Invention Title:	Secure home eDelivery without the public Internet
Invention Summary:	Businesses such as USPS, FedEx and UPS have national or global distribution networks, widely available local outlets and frequent home proximity. Customers trust the security of this delivery chain and, in the case of USPS, there is federal penalty in tampering with that chain. This invention enables these businesses to become a secure document delivery replacement for the public Internet. My Stuff Everywhere (CTL patent applications 60604 and "waiting for number") authentication is used so that customer devices (STB, smartphone) automatically receive secure documents from these businesses when WiFi proximity is established, e.g. delivery truck passes the home, user walks by or into a facility.
Invention Description:	See attachment
Invention Commercial Value/Customers:	The commercial opportunity is a pay-for eDelivery service. Customers of the invention are existing delivery services, e.g. USPS, FedEx, USPS, end-users (residential and business) looking for an alternative to open Internet electronic document delivery, and ISPs with a presence in the customer's home or business.
Invention Differences:	There are no known existing products or services of the eDelivery idea described.

CableLabs®

Technical Brief

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My Stuff Everywhere Secure Document eDelivery

The Concept

My Stuff Everywhere™ provides a service where a user can authenticate to a Web site once and, thereafter, using their personal device for identity, access their account on that Web site via any discovered device.

MSE for Secure Document eDelivery uses the access token provided by the Web site of a Secure Document eDelivery provider to securely deliver a sensitive document to the user whenever WiFi proximity is established between the eDelivery provider and the user's STB or personal device. MSE eDelivery takes advantage of the secure, trusted service networks of carriers such as USPS, FedEx and UPS and automates electronic delivery over the last 100 feet. eDelivery is especially synergistic secure customer premises devices that attach to their home network, for example a cable operators set-top-box.

Design

MSE Website Identity has an Enable step and a Use step.

Enable

A user configures MSE eDelivery with a service provider in the same way as other MSE services (*Figure 1*).

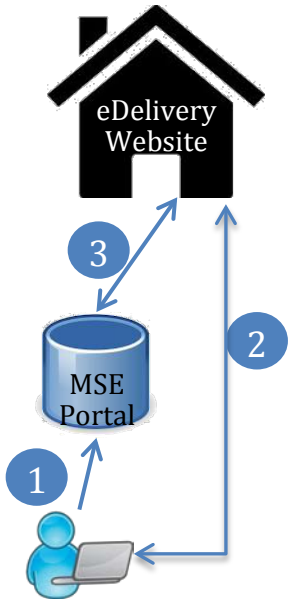

Figure 1 – Enable MSE Website Identity

1. The user logs into the MSE portal and selects an eDelivery Website from a list of MSE partners.
2. The MSE Portal redirects the user's Web page to the Website so that the Website can authenticate the user. As part of the authentication, the user may provide a public key that will be used for encryption of electronic documents delivered by the eDelivery provider. The Website then redirects the user's browser to the MSE Portal with an access code and a Website unique identifier.
3. The MSE portal converts the access code to an access token for future use and associates the user with the access token and Website unique identifier.

Use

The user can now configure a personal device to receive eDelivery. Figure 2 shows an example using a set-top-box.

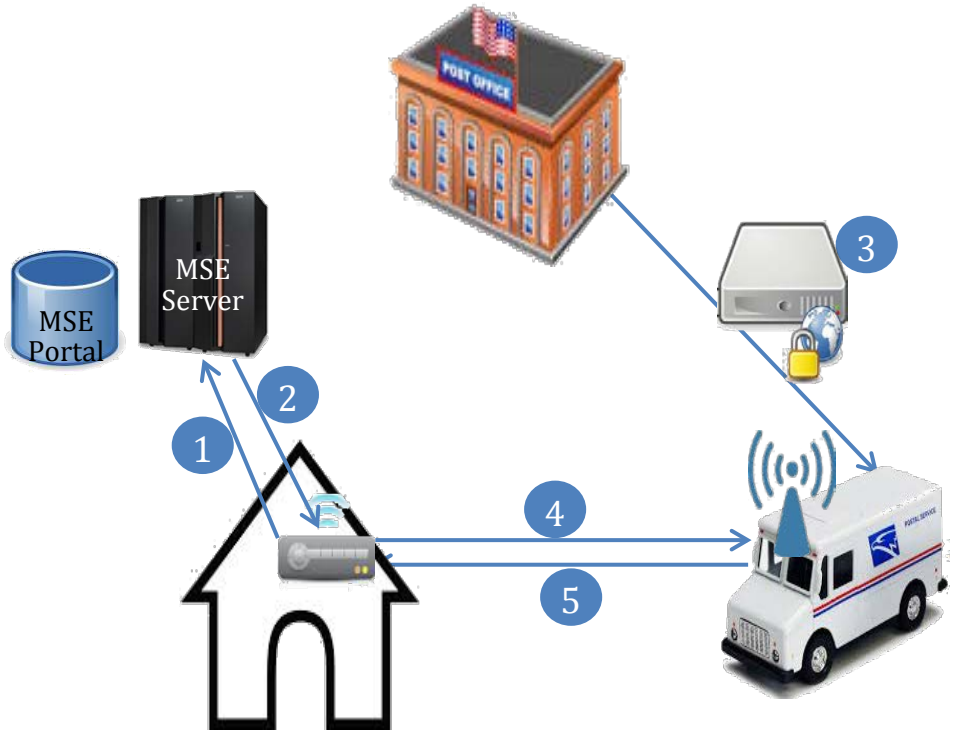

Figure 2 MSE eDelivery

1. The MSE user's cable set-top-box authenticates to the MSO network.
2. If the user has configured one or more eDelivery services, the eDelivery application and access tokens are sent to the set-top-box MSE.
3. Electronic documents, possible encrypted, are loaded onto a delivery vehicle.
4. The eDelivery application in the STB recognizes the eDelivery SSID When the delivery vehicle gets within WiFi proximity. This step could work the other way around. The STB could a dedicated eDelivery SSID that is discovered by the delivery vehicle.

   In either case, the STB eDelivery application sends an HTTP GET along with the eDelivery access token.
5. The delivery vehicle application verifies the access token and responds with the electronic document.

At this point the electronic document is on the hard drive of the STB, available to the user.

MSE eDelivery Advantages

MSE eDelivery offers advantages for all actors.

- It leverages existing delivery businesses – offering a new service opportunity that takes advantage of their trusted networks and frequent customer contact.
- It is a more secure electronic delivery service for the user that bypasses the open Internet.
- ISPs that already have a presence in the customer's home can provide am automatic, secure repository for the eDelivery; one that is already accessible to the customer over their local network.

1. The access token is never exposed to either the MSE user, the MSE app or the Website login page so it can never be stolen by observing access network communication or client device internals.
2. If the access token is ever stolen from the cloud (MSE Server or Website), its use can be revoked and it can be replaced by a new access token. All of this is invisible to the user and has no impact on user devices or Web pages.
3. Access tokens can be updated on a periodic basis without impacting the user. This greatly reduces the threat of access token exposure.
4. The MSE Website Identity service is a Website user identity broker but is never in possession of the user's Website user-name/password.
5. The user no longer needs to remember or enter Website user-name/password.