

# Panel Session

## The Real Value of Virtual Currency

### Moderator

- **Alessandro Bogliolo**  
University of Urbino & NeuNet, Italy

### Panelists

- **Dirceu Cavendish**  
Kyushu Institute of Technology, USA/Japan
- **Massimo Villari**  
University of Messina, Italy
- **Yasuhiko Watanabe**  
Ryukoku University, Japan
- **Akira Arutaki**  
Kyushu Institute of Technology, Japan





# Virtual Currency and Security

## The Real Value of Virtual Currency

### INTERNET2012 Panel

**Dirceu Cavendish**  
**Kyushu Institute of Technology**





# Virtual Money - Preliminaries



- **Virtual Money**
  - The word virtual currency or cyber currency is used to indicate electronic money, that is not contractually backed by tangible assets nor by legal tender laws, and which is not a tangible commodity itself.
    - [peer-to-peer](#) crypto-currencies like [bitcoin](#) and in-game currencies that are backed by virtual goods.
- **Real value of virtual money**
  - Albeit not bound to tender laws, it may be monetized in various ways.
    - Virtual currency systems such as [Hub Culture's Ven](#) are used beyond gaming to enable trade and purchase of real world items, inventory and knowledge. Ven is the first virtual currency to have been used in commodity and carbon credit trades.<sup>[5]</sup> In others, such as [Empire Avenue](#), the virtual currency can only be used to invest in other registered members or purchase in-game ads and services while allowing the purchase of virtual currency via PayPal US dollars.
- **Virtual currency owner: The holder of virtual currency, hereafter referred to as “player”**
- **Virtual currency issuer: The generator of virtual money, hereafter referred to as “virtual bank”**



# Virtual currencies and Security



- Real currency security and E-commerce
  - PC/Mobile banking and payment systems drive strong security solutions on servers and clients
  
- Virtual currencies weak security
  - Not attached directly to tender value
  - Security systems cost money
  - Virtual currency is typically controlled by a third party with unproven reputation (e.g., game manufacturer)

Virtual cash poses security risks, Deakin expert warns- 6 June 2012

Deakin University's international financial crime expert, [Professor Louis de Koker](#) has warned there are many **security and regulatory issues** to be resolved if virtual currency is to replace hard cash as predicted at a forum in Sydney yesterday. (Tues, 5 June)

HSBC told the forum it was working under a planning assumption that virtual currencies will become mainstream in three to five years.

News facts

Banks, finance institutions and companies such as Facebook will **need to sort security issues** if they wanted to grow a market for virtual money beyond a gaming niche

Regulators are concerned because virtual currency poses money laundering and terror financing risk

You cannot have banks and super funds investing substantial funds in unstable virtual currencies that may disappear or lose their value overnight



# Virtual currency security concerns



- **Reputation of the virtual bank**
  - Hard to verify probity of virtual currency issuer
    - E.g., Airline mileage programs; game developers
- **Security of virtual cash handlers (game servers)**
  - Unlikely to match ATM machine/bank server security
- **Player security platform (game consoles, mobile phones)**
  - Majority use open source OSs – rooting threat
  - Multi-purpose platforms
    - Mobile device



# Virtual currency in Mobile



- **Device security and OS capabilities**
  - Rooted Android devices can have ANY device residing information accessed by third parties (virtual pick pocketers)
  
- **Device security and applications**
  - Multiple applications may interact with each other
  - Android controls interactions via explicit user controlled permissions
    - How to prevent uneducated user to open a back door (open wallet) to virtual money electronic thief (malicious app)



# Virtual currency Security Breach



## 14 May, 2012 - Bitcoin exchange loses \$90,000 in virtual currency hack

Bitcoin exchange Bitcoinica has shut down its operations after an online hacker breached its defences and stole \$90,000 worth of the virtual currency.

<http://www.finextra.com/news/fullstory.aspx?newsitemid=23713>

## 01 March, 2012 - Bitcoins worth \$228,000 stolen from customers of hacked Webhost

Ars Technica was able to confirm the theft of 46,703 BTC, as individual units of Bitcoin are known, worth about \$228,845 in US currency based on [current exchange rates](#). More than 43,000 of the stolen BTC belonged to a Bitcoin trading platform known as [Bitcoinica](#), the company's CEO and lead developer, Zhou Tong, told Ars. Another 3,094 BTC were lifted from the virtual purse of Marek Palatinus, a freelance programmer from the Czech Republic.

Palatinus said he kept his \$15,000 worth of BTC that was stolen in what's known as a "**hot wallet**" **that was stored unencrypted** on Linode's servers so it would be available for automatic payments.

<http://arstechnica.com/business/2012/03/bitcoins-worth-228000-stolen-from-customers-of-hacked-webhost/>

## 04 Feb 2011 – Zynga Hacked: Guy gets 50.000 from virtual money

Ashley Mitchell, an IT professional from Paignton, Devon, England was [recently charged with hacking Zynga's Facebook poker game](#). He admitted accessing Zynga's computers and putting 400 billion credits into fake facebook accounts, which he was then **selling for real money**. I think Zynga is trying to have its cake and eat it, too. On the one hand, they **do not put vigorous security controls** in place because it's just a game and it's **play money**. On the other hand, they want to cry foul and make analogies between virtual currency and real currency when someone bypasses their weak security and **starts making money**.

<http://paco.to/2011/zynga-hacked>



# Security of Virtual Currency - Summary



- **Emerging virtual currency market**
- **Virtual currency has real monetary value**
- **Security is lagging behind standards for real currency**





**Thank you!**





University of Messina, Italy

# VIRTUAL ....

IARIA INTERNET 2012  
Venice June, 26 2012

Prof. Massimo Villari  
[mvillari@unime.it](mailto:mvillari@unime.it)

# Looking at the Future

- Economical Crisis
- Democracy's faults:
  - Unrepresentative
  - Not Transparency (see WikiLeaks)
- .....
- .....
- IT Social behaviors



# Economical Crisis: new ways for saving money

- Sustainable Trading:
  - KM zero products
  - Virtual Markets
  - Purchase sharing
  - ....
- Toward the Optimization of Resources and Consumptions



# Challenges...

- Virtual currency systems
- Virtual goods and virtual worlds
- In-app purchasing
- Cooperation incentives
- Monetization models
- Trust and reputation
- Security
- Anonymity
- Legal and fiscal issues
- Currency exchange
- And ....



# Starting with new Democracy?

- In Sweden:
  - PiratPartiet
- In Germany:
  - PiratenPartei
- In Italy
  - Movimento 5 Stelle: Major of Parma, May 2012
- ..
- **e-Democracy, what is the philosophy:**
  - Strong Participation
  - Transparency in Actions: the network seen a showroom
  - Reputation
  - Trustiness
  - Partial Delegation
  - ....





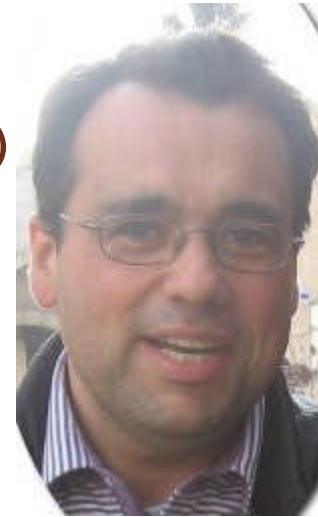
# Economy, .., Democracy and *Social* involvement

For several aspects, can Social Media be helpful?

PHENOMENON



Prof. Massimo Villari (mvillari@unime.it)  
University of Messina, Italy



**THANK YOU**







**The Real Value of  
Virtual Currency;  
Its Impact to  
Networking Business Models**



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**June 26, 2012**

**Akira Arutaki**

**Kyushu Institute of Technology (KIT), Japan**



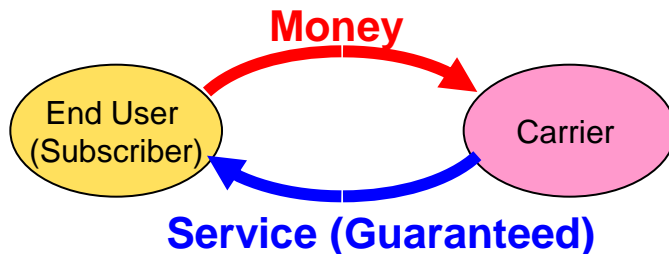
# Evolution of NWing Biz Model



(1) Legacy Model; Guaranteed Services

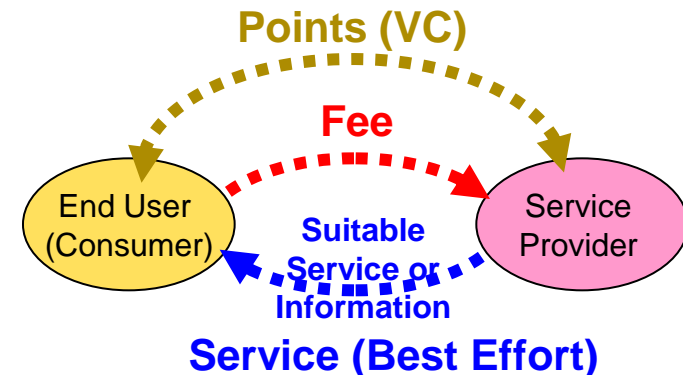
(2) 90's Model; Best Effort Services

## (1) Legacy Model



- Telephony Services, Typically
- Guaranteed Services
- Investment by Solid Forecast, i.e., Self-closed Biz Model
- No Virtual Currency(VC)

## (2) 90's Model



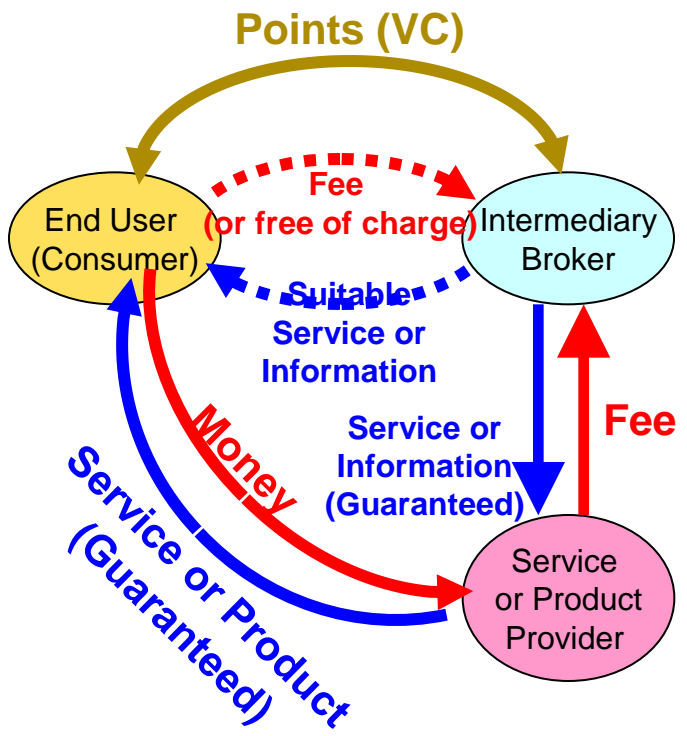
- The Internet Services
- Best Effort Services
- Risky Investment, Still Self-closed Oriented
- Introduction of VC(Points)
  - Still Internal Currency of the Service Provider



# VC Buying Real Merchandise

- ✓ Established VC to Buy Real Merchandise of Multi-providers
- ✓ Still Internal VC within the Intermediary Broker

## (3) Early 2000's Model



- The Internet Shopping, Typically
- Guaranteed Services through Best-effort Communication
- Investment involving 3rd Party, i.e., Open Biz Model
- VC to Buy Real Merchandise of Multi-providers
- Still;
  - Internal VC within the Broker
  - End User is Service Recipient
  - Uni-cast of Service and Money Flow



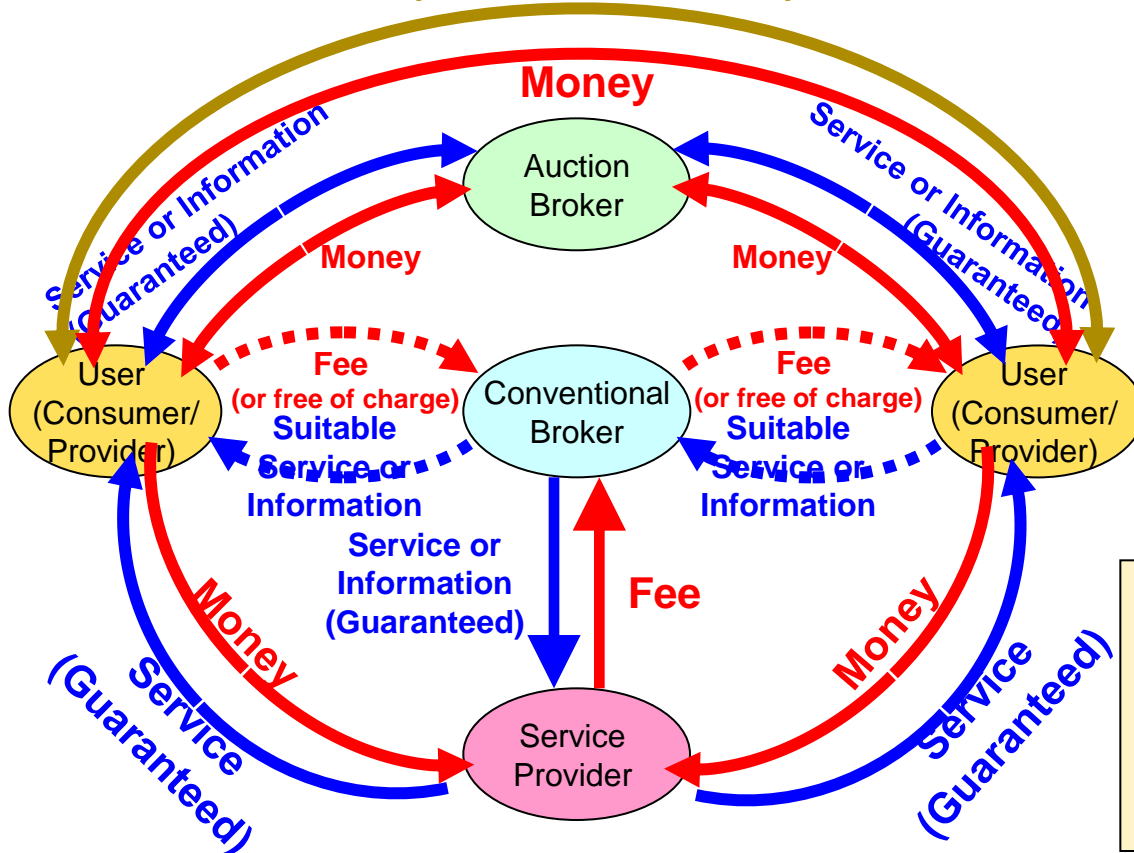
# Emerging Model



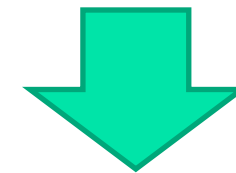
- ✓ End-user as a Consumer and PROVIDER by auctions
- ✓ Selling/Buying VC by End-users, i.e., VC = REAL

## Emerging Model

VC (Points, Tools, etc.)



- Is VC Legal/illegal merchandise?
  - Taxable Trading?
  - Control such as Stock Market?
  - If VC Is Addictive,,,,,,
  - Used for Crimes?



**VC with  
Legal Regulation  
for Continuous Growth**



*Thank you  
for your  
attention!!*