

DANKORT



How the Nordic Way transformed the Nordic Societies through ICT Innovation

SIGCIS workshop October 7, 2012

SIGCIS workshop October 7, 2012 in Copenhagen

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Dankort – a national debit card system established in Denmark in the early 1980s.



▪ **Situation in late 1970'es**

- Commercial banks had the business customers
- Savings banks had the private customers
- No domination bank/savings bank on the market
- Retailers had started to issue own “private” payment cards (loyalty cards)
- Banks had started to issue credit cards.
- Bank industry feared to lose control of the payment market and the credit market.
- Competition from state owner “postal giro” in the payment market.



The solution

- ❑ The “pay-as-you-earn” tax-system meant, that each employee had a bank account with a cheque book.
- ❑ Increasing use of cheque payments and increasing cost for handling cheques.
- ❑ Unions would not accept a fee for each used cheque.

- ❑ Threats from the outside made the banks and savings bank to find a common solution. They agreed upon a common electronic debit card – a Danish electronic cheque.
- ❑ No control against the bank account.

- ❑ Each retailer – even the smallest shop in the smallest village - should have an electronic terminal.



Communication

- The only possibility was to use telephone lines (there was a telephone in even the smallest shop).
- Problem: Speed and security.

Solution:

- Cooperation between the 4 national telephone companies.
- New Danish developed concentrators (servers) in the telephone network – 1200 baud.
- Encryption from the terminal to the central computer.
- Fair price per transaction.

Terminals

- None available in the market
- Complete new terminals with encryption were developed by a Danish telephone manufacturer.
- (Demanded a minimum order of 10.000 terminals)
- Encryption device from UK
- Special dial up and print procedure in the terminals to reduce the transaction time.

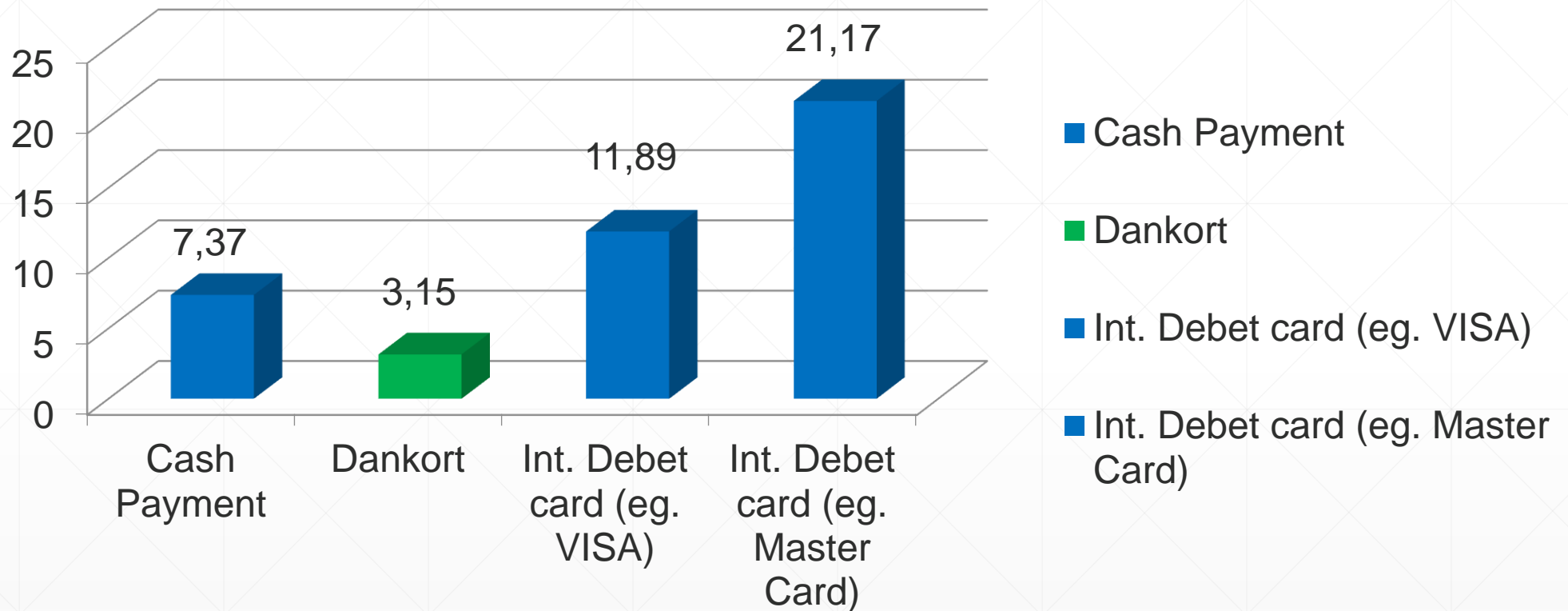
Central computer

- Very high demand for uptime and number of transactions per second. 600 trans/sec.
- Only the big airline ticket reservation systems could fulfill – but too costly.
- Customized design by a Danish manufacturer.
- Complete new hardware and software by a Danish manufacturer (went bankrupt before the start).
- Dankort company guaranteed the salary for 15-20 employees.

Political problems

- Who should pay for the system?
- The bankers proposed a transaction fee paid by the users.
- The whole population, 5 million Danes said no to the Dankort.
- Retailers would not pay.
- They had to pay for the terminals in the shops and for the transmission.
- Bankers had to pay for the central system (Issued later a transaction fee on cheques).
- A majority in the Danish parliament demanded a law to protect the individuals (registration – responsibility for theft and loss – who had to pay?).

Total costs for handling a payment in DKK



August 2012: 83.7 mio. Dankort transactions

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