

## Certified E-mail

We haven't talked about this in a iideaco meeting, but I don't want to wait any longer.

It's time for e-mail to grow up. When it was a newborn feature back in the early 70s, it worked fine. There were a small number of senders and receivers, most of whom already knew each other, and it was primarily used for exchange of academic, business, or personal information.

Now e-mail should be an adult, but it has not learned any manners, and the commercial aspects threaten to render it practically useless.

So here's my proposal, and some questions for discussion.

### Proposal

It's time for a paid, certified, feature-rich e-mail service, where messages are only delivered between subscribers.

The primary features are the subscriber-only nature of the service, and the pay-to-send requirement, but other features could include

- a permanent e-mail address, independent of service provider;
- a directory of subscribers, so subscribers can find recipients (e.g. that person on your debate team in high school);
- an easy-to-use encryption option;
- a permanent, searchable archive.

I envision a fee structure for this service that would include two components:

- a time-interval-based fixed payment (such as an annual subscription, paid regardless of whether you send any messages), and
- a per-message fee, similar to snail mail postage, perhaps including a size component and a content factor.

The fixed component will support the general costs of the permanent e-mail address, the directory, and support overhead.

The per-message component will primarily be used to limit bulk mail (which would be a legitimate use, but it would cost you something, unlike today), but would also fund the traffic-sensitive components, such as servers and storage.

The prices should be set so that the cost of e-mail for "normal" use would be virtually negligible for most users, especially in view of the benefits.

"Conventional" free e-mail service would certainly still be an option. But eventually it would be an option in the way the sleeping in the park is an option to buying or renting a home. And the commercial users would eventually figure out that the free e-mail market includes few big spenders.

## Questions and discussion

1. **Who should provide this service?** My first thought was that [my company]] could offer this service, and that is certainly a possibility. But the requirements for a service-provider-independent, permanent address, and a centralized directory led me to think of an extension to the U.S. Mail service as an option. (I personally think that fits the Constitutional mandate for a government-operated mail service.) And then I realized that this needs to be a international service (or perhaps even inter-galactic? :) So that led me to thoughts of the United Nations (I know, I know), and perhaps more feasibly, ICANN and IETF. I think we could start with an [my company]]-based service to prove in the concept, and grow it to an internationally-operated organization, with the actual processing and support distributed across contracted service providers within each country.
2. **Is this proposal scalable?** The next 2 questions attempt to address some scalability issues.
3. **Are the billing and micro-payment requirements manageable?** The obvious answer is use of credit cards or PayPal-like services to manage payments, but there are issues. Or you could have the service itself manage billing and collections, probably by contract. What do you do if someone doesn't pay their bill? E-mail jail, like corporate Outlook Exchange? The potential scale of this effort is both enervating and daunting, and creating an acceptable and efficient financial support system will require careful design. There are potential breakthroughs here, in my opinion.
4. **How do you manage, verify and authenticate subscribers?** I'm not sure how important it is to authenticate the subscriber if you are charging for sending messages. But we clearly will want to know something about subscribers for the directory. We will need some way to identify which of the million John Smiths you are trying to contact, or which of the gazillion McDonalds restaurants you are trying to send an e-mail to. Within [my company] we use a corporate user ID to positively identify a user. Will we need something like that? Again, I think solving this problem might lead to some interesting breakthroughs in information design and large-directory management.
5. **How do you manage transition from the current system to the proposed system?** The next few questions attempt to address some of the transition issues.
6. **How do individuals deal with e-mail from non-subscribers?** Obviously you could still keep your current e-mail addresses and clients, and you would need to check them periodically. But hopefully that interval would grow longer and longer. Web and client-based mail reading systems could include the ability to check non-certified accounts, too.
7. **How does this fit into business e-mail systems?** Good question, and one I haven't really thought too much about yet. Maybe the solution is to allow bulk registration? I don't think a "personal-only" e-mail system makes any sense. But I'm not sure how the notion of a permanent e-mail address fits with the changes that occur within the normal operation of a business. I do think the system should allow registered subscribers to be able to send messages to non-registered recipients. But that recipient would have to register before being able to reply within the new system.
8. **Will new web and client access tools be needed?**
9. **POP or IMAP?** Or is that a subscriber option? Is there any significant difference nowadays?
10. **How would this look and act different from the currently-available contact-list-based filter approach?** *Background: I have set up rules in my various Mac Mail clients that work with my Address Book and its Groups. E-mail from those contacts which I have identified as members of the Business group is automatically delivered to my Business mailbox; ditto Organizations. E-mail*

*from non-grouped contacts (generally family and friends) is delivered into my main inbox, and e-mail from anyone NOT in my contact list is delivered to a mailbox labeled "Unknown" or "Possible Spam" (depending on how I was feeling when I set up the filter.) But that is very dependent on my having an accurate contact list, which requires me to personally manage it. And even then, the format of the "from" field varies between e-mail providers, and sometimes the rules don't catch the address. Plus, many of my correspondents seem to change e-mail addresses regularly, and many others have many historical e-mail addresses, all of which still work. The proposed solution, with its permanent e-mail addresses and centralized directory, would vastly simplify the requirement for personal contact management.*

11. **Will this proposal require or benefit from new e-mail protocol elements?** It seems that an approach similar to https key exchange might be useful to reduce hacking and fraudulent attempts, although I really think the subscriber-to-subscriber design inherently limit the potential for fraud. Again, see my SS7 warning comment, below.
12. **How is this different from those spam-filters some individuals utilize, that require senders to register?** I think it's vaguely similar, but clearly on a much larger scale. With this proposal, you only have to register once, whereas the individual-based system requires you to register for each person you want to send to.
13. **How do we make this happen?** Great question. I hope this proposal and discussion will spark an interesting conversation