### Introduction

**Domain specific model:** SMT consists of translation models and language models. Translation models determine correct lexical choice. Language models generate natural target sentences. **Specific models** describe its domain better than the general model.

**Improving fluency:** Good translation requires adequacy and fluency. PBSMT tends to give correct lexical choice, but fail to order them naturally. A global reordering method that improves the fluency eventually enhance the overall quality of the translation.

### Cluster-based SMT to model specific domain

This figure shows the general architecture of reordering method for improving fluency. For training, the reordering method utilizes word alignments. For translating, the reordering method utilizes structure of the reordered target sentence.

### Results

The official results in Japanese-to-English translation show that cluster-based SMT achieve a lower score than PBSMT. The patent corpus has less variation in sentence type than the other domain such as conversation or news content.

Independent similarity measures for each translation model and language model are more appropriate than the integrated one. Using mixed criteria could make the classification harder.

Sentence-level features for the word similarity are too sparse to compute the cosine similarity. Smoothing techniques seem to be required to resolve the sparsity. Target language models based on source sentence classification assume that the target structures also construct clusters. **N-gram based language models** would not reveal the syntactic structure.

Various automatic evaluation metrics show that the reordering method achieve a lower score than PBSMT in English-to-Japanese translation.

### References


**Reordering method to improve fluency**