FinTech security work in ITU-T SG17

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Digital Transformation

❑ To solve traditional problems of industry or finance

- ❖ The process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements.

❑ New types of innovation and creativity

- ❖ Rather than simply enhance and support traditional methods

❑ In a narrow sense:

- ❖ Paperless
- ❖ Digital business maturity: both individual business and whole segments of society, including government, mass communications, art, medicine, and science.

❑ Underway but not at the same pace

Progression of digital transformation

❑ Digitization of information
  ❖ Coversion (Data)

❑ Digitalization of industries and organizations
  ❖ Adaptation (Business process)

❑ Digitization Transformation of societies
  ❖ Creation (Effect)

❑ Opportunities and challenges
  ❖ Hospitality management
  ❖ E-commerce
  ❖ Banking
  ❖ Training/Online learning
  ❖ Healthcare

Digital Transformation in Finance

❑ The primary aim is to be more customer-centric.

❑ Not a technical strategy but a business strategy.

❑ Newer opportunities in the banking, credit and capital market functions of the financial domain.

❑ Mobile apps keep your office straight in your hands.

- ❖ Many financial institutions still rely on their legacy systems on IBM frames and built on COBOL.

❑ Challenge:

- ❖ To pull out the data and get on to the modern technology-based system.
- ❖ With the disruption in existing services and products, it is essential for companies to focus on acquiring new skills and technology.
- ❖ The key to surviving in a digital environment is to adapt and adjust to the changes.

Digital tools to support financial functions

❑ Cloud
  ❖ Easy to scale data for critical functions: credit scoring, consumer payments, statements and billings for essential account functions

❑ Robotic process automation
  ❖ Replace human involvement and reduce human errors in the process

❑ Data visualization

❑ Advanced and predictive analytics supported by AI and ML

❑ Real-time computing

❑ Blockchain

Top 5 FinTech Services

❑ Top 5, close to 60 % of total FinTech investment.

❑ Peer-to-peer lending
❑ Remittance
❑ Online payment
❑ Mobile wallet
❑ Fraud and security analysis

❑ Insufficient safeguards

❑ More data is now available in digital formats

❑ Cross-platform malware contamination

❑ Major FinTech security

   ❖ Cybersecurity

   ❖ Data security

   ❖ Privacy protection

FinTech security

- ❏ Cybersecurity
  - ❖ Traditional cybersecurity
    - Restful API security
    - Biometrics
    - OAuth 2.0
    - FIDO 2.0
    - Data breach, loss, cross-platform malware contanimation
  - ❖ Moving target defense

- ❏ Data Security
  - ❖ Fraud detection
  - ❖ Data Analytics
  - ❖ AI and Machine learning

- ❏ Privacy Protection
  - ❖ De-identification

FinTech security in ITU-T SG17

❑ Cybersecurity
- ❖ X.1141 Security Assertion Markup Language (SAML 2.0)
- ❖ X.1144 eXtensible Access Control Markup Language (XACML) 3.0
- ❖ X.1153 Management framework of a one time password-based authentication service
- ❖ X.1156 Non-repudiation framework based on a one-time password
- ❖ X.1154 General framework of combined authentication on multiple identity service provider environments
- ❖ X.1158 Multi-factor authentication mechanisms using a mobile device
- ❖ X.sfop Security framework of open platform for FinTech services
- ❖ X.tfrca Technical framework of risk control to support authentication
- ❖ X.1085 Information technology - Security techniques - Telebiometric authentication framework using biometric hardware security module
- ❖ X.1087 Technical and operational countermeasures for telebiometric applications using mobile devices

❑ Data Security
- ❖ X.1157 Technical capabilities of fraud detection and response for services with high assurance requirements
- ❖ X.websec-7 Reference monitor for online analytics services

❑ Privacy Protection
- ❖ X.fdip Framework of de-identification processing service for telecommunication service providers
- ❖ X.rdda Requirements for data de-identification assurance

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Thank you