Internet Bearer Capital Markets

Using

Unsponsored Network Depository Receipts

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IBUC: "When the Going Gets Weird…

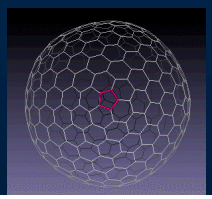
- …The Weird turn Pro"
  - » Hunter S. Thompson, *Fear and Loathing in Las Vegas*
  - Robert Hettinga
    - 5 years in Pyjamas
      - The Odd Internet Rant or Article
      - The Occasional Talking Shop (DCSB, FCXX/IFCA, Philodox)
- IBUC : The Internet Bearer Underwriting Corporation
  - Founded April 15, 1999
    - to , um, Underwrite Internet Bearer Finance
      - "An Airline, not an Airplane Maker"
  - Mostly Bootstrapped, Early Biotech Model
    - Advisory/Research Services
    - Open Source, Public Domain Output
    - Playing Both Ends of the Payment Normal Curve Against the Middle

Meet the New Rules (Same as the Old Rules)

- Nothing *ever* goes away
- The Future Ain't What It Used to Be
- (Economic) Reality isn't Optional, BUT…
  - Say Was Right
    - Supply *Does* Create Its Own Demand
  - Coase was right
    - Coase's Theorem: Transaction Cost *Does* Matter
    - "Cover my costs and I'll do anything"
    - Just as Important: Transaction Cost Controls Firm Size
- At IBUC, we have three rules or our own…

IBUC's Rule #1

- Develop and Compete in Geodesic Markets
  - "Geodesic"
    - From Topography
    - Shortest Path Across a Surface
  - Geodesic Networks
    - Moore's Law Dramatically Reduces Switching Costs
    - Lower Switching Costs Create Geodesic Networks
  - Geodesic Networks cause Geodesic Markets
    - Single Intermediary Between a Buyer and Seller
    - *Lots* of Intermediaries
      - Coase's Theorem, Remember?



IBUC's Rule #2

- Three Orders of Magnitude
  - One *Thousandth* of Current Transaction Cost
  - Lower Transaction Cost Reduces Firm Size
    - Weird stuff (Streaming Cash, say…)
      - Devices as Proprietors
      - Micromoney Mitochondria
      - "An Ecology of Internet Money"
      - Bill Murray "Cats and Dogs living together…"
    - "Normal" Stuff (Capital Markets)
      - Disintermediated (Microintermediated!) Markets
      - Requires Instantaneous Settlement (t-0)

IBUC's Rule #3

- Nothing But Net
  - TCP/IP or Go Home
    - Take Care of the Bits …
      - (IP addresses, Internet Protocols)
    - … and the Atoms …
      - (POS, even Mobile Telephony, sooner or later)
    - … will take care of themselves
  - As Transactions Converge to Instantaneity (T-0), They Converge to:
    - On-Line Transactions (to prevent non-repudiation), and,
    - (We say) Internet Bearer Financial Cryptography
      - Because *only* Bearer Transactions will Execute, Clear, and Settle All at Once

…Which Brings us to CREST

- Owned by CRESTCo, Ltd.
  - Spinoff of the Bank of England
  - Central Counterparty, Securities Depository for
    - London Stock Exchange
    - UK and Ireland
  - Owned Itself by a Bunch of Big City Firms
- Giant Database Mirror
  - …of all positions in all custodial banks
- CRESTCo is only 4 Years Old,
  - CREST itself not much older

IBUC and CRESTCo

- Epicycles
- T-Shirts and Jeans in the Signet Library
- "No new Financial Cryptography"
- The Usual Suspects…

CREST and Dematerialization

- CREST *is* Dematerialization
  - …but it's not enough
- Personal Members
  - Physical Delivery Problem
  - Locked Into a Single Broker
  - Give Personal Members Internet Access to CREST…
    - And the World Changes
    - Broker Independence, Faster Settlement Time, Reduced Settlement Risk, Lower Transaction Cost
- Plug An ATM network into CREST
  - And the Universe Changes
  - Same-day, non-repudiable, broker-autonomous retail settlement, anyone?

Internet Bearer Capital Markets

- Once CRESTCo's demat effort is complete, it *should* be fairly easy to…
  - …get a custodial account and CREST membership,
  - hire a bunch of lawyers, (Pay them £2 million ;-))
  - plug in a bearer underwriting engine,
    - license Chaum, Brands, X-Cash, etc., patents,
    - issue cash, bonds, equity, and any derivative thereof,
    - from Giga-"bucs" to Milli-"bucs",
    - charging a few basis points up front with no subsequent transaction charges
- …and then hire some *more* lawyers…

Reality Check: Capital Markets

- IBUC could have the rug pulled out from under it
  - Demat might not happen, or won't stick
    - Not used by people causing the problem
      - Granny's Registered Share Certificate
    - Brokers will Resist
      - May not want to trade reduced custodial headaches for lack of control of customer base
      - May not accept orders from "undomiciled" CREST PMs
- "Three orders of Magnitude"??? Who says???
- IBUC could be killed in its cot…

Problems: Technical

- Nobody's done this before
  - Few People Understand the Crypto
  - Fewer People Understand the Technical Risk
  - "These are all my friends who have died"
    - Everyone who's ever tried anything remotely like this is dead.
    - IBUC's just one more lemming to jump off the cliff

Problems: Legal

- "You want to sell bearer ***WHAT???***
- …these transactions are ***Anonymous??***
- …and they're not illegal??"
- "Somebody oughta pass a ***law***…"
- "Besides, I have a patent on it…"

Solution: IBUC UNDRs

- UNDRs:
  - Unsponsored
    - » Securities bought, exchanged in secondary market
  - Network
    - » "Nothing but Net"
  - Depository
    - » CREST/DTC/etc.
  - Receipts

    Blind-signature internet bearer certificate representing claim on some portion of a reserve account at an institutional custodian

Solution: IBUC UNDRs

- IBUC is an *Underwriter*
  - Assumes technical risk while on the net for an 85 basis-point underwriting fee, plus (neglegible cash/stock/bond loan float)
  - Transactions on the net, deposits back into a CREST account from the net, are free
    - Computation happens in client anyway
    - Double-spending database has financial-calculable lifetime, can only be used for non-repudiation, cryptographically useless for anything else
    - CREST handles all authentication, just like they do now…

Solution: IBUC UNDRs

- IBUC is an *Underwriter*
  - IBUC is material owner of cash/shares/bonds in reserve account
  - Internet Bearer Certificate represents a claim on the asset, not the asset itself (a razor thin distinction…)
  - Equity UNDRs can't vote, Bond UNDRs can't claim interest
  - Trade at price related to, but independent from underlying asset

Solution: IBUC UNDRs

- IBUC is an *Underwriter*
  - Is not a technology company
  - Holds no patents
  - Pays patent royalties on behalf of whole system
    - "Edge of the Cloud"
    - Enables open source code
      - (It's crypto, right?)
      - Big problem right now, only way to solve it
      - ZKS sent us a term sheet this week, Talking to E-Cash Technologies…

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Solution: IBUC UNDRs

- IBUC
  - Internet-only business, does only bearer transactions on the internet
- Custodian (HSBC, JPM, BONY, whatever)
  - Institutional Custodial Bank
  - Does this kind of work already for Brokerage/