Abstract
Although finite-state transducers have been widely used in linguistics, their application to speech recognition has begun only recently [1]. we describe our implementation of French large vocabulary recognition based on transducers, and how we take advantage of this approach to integrate automatic pronunciation rules and cross-word phenomena such as French 'liason'. we also show that a simple, single-level Viterbi algorithm can efficiently decode speech recognition transducers and handle cross-word context models and cross word phonological rules.

In our experiments we compared network size, error rate and decoding speed of our transducer-based recognizer against a baseline HTK recognizer, on a large vocabulary French dictation task. Transducers reduced search time by a factor of 25 compared to our HTK recognizer. We also examined the effect of automated pronunciation rules, and their combination with cross-word phonological rules that control 'liason'. we obtained a 23% relative reduction in the word error rate on a 5000 word task.