



From Marco Polo to Asian Economic Storm and Digital Cash

The Emerging Digital Cash in Asia-Pacific Economies

Asia Pacific IT Summit

Santa Clara, CA, USA

Nov 19-20, 1998

James Lee jlee@krdl.org.sg
Kent Ridge Digital Labs, Singapore

Outlines

- ◆ What Has Marco Polo Taught Us?
- ◆ The Asian Economic Storm
- ◆ Case Studies of Digital Cash Societies
- ◆ Development/Implementation of Digital Cash in A-P Economies
- ◆ Challenges
- ◆ Conclusions



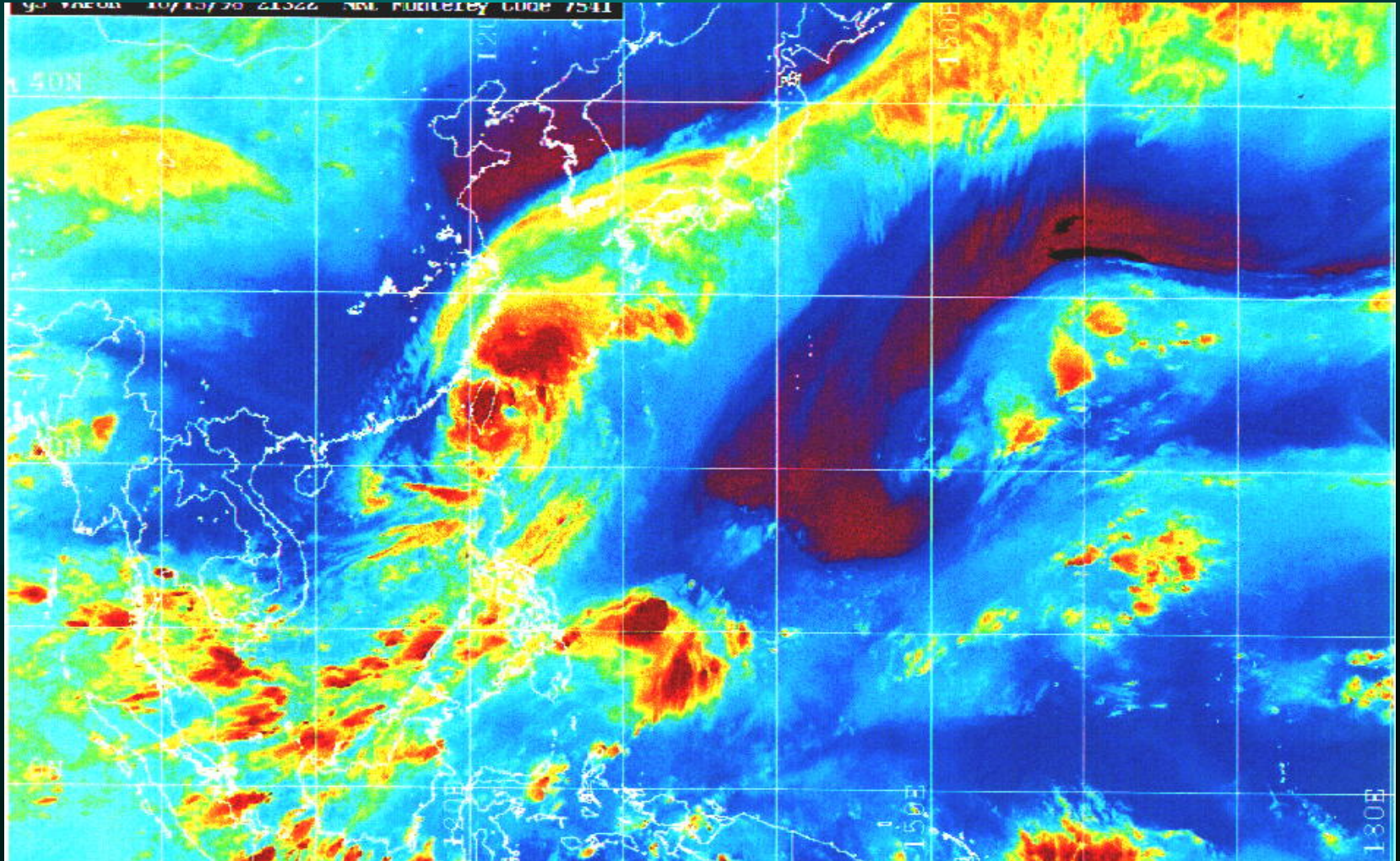
What Has Marco Polo Taught Us?

- ◆ Evolution of Money
 - ◆ Barter, Shell, Metal, Paper, Plastic, and now Digital Money
- ◆ What Happened to the Chinese Noodle and Paper Money Marco Polo Took Back to Venice?
 - ◆ “Travels of Marco Polo” 1254-1323?
- ◆ Lesson: To Make People Accept and Use a New Form of Money Takes a Long Time and Lots of Efforts
 - ◆ Trust: Infrastructure; Authority



Asian Economic Storm: A Snapshot

Thailand, Malaysia, Indonesia, Singapore, HK, Chinese Taipei, Korea, Japan,
and Russia



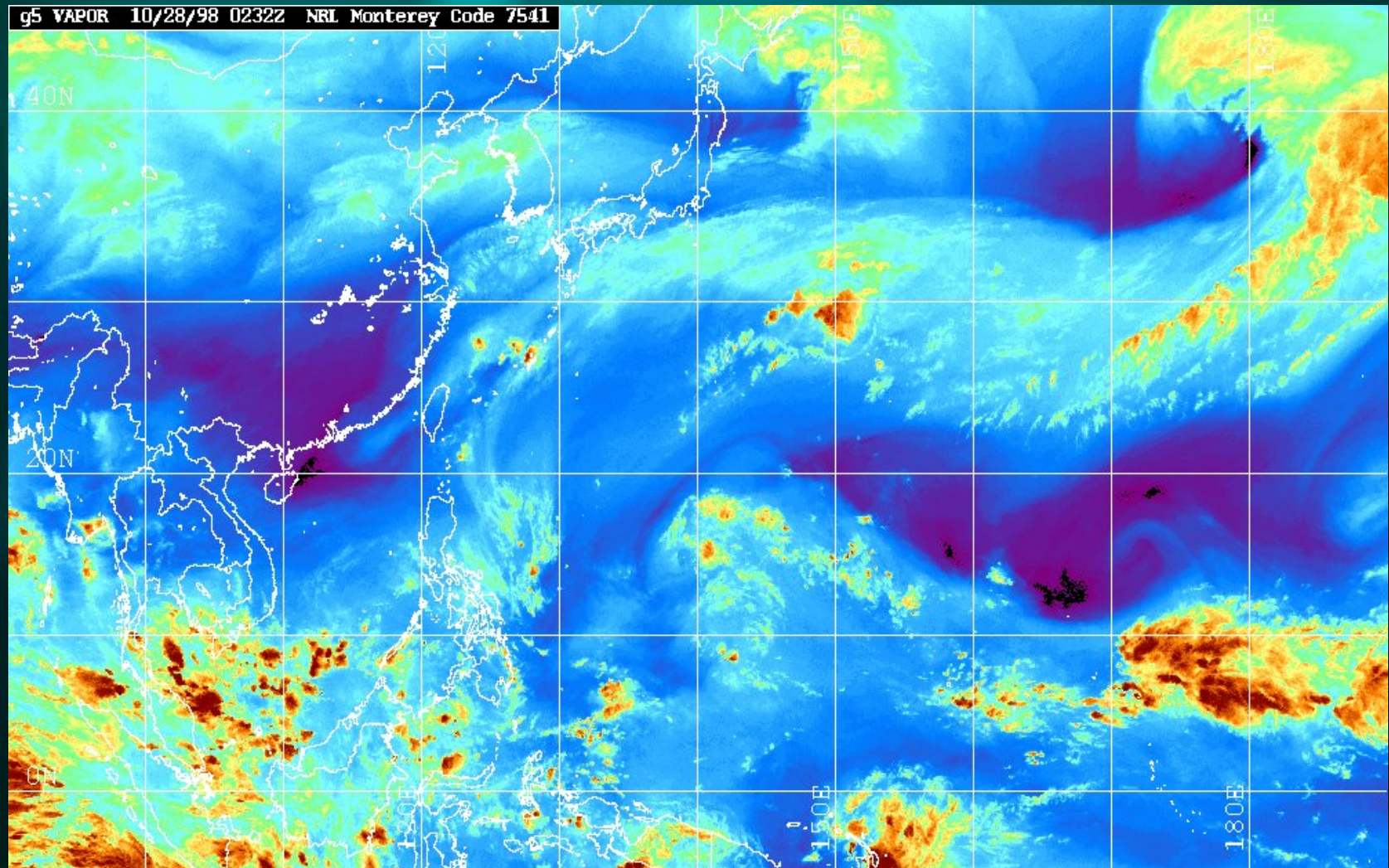
Satellite image of Super Typhoon Zeb hitting Asia Pacific.

Source: www.nrlmry.navy.mil/satdat/gms_images/trop_vapor/latest.jpeg



Asian Economic Storm, Is the Worst Over?

Who are getting ready for E-Commerce, the next competition arena?



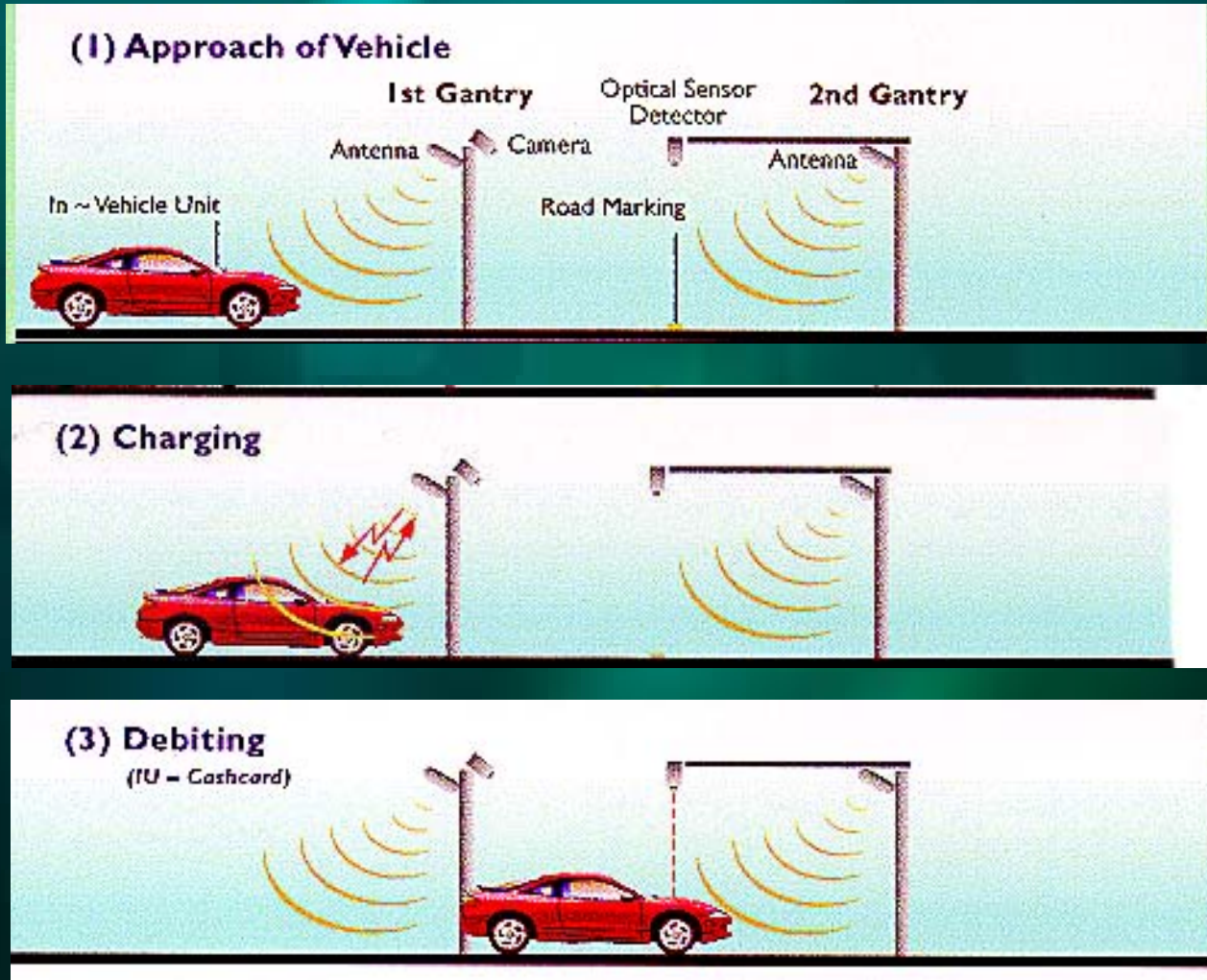
Satellite image of Asia Pacific after Super Typhoon Zeb.
Source: www.nrlmry.navy.mil/satdat/gms_images/trop_vapor/latest.jpeg

Singapore: Towards A Digital Cash Society

- ◆ NETS EFTPOS (since 1986, accepted in > 14,000 merchants nationwide)
- ◆ NETS CashCard (since 1996) and C-ONE on Singapore-ONE
- ◆ Singapore Has More Chip Cards Per Head Worldwide (1.2 million cashcard holders among 3.2 million population)
- ◆ The Killer Application: Electronic Road Pricing (ERP)



ERP in Singapore: Towards A Digital Cash Society



ERP in Singapore: Towards A Digital Cash Society



Smart Commerce Japan

- ◆ Kobe E-Money Pilot Organized by MITI
 - ◆ 1/1997-3/1998; 60 stores, 25,000 cards issued; average transaction \$13 (\$58 for credit card).
- ◆ Shibuya Smart Card Society Organized by Industry
 - ◆ Large scale "Pilot": 130,000 Smart Cards to be issued in 18-month (7/1998-10/1999) period; participation by 2,000 merchants





Smart Commerce Japan

- ◆ 10,000 Virtual Malls
 - ◆ Takashimaya Virtual Store, 3 staff
 - ◆ Payment methods an issue: registered mail, bank remittance, COD
- ◆ Cyber Business Association
 - ◆ 9/1998, 37 companies 10,000 consumer "monitors" nationwide
- ◆ Other Forms of Digital Cash in Japan
 - ◆ WebMoney
 - ◆ Online and offline, available at 7-11 type stores
 - ◆ Problem: Commission too high!?
 - ◆ QQQ (pre-registration of credit card number)



Development/Implementation of Digital Cash in Asia-Pacific Economies

- ◆ Singapore
- ◆ Japan
- ◆ Hong Kong
- ◆ Chinese Taipei
- ◆ Australia
- ◆ Malaysia
- ◆ China
- ◆ Korea
- ◆ New Zealand
- ◆ Indonesia



Challenges

- ◆ Standard Wars
 - ◆ Visa, MasterCard, Java, MultOs, ...
 - ◆ SSL vs SET
 - ◆ Open Trade Protocol Consortium (MasterCard) vs. Common Electronic Purse Specification (Visa)
 - ◆ What Do Users Care Most? Technology, Application, or Branding?
- ◆ Convenience/User-Friendliness
 - ◆ "Why SET is NOT taking off yet?"
 - ◆ "Simple to use for 3-100 years old."
- ◆ Trust
 - ◆ "DigiCash Filed Chapter 11 on Nov 6, What to do with my unused eCash?"



More on Challenges in Trust

- ◆ Privacy & Anonymity
- ◆ Infrastructure/Reliability
 - ◆ "Can I Use My Digital Cash Anywhere Anytime?"
 - ◆ "Are you sure the ERP Gantry charge me once?"
- ◆ Interchangeability/Convertibility
 - ◆ "Can I make a change?"
- ◆ Interoperability
 - ◆ "Can I use my VisaCash in JCB store?"
- ◆ Cross Border Transaction
 - ◆ "Can I use my NETS CashCard to buy chewing gum in Santa Clara?"



Conclusions

- ◆ Asia Used to Be the Leader in New Forms of “Money” Centuries Ago
- ◆ Asia Is Now Leading in the Adoption of Digital Cash
- ◆ Are You Getting Ready for Digital Economy?