


PayThat
Secure Payments Technology Presentation
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Secure Internet Payments: What is needed?

- Intuitive and easy to use & adopt
- Something as easy as email
- Platform/device independent & agnostic:
- Secure way to send money over insecure networks
 - Sending money over wild email?
 - Sending money over telco networks?
 - Telco networks were not designed to be secure. Example of “WAP Gap”
- Greatly enhanced consumer privacy and the elimination of the identity theft ecosystem.
- PayThat and the Identity Assurance Federation, a federated identity management service, can achieve all these requirements.
- Adoption is the key. What will be the successful adoption use cases that actually gain mass market acceptance of a new, more secure payment system and identity management system?
- We have developed six detailed use cases and business models, each of which is large enough to move the needle at even a large financial institution. A high level summary of each follows.

First Class Email Use Case

- 20% or more of Bank Employees typically click on malicious links.
- If the Cryptolocker virus is combined with the Stuxnet worm and a time delayed payload bomb to corrupt data stored in backup files, no U.S. bank would survive because of the length of time required to restore from a good backup not impacted.
- The use of wild email will be unsafe and unsound for banks and business in the near future.
- PayThat will move the banking industry away from wild email to “First Class Email”.
- Under First Class Email, no unauthenticated email will be presented to email users. All malicious spam will be blocked at the First Class Email SMTP gateway.
- PayThat network rules will create a protected zone of the internet, where only authenticated users can send or receive email and where senders of all email must attach a valid, good funds, immediately negotiable electronic check in the form of a PayThat Token in the amount of at least one U.S. cent.
- By substantially raising the cost of spam, the economics of the hacker gangs will be fatally undermined. As a major side benefit, the productivity of corporate workers will rise substantially as unwanted spam is eliminated from their daily routine and they will actually earn money to receive and read any unwanted First Class Email.

Healthcare Payments Use Case

- The healthcare sector is the largest single industry in the U.S., contributing 17.6% of the nation's GDP, however it has the lowest adoption of electronic payments with 95% of healthcare related payments ending up ultimately as a paper check.
- Administrative overhead is high at 30% of overall costs because healthcare claims data and healthcare clinical data are siloed in separate business processes and reconciliation between the two silos is time consuming and expensive. Consumers receive healthcare bills & Explanation of Benefits (EOBs) that are not synchronized.
- Healthcare providers, because they typically only rely on user name and password to access HIPAA controlled PII and have rarely deployed encryption to protect their data, have experienced rapidly rising security breaches.
- More secure identity management systems combined with health information exchange services using a network of networks & data centric data encryption approach and payment automation offer the prospect of greater security, enhanced privacy and over \$4.5 billion in cost savings just from the widespread adoption of electronic payments.
- PayThat's Payment System and PayThat's Identity Assurance Federation (IAF) can achieve these efficiencies.
- Starting with a pilot implementation in Michigan covering 1.5% of the population the U.S., PayThat's healthcare payments automation services will be adopted by other health information exchanges nationwide and ultimately roll out to the entire U.S. population and to mass merchants through their retail pharmacy operations.

Cross Border Trade Use Case

- To import or export goods into or out of the United States, signed documents must be procured from 33 different federal government agencies. This is an expensive, complicated and time-consuming paper intensive process. Most smaller manufacturing firms based in the U.S. are discouraged by these barriers from exporting.
- The Single Window allows a firm that wants to export or import any goods across the borders of the U.S. the ability to obtain all the documents required by filling out just one intelligent web form. At the end of the process, the End-User digitally signs the intelligent web form once and the required information, certificates and documents are prepared behind the scenes in an automated fashion by the various government bodies. Certificates and documents are created in real-time on-line and delivered in a secure electronic portal to the End-User by accessing the databases of the applicable government agencies.
- President Obama signed an executive order in February 2014 directing the federal government to establish a “Single Window” to facilitate cross-border trade by December 2016. This is a large effort across 43 federal government agencies. However, to date, the federal government effort to implement the Single Window is not focused on any business use cases or adoption strategies and has little functionality.
- Detroit, Michigan, home of the U.S. auto industry and site of the largest port of entry, is a natural candidate for a “Single Window” pilot focused on the automotive supply chain.
- The Single Window earns fees for the basic service and from value added services offered through the Single Window to End-Users. PayThat’s Payment System and PayThat’s Identity Assurance Federation (IAF) is a critical component to achieving these revenues & efficiencies.

Identity Assurance Federation & Credit Bureau Use Case

- There is no trustworthy web service that can strongly enroll and authenticate to NIST Level 3 or 4 consumers or business employees to enable sufficiently strong cyber security to safely engage in e-commerce.
- To comply with Anti-Money Laundering (AML), Bank Secrecy Act (BSA) and the new Foreign Account Tax Compliance Act (FATCA) laws, each bank is now required to know and identify their customers, understand the business of each customer and understand the transactions flowing through their customers deposit accounts to non-customers. To actually and fully comply with these requirements is a near impossibility if the regulations are strictly applied, however, non-compliance carries with it the possibility of massive multi-billion dollar fines and severe reputation risk. The cost for each bank to individually do this work is far more costly and carries much greater compliance risk than if the work were outsourced to an industry back office utility, a bank owned Identity Assurance Federation (IAF).
- The IAF service will validate identities and perform identity management. The IAF can provide these services at much lower cost than any Depository Institution or any other party.
- Because the IAF builds a database of attributes related to individual and corporate participants and End-Users, the IAF can append additional data about these participants and End-Users at low cost. The appended data can be used to build a Depository Institution owned Credit Bureau and a Depository Institution owned B2B Directory. The value of the U.S. credit bureau industry, currently owned by non-banks, is \$17 billion. Because much of the valuable data resident in the existing credit bureaus is supplied to them for free by banks, the IAF's credit bureau should be able to achieve a 60% market share of the U.S. credit bureau industry, creating \$10.2 billion in value for the owners of the IAF.

Unbanked Use Case

- Why Don't Banks Seek Low-Balance Deposit Accounts? Using traditional methods, low balance accounts lose money.
- To be profitable a bank account must have:
 - Average deposits of \$300 to offset paper statement costs
 - \$0.50 per month x 12 = \$6 per year. If cost of funds is 2% ($\$6 / .02 = \$6 \times 50 = \$300$)
 - Incur overdrafts or other fees to offset cost of teller services.
 - Teller transactions cost \$2 each on average
 - Branch system brick and mortar is costly
- With internet/mobile phone based deposit accounts serviced remotely, ALL accounts with balances can be profitable
 - If customers pay for any unusual service needs via pay to use 900# customer service
 - 100% electronic access allows the overhead associated with an additional account to be very close to zero
- Mobile Phone Based Banking: What is needed?
 - Intuitive and easy to use & adopt, "Something as easy as email"
 - +90% of Internet users use email
 - Something that uses either email or text msg.:
 - In U.S. average number of monthly:
 - Phone calls = 204
 - Text messages = 357
 - Platform/device independent & agnostic: PC, Mobile Device, Any Platform
 - Secure way to send money over insecure networks
- PayThat & the IAF together achieve each requirement. Its design was the model for India's new national payment system and biometric IdM system, with 600MM users within the first year.

Replacement for SWIFT Use Case

- SWIFT, the current main cross-border payment system uses an insecure methodology and has suffered a series of major breaches.
- SWIFT is a messaging system only, and does not perform settlement or clearing. Outside of the OECD countries, it often takes one or two weeks to get international transactions settled and cleared. There is no visibility of the status of a payment until it arrives and multiple banks can often be involved in a single transaction.
- PayThat could serve as a SWIFT replacement focusing on small businesses that do business in two or more countries in the developing world.
- The IAF would provide strong enrollment including Know Your Customer due diligence.
- A Global Payment Gateway would enable same day settlement in every national payment system around the world.
- Banks would find it useful as international wires are a major regulatory risk and service quality is low.
- Once the system is built for this use case it can easily be extended into additional use cases including the five outlined above.
- If SWIFT doesn't replace its system architecture with a more secure PayThat equivalent, PayThat might ultimately replace SWIFT by taking its customers away.

Business Case for PayThat

- Using just the four innovative adoption use cases detailed in the Proposal (see pages 75-123), each PayThat Clearing Bank would for a modest investment to purchase a license, own a fee driven business that for each of the eight licensees would be worth \$3.58 billion to \$4.1 billion within three years if they achieve average market share of 12.5%.
 - Use Case #1 is worth at least \$1 billion for the PayThat enabled Health Information Exchange payment system proposal as the PayThat HIE services will capture a portion of the \$4.5 billion off administrative costs for doctors and hospitals, private health plans, states and other government health plans that HHS has estimated can be saved by adoption of such a system over the next 10 years (see pages 75 & 79 of the Proposal).
 - Use Case #2 Each PayThat Clearing Bank would own a fee driven business that would have a value of between \$780 million and \$1.30 billion at the end of the third year after the launch of the First Class Email product (see page 106 of the Proposal).
 - Use Case #3 is worth at least \$1 billion for the Single Window for Cross Border Trade Facilitation & Supply Chain Billing (see pages 108-112 of the Proposal).
 - Use Case #4 is worth \$10.2 billion for the credit bureau alone and likely at least double that for the IAF (see page 114 of the Proposal).
- Since the PayThat Corporation would be worth \$940 million to \$1.55 billion (see page 104 of the Proposal), the entire PayThat Network would be worth at least \$29.58 billion to \$34.35 billion.

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