with this letter is our response, a white paper entitled, "Redefining the Universal Service Obligation to Meet the Needs of the Modern-Day Postal Customer." It may function as something of a sequel to the written and oral testimony the PRC was kind enough to allow us to provide in May 2008. While "The Modern-Day Postal Customer" would have applicability to any national postal operator, it is most responsive to the situation of the world's greatest postal service, the U.S. Postal Service, and its valuable employees.

It is our view that the century-old standard for Universal Service - *to make available, so far as possible, to all the people of the United States, a rapid, efficient, nation-wide, and world-wide postal service with adequate facilities at reasonable charges* - no longer meets the communications expectations of many senders and recipients of postal mail, whose habits and needs have evolved with the changing technological landscape. As we explain, not "all of the people" of the U.S. have what could be considered, in light of current technologies and life- and work-styles, a sufficiently "efficient" service, nor facilities "adequate" to their needs. As the PRC report and various industry experts have publicly noted in recent weeks, it may not even be possible for the USPS to continue to provide universal service at the *current* levels, given the realities of its declining mail volumes, severely negative cash flows, mounting debt and pension liability burdens, and lack of new revenue streams to make up the shortfall.

If the century-old definition of the USO is too narrow a standard for today's mobile, wireless, Internet-connected, and cost-cutting society, the USO's focus on paper mail is still less desirable for message senders, recipients, and the financially struggling Postal Service itself. As a definitional matter, we believe it's crucial for the Postal Service to decide that it is not so much in the business of transporting paper mail as it is in the *trusted communications* business. And communications overall are moving

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away from the expense and inconvenience of receiving and managing paper, paper mail's requirement of a single fixed location and close proximity to that location, and its increasingly unnecessary ecological impact.

In "The Modern-Day Postal Customer," we discuss what modern-day communications recipients and senders really want, how they are going about getting it with or without posts' involvement, and, most pertinently, how the U.S. Postal Service can quickly reverse its fortunes by embracing *Internet-powered postal mail delivery* and *remotely accessible addresses*, Trusted Postal (transactional) Email, and Trusted Postal Advertising - what we collectively refer to as "Trusted Postal Multimedia."

Earth Class Mail Corp. is in the mail business. It does well only if the USPS and other national postal operators do well. Our fortunes are inextricably joined. What makes Earth Class Mail different is its suite of technologies that give posts the potential to double their existing customer base by making customers of all mail *recipients* - at higher margins - and to bring both recipients *and senders* online, which is where the future lies.

We estimate the Total Available Market (U.S.) for a private operator in charge of Internet-powered postal mail delivery, for U.S.-based consumers and small businesses alone, to be over \$25 billion. For a variety of reasons, the market would be still larger for the USPS. The available market for *non-U.S.* seekers of mailing or shipping addresses *within the U.S.* would be, based on our current statistics, another 40% greater. And we have not yet begun to discuss enterprise or government mail centers; the #1 ROI of providing Internet-powered postal mail delivery to military servicemembers; or potential revenues from online advertising through the same virtual mailboxes. Operating cost offsets from paper mail delivered digitally but not physically amount to still billions more (with stamp revenue still collected), while our advanced storage, retrieval, and sortation technologies could save the postal service many billions on mail processing even if it never adopted Internet-powered postal mail delivery.

As we did last May, we continue to await an opportunity to discuss our ideas and technologies with our own national postal operator in the U.S. As you know, other postal operators like Swiss Post have already leveraged their trust brands to create very sizeable business units in the market for trusted electronic communications, and are now in various stages of due diligence or deployment of Earth Class Mail's technology to further expand these revenue streams. It would be ironic if the world's largest post, in the world's largest postal market, were not on the leading edge of this innovation, with the innovator in question in its back yard.

It is also our goal, particularly in today's economy, to assist the members of one of the world's largest employee groups, the USPS postal workers. We want to ensure that *communications jobs* (previously, "postal jobs") remain with postal workers, provide for long term job stability, grow greener, become more technologically durable than ever before, and continue to sustain the U.S. economy. As our President-elect has encouraged both government and the private sector to do, we believe that the USPS can create hundreds of thousands of new "green jobs" by launching Internet-powered postal mail

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delivery and remotely-accessible addresses under its own trust brand, right now. To do so would be to offset what would otherwise be almost certain job losses resulting from what many believe is a permanently declining trend in paper mail volumes.

Sincerely yours,

9706897D7F16434  
*Cameron Powell*  
DocuSigned By: Cameron Powell

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White Paper:

# Redefining the Universal Service Obligation to Meet the Needs of the Modern-Day Postal Customer

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## Preface

This white paper identifies market forces and technology opportunities common to the world's leading postal operators. However, the U.S. Postal Service is starkly different from other posts in many ways. For example, its mail volume exceeds the rest of the world's combined. The USPS also has its own universal service obligation and monopoly model, regulatory and governance structure, residential and commercial characteristics, privacy laws, relatively low energy costs, and high digital connectivity rates, among other things. Most posts in developed nations are not as purely mail- and parcel-oriented as the USPS is – they may have additional lines of business such banking or logistics, and they may compete in many other countries besides their own. While these posts' prosperity is by no means certain, such diversification makes their chances correspondingly greater. Some are much deeper into electronic services already, while others have very little Internet connectivity in their countries. Some are liberalized, some are privatized, some are owned by private equity investors and some are publicly traded companies.

Given these variations among countries and their postal operators, we have tried to draw interesting and relevant examples from all corners of the marketplace and not bias the report toward the U.S. or any particular country or region. Clearly, not all findings will apply to all posts, but that's not to say that a U.S. trend today may not reach Europe a few years from now, or that a successful implementation of a new postal-related business or technology in Europe might not have applicability in the U.S. market. We have merely tried to bring multiple perspectives to the postal question for the benefit of all global participants.

## Executive Summary

Earth Class Mail Corp. was conceived five years ago on the proposition that as the letter-mail divisions of the world's national post offices come to recognize that their core business is not merely the distribution of paper but also *communications*, we will be ready to assist them across the digital divide. Now the urgency is greater than ever, because the posts and their 5 million employees constitute pillars of the international economy, upon which millions more employees of related businesses are highly dependent.

Given the heightened global concern for the long-term economic viability of the letter posts in light of increasing electronic substitution, we will cover in this white paper the following key ideas and proposed solutions for postal operators' eroding letter monopolies:

- **Redefining Universal Service to Remain Relevant.** The century-old concept of what constitutes "reasonable access" to mail must change to reflect what message-senders – but especially recipients – are demanding as "reasonable" in 2009.
- **Competitive Communications Giants.** We'll show how posts can transition their trust brands and revenue from physical mail distribution to Internet-based communications services and maintain their key role in a society that's increasingly digital.
- **Re-Engineering the Government and Corporate Mail Center.** The era of the large corporate mail center is ending now. Organizations that we and our partners and colleagues talk to want to turn their mail centers into capture centers. We aim to help the posts lead rather than follow.
- **New, High-Margin Revenues.** Taking a lesson from the telecom companies, we show how to make paying customers out of both the senders *and* recipients of written communications by providing recipients with Internet-powered addresses, conveniences, services, and security they will gladly pay for – including millions of recipients outside any post's borders.
- **Significant Operational Cost Savings.** First, these savings can be realized in reduced sortation and delivery costs, but they can also come from what we might call "reverse cherry-picking" (i.e., how postal operators can turn the most expensive consumers into the lowest-cost and highest-revenue ones).
- **The Third "Monopoly": Monetizing Addresses.** Beyond the letter monopoly and the mailbox monopoly, we'll explain how posts can mine gold from virtual and even vanity street addresses.
  - o We'll show how citizens and businesses who have a need for an address other than or in addition to their primary home or place of business are being better served by free-market alternatives
- **An End to Costly Undeliverable Mail**
- **Real Green.** See how posts can leverage the Internet to effect immediate ecological benefits.
- **Saving and Even Creating Jobs.** We show where the postal employees and unions can be redeployed in an online postal mail world – in greener, safer, more sustainable jobs.

- **Parcels, Too.** The exterior of parcels can be scanned but their contents cannot be. When customers are given online views of inbound parcels, there can be major improvements in delivery times and reductions in costs associated with failed or incorrect delivery of parcels.

Fortunately, Internet-powered postal-mail delivery can be both tested and phased in gradually, in select markets or with hand-picked customer segments who have great interest in online postal mail and/or great pain from traditional mail delivery (such as deployed military personnel, the source of perhaps the greatest cost savings of all<sup>1</sup>), so that posts may track performance and guide the pace of their own (r)evolution.

### **The Confluence of Electronic Substitution and “Peak Mail”**

The postal industry’s *initial* reaction to the advent of electronic substitution was not unlike how the railroads reacted to new competition from trucking and aviation, how telegraph giants reacted to the innovation of the telephone, or how newspaper publishers first reacted to the Internet as a source for news and information. There has been an historic tendency, in particular among monopolies and oligopolies, to underestimate the impact of new technology on society until the competition irrevocably impacts their profitability and job retention.

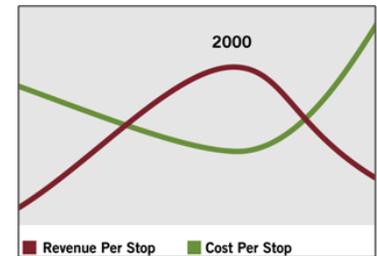
**In 2008 the postal industry arguably reached what might be called “Peak Mail”** – the point at which the global volume of paper-based postal mail stopped growing and began what appears to be, at least in many mature markets like the United States, a *permanent* decline in the wake of accelerating electronic substitution, heightened environmental awareness among businesses and government agencies, and a worldwide economic crisis.

There are those who believe the declining economy must be the primary reason for the decline of mail, and therefore that an improved economy will restore prior mail volumes. However, we are not alone in believing that **the poor economy is simply masking an accelerating move away from paper and its attendant costs and immobility.**

And yet posts cannot afford to guess wrong, because if the economy returns, as many believe, without a resurgent demand for paper, private market entrants will by then have already cut deeply into the natural business of the posts: communications, whatever the form.

At the same time the industry has suffered a spike in energy prices and, in some countries, posts remained burdened with the Universal Service Obligation and an oppressive amount of financial liability resulting from operating for so many years with insufficiently funded pension trusts.

The confluence of electronic-substitution trends and peak mail will vary by country, but mail volume itself is not the only key metric that drives a post's profitability or its long-term sustainability. It is also vital to understand a letter post's revenue-per-delivery-stop and cost-per-delivery-stop, and to note the trend lines, as displayed on the graph to the right. Posts in most developed countries must contend with the constant expansion of delivery points driven by population and business growth in their respective physical networks. Plus, they must budget for constant network reconfiguration and reinvestment in facilities, vehicles and capital equipment, pension liabilities and rising health care costs – all while satisfying their USOs, hedging against spikes in energy prices, and attempting to become “greener.”



This is hard enough to accomplish while mail volumes are increasing, but when mail volumes are being cannibalized by electronic substitution and further impacted by an economic crisis that has spared no country, the challenge becomes even greater.

Postal CEOs are faced with the further conundrum of how to *reduce* their ecological footprint while *growing* revenues and profits – they are now expected to do both at the same time. In most countries the post has the largest footprint of buildings and their attendant heating, lighting and electricity costs, as well as the largest fleet of road vehicles. Just the petroleum energy alone consumed by posts in fueling their transportation networks – and by the manufacture of the paper and printing of mailed items – represents one of the largest single consumption targets in developed countries (roughly 1% of oil consumption in the U.S., for example), and has been the subject of intense focus by environmental groups. All of this means that gains in energy efficiency must exceed a post's rate of growth if it is to prove that it is getting “greener” – an extraordinary challenge in itself (although one where embracing electronic substitution will clearly help achieve the goal).

Some posts saw these trends coming years ago and have been busy retooling their business models for a more digitally based economy. For others the advent of volume declines has not only exposed financial vulnerability but has even created a crisis of identity and purpose. Most developed countries have seen First Class (transactional letter) mail decline since about 2000 - usually at a rate of 1.5% to 4% per year – and have been able to counteract the effect on their profitability by making incremental cost-reduction moves, or by generating volume increases in advertising mail, or both. But faced with the new global economic realities and mounting ecological pressures, many major mailers are increasingly switching to electronic alternatives, and we have seen both transactional- and advertising-mail volumes decline simultaneously. One thing is certain: After a year like 2008 no post can expect the traditional revenue model of letter-mail delivery to sustain itself much longer against this tide of change.

Yet, the future may be brighter than it seems – much brighter, in fact, for progressive posts. These posts will employ new strategies to take advantage of the current economic climate and implement newly devised technology platforms to radically increase their operational efficiencies and to attract entirely new customer segments with trusted online services *that only national posts, in their role as a trusted communications provider, are in a position to offer.*

Few people would dispute that posts play an absolutely vital role in society. The national post is the second-largest employer in most countries, and posts employ some 9 million people worldwide; a major layoff of postal workers would multiply any nation's unemployment rate. Losing either the national postal operator or postal communications would be catastrophic to any industrialized or developing nation. The aftermath of Hurricane Katrina provided a dramatic example of the impact of postal disruption to personal lives, commerce and government activity.

It's true that posts still bind businesses to their customers, governments to their constituents, the elderly to their grandchildren, and traveling military personnel to their homes. Let us not forget that before Facebook and MySpace, posts were the original "social networks."

It is also true that over their several hundred years of existence, posts have on numerous occasions adapted major technology advances for their betterment – from the printing presses that enabled the invention of the postage stamp and the invention of the envelope on which postage could be affixed while sealing private information from the view of the courier, to the development of high-speed automated sorting machines to reduce manual labor and the car and airplane that replaced their horse-powered transportation fleets. However, almost all of these technological advances were for the benefit of *senders* or the postal operators themselves. **Historically there have been few innovations to answer the demand of *mail recipients*** – even as that demand has grown far beyond the limiting service of paper mail that is sent to a single, fixed location, in one's own country, and within driving distance of one's own location.

In no previous time in history has the postal industry seen technologically driven change occur as rapidly as during the past decade, with the advent of the Internet, the ubiquitous personal computer, and cheap and powerful mobile-communication devices. In no prior time has human behavior been so radically altered: the size, scope, and cost of running our businesses and governments; the number of days in a year that people spend traveling; the number of homes they own and the number of times they change residences in a lifetime; the number of jobs they hold or businesses they run (often from home); and the degree to which they have become virtually nomadic, no longer tied to a single home or work location yet constantly in communication with the Internet.

### **Modern Business and Society versus the Universal Service Obligation**

The Universal Service Obligation (USO) and the modern construct of the national postal monopoly are century-old concepts based on the technological world of 100 years ago. In essence,<sup>2</sup> the USO proposes to make available to all citizens of a country, so far as possible, a rapid, efficient, nationwide and worldwide postal service with adequate facilities at reasonable charges. The USO was rooted in a time when the vast majority of the population was living on farms or small, isolated rural communities, traveling on rutted roads was difficult, and people often lived out their entire existences within a few miles of where they were born.

Most businesses were very small, were contained in a single building, and did not have the costs of document retention and transportation imposed on corporations (and governments) today. The monopoly was granted to a single postal operator, usually owned by the government, in order to average out the costs of serving all the most distant and hard-to-reach citizens with the easiest-to-reach urban populations and thus to provide equality of access, postage rates and delivery service to all citizens. The post was the primary conduit for information on news of the day and from friends and families, politics, the delivery of urgently needed household items and farming supplies, and business transactions. Governments wanted all citizens to have equal service from the post, whether rich or poor, young or old, rural or urban.

In industrialized nations today only 3% of the population is engaged in agriculture (and most of these agricultural workers, by necessity, use the Internet to hedge commodity markets, get sophisticated weather forecasts, and manage their operations with sophisticated online software). **Larger enterprises and government agencies expensively deliver and re-deliver postal, courier, and interoffice mail, sometimes to far-flung employees in many different locations, and the paper must then be managed for years (at costs of \$20-90 per document).**<sup>3</sup> Mail recipients have better roads and transportation, and better communications connectivity, than they've ever had before. We've had to change our language to describe our world; we have "frequent flyer" miles, "telecommuters," "road warriors," and "long-distance relationships," along with a large global community of expatriates. Adult children in the United States, at least, are more likely than not to live far away from their parents, as evidenced by a boom in retirement communities, assisted-living facilities and nursing homes (such dislocation burdens children who must deal with their parents' mail when they are no longer able to manage their own affairs).

Because of downtown traffic snarls and high operating costs, some urban areas are now more difficult and expensive to deliver mail to than are rural or suburban neighborhoods. Millions of small businesses operate out of their owners' homes. Millions of businesses based in countries *outside* the world's largest markets want a business presence (i.e., addresses whose mailings are accessible) *in* the world's largest markets. For the first time, in many countries, individual Internet connections now outnumber physical mailboxes. Coincidentally many of *these* countries have limited or no mail delivery at all to households, and many cities, towns, villages and farms are more likely to get high-bandwidth Internet access before they ever see a postal carrier's truck or bicycle. They are excellent candidates for "leapfrogging" the long wait for conventional postal-delivery infrastructure and transitioning directly to online postal-mail delivery.

In short, **paper remains very costly to receive and handle in an era when technology has made it easily convertible or avoidable entirely.** Moreover, the physical distribution networks of today's postal operators – the buildings and delivery routes – remain dedicated to *fixed-location customers*, while the customers themselves have become increasingly *mobile* and *geographically disparate*, *have or desire multiple mailing addresses*, and are inclined to use *digital* communication methods that can follow them wherever they go. With the advent of cell phones, email, and even efax, the idea of having to travel to somewhere specific to receive a communication – like the way we used to rush home to receive an expected, previously scheduled phone call – is anathema to a younger generation that has grown up

with email, SMS, and powerfully functional mobile phones, PDAs, and personal computers. **The USO of the very near future, even for a country’s mainstream population, will not likely remain so narrowly defined as “mail for all” but “access for all” – and that means wireless, broadband, and their successors will need to be incorporated into the construct of what it means to “bind together a nation” through its national post.**

The definition of what “Universal Service” means to postal operators has thus become increasingly disconnected from what postal patrons now desire and need given their nomadic lifestyles and workstyles, large mail-receivers’ need to cut costs and increase productivity, and the need of separate, even international mailing addresses of businesses based at home. This paper will explore how Internet-powered postal mail and addressing technology can be adopted by national posts to better serve their customers universally – both residential and commercial – anytime and anywhere, even *outside* their own borders, via the Internet.

### **The Art of Postal Judo**

Earth Class Mail was formed in 2004 around the principle of certain martial arts, like Judo, in which the defender (in this case, a post) uses the attacker’s strength (in this case, the Internet) against him, rather than resisting it. Our goal has been to provide forward-thinking national posts with the means to leverage the Internet in order to build a more robust platform for postal services, and thus to help them ensure not only their survival but their economic vitality and growth in the digital age.

Despite annual postage increases and modest cost-cutting measures, leading national posts such as the U.S. Postal Service and Royal Mail are losing money in their letter divisions, implicitly redefining Universal Service by closing down local post offices, and sometimes even holding off on opening new ones where population shifts warrant. Still saddled with gargantuan amounts of pension-funding liabilities, these posts often find it difficult to allocate the capital necessary for investing in modernization, and sometimes even basic automation, without which operating costs cannot be trimmed sufficiently in response to reversing scale economies. Ironically, the challenge of getting budget approval for new equipment can become even more difficult when volumes are in decline, even though the higher productivity that would be attained by implementing better automation would be crucial to reducing operating costs.

It’s time for posts to change this game – to more fully exploit the Internet as a means of creating new revenue streams and reducing operational costs. The time has come to create a new medium of “online postal mail” – communications securely sent from known senders to known recipients through a trusted national carrier. **The national posts’ highly trusted brands, so well-recognized in the offline world, *must* be successfully integrated into the online world.**

## **Earth Class Mail: Internet-Powered Postal Mail Delivery and Remotely Accessible Addresses**

Earth Class Mail invented technologies to meet the demand for mail-related services of the overlooked half of every mailing transaction. Our technologies meet the demand of *mail recipients* for (1) new or additional mailing addresses that are not physically near them (particularly small businesses and consumers, but also enterprises), or (2) the mobility, convenience, and (particularly for enterprises) the cost-savings of Internet-powered postal mail, wherein paper envelopes and packages are imaged, the images are presented to recipients through the Internet or a wireless network, and the recipient has a comprehensive range of choices about what to do with the paper and, if the contents are scanned, the digital content too.

To understand Internet-powered postal mail delivery, think back to what the invention of the cellular phone did for the telephone business. The equivalent of “universal service” for phones was once landlines (in fact the term was first coined in a 1907 speech by AT&T President Theodore Vail). Before the development of cell-phone infrastructure, you could receive a landline phone call only by being physically present at the one location of your phone.

Today you can not only receive your calls nearly anywhere in the world but you can even have enough information about the caller to choose whether to answer the call or let it go to voicemail. You can find services to give you the right area code for the image you want to present. You can subscribe to Internet services that will re-route your calls depending on the caller and time of day. As we explain below, **we have created postal parallels to each of these modern-day technological wonders.**

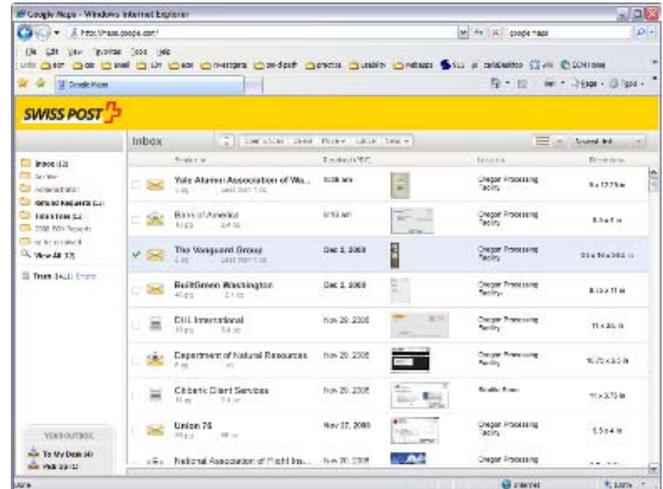
Amazingly, it has only been 20 years since the cell phone was introduced, yet we can barely remember what life was like without it. When it was introduced, telecom-industry analysts projected that the world market for mobile phones would reach only 100,000 subscribers. Today there are *two billion* mobile-phone devices in use. Most youngsters will never know what life was like when you couldn't take your phone with you wherever you wanted to go and you could actually miss a call (not to mention text messages).

The landline infrastructure of 1988, which has been overtaken by “killer applications” like mobile phones and especially PDAs, looks a great deal like the postal infrastructure of 2009: on the cusp of customer abandonment and slashed profit margins. **Now that an electronic messaging technology superior to spam-filled and insecure email is finally here, why would any post risk concluding that electronic messaging is no longer a threat to letter volumes? The now-fixable failures of email were the only reason the widespread substitution has taken as long as it has.**

Launched to the public in June, 2006, Earth Class Mail's service is now being accessed via the Internet, 24x7, by users in over 175 countries who are willing to pay for an address and the convenience of having access to their postal mail anywhere, in either digital or (with on-demand forward-shipping) physical form. These users include residential consumers, small businesses, Fortune 500 companies (our largest customer has 18,000 employees on the system), government workers, and military personnel.

Originally launched in the U.S. as a commercial demonstration, our system was designed to be so scalable and robust that a national postal operator could provide the service under its own trust brand to all the citizens and businesses in its own country – and in fact even to customers outside their borders. In October, 2008, we announced the first such licensing arrangement with [Swiss Post](#),<sup>4</sup> one of the industry’s most recognized innovators.

A fundamental premise of the online postal-mail service is that all letters and parcels are “inducted” into a closed inventory system, wherein each piece is imaged, dimensioned, and barcoded with a unique form of “IP address.” Once inducted, an item can always be located within a processing facility by its IP address, just like a mobile phone. As long as it remains in our ecosystem, its “owner” (the addressed recipient) can request that any number of tasks be performed on a piece, such as opening and scanning its document contents into a PDF file for secure online access, shredding or recycling it, forwarding it to a different physical address, transferring it to another person’s account, or archiving it.

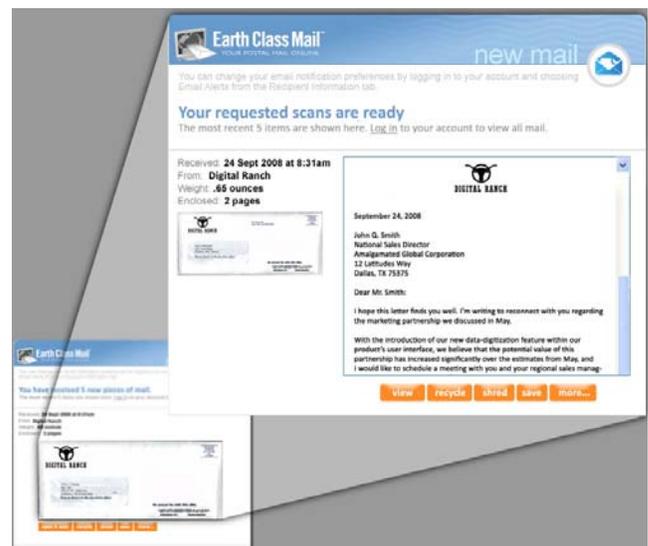


**The demand for Internet-powered postal-mail delivery is a reflection of the inadequacy of Universal Service to serve modern needs.** Customers want the online postal-mail service for more reasons than we imagined when we began, but the most common ways the USO does not meet modern demands are the following:

- **Cost Savings.** As our [case studies](#)<sup>5</sup> show, Internet-powered postal mail can help larger businesses and government agencies to **save millions of dollars per year in direct cost savings and productivity increases** (much as email and digital documents already allow them to do). In today’s economy, with everyone faced with cutbacks and many companies saddled with unnecessary, multiple-facility mailrooms, and with organizations trying to use fewer employees to do the same work, there’s never been a better time to slash delivery and lifetime document-management costs and increase employee productivity on the core tasks of the organization.
- **Business Presence.** Small businesses in 175 countries have numerous reasons for wanting one of our physical, but still accessible, addresses in the United States. Posts with famous brand names and trusted reputations could attract at least as much interest in business presences in their countries. Because posts already own the most desirable physical addresses, and can create virtual addresses as easily as VeriSign can create .COM domain names, **Internet-powered addresses represent pure profit margin.**

- **From Basic Mail Service to Truly Universal Mobility and Convenience of All Communications.**
  - Some people have no addresses or home delivery at all: the homeless, General Delivery customers, victims of disasters, and billions of people outside the developed nations.
  - Others have inadequate parcel service, such as holders of U.S. P.O. boxes who get parcels arriving from third-party couriers, foreigners who cannot shop at U.S. e-commerce sites for lack of a U.S. address, or people who have difficulty being present for deliveries.
  - Many mail recipients find that mail's immobility does not match the lifestyles of a world in which so many people need mobile phones and mobile email and SMS capability: offshore or remote workers, disaster-relief workers, expatriates, multiple-home owners, on-the-move military personnel, road warriors, long-haul truckers, seamen, airline employees, etc.
  - Rural residents must drive long distances regardless of whether anything of value is in their P.O. Box – or they may miss time-sensitive information when they don't drive. And even their existing post-office branches are closing. Internet-powered postal mail and addresses are the only answer.
  - The blind have machines that can read digital content, but must hire people to intrude upon their privacy to read them their mail. We have the solution.
  - Both enterprises and individuals desire *multiple, different addresses* for different reasons: to “pre-sort” mail for different businesses or purposes, for example.
  - See more examples of [consumer and small business reasons](#) for Internet-powered postal mail or addresses, or both<sup>6</sup>.

These are not “niche” reasons to use Internet-powered postal mail and addresses. They reach across every segment of business and society; still, we are today at the start of the curve of customer adoption, so that adoption by even the late-majority and late-adopters is around the corner. In many cases, one could argue that **universal service as understood from precedent and history is not adequate service today**. A system intended to bind the nation together now simply binds many citizens to one place and one communications medium.



## What to Do About Electronic Substitution? Will It Spell the End of the Letter Post?

Posts were first created so that messages could be passed securely from a sender to a recipient at some distance, at a reasonable cost, and with reasonable assurance of prompt delivery.

As much as things have changed since the days when postal couriers were issued pistols and sabers to ward off robbers, the Internet is still a Wild West medium. **The only reason email has not substituted even more for postal mail is that email is an untrustworthy medium.** Hackers, phishers, and spammers try every means imaginable to pounce on the messages and no trusted, government-empowered authority currently ensures safe passage of email from trusted sender to trusted recipient. And of course there's the legitimate message that goes into a spam folder, or bounces. Result: Legitimate transactions and advertising messages are also ignored, or not sent in the first place. Email is free, and you get what you pay for: a system in need of trusted postal intervention.

So while an increasingly large percentage of what used to arrive on paper in a mailbox now arrives in the form of an email notification, it's only a link to a secure website, where the customer must log in with a username and password and then navigate the site to find a bank statement, invoice, etc. The reason that each and every vendor can't simply send a customer an email message with an attachment containing the customer's statement is that SMTP (Simple Mail Transfer Protocol) email, which has been around for 25 years, is fundamentally unsecure; instead, the bank sends a link and asks the customer to log in to a secure browser session.

Each bank, utility company, and vendor having its own website is like each one having its own mailbox in front of your house, each with a different key. Not surprisingly, the adoption rate of EBPP (Electronic Bill Presentment and Payment) has typically varied between only 33% and 67%, depending on the industry. Beleaguered consumers must remember countless passwords – the result is a “Password Hell” – or, less safely, they use the same password on every site for ease of recall. Many consumers find electronic billing tiresome and prefer to rely on their old-fashioned paper bills. Younger generations, however -- given a choice between mailed paper and paperless billing -- opt for electronic delivery at a near-100% rate, which begs the question of how long transactional (“First Class”) postal mail will remain relevant. Already a person who sends a personal letter by post (4% of mail) instead of by email is considered a romantic.

In an attempt to create a combined answer to the weaknesses of email and the high costs of postal mail, several national posts – including those of Finland, Denmark, Belgium and Canada – have launched “virtual mailbox” services that combine the major mailers in their respective countries into a single sign-on electronic account. Apart from Denmark all of these countries have experienced only single-digit adoption rates since launching, even those launched as long as eight years ago. Given Internet connectivity rates of 80% to over 90% in these countries, it may seem surprising that the adoption of postal-branded online virtual-mailbox services has been so tepid.

Why the low adoption rate? To begin with, consumer resistance to using these virtual-mailbox services may be traced to too much consideration being given to the *senders'* needs and not enough to the

recipients'. The recipients would like to have a *single* online mailbox where *all* messages are received. The easiest way to accomplish this, of course, is to integrate Internet-powered postal mail and virtual mailboxes so that users log in only once to get to both electronically- and paper-originated messages. We are building this feature now for 2009 implementation. (See our article on [Trusted Postal Email](#) for more information on this globally interoperable system.)

There are several other possible reasons for lagging adoption:

- a) Consumers are resistant to the fees charged for opening a post-sponsored virtual mailbox account, when senders are operating their own secure websites for free;
- b) All the senders who do not have the sophistication, funding, or desire to participate in electronic billing continue to send paper mail anyway, so consumers don't see enough pain being solved to warrant paying for a virtual-mailbox account with the post;
- c) Because the few national posts that have set up virtual mailboxes have not created a global standard for electronic postal mail, large *multi-national* companies are loath to participate by investing in dozens of different interface implementations for dozens of different national fiefdoms;
- d) By far the most subtle reason is fear of success. Posts may be hesitant to introduce new Internet-based services, either out of concern that their employees' union would see it as a threat or because of a history of prior market failures with earlier attempts at electronic communications services. (The Danish Post stands apart from its peers with 60% of households participating in its e-Boks online integrated billing-presentment and -payment system, probably because it was unafraid to run television advertising to entice both senders *and* recipients of mail to go paperless.)

Posts face more pervasive competition from the Internet than from other posts. In some countries, entire industry sectors have built IT cooperatives to eliminate paper mailings altogether. For example, in Iceland – the most Internet-connected country in the world – the large mortgage banks don't send out paper bills anymore; they are 100% electronic. Iceland's example merely gives us a glimpse into the future as many other countries approach near-complete Internet adoption, especially if we include government-funded public Internet facilities.

In another example, many companies are beginning to levy surcharges on paper-preferring consumers, or in some cases are even forcing customers to accept electronic billing or else take their business to a less-efficient competitor. Companies all over the world are continuously experimenting with various forms of monetary incentives to get their customers to switch to electronic statements.

Of course, the Internet's competition with posts is not new. In addition to large-scale senders' own secure websites for electronic billing and transactions, as well as enterprises forcing their vendors to transmit all invoicing and correspondence through online systems, new private "alternative postal" entrants are attacking the traditional postal operators with purely digital networks. As a result of this

head start by mailers and private online postal networks, timing is now hypercritical – posts that do not introduce trust-based electronic networks for mailers in 2009, or 2010 at the latest, may soon be left holding the equivalent of telegraph keys in a telephonic age.

The deepening economic crisis has only accelerated the movement by mailers, enterprise customers, and government agencies to abandon paper for electronic interfaces. In the U.S., many major catalog and direct-mail marketers have recently determined that low response rates mean they can no longer afford to prospect for new customers using direct mail, at least until the economy recovers. This trend contributed to the volume decrease of 9.5 billion U.S. mail pieces in FY 2008, and is expected to contribute to a revenue loss ranging from \$5 billion to \$7 billion by the U.S. Postal Service in FY 2009. **By the time the economy recovers, many of these mailer-senders will have discovered new, cheaper electronic channels for prospecting**, channels with better targeting, tracking, accountability and transparency, testability, and optimization. And these direct mailers may never restore the paper mailing volumes of yesteryear; many of them already speak of limiting their future catalog mailings to profitable existing customers only.

Now, then, is the time for posts to introduce their own trust-branded electronic networks, before the private sector makes such deep investment in electronic substitution that the effort to translate the posts' trust brands to online transactional and advertising messaging will be too little, too late. And what we have in mind is not something we believe a post could or would want to try on its own.

### **Should National Posts or Private Operators Launch Internet-Powered Mail Delivery and Remotely Accessible Addresses in Their Countries?**

A private operator would run this system the way we presently do in the United States, at the *end* of the postal mailstream. After mail is received at one of our 23 physical addresses in the U.S., we begin the process of webifying it. In other words, we truncate the “last mile” and convert it to electronic delivery. Doing so creates multi-million-dollar cost savings for enterprises, and great convenience for consumers and small-business owners who travel or live elsewhere.

However, in a national post implementation the webification process can begin at the *source* of the postal mailstream – as soon as newly collected mail is first imaged on a sorting transport, the pieces are immediately barcoded and their images electronically presented to the recipient for disposition (notification of new items is typically sent by email or to a PDA). In other words, a national postal operator could induct items into the system after the *first* mile, rather than at the *last* mile, and offer the recipient the options of having the mail's contents scanned and then securely recycled instead of being carried on the backs of carbon molecules across town or across the globe. The recipient can also have the mail item redirected to a different physical address, confidentially destroyed if it is unwanted, transferred to the control of another person, or archived, among other choices. There is also a very significant opportunity to cut energy consumption and operating costs by dynamically routing the

carriers' daily paths based on which homes and businesses actually require a stop versus those that have already satisfied their needs online on any particular day.

When private operators run Internet-powered postal mail delivery and remotely accessible addresses, customers are required to adopt a new mailing address and box number provided by the operator. This is an obvious adoption hurdle. When a national post runs online postal mail it can allow customers to opt for electronic delivery by having them visit a website and request that their mail be diverted to the Internet-powered postal mail service rather than being physically delivered. Only specifically requested letters or packages would be delivered physically to a convenient location, such as their home or office. Just as easily, residential customers can selectively opt out of digital delivery without having to notify every mailer or file a change-of-address order with the post. Posts can also sell multi-tenant addresses or custom/vanity addresses to consumers and businesses outside of their countries' borders, or to customers who for a [variety of reasons](#)<sup>7</sup> want or need to have an address other than their primary home or office in order to separately receive and prioritize certain mail streams. And the posts, using existing security measures, can verify that those addresses are used only for legitimate purposes.

Whether this system is run by a private operator or a national post, additional benefits inure to medium-to-large enterprise customers in that the mail is delivered directly to the addressed individual or department, as opposed to the way it is delivered today to the building address. Posts' physical-distribution infrastructure only sorts mail down to the street address or PO Box, not to the recipient. With Internet-powered postal mail delivery, a corporation would receive all of its mail already electronically sorted to the individual employee or department, and the small residual amount of mail still requested to be physically delivered can be presorted by mailstop within each building, saving companies the real estate and labor costs associated with sorting incoming mail.

Finally, more than any other government agency and the vast majority of companies, posts have the trusted brands in communications. Imprinted on the back of every mailbox in many countries is the phrase "approved by the Postmaster General." Only the postal authority is allowed delivery access to that mailbox, and that postal authority prescreens materials that can be put in that box. In the same sense, **mail recipients should understand that their Internet-powered virtual mailbox has also been approved by the Postmaster General**, with the very same protections that guard the sanctity of physical mail.

Still, private operators, incumbent posts, and competitor posts can all provide Internet-powered postal-mail service, even in the same country. In fact, the resulting network effects can make cooperation in many cases preferable. Because the backbone of the system is linked through a shared global directory of subscribers, a letter dropped in the mailbox in Zurich and addressed to a customer of Canada Post in Toronto will obviously be collected and inducted by Swiss Post or a competitor such as Poste Italiane or DHL. However, from the moment that letter is imaged and assigned to the recipient's virtual inbox, that customer can go online and request a scan of the enclosed document to take place in Zurich or, say, a redirection of the letter to Amsterdam where the recipient is attending a conference. The revenue in this case might be shared between Swiss Post, Canada Post, and Dutch postal operator TNT Mail,

depending on which services the customer ordered and which post had custody of the mail piece at the time the task was commanded. In this delivery scenario, the customer is far better served and her transaction is transparent regardless of language or currency, as the system is interoperable between the different national posts and private operators who may participate in the same transaction.

### **What about Law Enforcement, Freedom of Speech and Privacy Protection?**

When offered by a private operator these are matters of prevailing law in each country and the contract established with the customer. When offered by national post the treatment of customer privacy and the interaction with law enforcement should be no different than they are for the physical mails. In fact, in order to ensure the complete transfer of the post's venerable trust brand to the online sector, we recommend passing legislation to codify this and remove any ambiguity, to preserve the sanctity of privacy protection as well as the lawful access to confidential information by the enforcement authorities.

### **Make Versus Buy?**

Should posts try to create Internet-powered postal-mail delivery and remotely accessible addresses by themselves? Admitting our bias, we nevertheless think there are many reasons that counsel against it. **Internet-powered postal-mail delivery and the provisioning of remote postal addresses is far more complex and feature-intensive than a cursory glance might suggest.** Our system is not, say, merely scanners connected to the Internet. There is a good reason that we have already invested over \$20 million and five years in developing the numerous patent-pending software and automation technologies required to efficiently, securely, and accurately store and retrieve millions of pieces of mail per day, per processing facility.

An ecosystem of this nature cannot be patched together from existing off-the-shelf technologies, especially if it is to be made *cost-effectively* scalable in all dimensions – including the user's web experience, the massive security-critical database of users' contents, and the integration of automation equipment across the breadth of a post's physical plants – not to mention the policy development, training regimens, and quality-assurance programs that are necessary for successful operation. That is why we spent 2.5 years building out systems before even turning on the service for public usage. And now, with more than 2.5 additional years of operational experience with active customers and ongoing investment in new feature development, we have produced a platform that is truly turnkey for a postal operator to launch in its own country, typically in only a matter of months from contract signature.

The Earth Class Mail "cloud" platform is interoperable *between* countries, or post-to-post. The interoperability means a true network effect for advertisers (as eBay offers its sellers) and for cooperation on Internet-powered addresses and *point-of-mailing* processing, no matter the country. As it is beyond the scope of this white paper to describe in full the systems and implementation details, we refer you to "[Get Powered by Earth Class Mail Now](#)" to learn more.

## How Much Revenue Can Be Generated by Offering Internet-Powered Postal-Mail Delivery and Remotely Accessible Addresses in Your Country?

Today, in exchange for significant [cost savings and productivity gains](#),<sup>8</sup> **larger business and government organizations of more than a dozen recipients pay \$5 to \$10 per employee per month for Internet-powered postal-mail delivery.**

In market tests of thousands of consumer and small-business customers in over 175 countries, we have seen a steady increase in the annual value of the average recipient-account revenue, from a \$250 weighted average at launch to over \$400 per recipient account today (consumer accounts, at \$120-\$200 per year, are smaller than small-business accounts). This increase has resulted from improvements in the service and the continuous addition of new features and “premium vanity addresses.”

When compared to other electronic-communications utilities such as eFax™ or Vonage™, a \$10-\$15 per-month charge for Internet-powered postal-mail delivery is extremely reasonable for the value received. When the service is sponsored by a post, with its trust brand, and more and better addresses and services are offered, **we expect that the annual revenue per small-business customer would top \$900 per year**, while consumer accounts could be offered for even lower monthly costs, if not free, when supported by revenues from (opt-in) targeted online advertising.

All the postal-branded virtual-mailbox services to date (e.g., Belgium’s CertiPost, Denmark’s e-Boks) have been offered to customers for a fee, without support from any advertising revenues (although Finland’s NetPosti recently announced that it intends to start selling advertisers access to its 150,000 national subscribers). Because advertisers will be able to electronically inject their advertising messages directly into Internet-Powered customer accounts (which we’ll discuss later), **posts may lower prices for the service in exchange for viewing ads, leading to adoption by even more customer tiers, or even offer it for free.**

Consumers already pay with their attention in the form of cheaper postage, cheaper newspapers, and cheaper television channels – not to mention free email services like Google’s Gmail and Microsoft’s Hotmail). A smaller percentage of customers will continue to pay a premium for advertising-free services. In the Internet age it is not uncommon to see 90-95% of consumers opt for the advertising-supported version of electronic services and pocket the savings. Bringing together advertisers and recipients, all getting full digital choice, creates a virtuous cycle that will create tremendous value for the participants and the posts that enable it.

To put the revenue potential in context, the USPS currently generates roughly \$500 per year in revenue per delivery point *from all sources of revenue* (\$75B of revenue spread over 150 million recipient addresses). Another perspective is that USPS earns \$0.37 for each item it delivers (\$75 billion of revenue spread over 203 billion pieces of mail), whereas the services rendered through Earth Class Mail bring in over \$2.00 per mail piece because much more revenue can be generated from managing the valuable digital *and* paper contents of envelopes as compared to transporting sealed envelopes.

Another way to view the revenue potential is to compare conventional models – a typical private-mailbox operator (e.g., UPS' Mail Boxes Etc.), an executive suite operation (e.g., Regus) or a postal branch that offers P.O. Boxes – with the revenue we are able to generate at an Earth Class Mail retail location (e.g., 228 Park Ave S, New York, NY). The conventional model typically supports 200 or, in extreme cases such as a college campus, as many as 1,000 customers sharing the same address. Between 1% and 10% of a site's revenues will come from P.O. Box rental fees. In contrast, *tens of thousands* of retail customers can share the same Earth Class Mail address, each paying from \$9.95 to several hundred dollars per month (e.g., a business that takes many mail orders). There is no comparison to the return on investment of Internet-powered postal mail and remotely accessible addresses.

Market size projections would vary by country, obviously. The key driver, as with most purchases, would be the pricing. The service can cost a lot less when provided by the national postal operator because of scale economies, strong trust brand, costs avoided when mail for which postage has already been collected does not actually need to be physically delivered all the way to the recipient, ease in signing up for the service (including the customer showing proper identification in person at a postal branch in order to be issued an account), the ability to offer a broad array of remotely accessible addresses and vanity virtual addresses, ease of hibernating the service, and the opportunity to offer discounts or even free accounts in exchange for customers' willingness to opt-in for advertising insertions. (As an example, we estimate the Total Available Market (TAM) for U.S.-based customers at 38 million consumers and businesses if offered through a private operator, and several times that figure if offered through the U.S. Postal Service or offered to millions more non-U.S. customers seeking a U.S. business presence or mailing address.)

## The Importance of Preserving Advertising Revenues

Most of the world's posts already operate under advertising-supported business models, much like newspapers and radio broadcasters. The resulting volume creates scale economies and keeps the postage lower for everyone. In some industrialized nations, such as the U.S., the volume of advertising mail now actually exceeds the volume of First-Class, or transactional, mail. This shift in volumes has been hastened further by the Internet's cannibalization of transactional mail, but advertising-mail volumes are also threatened by the explosive growth of search-engine advertising and other forms of online advertising. Though posts generally have not participated in the online advertising boom, and in fact are among the most negatively impacted by its progress, Earth Class Mail is working to reverse this state of affairs.

To put the scale of advertising postal mail in context, in the U.S. marketers spend \$532 per year, per household, for printing and postage on direct-mail campaigns, compared to \$288 in online advertising (about a third of which is spent on search-engine advertising)<sup>0</sup>. The crucial thing to realize, however, is that online advertising is *growing* rapidly while direct-mail advertising is *declining*. Creating an online advertising channel for mature posts to operate is going to be critical to maintaining their financial viability in the future.

Internet-powered Trusted Postal Multimedia combines all three sources of postal material in a single online service:

1. Physical letters and parcels of all kinds, together with
2. Electronically injected transactional mail (what we call [Trusted Postal Email](#)), and
3. Electronic advertising mail (what we call Trusted Postal Advertising)

Together they create a compelling experience for mail recipients: an online mailbox that they will certainly check *at least* once a day, or have fed directly into their email client, webmail service, or PDA along with their other real-time electronic communications. To avoid creating a *Pandora's Inbox*, however, great care must be taken in the architecting of such a platform so as not to run afoul of computing performance and compatibility limitations, international privacy laws, and users' sensibilities. This is why Earth Class Mail is collaborating with major mailers, marketing-industry associations, online ad-serving providers, and other industry partners in finalizing the design of this all-new online postal-advertising platform.

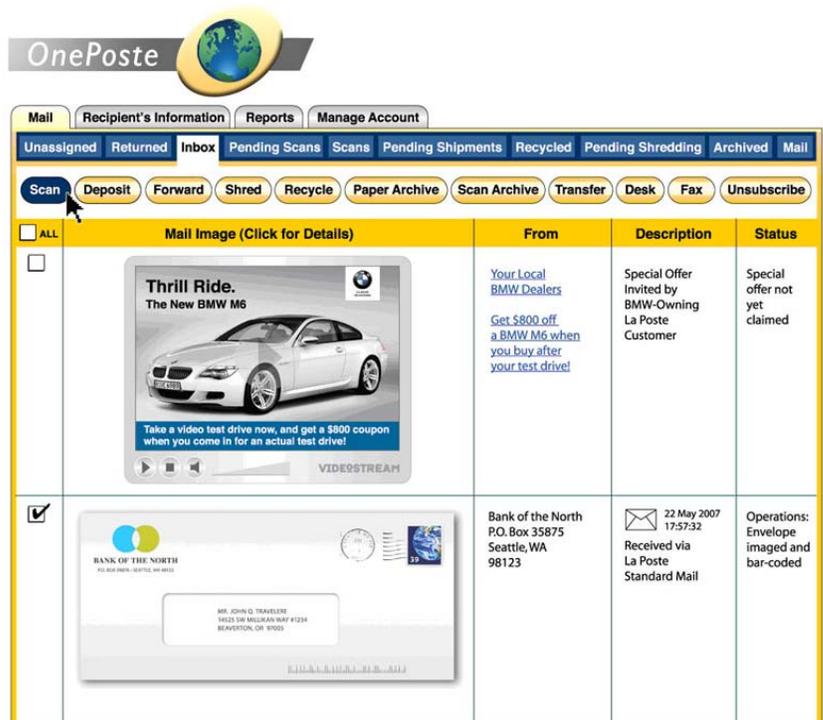
## How Can You Laser-Target Consumers with Offers They Would Be Interested in Without Ever Exchanging a Mailing List?

As consumers we can agree that "spam" of any form is a negative experience. Electronic spam, illegal in many countries, costs its recipients billions of dollars a year in lost productivity and anti-spam and anti-virus software. Outlawing spam has made little or no impact on perpetrators, who simply spam from outside countries to avoid prosecution, while keeping legitimate email marketers from using the

medium. Criminal phishing schemes also cost fortunes in stolen identities, stolen credit, and stolen funds. According to MessageLabs, 70% of email is spam, 1 in 131 emails contains a virus, and 1 in 288 is a phishing attempt. So-called “hard spam,” or paper-based advertising that is poorly targeted, is as annoying to customers as unwanted email is, detrimental to the environment, consumptive of fuel and therefore a contributor to rising fuel prices, and not profitable to mailers.

How can advertisers safely and cost-effectively reach consumers who are *interested in* their offers, without spamming consumers or being confused with phishers and therefore ignored, and without negatively impacting the environment? What kind of advertising model would allow posts to sustain themselves economically, and marketers to thrive economically, without all the detriments of today’s common methodologies? This is another example of how Trusted Postal Multimedia supplies the only solution we have seen.

Once posts move their customers’ mailboxes online, users may tell posts (and through them, advertisers) a great deal about their preferences. Posts can offer truly targeted marketing into their Media Viewers *without* ever selling customers’ names without consent or violating their privacy in any way. Posts can also solicit preferences voluntarily from customers; for example, whenever mail recipients click to recycle or shred an unopened paper envelope, they are prompted for their preferences as to the mailer or its category (e.g., they may say, “Please don’t send me paper mail; I only want electronic offers,” or “We’ve moved to a warm climate and I won’t be buying from this catalog anymore, so please take me off your mailing list”).



Preferences can also be derived algorithmically using anonymous context-sensing. Unlike Google’s Gmail, which wades through the text of your personal emails to decide what ads to serve to your email viewer, Earth Class Mail will leverage sophisticated proprietary image-comparison software that can automatically categorize the advertising on which marketers previously spent money to send to each prospect, whether in paper form or electronic. Since users must at some point decide the fate of every piece of mail inserted into their inbox, the system can track whether they have accepted or rejected ads *in specific categories*, thus getting a continuously updated indication of whether each consumer might be in the market for a luxury car, a sports car, a hybrid car, an economy car, or no cars at all, for example.

To reach customers who are likely to be interested in what a company has to offer, marketing professionals would use a control panel like the one depicted here to create lists based on demographic filters. They would be able to specify that the intended recipient must have accepted an ad in the same category in the past x number of days, and/or not rejected an ad in the same category in the past y number of days. In this system, the post is the arbiter of which box owners will get to see an ad and which will not – and no names are ever exchanged with marketers unless the prospect responds to their advertisements. There are no list brokers or privacy issues to worry about.

The screenshot shows the YaGoogSoft Ad Center interface. At the top, it says "Welcome Back, Dell" and "All Campaigns > Advertising Channels > Personal Laptop Campaign". The main header is "ONE | POSTE".

**Geography:** Select map, Live Search, Select States/Provinces, Select Cities, Select post codes.

**Languages:** French, Spanish, Dutch, German, Flemish, Danish, English, Swedish, Finnish, Italian, Portuguese, More.

**Choose Campaign Creative:** Existing Campaign (Dell X6000).

**New Campaign:** Electronic Insertion (Upvoted), Hybrid Print-to-Mail (Upvoted).

**Date Range:** 15/9/00 to 15/10/00.

**Total Impressions Desired:** 150,000.

**Electronic Only:** Time of Day (0700 to 1000, 1600 to 1930).

**Respondent Opt-In Categories:** Personal Computers.

**Response History and Targeting:** Responded to (Home Electronics), in last (21) days. Home Electronics (not rejected), not purchased in last (50) days. Do (checked) Do not show with other ads in (Laptop Computers).

**Campaign Results - Blazing Fast Laptops 1/9/00 14:00:00**

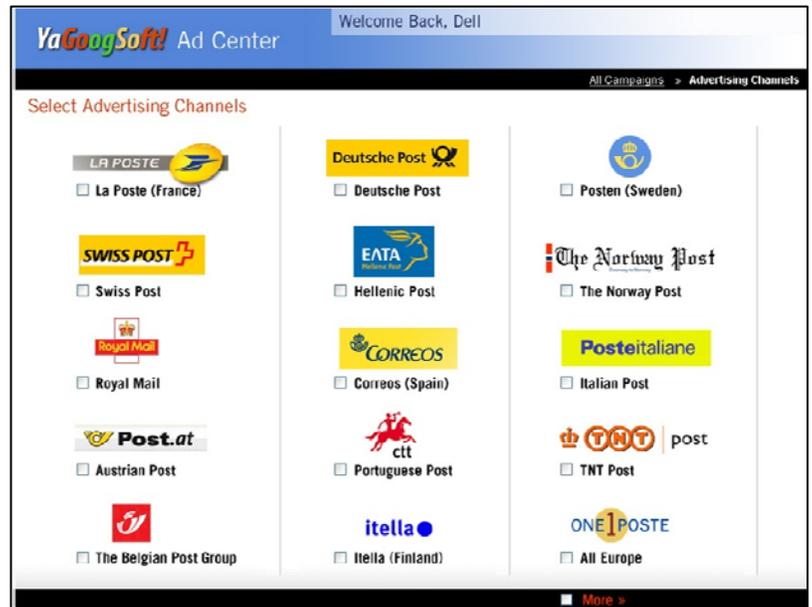
Select View	Pay Per Action	Rate	Actual Cost	Avg. Order	Total Rev.
Inserted Impressions	€ .20	150,000	€ 30,000		
Viewed Video	€ .70	37%	€ 33,850		
Visited Microsite	€ 2.10	8%	€ 9,450		
Provided Contact Info	€ 5.00	12%	€ 90,000		
Forwarded (Opened)	€ 10.00	22% (2%)	€ 20,000	€ 450.00	€ 980,100
Purchase - Accessories	€ 52.00	4.00%	€ 312,000	€ 128.00	€ 708,000
Purchase - Dell X6000	€ 195.00	2.00%	€ 505,000	€ 990.00	€ 2,370,000
<b>Total</b>			€ 1,395,300		€ 4,718,100
					<b>Profit</b> € 3,322,800

Buttons: Save and Add Another Channel, Save and Launch.

**Ads inserted through a real-time insertion-filter process are much more versatile than traditional direct-mail advertisements.** Because the ads are not injected en masse but are dynamically presented at the time the user is logged in, **marketers can literally specify the time of day they want to target** (e.g., wine may sell better in the evening hours, coffee in the mornings). They can specify that they wish to be the only advertiser in their category to be presenting during the user’s online session. There are no wasted impressions on flunking audiences. Because campaign results can be seen real-time, impression delivery can be managed real-time as well. The software platform would automatically guard against mailbox imbalance so that users never feel overwhelmed by too much advertising and mailers experience optimal response rates.

“Postage” for inserting these ads (what Google would call “Pay Per Action” commission fees) would be charged as ads are presented and responded to in real-time, starting with the insertion of the ad (very inexpensive, and thus low risk). If the user clicks on the ad and watches the full video, more postage is charged depending on how far the user proceeds into the sales cycle. Additional actions such as clicking to the advertiser’s website, providing contact information to a sales rep, referring a friend, or purchasing the product would all result in incrementally higher postage, or “commissions,” to the postal operator. **Marketers would only pay for getting results and risk very little to try out new campaigns.** Campaign ROIs can be tested and viewed in *real-time* just as they can with search-engine campaigns. Each country may adopt its own models for pricing as it sees fit within its marketplace, whether dynamically set based on demand parameters (or auctioned), tariff-set, or negotiated-rate.

Marketers can adjust the target geographies they want to solicit (including any participating post's country); modify copy, graphics, and offers to maximize response rates; and scale their campaign budgets up or down dynamically. And they can do something that they can't with search engines – order up exactly as many “impressions” as they want – which is exactly the unique power of direct mail! **Earth Class Mail's advertising platform is a marketer's dream: It combines the best of traditional direct mail (scalability, trusted source) and of online advertising (trustworthiness, known senders, pay-per-action, and perfect customer information).** But it was designed to be optimally operated by the



national posts that can be trusted to gather both consent-based and anonymous algorithmic preferences and keep consumers' privacy unequivocally protected.

As in other aspects of the Earth Class Mail system, posts that participate in the global network will benefit from network effects. One of the key such benefits will be the ability to attract global mailers and marketers who might not bother to interface with a single country's or company's proprietary platform but would have much greater incentive to adopt a multi-national platform with a much broader potential audience, even being able to pick out specific language speakers in every country.

## **What is the Benefit of Internet-Powered Postal-Mail Delivery with Respect to Parcels?**

The posts have seen a surge in the parcel business. As more and more purchases are being made online, in fact, **Internet-powered addresses make it easier for consumers to purchase products in other countries**. Amazon.com and many eBay sellers, for example, will not ship their products abroad or accept charges from non-U.S. credit cards, but many U.S. expats and foreign nationals use credit cards associated with an Internet-powered address and have merchandise shipped to us, which we then forward to them wherever they want the package delivered. This naturally creates additional shipping business for the posts as well.

Of even greater operational benefit, given that most letter posts also handle parcels, is the potential for drastically reducing the number of undeliverable packages when recipients are able to view images of the parcels as soon as they enter the parcel stream. Posts' inability to deliver packages to their intended recipients on time or when they are present is a phenomenally costly problem worldwide. In many countries millions of Euros are now being invested in the real estate and equipment required to install automated kiosks in urban areas where recipients must pick up their packages in the event they were not home when the courier happened to stop by. Remotely accessible address subscribers are able to see their parcels online as soon as they've been inducted and to immediately either notify the post that they will not be home, provide an alternate delivery address, arrange a better time for delivery, or schedule a will-call pickup.

## **To Operate as a Proprietary Fiefdom or as a Member of a Global Consortium?**

When posts evaluate whether to buy or license a technology platform or to build their own, the decision involves cost, capital risk, market risk, core-competency evaluations, and the other usual considerations. However, **an evaluation specific to online postal mail must also include whether a closed system will be as successful in the marketplace as an internationally interoperable system**.

Interoperability can be viewed from three perspectives – the sender's, the recipient's, and the post's. From the sender's perspective it is easier and cheaper to invest one time in interfacing to a globally federated platform that supports many different languages and aggregates a higher percentage of its existing customers. From the recipient's standpoint an interoperable system is one in which he or she is more likely to be able to use the service abroad, efficiently exchange communications with colleagues in other countries, and buy services transparently from vendors in other countries (e.g., by getting an Internet-powered mailing address in another city). From the post's standpoint, interoperability translates into the network effect of mail processing and referrals from other posts of customers seeking additional addresses; lower investment cost and risk; much shorter time-to-market; shared best practices; and the leveraging of pooled resources and R&D expenditures.

With the notable exception of Denmark, the online postal services launched by posts since 2000 have reached only single-digit adoption rates, for a variety of reasons as noted earlier in this document. The network effect of building cross-border consortiums has been proven not only in other industries, but

even in the offline postal world where treaties between countries have existed for over 100 years. This is not an unfamiliar concept to national posts.

## **Eradicating Undeliverable Mail and Parcels**

Earth Class Mail interfaces to the physical world through a variety of custom-designed sorting and scanning equipment. One of the first things we did in designing the patent-pending mail-sorter technologies of the future (including the [MegaSorter<sup>9</sup>](#)) was to remove the OCR “brains” from the sorters and instead connect them directly to the Internet. Instead of being processed locally in 0.1 seconds, images of barcoded envelopes and parcels are immediately piped to a global server where much more powerful computers and software can process them on *multiple* OCR engines in parallel, regardless of the mail piece’s nation of origin or destination.

We are thus also able to allocate more computing cycles than are normally possible in a conventional MLOCR transport, allowing us to read more information off the exterior of the envelope or parcel, such as the sender’s identity, class of mail, barcodes or any other information that might help us direct it to the addressee. In many cases we can even process “automatic rules” for delivery: scanning, transfer, forwarding, archival, will-call or destruction, just based on information on the outside of the envelope or parcel.

In the Earth Class Mail infrastructure, regardless of how many posts or private operators a customer may have accounts with, and no matter how many physical addresses he or she uses, all mail and packages are delivered to a single virtual mailbox, branded by the post, where they can be viewed and managed. This is similar to how Microsoft® Outlook® can combine your multiple email accounts into a single mailbox. The implications of this include:

- Lower cost of mail-sortation equipment by leveraging one global OCR server instead of licensing multiple relatively low-capability OCR engines for a post’s entire fleet of mail-sorting transports
- Much more sophisticated OCR software that can much more efficiently process international mail (which today is typically outsourced for manual processing because posts usually purchase MLOCR machines loaded with OCR software only for their respective countries)
- The ability to interconnect posts and private operators seamlessly so that revenue can be shared regardless of the mail item’s nation of origin or destination, based on who has custody of the item at the time the customer chooses an action upon that item.
- The end of undeliverable mail – which consumes billions of dollars a year in wasted effort and energy – because all of a customer’s physical addresses, including his former addresses, are linked to his identity and current preferences in a secure, global database.

Change-of-address (COA) orders for postal customers are not only costly to the post to process and a hassle for the customer to complete and submit, but in many countries the service is not even offered

by the post. Having a single database for validating all physical addresses and referring them to a single electronic-notification account can obviate the need for many independent and only partially effective COA systems and can save billions of dollars in the handling and transportation of undeliverable and returned-to-sender mail. For example, in the United States, 20% of businesses and 14% of households move each year, resulting in 44 million permanent change-of-address orders being processed by the USPS (as compared to 150 million delivery points).

Undeliverable-As-Addressed (“UAA”) mail costs the Postal Service nearly \$1.2 billion annually. Of the 7.5 billion pieces affected (3.75% of all mail), two-thirds of them are forwarded or returned to the sender and the remaining ones are destroyed. This is despite the availability of a sophisticated National Change of Address database (NCOA<sup>Link®</sup>) and other address-quality enhancement efforts that cost the USPS tens of millions of dollars per year to manage, not to mention hundreds of millions of dollars that are being invested on PARS automation equipment to lower the labor costs associated with mail-forwarding (this has indeed had a very positive effect on lowering costs). Many mailers simply do not use NCOA, or their mailing-list quality is so poor that many of their names do not get matched in the database. The COA system also creates an additional exposure for fraud, and many individuals and businesses simply do not bother to file a COA order (one private company claims it tracks 70 million moves per year by aggregating and comparing major mailers’ databases).

Imagine how much better it would be if every individual and business had a permanent postal address that did not change every time they moved – one that would find them electronically regardless of whether their departure from a particular physical mailing address was for a month or forever?

Conversely, imagine how user-hostile the Internet would be without the Domain Name System (DNS) registries (e.g., VeriSign’s dot-com registry), which eliminate the need for the user to type in long strings of numbers instead of a domain name in order to visit a particular website. In fact, prior to the creation of the DNS and the now-ubiquitous web browser, use of the Internet was limited to scientists and academics – it took a user-friendly interface to launch the revolutionary technology we now call the Internet. You can think of the Mail Viewer application (whether accessed through a web browser, a PDA or a cell phone, or inside an email client such as Outlook or a webmail interface) as essentially doing the same thing for postal mail that the DNS does for a user trying to locate and access a given website.

## **Protecting the Postal Unions: Creating New, Enduring, Green Jobs**

Today’s technology changes are moving much faster than they did a century ago. Our economy cannot tolerate millions of postal workers losing their jobs over a short period of time as a result of their posts being, like the railroads and telegraph companies, unable to see what types of service providers they and their competitors really are. Fortunately, progressive postal executives and union leaders are now realizing that to save both letter-oriented postal divisions and postal jobs (not to mention tremendous institutional knowledge), the only solution is to encourage posts to bring their own trust brand online.

Contrary to the misperceptions of some observers, it is not at all our hope or intention to replace postal workers' jobs but rather to *preserve* them – by helping them evolve before the market overtakes them.

Just as posts need competitive business models to survive and preserve worker jobs, postal workers – who are, in actuality, *communications* workers – must be given the knowledge and skills to be marketable in an increasingly digital society. Providing Internet-powered postal-mail delivery and remotely accessible addresses requires the creation of new addressing systems, management of a new generation of mail-sorters, envelope-imaging, document-scanning, equipment repair, shredding and recycling, video-encoding, customer service, digital-data management, paper document inventory and warehousing, data-center management and other IT functions, retail renovation and operations, and much more. Scanner operators must be trustworthy and able to meet stringent security checks – a perfect opportunity for trusted postal-union members. Local postmasters would serve as guides and conductors to online postal mail, and would oversee local retail operations, customer service, and technical support.

Major posts already working “inside the envelope” are currently generating an estimated €1B (\$1.5B) in annual revenues from document services. Over a dozen major national posts have already entered the document-imaging business and have created tens of thousands of jobs in services such as scanning, document storage, and electronic-document management. These jobs not only have a more promising and secure future than traditional postal jobs, but they are greener than operating trucks and airplanes, and workers are not as exposed to harsh climates, dog bites, pollutants, and accidental injuries. They are also more *marketable* and more *mobile*, which is the recipe for job security in the 21<sup>st</sup> century.

However, most of these posts typically entered the business through acquisition of private companies and so do not use union labor. The labor unions obviously have a huge stake in the future of the posts, and, as more and more mail is diverted to electronic delivery, they are rightly concerned about what will happen to their members' jobs. The opportunity to ensure that union members will have new jobs to replace the ones they are losing to undeniable market forces should be of great interest to union leaders. They will have to be realistic, however, on the pay scale that these jobs can offer, given that no monopoly protection exists in the document-management business and the posts must compete with private-sector employers.

If posts don't begin to shift mail volumes from paper to electronic, some other company or companies surely will. World-renowned economist Joseph Schumpeter popularized the term for this phenomenon as “[creative destruction](#).<sup>10</sup>” In his vision of capitalism, innovative entry by entrepreneurs was the force that sustained long-term economic growth, even as it destroyed the value of established companies that had enjoyed some degree of monopoly power.

The Internet trend is as immutable as the historical trends away from railroads, landlines, and telegrams. The free market will continue to respond with electronic alternatives to traditional communications media. If a post does not take immediate action to compete with online alternatives to letters by introducing its own superior alternative, then union jobs will simply be lost to the free market

operators. In addition to the financial loss to posts and job losses for the unions, customers will lose the benefit of having a strong trusted brand protecting their online communications.

## Conclusion

Let us get back to redefining what Universal Service should mean in the Modern Age...

National postal operators should use an Internet-powered postal-mail delivery and remotely accessible addresses platform to vastly expand their services and the breadth of customers that they can serve. Ever since the beginning of liberalization and privatization initiatives within the postal industry, posts have been focused on competing for *mailers'* business. Yet our market testing over the past few years has proven beyond question that *recipients* are worth fighting for. Posts can exploit tremendous revenue opportunity and higher margins by giving recipients the choice of where and how they receive their trusted postal communications.

In the absence of recipient-centric thinking, national postal operators have ceded significant customer revenue to free-market alternatives. Besides the obvious electronic substitutions that have entered the marketplace, posts have also failed to counter any of the following alternatives to Universal Service mail:

- Expensive mail-center and downstream (lifetime) document-handling operations exist within enterprises and government agencies. It's time to re-engineer the corporate mail center, which is not needed anymore.
- Private mailbox operators such as Mail Boxes Etc. (the 6,000-unit global franchise now owned by United Parcel Service) serve millions of (nearby) customers.
- Executive suites around the world offer mailboxes at prestigious addresses for millions of (nearby) customers.
- Mail-forwarding services have existed for many years – they are highly fragmented and inconsistent in breadth of services, performance and costs, but serve millions of customers.
- Millions of expatriates, military personnel, world travelers, RVers, energy workers, travel nurses, entertainers, consultants, relief workers, and college students mooch off relatives, friends or neighbors who take care of their mail while they are away.
- Millions of rural customers drive to a postal branch to pick up their own mail from a P.O. Box without knowing in advance if anything important has been delivered, wasting energy and money and adding to their frustrations.
- Millions of companies use “corporate registered agent” services to set up legal corporations in the state of their choice, often without being physically located in that state or even in the country. (In the summer of 2008, the [State of Vermont](#) approved a completely virtual corporation structure for companies that exist only in software.<sup>11</sup> The Netherlands has attracted tens of thousands of “mailbox companies” by offering a tax shelter for royalties from intellectual property.)
- Though it may not seem an alternative, millions of people who travel for a living or as a lifestyle, or own multiple homes, simply tolerate not getting their mail for long periods of time and

having some of it returned-to-sender, risking their credit ratings and creating many other inconveniences in the process.

- Millions of homeless people, displaced victims of natural disasters (e.g., Hurricane Katrina affected 820,000 mailing addresses), privacy seekers (such as battered wives), as well as the sick, disabled and elderly have great difficulty receiving their own mail.
- Millions of blind and visually impaired people could be reading their mail with their text-to-speech converters.

The above-listed are among many underserved customer segments that would gladly pay to be included in a universal-service scheme that would at least offer them the option of online postal mail, as their existing alternatives are more expensive, inconvenient, or simply non-existent.

Earth Class Mail allows national postal operators to expand their customer base to include recipients at home and abroad, and to add additional electronic services onto the same platform over time. The economic and ecological benefits to a national post and the society it serves are clearly documented. The cost of entry is extremely low. The solution is available today.

We have tested online postal mail already – for every type of mail, mail recipients ranging from individuals to enterprises, and customers in 175 countries and counting – but posts may study the viability of Internet-powered postal mail and addressing for themselves. Pilot projects could be set up in high-tech areas full of early adopters, for oil-derrick workers, military personnel, merchant marines, and those in geographic locations that are extremely expensive to deliver to six days a week.

Printed on the back of the employee business cards of a highly successful U.S. restaurant chain is *“If we don’t serve our customers, somebody else will.”* Can posts’ letter divisions afford to risk waiting any longer?

If you are affiliated with a national post or private express operator not already familiar with the Earth Class Mail ecosystem, please contact us to receive an in-person or online presentation customized to your country or company:

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## Reference Materials

“[Swiss Post to Pilot Earth Class Mail](http://www.earthclassmail.com/ePostalNews_110308.pdf),” ePostal News, Nov. 3-7, 2008:

[http://www.earthclassmail.com/ePostalNews\\_110308.pdf](http://www.earthclassmail.com/ePostalNews_110308.pdf)

Postal Regulatory Commission’s Dec 19<sup>th</sup> 2008 report to the President and Congress of the United States on the [Universal Service Obligation and the Postal Monopoly](#)

[Testimony to the Postal Regulatory Commission hearing on the Universal Service Obligation](#) by Earth Class Mail’s VP of Strategic Development, Cameron Powell, May 2008

Article by Earth Class Mail’s CEO, Ron Wiener, which appeared in *Postal International News*, on “Trusted Postal Email”: [How the Posts are Uniquely Positioned to Cure the Fundamental Flaws of E-Mail as a Replacement for Physical Mail](#)

Mary Meeker’s (Morgan Stanley) presentation on [Technology / Internet Trends](#) presented at the Web 2.0 Summit, San Francisco in November, 2008.

“Get Powered by Earth Class Mail Now,” or, Why Posts Shouldn’t Try to Provide Internet-Powered Postal-Mail Delivery and Remotely Accessible Addresses Themselves:

<http://earthclassmail.na3.acrobat.com/get-powered/>

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<sup>1</sup> Picture our soldiers in Iraq. Every week this country sends up to 12 Jumbo 747s or equivalent, chock-full of packages and letters, to Bahrain. Some of it is morale-boosting. Some is financial and time-sensitive. Most is unwanted in any form. The mail is unloaded from the 747s in Bahrain and transferred to private courier jets. Then the courier jets fly to Baghdad. In Baghdad, the mail is again unloaded and reloaded onto convoys, which are guarded by expensive military contractors all the way to the front lines. And then, unbelievably, *30% of that mail must be reloaded, trucked, and flown all the way back* to the United States. The expense of back-and-forthing this redirected mail is astronomical. Moreover, of the mail that remains behind, our statistics of user behavior over a period of several years suggest that half to two-thirds of the letter mail is thrown out as unwanted without being read (another 25-50% could be scanned, and therefore still not delivered physically).

Why is 30% of the mail wastefully sent overseas and then back again? Because the soldiers have been redeployed, and of course, lacking an Internet feedback loop, had no way to inform the Postal Service or anyone else. The result is that soldiers receive important notifications late, and are continually hit with late fees and nicks on their credit reports that make re-entry into civilian life unduly difficult. Our troops deserve better, our taxpayers deserve better, and online postal mail is the solution. A soldier can wield his mouse to say, “Thanks for the notice, but I’m back at Ft. Bragg. Can you ship that care package and my credit card bills here, before the cookies go stale and the late fees and interest start to pile up?” Dedicated personnel in the U.S. Department of Defense are actively studying a solution on their own initiative, but, like the Federal Emergency Management Agency, they could use vision and help from the USPS.

<sup>2</sup> As the U.S. Postal Regulatory Commission’s lengthy dissertation in its recent report shows, the U.S. version of the USO seems not to have a single, objective definition; rather, it is a patchwork of statutory language and exhortations by Congress.

<sup>3</sup> Sources: Coopers & Lybrand, AIIM, IDC.

<sup>4</sup> [http://www.earthclassmail.com/ePostalNews\\_110308.pdf](http://www.earthclassmail.com/ePostalNews_110308.pdf)

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<sup>5</sup> Enterprise Case Study: <http://earthclassmail.na3.acrobat.com/enterprise-case-study/>

<sup>6</sup> Why People Use Internet-Powered Postal Mail and Addresses: [https://admin.na3.acrobat.com/\\_a771555436/in-their-own-words/](https://admin.na3.acrobat.com/_a771555436/in-their-own-words/)

<sup>7</sup> Id.

<sup>8</sup> See note 5.

<sup>9</sup> <http://www.earthclassmail.com/megasorters>

<sup>10</sup> See [http://en.wikipedia.org/wiki/Creative\\_destruction](http://en.wikipedia.org/wiki/Creative_destruction)

<sup>11</sup> See <http://gigaom.com/2008/06/17/vermont-oks-the-creation-of-virtual-corporations/>