Public Key Infrastructure (PKI)

- Certification
- Public Key Certificate
- PKI Components
  - Certification Authority
  - Registration Authority
  - Certificate Repository
- Certificate Life Cycle Management
- Certificate Trust Models
Business Issues

• Models for digital signature usage
  – business-to-business
  – business-to-consumer
  – consumer-to-consumer
  – government-to-government
  – government-to-business
  – government-to-consumer/citizen
Factors to be considered

• Need for authentication of parties involved with transactions
• Need for supporting non-repudiation
• Cost involved with deploying/supporting PKI
• Risk involved with online applications
Legislative Approaches

- Technology neutral
- Technology specific
- Two tiered
PKI Interoperability: Cross Border

- Cross certification
- Cross recognition
- Accreditation certificates
- Bridge CAs
- Certificate trust lists
Authentication Methods

- Password/passphrase
- Tokens
  - Smart Cards
  - USB Tokens
- Biometrics
  - Fingerprint scans
  - Retinal/iris scans
  - Voice recognition
  - Facial recognition
Ongoing and Future Activities

- Interoperability of different approaches
- Development of standards
- Wireless PKI
Overview of e-ASEAN Initiative
Outline

• Background
• Implementing e-ASEAN
• Work in Progress of EAWG
• Collaboration with Other Regions/Bodies
e-ASEAN Framework Agreement

- e-ASEAN Framework Agreement signed by ASEAN Leaders at the 4th ASEAN Informal Summit in Singapore in November 2000
- Main objectives:
  - Enhance the competitiveness of ICT sector in ASEAN
  - Bridge the digital divide within and among member countries
The Agreement also emphasizes:
- Member Countries who are ready, to accelerate the implementation of the Agreement and to assist other Member Countries to undertake capacity building
Scope of Coverage

e-Space

ECONOMY
SOCIETY
GOVERNMENT

POLICY
PILOT PROJECTS
e-ASEAN FRAMEWORK AGREEMENT

• Five Flagships:
  – Establishment of ASEAN Information Infrastructure (AII)
  – Growth of electronic commerce
  – Liberalisation and facilitation of trade and investments in ICT products and services
  – Capacity building and e-Society
  – e-Government
Task Groups

• Five Task Groups formed
  – Each with Shepherd and co-shepherd
• Responsibilities of shepherd
  – Develop specific recommended policies and/or actions for government consideration
  – Recommend realistic timeline for implementation, based on ASEAN modalities
  – Monitor and coordinate with EAWG and other related fora
  – Monitor existing pilot projects and nominate new ones for endorsement
All

- **Shepherd**: Philippines
- **Co-Shepherd**: Singapore
- **Areas of coverage**:
  - Enhanced intra-ASEAN connectivity
    - Developing / harmonising standards for interconnectivity and interoperability of National Information Infrastructures
    - Facilitating the setting up of national and regional Internet exchanges and Internet gateways
Areas of coverage (cont’d):

– Developing recommendations for “least connected” ASEAN members
– Developing Convergence Principles
– Participation in global Internet policy formulation

• ICANN representation for ASEAN/e-ASEAN
• ASEAN Top Level Domain
e-Commerce

- *Shepherd:* Singapore
- *Co-Shepherd:* Malaysia, Brunei
- **Areas of coverage:**
  - e-Commerce Legal Framework
    - e-Commerce legislation on electronic transactions and electronic signatures
  - Consumer Protection
    - Online alternative dispute resolution
    - Privacy and personal data protection
e-Commerce

- Areas of coverage (cont’d):
  - Regional Electronic Payments System
  - Intellectual Property Rights
  - Cybercrime legislation and prevention
  - Developing authentication and security policies
    - Mutual recognition of digital signature framework
    - Security policy
  - Taxation Issues
Trade Liberalization & Facilitation for ICT Goods, Services and Investments

- **Shepherd:** Indonesia
- **Co-Shepherd:** Singapore
- **Areas of coverage:**
  - Liberalisation of ICT Products, Services and Investments
  - MRA on ICT products and services
    - Implementation of MRA on telecom equipment
    - Alignment of national standards to international standards
    - MRA of qualification standards
  - Harmonisation of tariff nomenclature and customs valuation for ICT products
  - Monitoring APEC and WTO discussions and developing recommendations for ASEAN
Capacity Building and e-Society

- **Shepherd**: Thailand
- **Co-Shepherd**: CLMV countries
- **Areas of coverage**:
  - SME training and education
  - Regional human resource development programme
    - Schools
    - Communities
    - Workplace
  - Developing common ICT professional standards
  - Developing community-based e-centres
e-Government

- *Shepherd*: Malaysia
- *Co-Shepherd*: Singapore, Brunei
- *Areas of coverage*:
  - Facilitating inter-government cooperation and freer flow of goods, information and people
    - Customs modernisation and trade links
    - e-passport/visa
    - Smart cards
e-Government

- **Areas of coverage:**
  - e-government services and applications for citizens and businesses
    - Government licensing/registration processes
    - Electronic bidding and procurement
    - Health services
    - Tax payment
Streamlining e-ASEAN

• Streamline of e-ASEAN projects: prioritization & reclassification >> Policy vs Operation + Country Coordinator

• Extend partnership and strengthen closer cooperation with key dialogue partners

• New funding mechanism
  – ICT endowment fund
  – Fast-track approval
Work Program Updates

• Progress of key on-going projects
  – ARIX/ISP Forum
  – e-Commerce Legal Framework
  – Trade and Investment Database
  – e-ASEAN Technical Architecture
  – SchoolNet and e-Learning
  – e-Visa
Work Program Updates

• New Proposals
  – Common Certification Standard for ICT Skill Competency in ASEAN
  – Wiring ASEAN: ICT Strategies, Development, and Implication for Development
  – ASEAN Service Access Platform
  – Capability Maturity Model
e-READINESS Study

• Purpose
  – To develop an understanding of the level of e-readiness of ASEAN countries and to provide recommendations for bridging gaps

• Progress to date
  – First-cut data collection completed
  – Appointment of consultant to analyst data and recommend system for future ongoing assessments

• Next Steps
  – A report to be prepared for submission at the ASEAN Summit in November 2001
e-ASEAN Technical Architecture

• Purpose
  – To develop a Technical Architecture to serve as guideline for the development and implementation of interoperable e-applications and e-services

• Progress to date
  – Design principles defined

• Next Steps
  – Develop specific technical architectures for network, security, e-payment and e-learning infrastructure and services
e-Commerce Legal Infrastructure

• Purpose
  – To formulate a Common Reference Framework to facilitate cross-border e-commerce and to assist member countries to establish their own legislation

• Progress to date
  – Common reference framework completed and endorsed by EAWG

• Next Steps
  – Other areas being addressed
    • Admissibility of computer output as evidence in court
    • Cybercrime legislation
    • IPR protection
    • Consumer protection
CA Interoperability Forum

• Purpose
  – To evolve a regional technical framework to facilitate cross-recognition and/or cross-certification of digital certificates issued by different CAs

• Past Activities
  – A number of issues have been raised and discussed
  – CAs in Singapore and Malaysia are working towards cross-recognition of digital certificates

• Next Steps
  – Establish a formal steering committee to drive the CA Forum agenda
e-ASEAN PKI Forum

• Transformation of CA Interoperability Forum
• Objectives:
  – to accelerate the use of PKI-based applications
  – to promote interoperability of regional CAs
  – to cooperate with other PKI fora
  – capacity building and narrowing digital divide
• Establish a Steering Committee comprising both public & private sector members
• Identify key applications
ASEAN ISP Forum

• Purpose
  – To facilitate and promote enhanced integration and interoperability of regional ISP services and optimisation of Internet traffic within ASEAN

• Progress to date
  – ASEAN ISP Forum working towards the setting up of regional Internet exchanges and gateways to make Internet traffic flow within ASEAN more efficient and cost-effective

• Next Steps
  – Set up ASEAN ISP Association (AISPA) as a formal body to drive the agenda
Endorsed Pilot Projects

- pilot projects endorsed by e-ASEAN Task Force
Principles for Project Selection

- Projects should bridge digital divide between ASEAN countries through HRD and/or technology transfer
- Projects should be based on best practices
- Projects must be based on open standards
- Projects must not be technologically-dependent
- Projects must push the technology envelope through the promotion of R&D and the provision of innovative e-commerce solutions or business models
- Projects should contribute towards the strengthening of institutions and capacities that facilitate e-commerce
• ASEAN Internet Exchange (ARIX)
  – An infrastructure for localising and exchanging ASEAN Internet traffic (ASEAN Secretariat)
e-Commerce

- ASEAN eTourism Portal
  - Portal for tourism industry (KUB Systems, Malaysia)
- EastASEANbiz.net
  - Portal for EAGA SMEs (BIMP-EABC, Brunei Darussalam)
- ASEANWorld.com
  - A regional info / transactional portal to house / link with regional applications (Oracle, Sun and Connect! Singapore)
- GM SupplyPower
  - B2B marketplace for automobile parts (GM Thailand, Malaysia, Philippines and Indonesia)
e-Commerce (Cont’d)

- Sesami Inc
  - B2B Exchange (Sesami Inc, Singapore)
- Knowledge Worker Exchange
  - Portal for skilled-labour HRD activities (MSC Development Corporation, Malaysia)
- Real Estate in Cyberspace
  - ASEAN marketplace for real-estate trading, information sharing and collaboration (e-ASIANproperty.com, Brunei Darussalam)
- WeASEAN.com
  - A collaborative B2B e-commerce e-community for ASEAN SMEs (WeThai Co. Ltd, Thailand)
Capacity Building and e-Society

- ASEAN Educators Online
  - A teaching community portal (Assumption University of Thailand)
- ASEAN Information Network (AINET)
  - An ongoing project to build network of library services online (National Library Board, Singapore)
- ASEAN SchoolNet
  - To link up ASEAN schools, build computing facilities with broadband capabilities and develop multimedia learning / teaching contents (One Virtual Corporation, Philippines)
Capacity Building and e-Society

• e-Entrepreneurship Training Program
  – An HRD scheme to help SMEs transform their operations into e-businesses
• ASEAN Incubator Network
  – A facility to nurture net-preneurs and e-business start-ups
• ArtPostAsia.com
  – A portal for arts-related information
Capacity Building and e-Society (Contd)

- Java Competency Centre (Sun Microsystems)
  - Technology transfer and human resource development
- ASEAN Training Network
  - Provides training at all levels
- LifeASEAN
  - Multilingual magazine on ASEAN society and culture
e-Government

- Cyberlaw training workshop for legislators, government counsels & judges of CLMV
Collaboration with Other Regions/Bodies
Agenda with Dialogue Partners

• EAWG-China
  – 2nd Seminar on ASEAN-China ICT
  – ICT Workshop series
  – MOU on China-ASEAN ICT Sector
    • HRD
    • Infrastructure
    • Information Security
    • Joint seminars
Dialogue Partners Engagement

• EAWG-Korea
  – Bridging the Digital Divide in East Asia: East Asia Special Cooperation Initiative
Dialogue Partners Engagement

- EAWG-Japan
  - CICC IT training for CLMV
  - ECOM: Trustmark, ebXML
  - Guideline on EC
  - TEDI
  - Skill Standard
Dialogue Partners Engagement

- EAWG+3
  - Asia e-Learning
Agenda with Dialogue Partners

- CER (Australia & New Zealand)
  - Discuss framework and mechanism of cooperation
  - AADCP on Cyber Laws
  - Virtual Colombo Plan
  - Potential cooperations
    - trade facilitation
    - e-Commerce
Collaborative Scenario

- Close collaboration between ASIA PKI Forum and e-ASEAN PKI Forum
- Consultation on key issues/standards/interoperability
- Capacity Building
- Identify and collaborate on key/common applications