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Concept Paper on
Technology Driven Universal Currency
Improvements and Innovations in Existing Financial Mechanisms

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Limited edition for The 13th session of the

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**Minted Originally In Bits -- To Serve Global Financial Interdependence, and
Accommodate the New Imaginative Solutions for a Productive Distribution
of Credit and Risk**

Abstract:

Today close to 90% of our financial transactions have a computer-only reality, no coins, and no bills. But the bits and bytes reflect national currencies defined as paper money equivalent. The next level in the increasing abstraction of credit, risk and value is to mint a currency natively defined as a string of bits. Bit-defined currency features the utmost flexibility in storage and movement, as well as in reflecting value, risk, and credit distribution.

The need:

The proposed concept refers to the following two of the main findings and suggestions that were highlighted by the CSTD 2009-1010 Inter-session panel for consideration by the Commission at its 13th session scheduled to take place in Geneva from 17 to 21 May 2010:

- Promoting development of a payment platform for developing countries to offer cost effective, bank independent and secure alternative to credit cards and ATM networks. [Quote from the draft summary report of the Inter-session Panel discussions in Geneva, Nov 2009].
- Entrepreneurship has played and will continue to play an essential role in generating innovation and stimulating economic growth...Providing access to credit for entrepreneurs and small business owners – especially in developing countries – is a fundamental element of economic sustainability. [Quote from the presentation by the Executive Office of the President of the US at the CSTD inter-session meeting in Geneva, Nov 2009]. This rationale was also presented by Nobel Prize winner, Prof. Muhammad Yunus, which developed the concept of micro-credit, loans given to entrepreneurs too poor to qualify for traditional bank loans; However, those poor usually don't have access to bank accounts or credit cards; hence traditional payment and transaction systems could not serve them.
- The concept introduced in this paper offers an innovative solution to the above issues, a universal technology driven non-bank currency, for payment transactions that could be carried out locally and globally, in the virtual and physical market place, fulfilling a growing need for a more useful, secure, private and friendly payment concept.

Introduction:

The novelty presented here is based on an innovative robust and sophisticated technology. The novelty is in redefinition of the concept of money. Gold coins were replaced by paper bills (an abstraction process).

Today, the advent of computing and telecommunication allows for payment instructions to be rushed around the globe. These instructions expose accounts and invite fraud. The emerging solution is to embed the value of money in the bits themselves.

The concept:

In today's reality the exchanged bits are nominally "pointers" to what must happen with money in the bank accounts where it is kept. With BitMint the transacted bits will actually transact value. Much as banks today project trust by paying cash against randomly pulled out deposits (hoping only a few would so demand), with native bit currency, the mint, the issuer of this currency, will redeem the bits against cash of choice upon demand (with a built-in ability to service a full 'run on the bank'). After having been satisfied that such demand is always honored, traders will develop trust in the BitMint and transact the bit money, as they do national currencies today, without checking each bill that it is authentic.

The BitMint will entice its users with the flexibility to store its currency on small USB sticks, or other bit media, encrypt it, hide it, splice it, email it - - pay with it: large sums, as well as micro-payments, and on top of that would exchange it with any national currency of choice. So a traveler will purchase bit currency with Shekels in Israel, buy with the bit-currency US merchandize over the Internet -- and pay for hotel rooms in Paris when he travels there -- dispensing his bits from his handy keychain device. The traveler will be able to format his currency either as cash belonging to the holder (anonymity), or as secure currency, like traveler's checks. If the currency is cash-like it can be secured through encryption or through a biometric lock on the media device. All in all the user will enjoy total flexibility and convenience.

What is more -- each such digital bill of trade (dBOT) will be associated with meta data identifying the serial number of the bill, and its terms of payment. These terms do encompass the revolutionary power of the BitMint. They will include (i) value over time, (ii) value over events, (iii) acceptable payees. The flexibility to associate each digital bill of trade (dBOT) with time-dependent values is a natural tool to distribute credit and risk. A 100 units dBOT will be worth 105 units 12 months in the future. Or say a 100 units dBOT is exchanged against 110 units dBOT that come with an expiration date six month ahead. Similarly dBOTs will have their value determined by a timely occurrence of events. And any store, or group of traders will be able to use 'group' or 'special currency' which is payable only to their members (equivalent in part to today's loyalty points, or air miles).

BitMint offers a single comprehensive framework to mint everyday cash, as well as sophisticated financial instruments, affording the bit flexibility in storage, movement, and most importantly follow up and tracking. The BitMint itself may be a commercial outfit, and perhaps a few of them, as it would turn out, on a global basis. The equivalent of present day national financial control will be happening through monitoring and overseeing the Mint in one's national sphere. Any such BitMint will have to be subject to the prevailing rules, and the respective national banking authority will dictate terms, interest rates, much as it is happening now -- only easier.

As much as the BitMint spells out flexibility, security, and privacy for traders, it also allows unprecedented monitoring of fraud and abuse. This is because unlike present day and historic mints -- the BitMint keeps close tabs on its minted bills of trade. The value of dBOT depends on its instant authentication by the mint. Bank robbers will find that the bit money they have robbed is instantly void of value (by contrast paper bills cannot be practically voided, even if their serial numbers are known). Governments will be able to fight crime, frustrate money launderers and thieves by exercising the power of the mint to set new conditions on payments of dBOT, obeying a lawful enforcement authority.

The bottleneck issue in many developing countries is the lack of infrastructure. It takes time to build roads, to lay down phone and cable lines, build a power grid etc. However, wireless coverage is the cheapest and fastest of all infrastructure components, making BitMint a very attractive solution for instant banking, and financial growth. You don't need to wait for a brick and mortar bank to be constructed; you simply send a loan to the recipient cell-phone!

We have developed the framework for establishing a first experimental BitMint [♦]. It could be implemented locally and grow globally in a modular way. The CSTD experts are encouraged to consider all the issues raised in this paper. We'll be happy to collaborate and share the advice and wisdom from the financial community in any of the CSTD member's in order to make the right moves for implementing these ideas towards establishing economic sustainability.

If this vision interests you, please contact the authors and let's open a dialogue.

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bitMint

The Future of Currency



[♦] The technology behind this concept was recognized as Best Paper Award in a reputable scientific conference in Seoul, S. Korea, and was independently examined by **PRICEWATERHOUSECOOPERS** that concluded as follows: It appears that AGS' non-account-based currency solution -- stands a reasonable chance to meet with the mushrooming marketplace needs in association with Internet-based transactions -- today, and secure and anonymous payment method in the physical world – tomorrow. While ambitious, it appears to have a good answer to the fundamental weakness of its account-based competition (on-line banking, credit and debit card transactions). It solves privacy concerns (controlled anonymity), and offers a high potential of enhanced security.