

# **Network-based Speech-to-Speech Translation**

National Institute of Information and Communications Technology, Japan

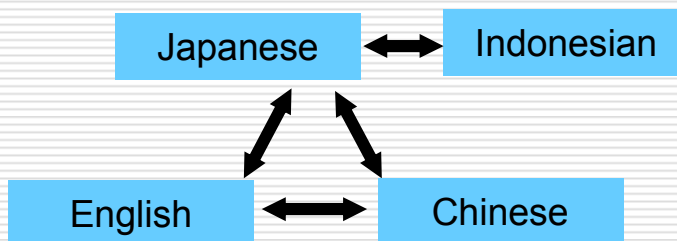
*Chiori HORI, Sakriani SAKTI, Michael PAUL, Satoshi NAKAMURA*

# Stand Alone and Client-server S2ST Systems

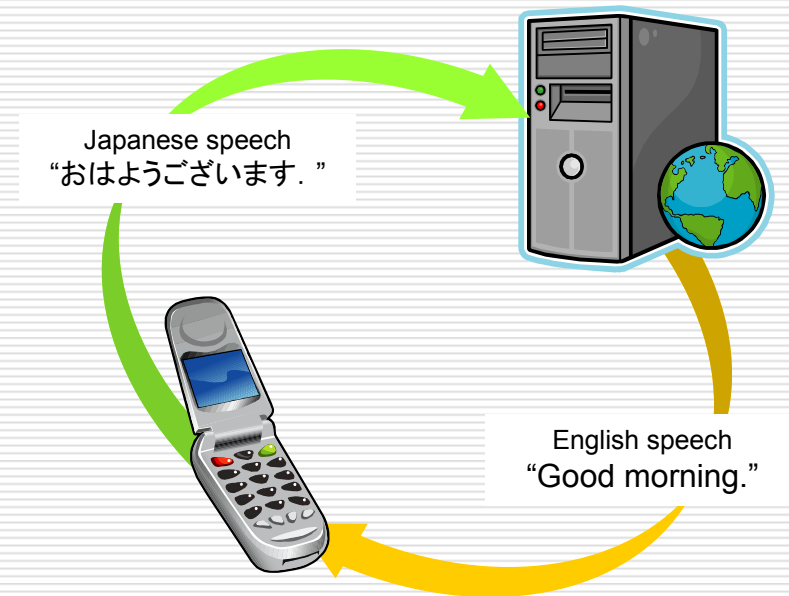
## Stand alone system



Packages the entire speech translation functions into a handheld PC



## Client-server system

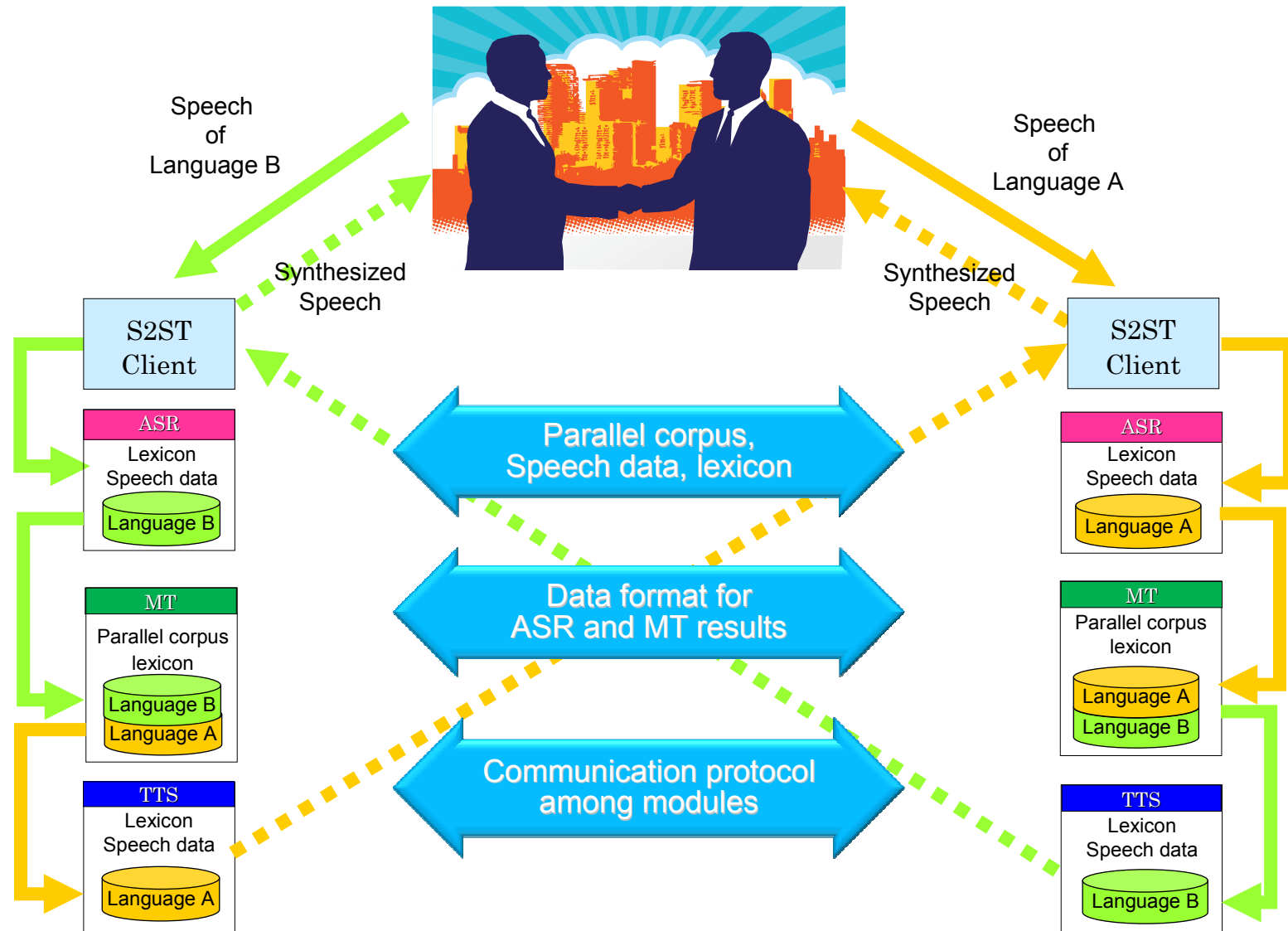


# Why Network-based?

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- ❑ 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.
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# Common Protocols on Network-based S2ST



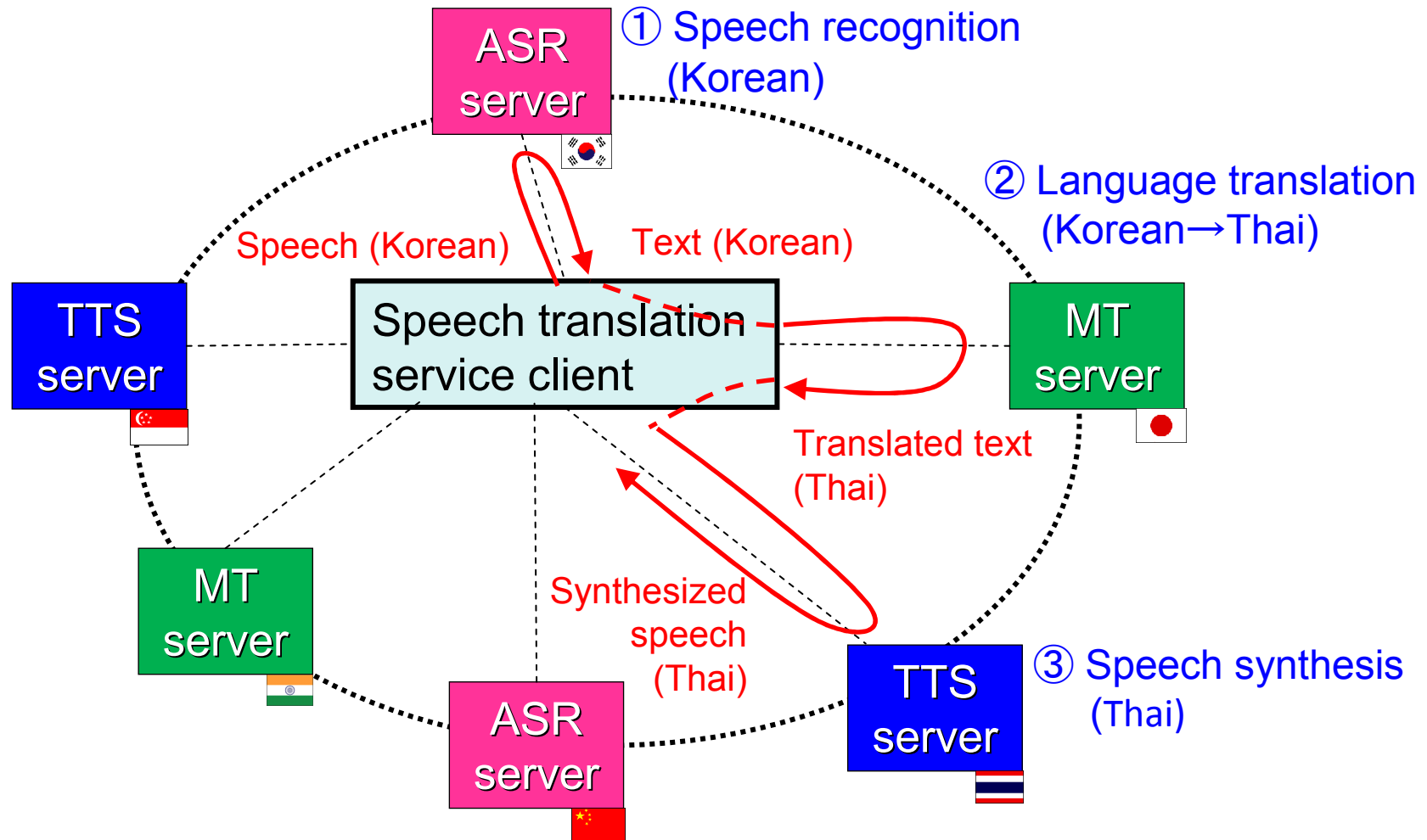
# Lexicon for overall S2ST systems

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



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

<sup>1</sup>National Institute of Information and Communications Technology (NICT), Japan

<sup>2</sup>Electronics and Telecommunications Research Institute (ETRI), Korea

<sup>3</sup>Chinese Academy of Sciences (CASIA), China

<sup>4</sup>National Electronics and Computer Technology Center (NECTEC), Thailand

<sup>5</sup>Agency for the Assessment and Application of Technology (BPPT), Indonesia

<sup>6</sup>Center for Development of Advance Computing (CDAC), India

<sup>7</sup>Institute of Information Technology (IOIT), Vietnam

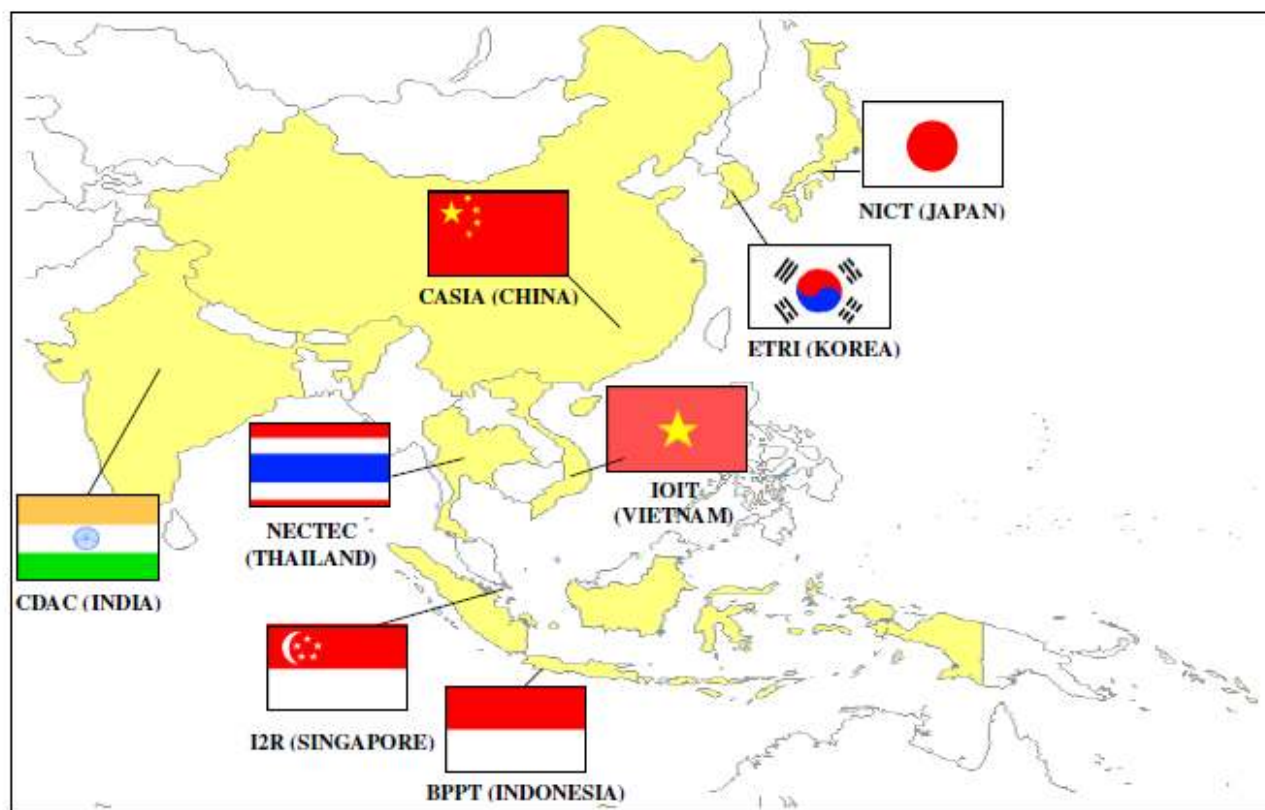
<sup>8</sup>Institute for Infocomm Research (I2R), Singapore

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# Server Location for Network-based S2ST

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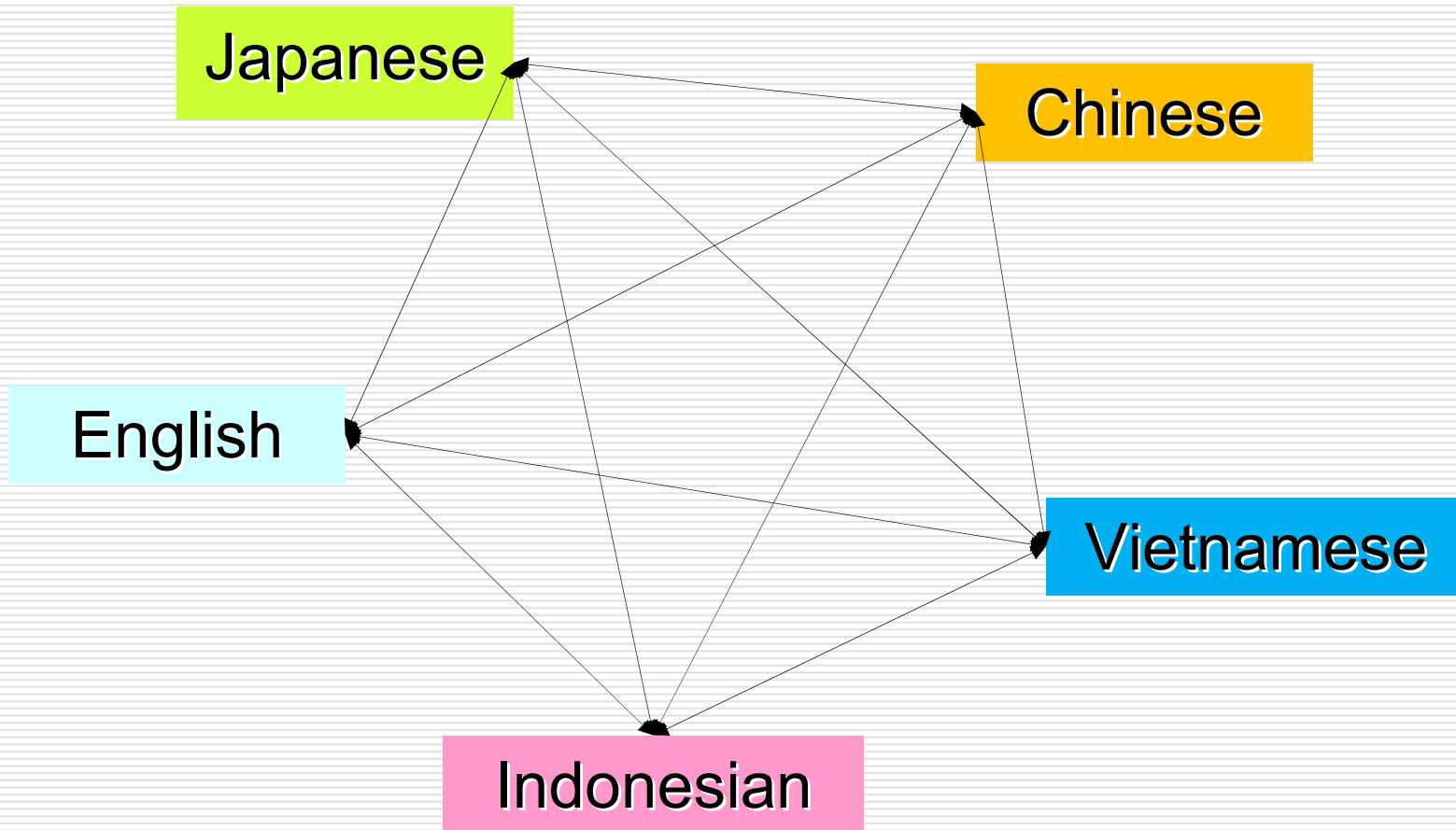
Asian Speech Translation Advanced Research (A-STAR) Consortium





# NICT Network-based S2ST system

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# Network-based S2ST Systems

