



INSTITUTE OF INFORMATION TECHNOLOGY

Welcome to

INSTITUTE OF INFORMATION TECHNOLOGY



Vietnam Academy of Science and Technology



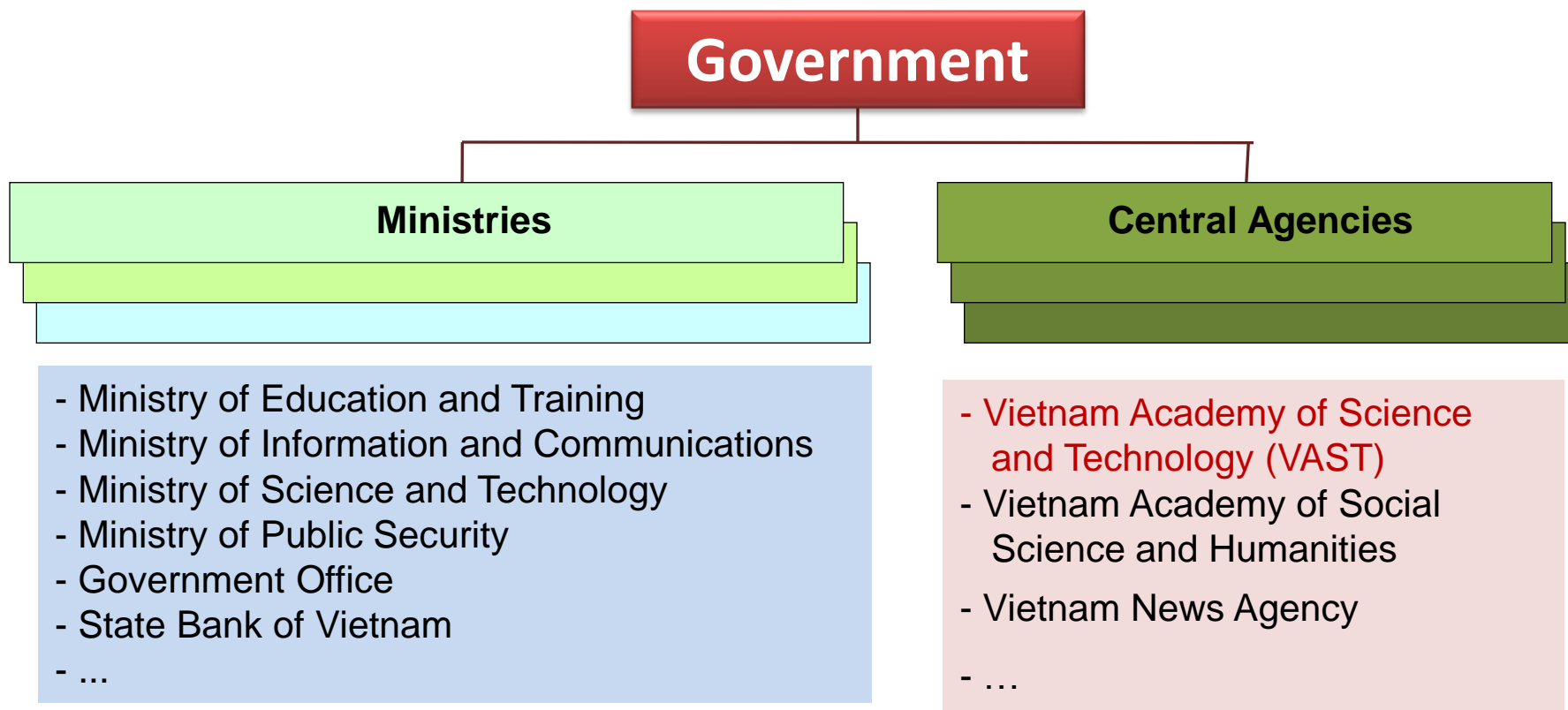
Background

- IoIT - largest and pre-eminent IT research institution in Vietnam
 - One of 30 national member institutes of VAST
 - Leading institution for IT R&D activities
- Brief history: established in 1976
 - Institute of Computer Science and Cybernetics (ICSC), 1976
 - Institute of Informatics (IOI), 1989
 - **Institute of Information Technology (IoIT), 1993**



Vietnam Government

<http://www.chinhphu.vn>





Vietnam Academy of Science and Technology

<http://www.vast.ac.vn>

VAST

Departments and Offices

- Personnel & Organization Department
- International Relation Department
- Planning & Finance Department
- Administrative Office
- ...

Research Institutes and Enterprises

- **Institute of Information Technology (IoIT)**
- Institute of Mathematics
- Institute of Materials Science
- Institute of Biotechnology
- Institute of Geophysics
- Institute of Space Technology
- ...
- **Bio-Technology Development Co. Ltd.**
- **New Technology Application and Tourism Co. Ltd. (NEWTATCO)**



Human and Research Resources

- Human resources: organized in 17 research departments
 - 150 permanent members (titled as **public officers**) including ~40 Dr. Sc., PhDs and ~10 Prof, A/Prof.
 - Respective leading experts in various IT fields in Vietnam
 - Plus about 40 contract-based members
- Facilities: hosting one of the two IT COEs in Vietnam
 - National Key Lab. for Networking Technology and Multimedia
- Notable achievements:
 - Assembling the first PC in Vietnam (1979)
 - The first to introduce Internet to Vietnam (early 1990s)
- NetNam: a spin-off company (early 2000s)
 - One of the first four ISPs in Vietnam



Institute of Information Technology (IoIT)

www.ioit.ac.vn

Department of
Administration

Key Lab for Networking
Technology & Multimedia

Departments

1. Integrated Software Systems
2. Data Science and Application
3. Software Engineering in Management
4. Software Engineering and IT Solution
5. Geographical Information Systems
6. Pattern Recognition and Knowledge Engineering
7. Management Information Systems
8. Computer Networking and IT Infrastructure

9. Telematics
10. Mathematical Aspects of IT
11. Computational Statistics
12. Automation Technology
13. Applications of IT to Control
14. Expert Systems and Soft Computing
15. Systems and Management Research
16. Virtual Reality Systems
17. Natural Language Processing



Key functions

- Carrying out fundamental researches on IT
- Key IT-related activities:
 - IT applications (software, embedded systems...)
 - Technology transfer and consultation
 - Supervision and appraisal of IT projects
- Graduate education and IT expert training
- Academic activities:
 - National/international scientific conferences and workshops
 - Leading IT journals in Vietnam
- International cooperation



Main R&D topics

- Database, Knowledge Base, Information Systems
- Pattern Recognition
- Computer Vision, Image Processing, Computer Graphics, GIS
- Multimedia, Virtual Reality
- Natural Language Processing
- Software Engineering
- Networking Technology, Telecommunication
- Automation and Control, Embedded Systems
- Socio-Economic Information Systems, Management Research
- Numerical Methods, Statistics



R&D Projects

- International ICT Projects
- State budget:
 - National-level ICT Projects
 - National Scientific Foundation (NSF) Projects
 - National Foundation for Science and Technology Development (NAFOSTED) Projects
 - Ministry-level or VAST' Projects
 - Regular Basic Research Projects (IOIT)
- Private sector:
 - Domestic and foreign enterprises



National Projects

- National Key Program of Science and Technology
 - Vietnamese Language and Speech Processing: Bidirectional Vietnamese - English speech translation in specific domains
 - From 2011 – 2015
 - Led by A/Prof. Dr. Luong Chi Mai
- National Targetted Program of Tay Nguyen No. 3
 - From 2011 – 2016
 - Headed by VAST President, Prof. Dr. Chau Van Minh
 - IoT is in charge of a branch in the program
 - WiMAX coverage in the urban area of Buon Me Thuot City
 - Led by A/Prof. Dr. Thai Quang Vinh



National Projects

- National Program For Intellectual Asset Development (Program 68)
 - From 2017 – 2019
 - Under management of NoIP/MOST
 - IoIT is the hosting institution of a big data-based project
 - Led by Dr. Nguyen Truong Thang
 - Technology trend detection based on heterogeneous and complex patent/non-patent data
 - Patent data sources via WIPO, US/EU IP Office
 - Non-patent data via online sources, e.g. Google Scholar



National Projects

- Grant Agreement No.: 12/FIRST/2a/IoIT
 - Project title: “Strengthening R&D capability and mastering big data analytics technology for the corporate management effectiveness of public administrative authority and enterprises via online data sources”
 - Duration: 2018 – 2019
 - Under the project: Fostering Innovation through Research, Science and Technology (FIRST) – Credit No. 5257 between World Bank and The Government of Vietnam
 - Managed by World Bank and Ministry of Science and Technology
 - Led by Dr. Nguyen Truong Thang



NAFOSTED Projects

- Solving methods for monotonic abnormal non-linear operator equation family :
 - 2014 – 2016
 - Leded by Prof. Dr. Nguyen Buong
- Efficient algorithms for structured data mining and prediction:
 - 2014 – 2016
 - Leded by Dr. Nguyen Viet Anh
- Hedge algebra research and applications in ICT and automation fields:
 - 2014 – 2016
 - Leded by A/Prof. Dr. Nguyen Cat Ho



Selected Ministry/VAST-Level Projects

- 2012 – 2014 period
 - High-performance computer-based simulation and prediction for tsunami scenarios (Dr. Pham Thanh Giang)
 - Intelligent robots control (MSc. Pham Ngoc Minh)
 - Android-based Vietnamese-English speech translation (Dr. Vu Tat Thang)
 - Augmented reality technology (MSc. Nguyen Tien Phuong)
 - Big data and applications (Dr. Hoang Do Thanh Tung)
 - Bilateral Vietnam-Japan research project: Embedded software verification (Dr. Nguyen Truong Thang)
 - Ministry of Information and Communications: Electronic courseware-building tools for hearing impaired people (Dr. Ho Bich Hai)
 - ...



Selected Ministry/VAST-Level Projects

- 2015 – 2016 period:
 - Formal methods for security protocol in networking environment (MSc. Tran Manh Dong + Dr. Nguyen Truong Thang)
 - Textpage structure automatic recognition (Dr. Nguyen Duc Dung)
 - Bio-simulating robots (Dr. Ngo Hoang Huy)
 - Image-to-text&speech reader for visually impaired people (Dr. Nguyen Truong Thang + MSc. Nguyen The Hoang Anh)
 - Big data for genetic graph reconstruction (Dr. Ho Bich Hai)
 - Vietnamese sign language recognition (Dr. Le Hai Son)
 - Tax fraud detection algorithm (Dr. Nguyen Long Giang)
 - Intelligent sensing glove (A/Prof. Dr. Luong Chi Mai)
 - Brain Computer Interface (MSc. Nguyen The Hoang Anh)
 - ...



Selected Ministry/VAST-Level Projects

- 2017 – present:
 - Mobile health monitoring device (Dr. Bui Thi Thanh Quyen)
 - Language-based knowledge discovery (MSc. Nguyen Thu Anh)
 - Exhibition enhancement based on Virtual Reality Technology (MSc. Trinh Xuan Hung)
 - Control law for nonholonomic wheeled mobile robot (Dr. Nguyen Van Tinh)
 - Monitoring and prediction technology for information propagation on social networks (Dr. Nguyen Viet Anh)
 - Remote monitoring security system via computer vision technology (MSc. Pham Ngoc Minh)



Selected Ministry/VAST-Level Projects

- 2017 – present (continued):
 - Application safety evaluation on Android smartphones (Dr. Pham Thanh Giang)
 - Industrial networking standard for gateway devices in SCADA systems (MSc. Dang Manh Chinh)
 - IoT-based beacon development on cloud (MSc. Vu Tien Sinh)
 - Product-evaluating software via online data sources (MSc. Nguyen Khac Giao)



Other Notable Research Projects

- Joint research on Bio-informatics project
 - Metabolics research
 - Funded by Ministry of Science and Technology
 - Led by VAST (Institute of BioTechnology)
- Joint research on the construction of Vietnamese genetic map
 - Led by VAST (Institute of Gene Research)



Application Projects

- Ministry of Public Security
 - National Personal ID Project (2016 – 2021)
 - Network security management system (2005)
 - National e-Passport Project (2017 - present)
- Ministry of Industry and Trade
 - Small MIS projects in trade sector
- Vietnam Academy of Social Sciences (2016 – 2018)
 - Digitalization/modernization of core library
- Ministry of Health (2012 – present)



Application Projects

- Ministry of Education and Training
 - Support for the Renovation of Education Management (SREM Project) (2007 – 2013)
 - Supported by EU and Ministry of Education and Training
- Ministry of Finance
 - General Taxation Office: Computerization of financial activities (2005 – present)
- Embedded systems:
 - Software and hardware co-design
 - Temperature and humidity measurement equipments based on PSoC smart chip



Application Projects

- Smart City in Vietnam
 - Latest trend in Vietnam
 - Technology and solution Consultant
 - Intelligent Operation Center@Government Office
 - National scale
 - Ministry of Investment and Planning, Ministry of Finance
 - Intelligent Operation Center:
 - Ministerial scale
 - Provincial scale: Quang Ninh, Bac Ninh



International Projects

- A-STAR: Asian Speech Translation Advanced Research, from ATR (Advanced Telecommunication Research Institute International)
- GRID/Cloud Computing: CNRS (IN2P3) France; VNGrid (PRAGMA); KISTI (Korea); NCHC (Taiwan)
- UNFPA Project: Computer Software and Support for Population Activities
- Microsoft: Development of the training materials on new Microsoft technologies.
- IDEA: Images of natural Disasters from robot Exploration in urban Area (IFI, IOIT, L3i, UniKL)
- Model based software testing with MATLAB Simulink, GAIO Technology (Japan)



Education & Training

- PhD. Program:
 - More than 60 graduated PhDs
 - Currently, enrolling ~90 PhD candidates
 - Jointly working with GUST
- Short-term training courses in advanced topics
- Undergraduate/graduate courses at Universities:
 - Developing and teaching syllabus
 - Vietnam National Uni. (VNU), Thai Nguyen Uni., Hanoi Uni. of Industry, USTH, ...



Scientific Conferences/Workshops

- **National**

- National Symposium on the Selected ICT Problems (annually)
- National Symposium “Fundamental and Applied IT Research” FAIR (annually)

- **International**

- 10th International Conference on Control, Automation, Robotics and Vision (ICARCV2008)
- 10th Pacific Rim International Conference on Artificial Intelligence (PRICAI2008)
- 17th Pacific Rim Applications and Grid Middleware Assembly Workshop (PRAGMA17) in October, 2009
- The IEEE RIVF Conference, Hanoi 2010



International Cooperation

- Japan and ASEAN:
 - JAIST, AIST - research projects (AI, NLP, knowledge engineering, software engineering...)
 - Keio Uni. - Asian Internet Interconnection Initiatives (AI3), School on Internet (SOI)
 - Nanyang Technology Uni. and National University of Singapore
- Europe:
 - Austrian Institute of Technology (AIT) – largest R&D body in Austria
 - Promoting Internet Policy and Regulatory Reform, with Internews Europe
- North America:
 - IDRC, Canada - Vietnamese portal, e-learning platform, Micro Impacts of Macro Economic and Adjustment Policies.
 - University of California, San Diego
- Private sector:
 - Microsoft Innovation Center at IOIT
 - Panasonic, System Center NANO Corp.

Some Activities

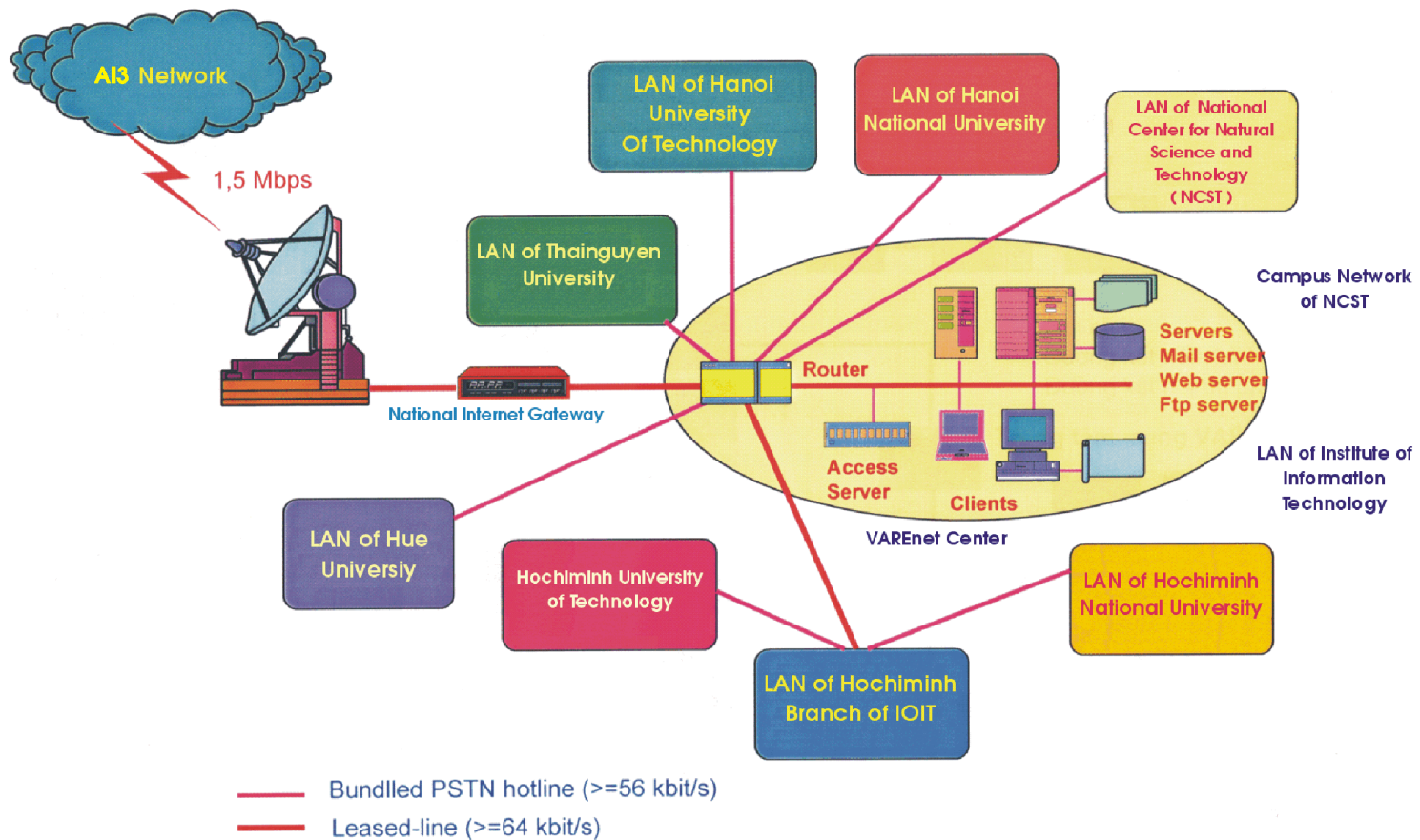


The first PC in Vietnam (1979)





VARENet





TEIN- VINAREN

www.vinaren.vn

(TEIN: Trans-Eurasia Information Network; VINAREN: Vietnam Research and Education Network)

International link:

- To Hongkong hub
- 155Mbps

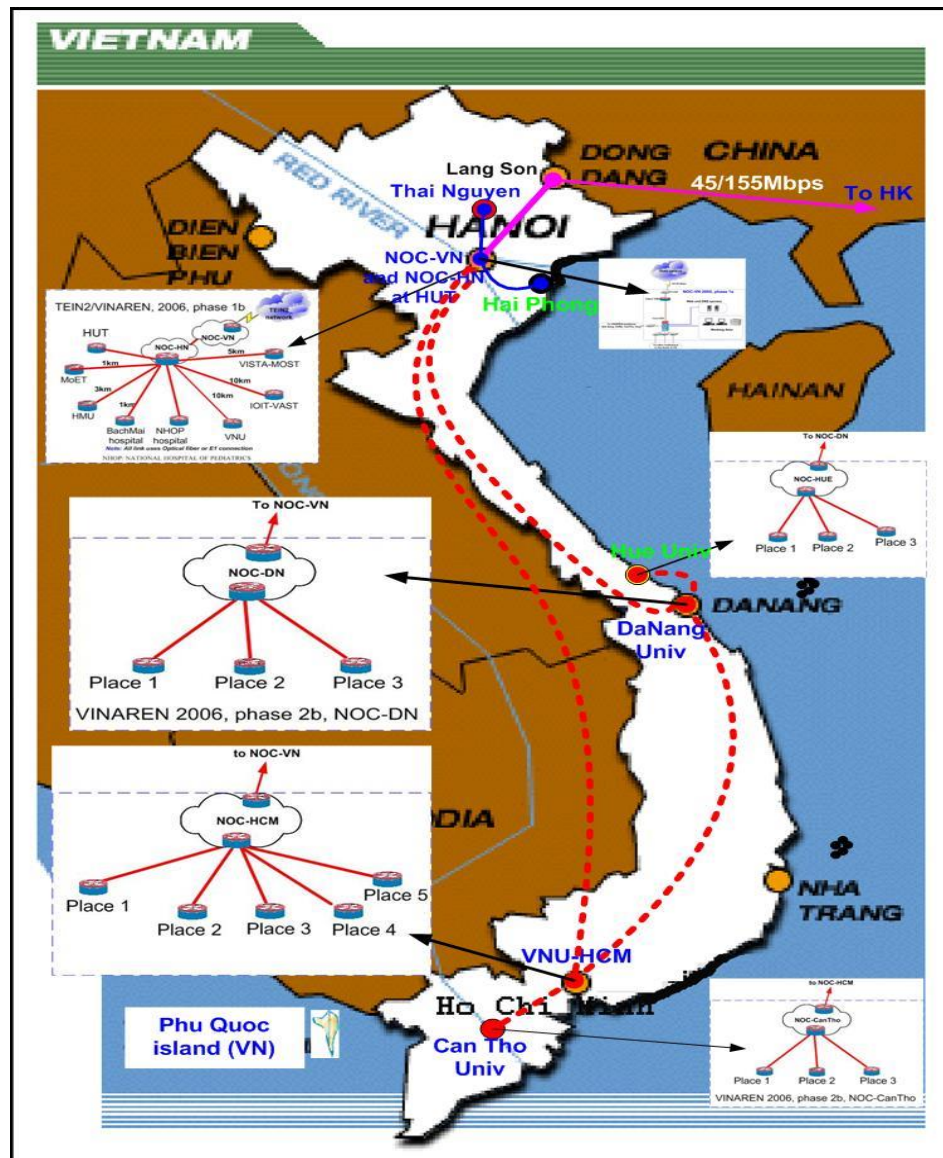
Domestic backbone:

- Hanoi – Danang – HCMcity
- 45Mbps

Domestic partners:

- HUT
- VNU
- VAST

Co-ordinator: Ministry of Science and Technology



The OCR Software for Vietnamese Printed Documents

VnDOCR[®] version 4.0

Bản quyền 2006 của
Phòng Nhân dạng và Công nghệ Tri thức
Viện Công nghệ Thông tin

Phiên bản này cấp cho:

VnDOCR Group
Viện Công nghệ thông tin
18 Hoàng Quốc Việt - Cầu Giấy - Hà Nội
Tel: 04 756 0527
Serial number: 128A10-DF24B1-FFDD0A

Tại Đại phòng, chuyên cung cấp các dịch vụ:
Xin giới thiệu đến Quý Công ty các lo:

11	01	225
	01	300
		580

	Fax Canon C20	
05	Fax Canon B340	01
06	Fax Canon L250	01
07	Fax Canon B400	01
08	Fax Canon L300	01
09	Fax Canon L90	01

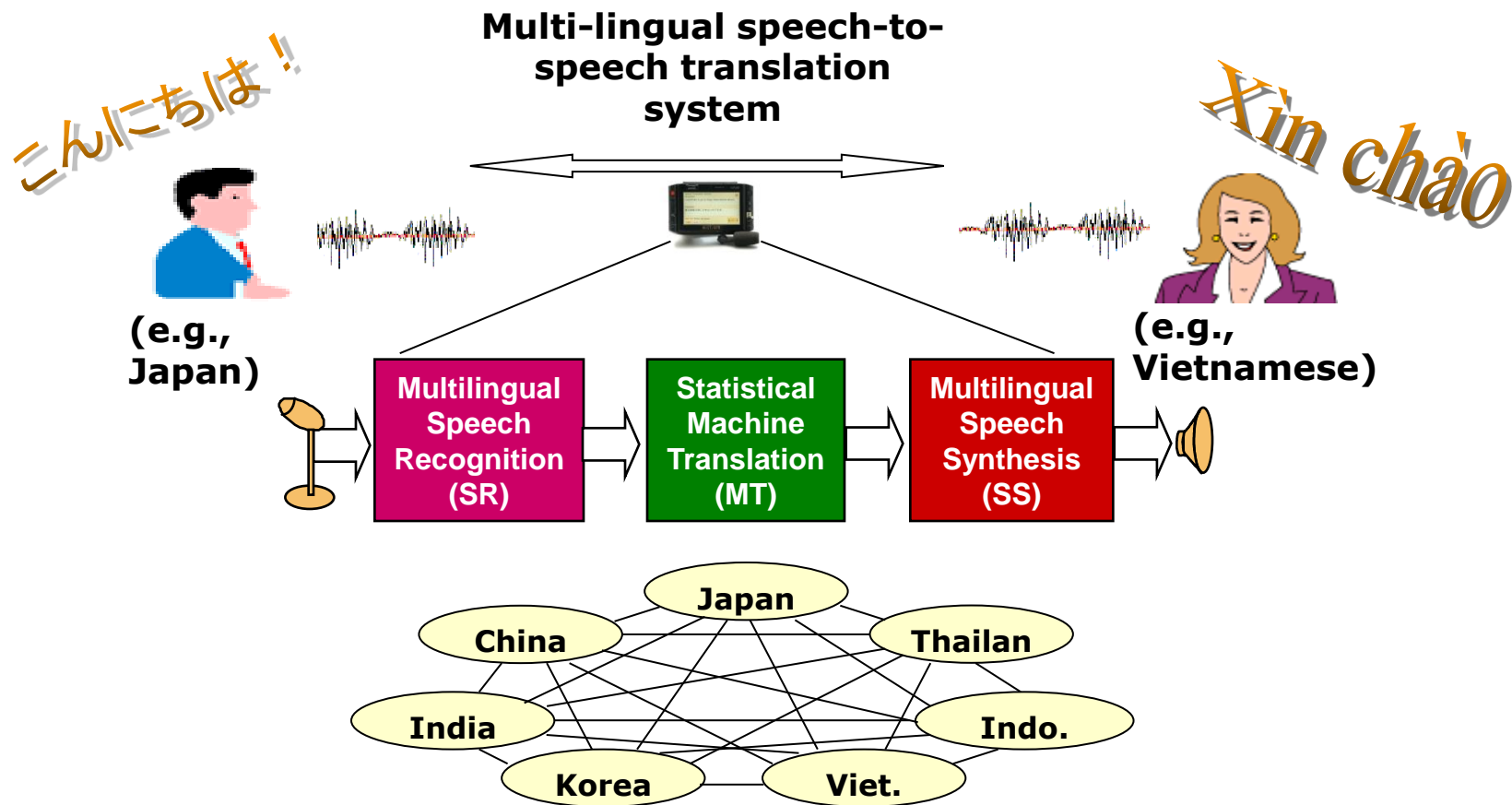
Sản phẩm chính hãng CANON - Mới 100% - Nguyên đai - 1
Bảo hành: 01 năm
Điều khoản thanh toán: Theo tỷ giá VCB tại thời điểm thanh toán
Địa điểm thanh toán: Tại địa điểm của bên mua

Sản phẩm chính hãng CANON - 1

Bảo hành: 01 năm

(404, 363) Trang: 4/4 9 yún

Speech-to-Speech Translation Project

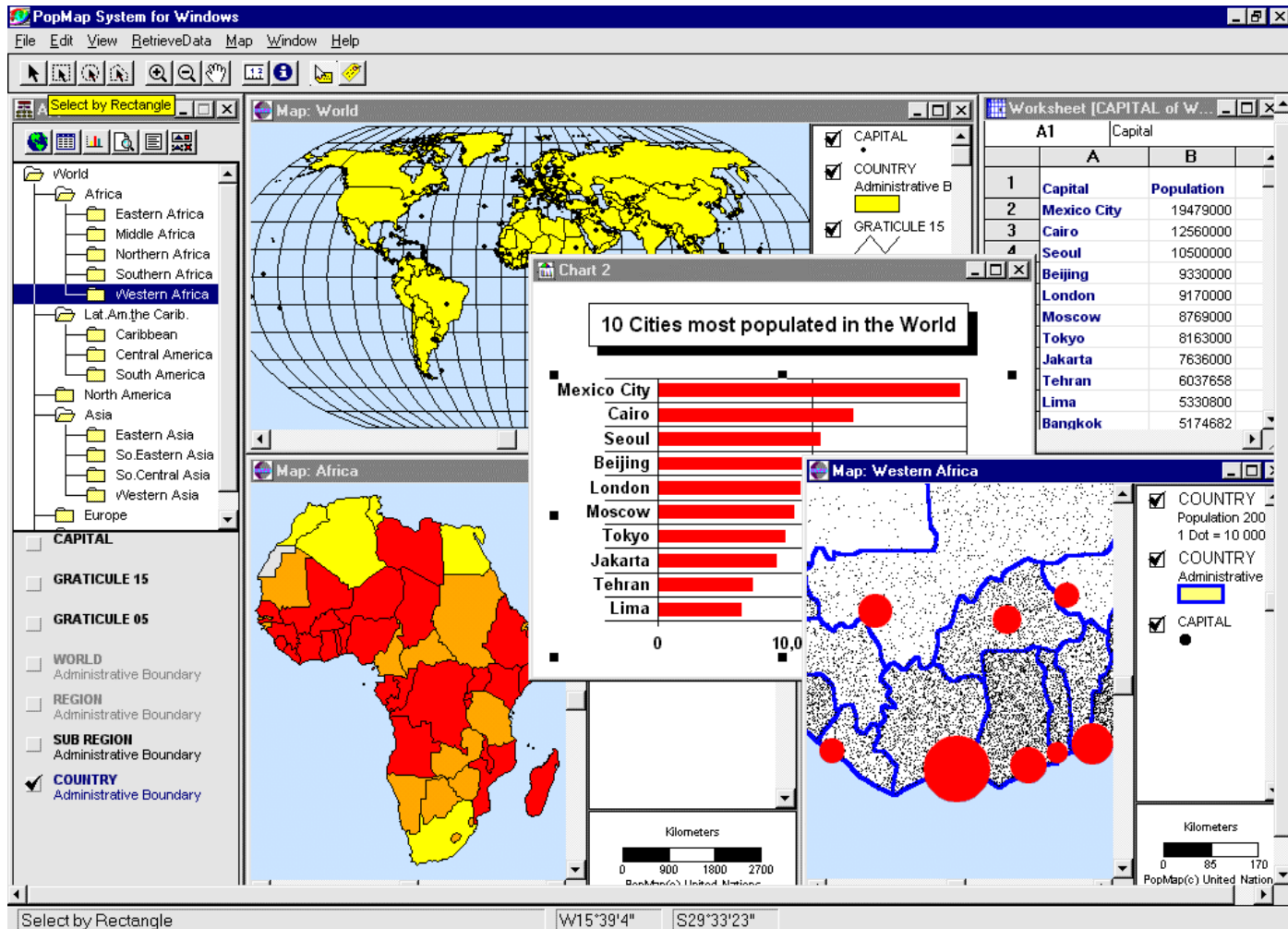


First trial international demo: **March 27th 2009**

Final International demo: August 2009

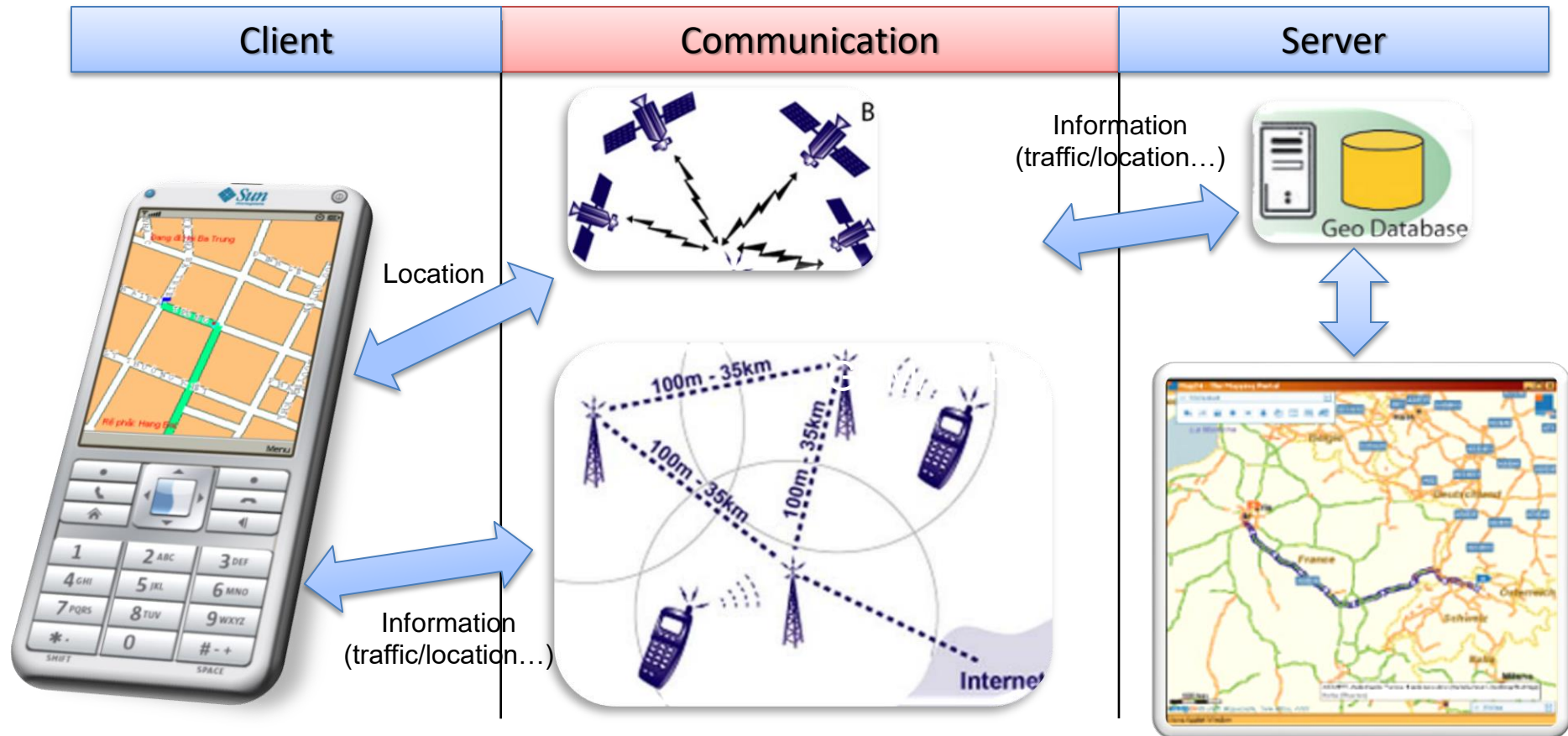


PopMap: A GIS Software



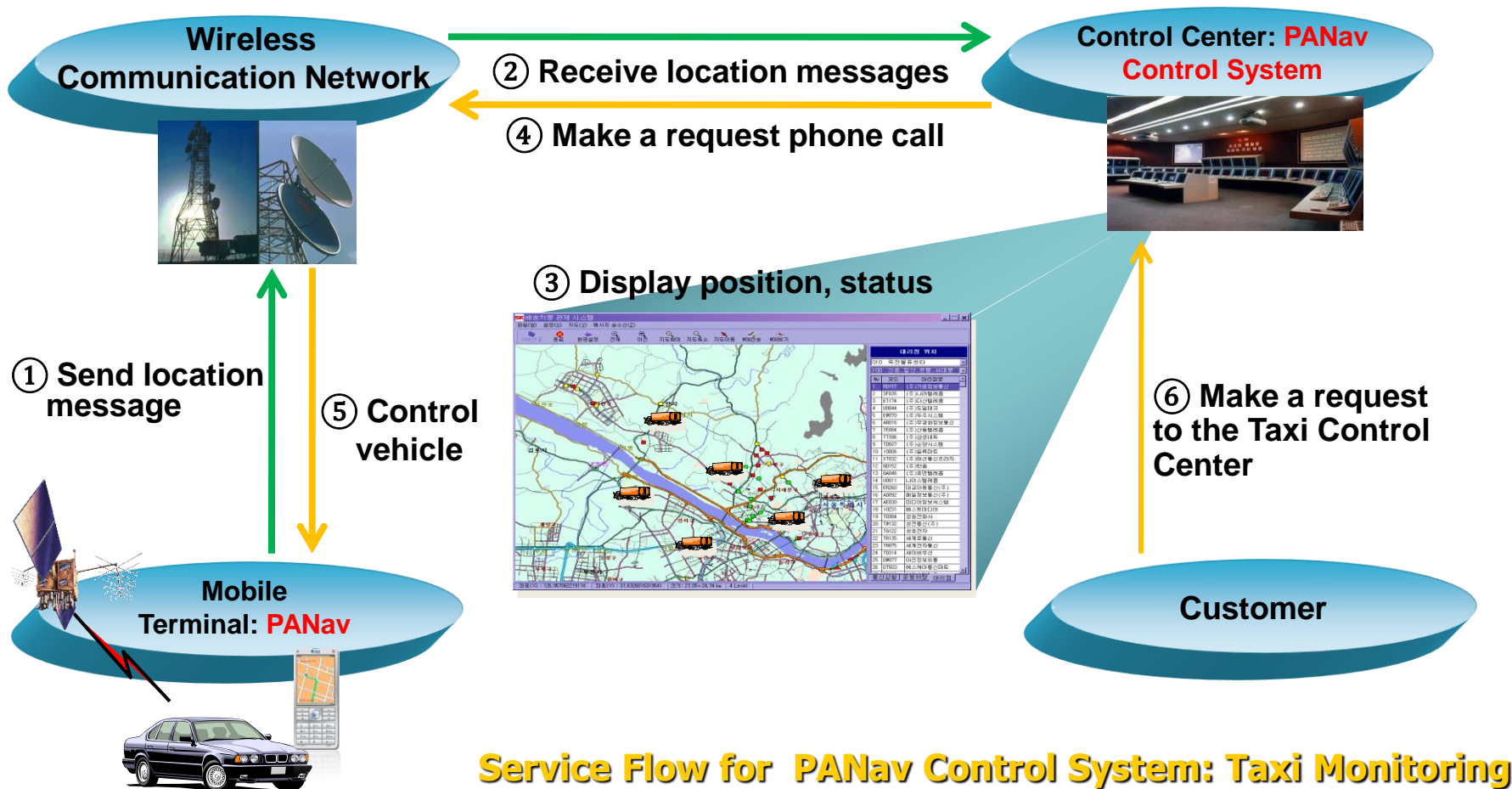


PANav: A Location-Based Service





Using PANav Control System



Service Flow for PANav Control System: Taxi Monitoring



Automatic Equipments





MIC Vietnam





Some Awards for IOIT Products





Contact Information

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Thank you!