NiCT National Institute of Information and Communications Technology

Network-based Speech-to-Speech Translation

National Institute of Information and Communications Technology, Japan

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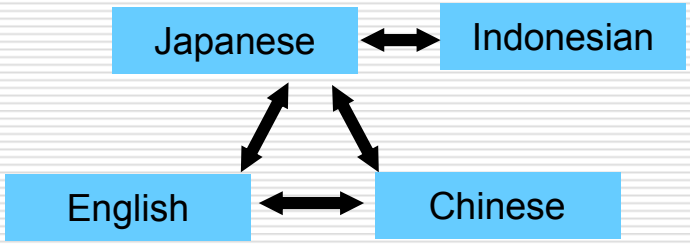
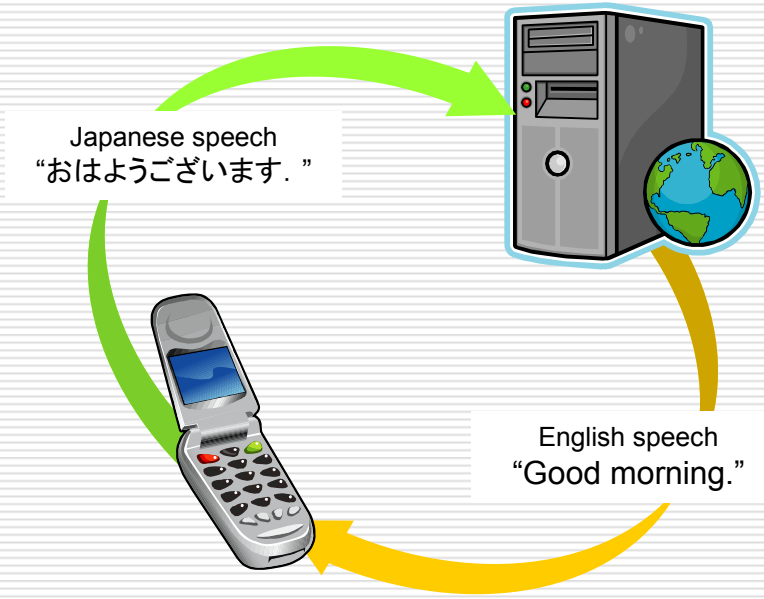
Stand Alone and Client-server S2ST Systems

Stand alone system

Packages the entire speech translation functions into a handheld PC



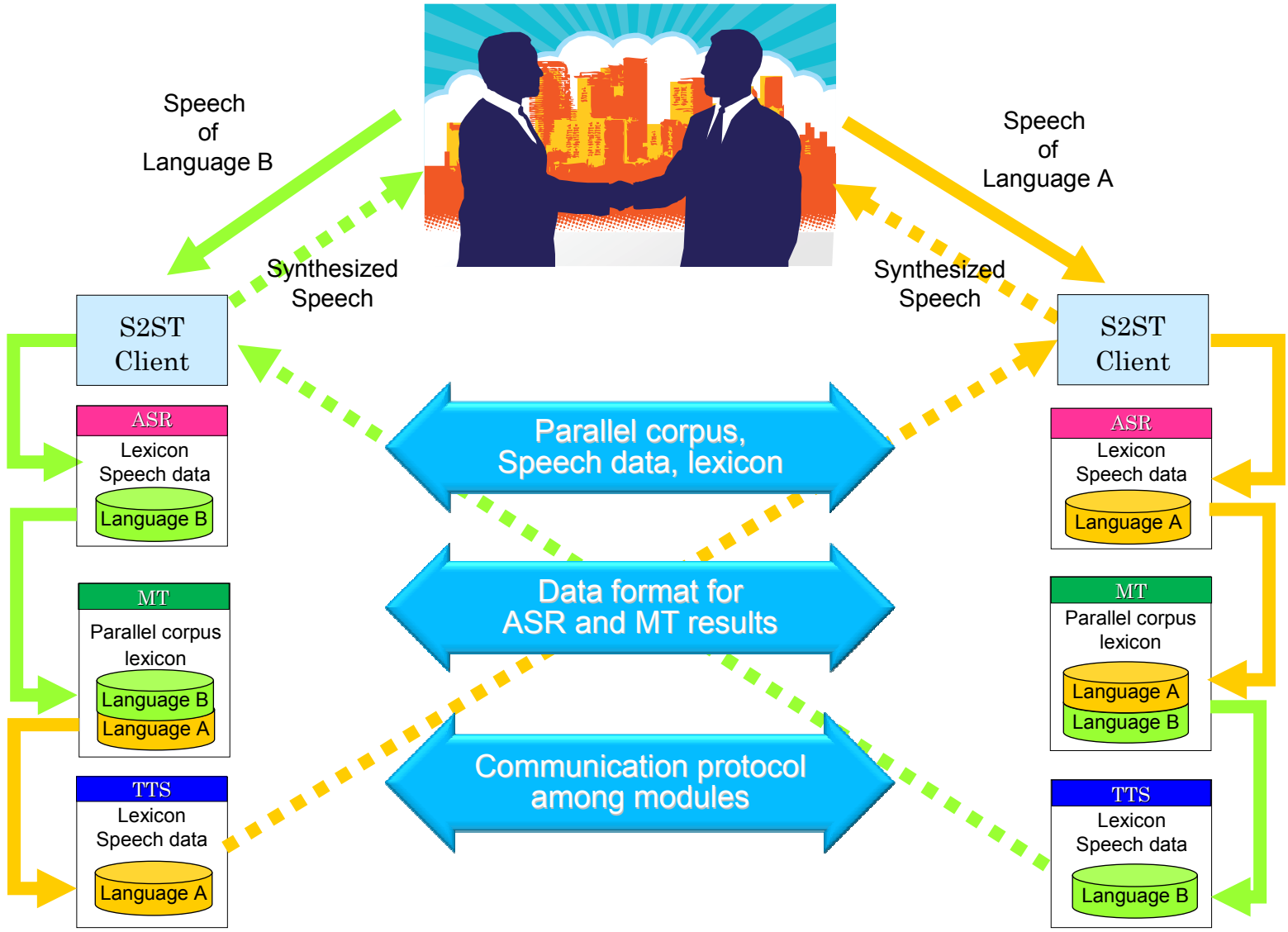
Client-server system



Why Network-based?

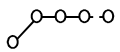
- Resource limitation in stand alone systems and language pairs are limited.
- ASR/MT/TTS systems for many languages are available and needs to be maintained by each country.
- Broadband network is available.

Common Protocols on Network-based S2ST



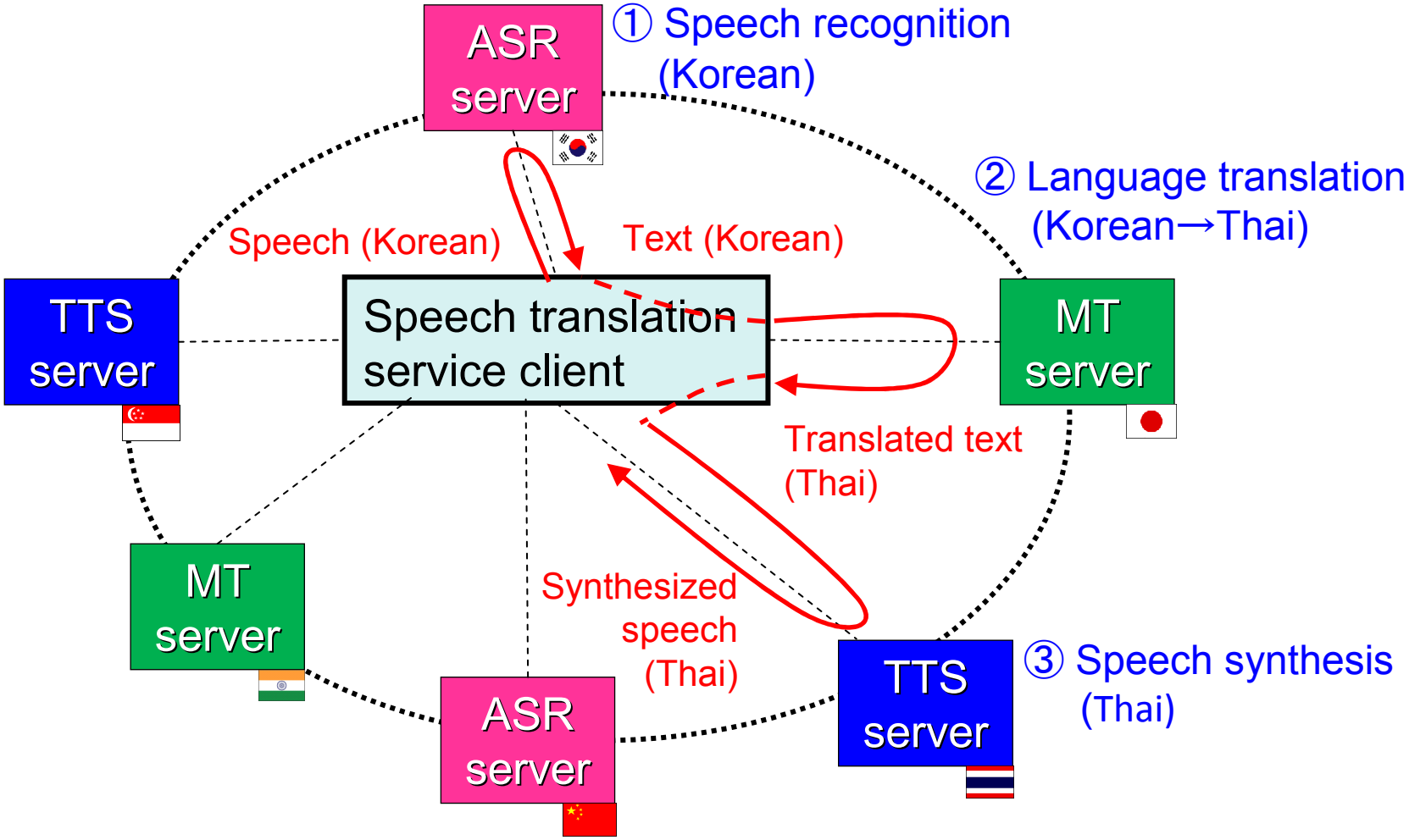
Lexicon for overall S2ST systems

An example of a lexicon for overall modules in S2ST systems

Entry	Language				Attribute
	Japanese	Korean	Chinese	English	
Osaka	大阪 おおさか  4モーラ0型	오사카 Osaka ・・	大阪 ダーバン Daban Da4ban3 四声三声	Osaka Ōsaka o : s a k a	Surface Pronunciation Accent
Tokyo	東京 とうきょう ・・ ・・	・・	東京 トンジン Tong1jing1 ・・	Tokyo Tōkyō ・・	Surface Pronunciation Accent

Speech Translation using Distributed Service Servers

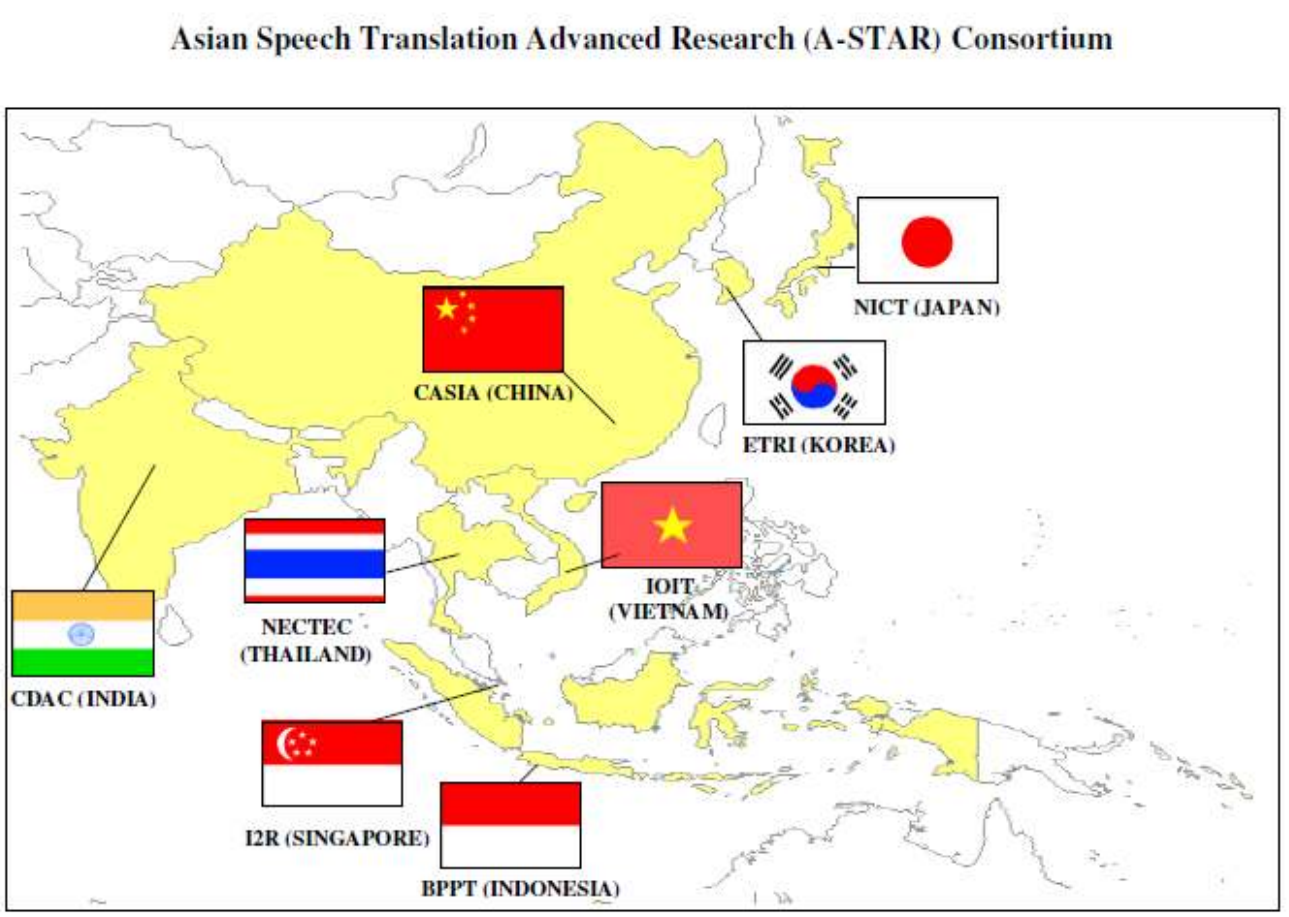
Example: From Korean to Thai Speech Translation



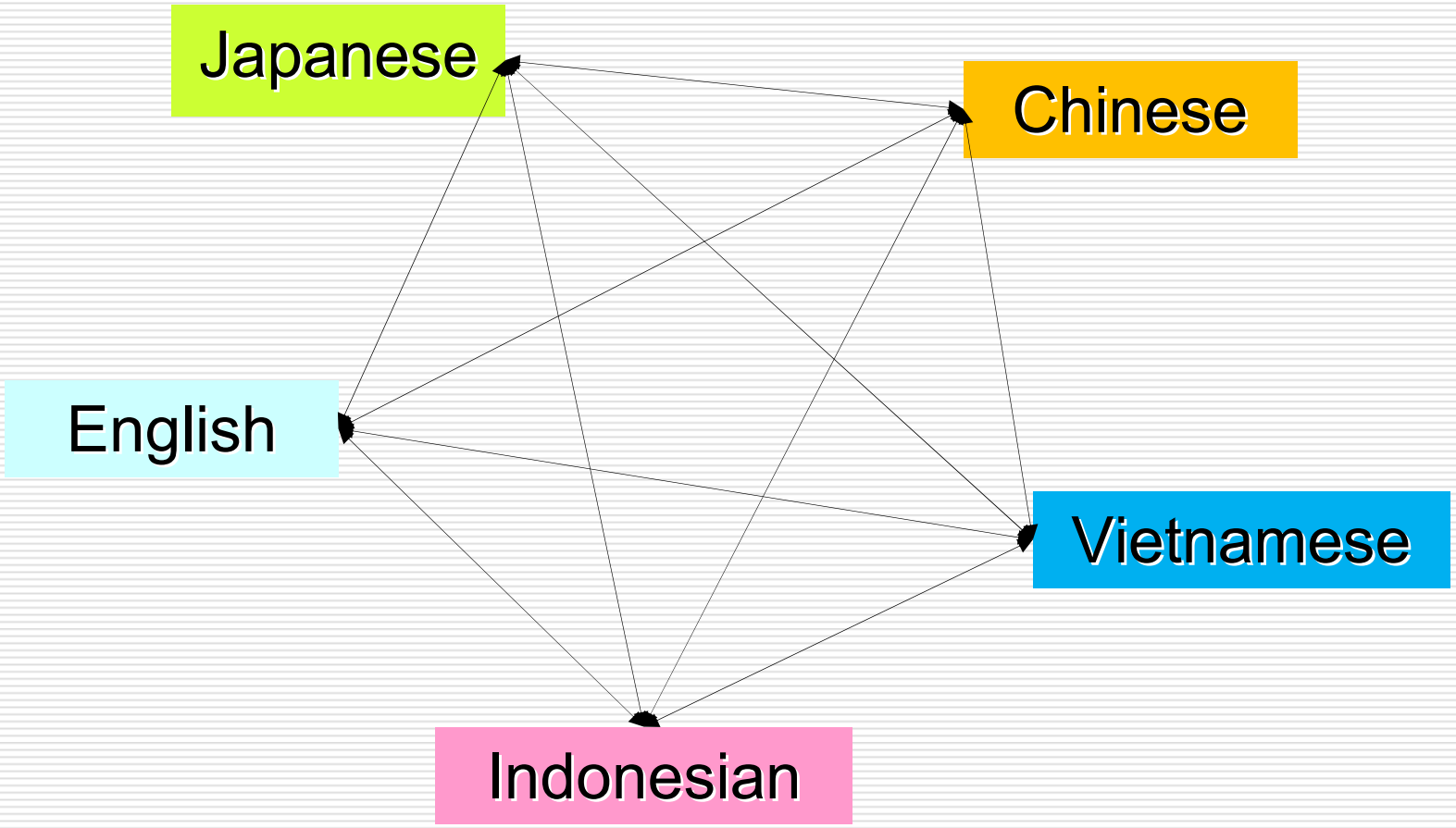
Asian Network-Based S2ST System by **A-STAR Consortium**

[1]National Institute of Information and Communications Technology (NICT), Japan
[2]Electronics and Telecommunications Research Institute (ETRI), Korea
[3]Chinese Academy of Sciences (CASIA), China
[4]National Electronics and Computer Technology Center (NECTEC), Thailand
[5]Agency for the Assessment and Application of Technology (BPPT), Indonesia
[6]Center for Development of Advance Computing (CDAC), India
[7]Institute of Information Technology (IOIT), Vietnam
[8]Institute for Infocomm Research (I2R), Singapore

Server Location for Network-based S2ST



NICT Network-based S2ST system



Network-based S2ST Systems