

# Vertical ShowCase 'Web Application WebMAUS'

Thomas Kisler

## Phonetic alignment, conversion and visualisation in a single workflow

Dieter Van Uytvanck



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GEFÖRDERT VOM



Bundesministerium  
für Bildung  
und Forschung

Annual CLARIN Meeting 2013 - Prague



## (Web) Applications

TCF Visualiz.

TLA

WebLicht

FCS

WebAnno

VLO

Annex

WebMaus

PWS

## Protocols and Specifications

OAI-PMH

PID

AAI

SRU/CQL

ISOCat

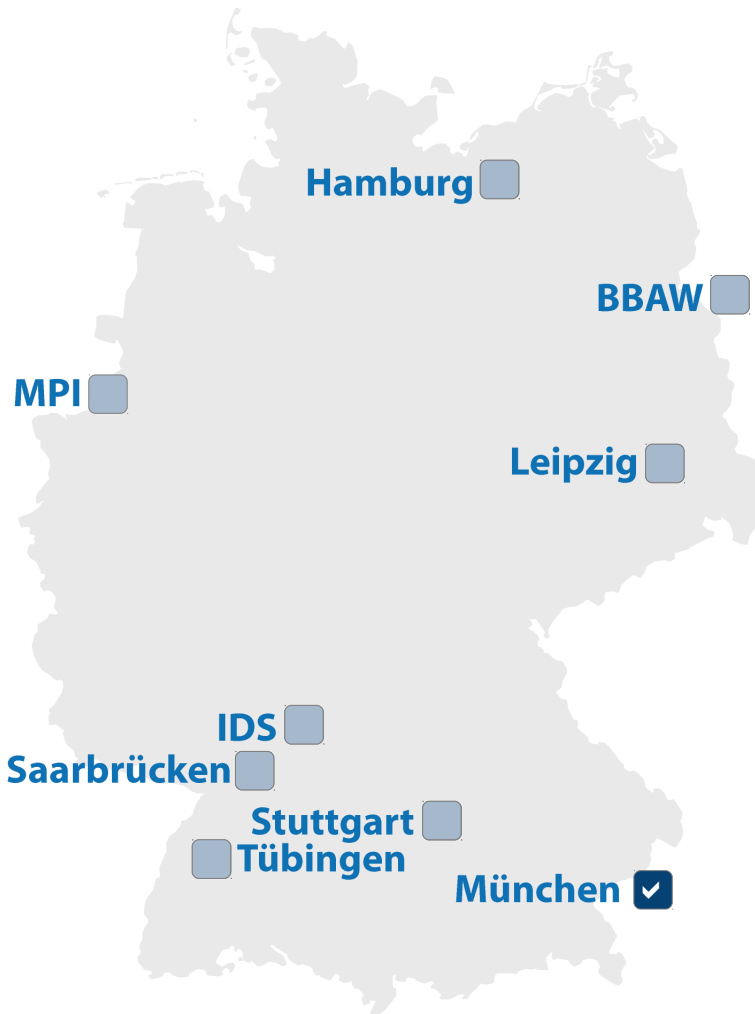
## Dataformats

CMDI

TEI

TCF

Nine CLARIN-D Data Repositories



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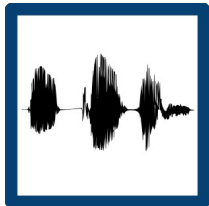
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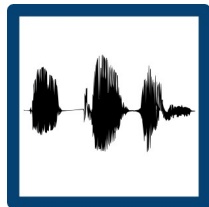
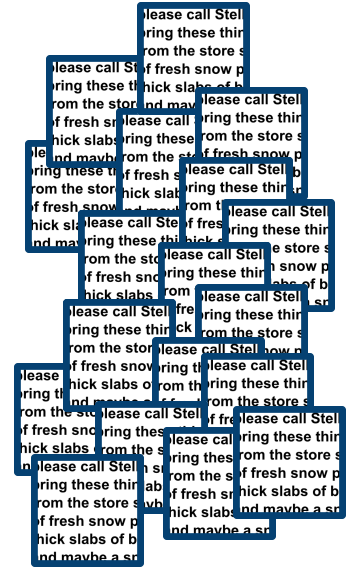
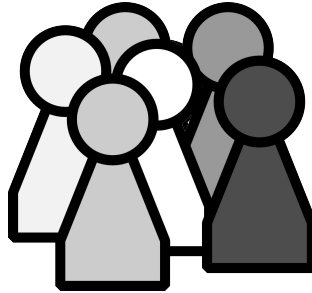
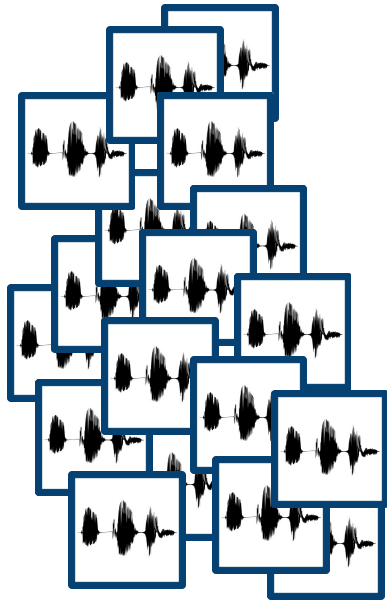
TCF

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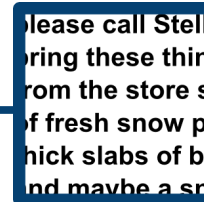


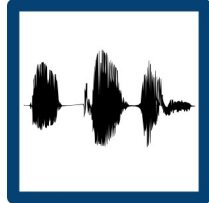
please call Stella  
bring these things  
from the store  
of fresh snow  
thick slabs of  
and maybe a sn





## Segmentation & Labeling



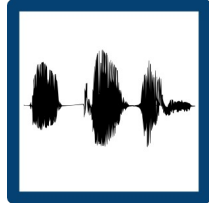


## Segmentation & Labeling

please call Stel  
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- **Time Consuming**
- **Error Prone**
- **Phoneticians / trained personel**
- **Interlabeller Agreement**
- **Tedious Task**



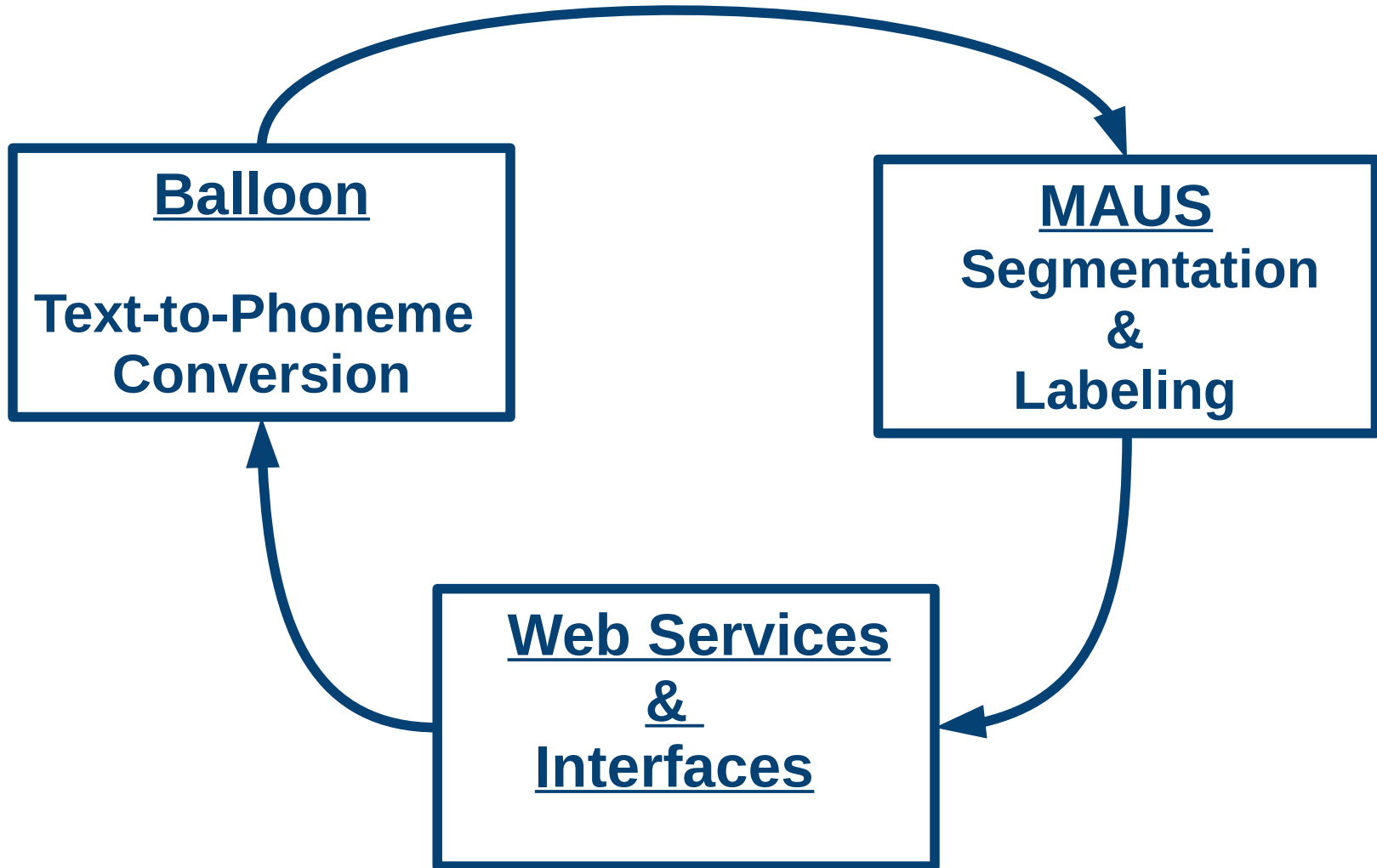


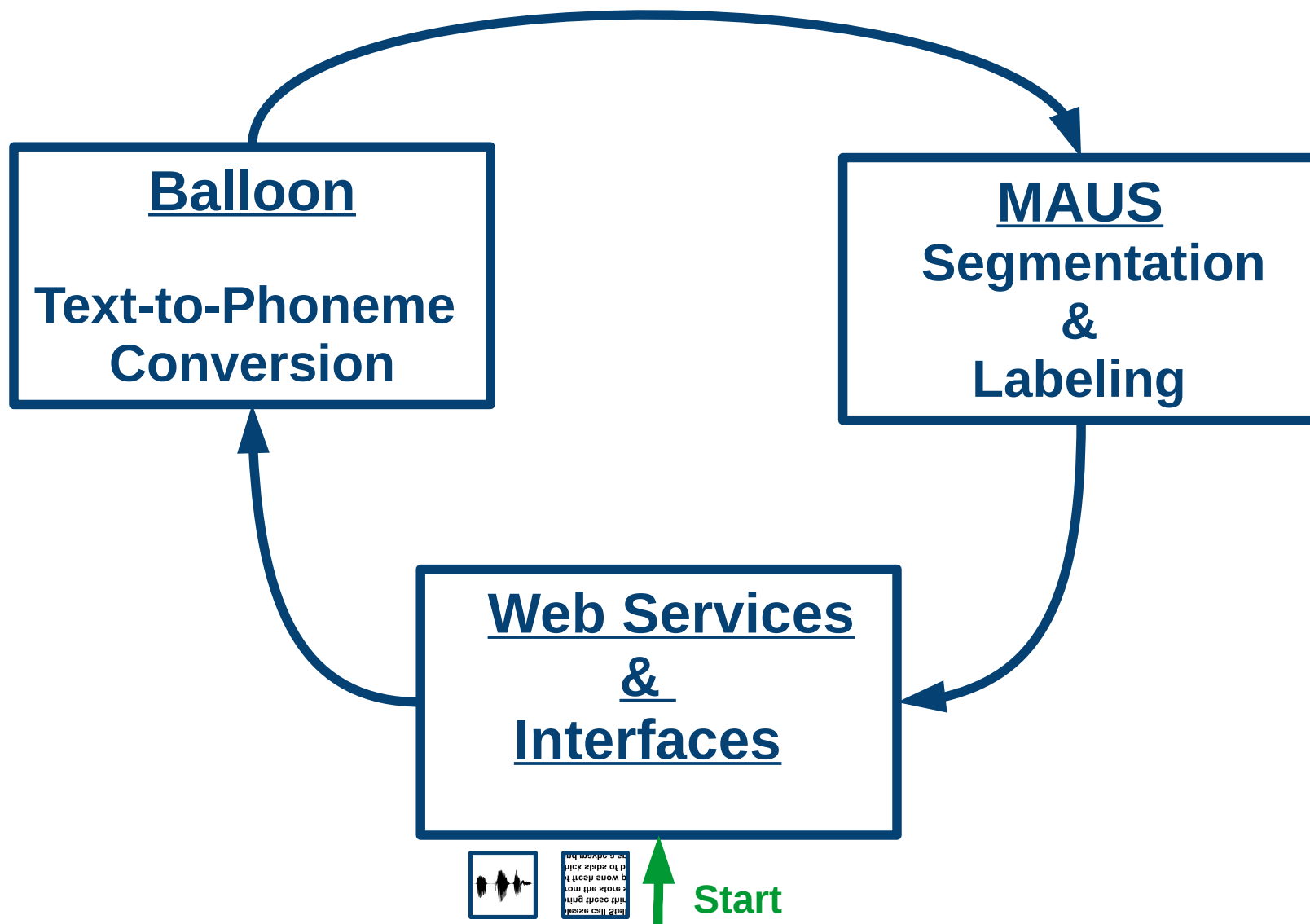
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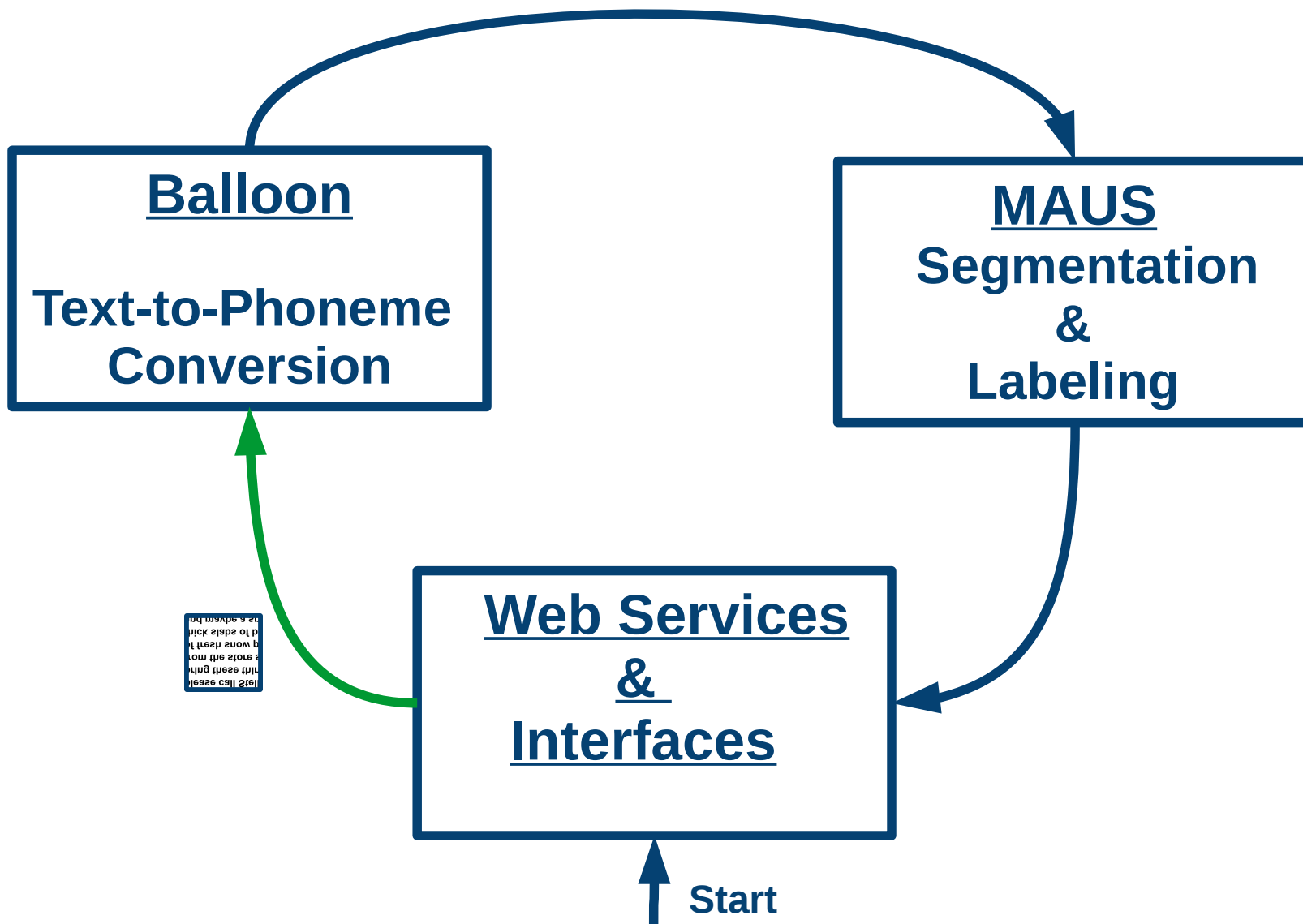
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**Solution => Automation**



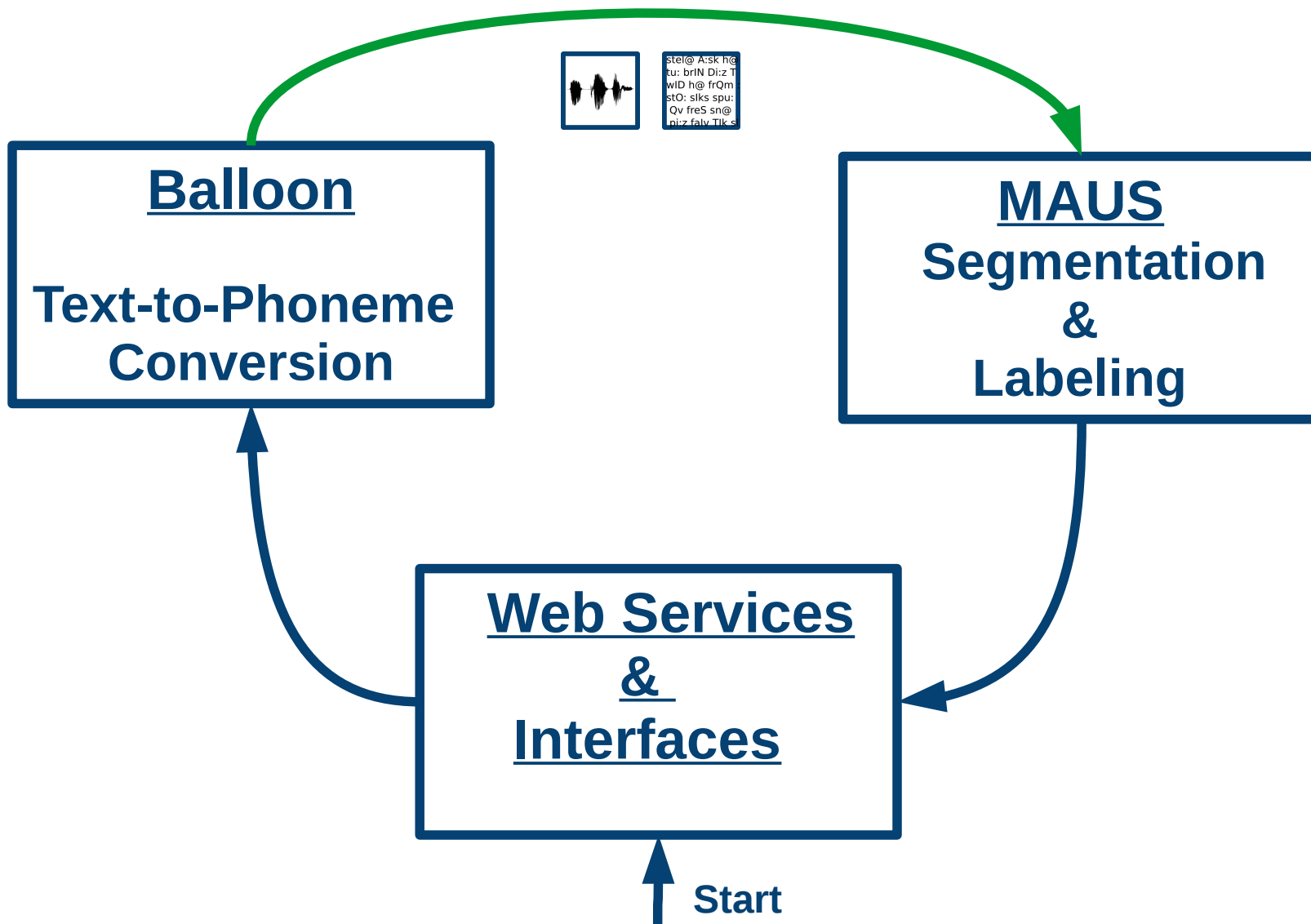




## Balloon

### Text-to-Phoneme Conversion

- **Input: Plain text:**  
“please”
- **Output: SAMPA transcribed phonemes  
(including stress) aka canonical pronunciation:**  
“pli:z”



- **Canonical pronunciation**



- **Pronunciation hypothesis space (graph)**

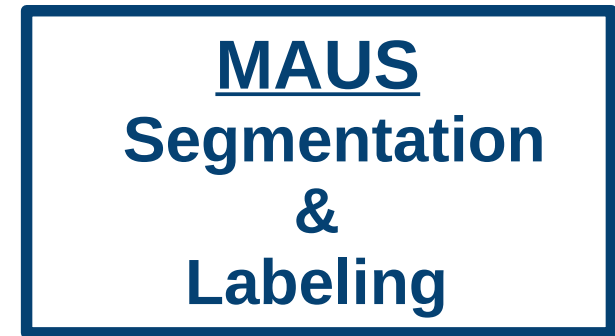


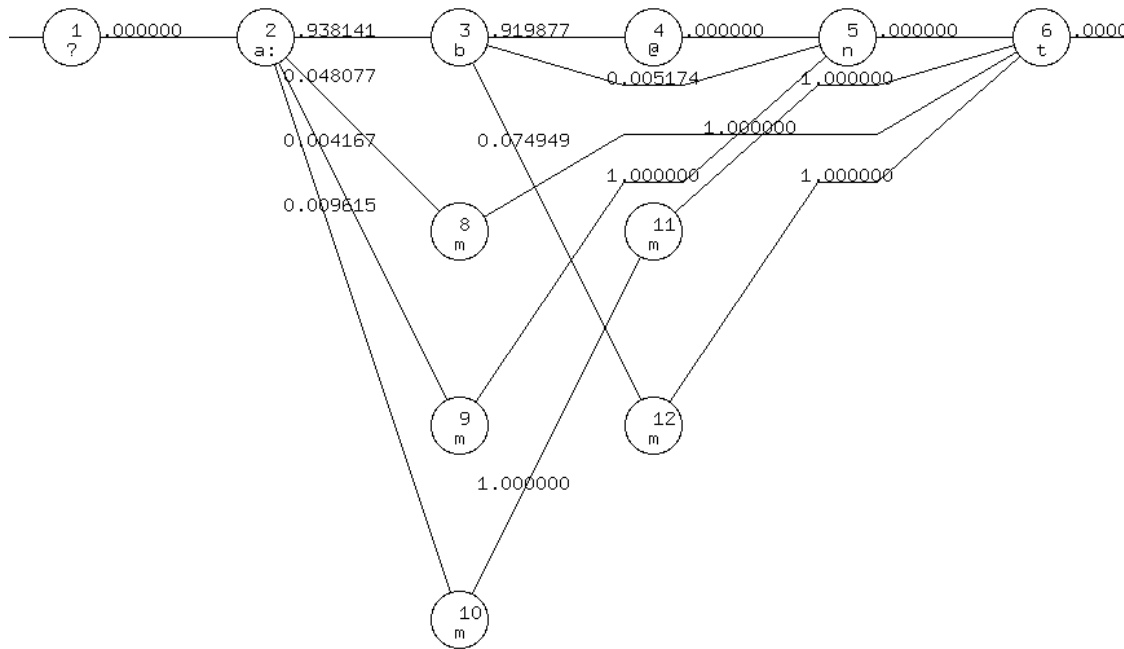
- **Graph with probabilities**



Decoding with Viterbi

- **Segmentation & Labeling**





**MAUS**  
**Segmentation**  
**&**  
**Labeling**



- **Canonical pronunciation**



- **Pronunciation hypothesis space (graph)**

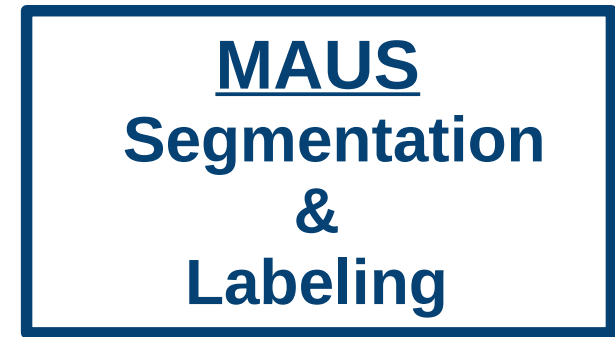


- **Graph with probabilities**

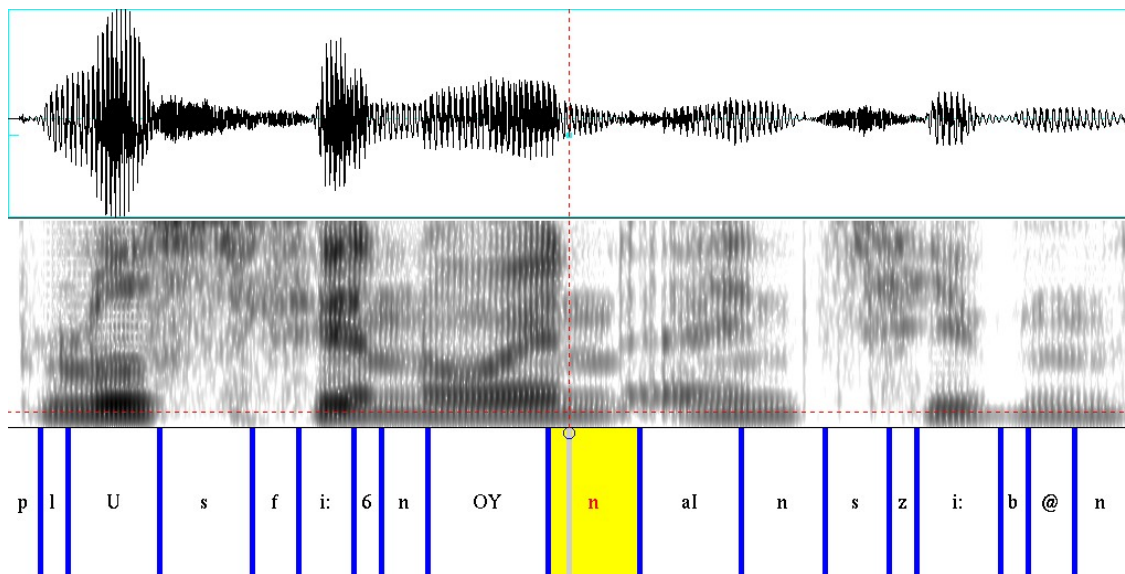


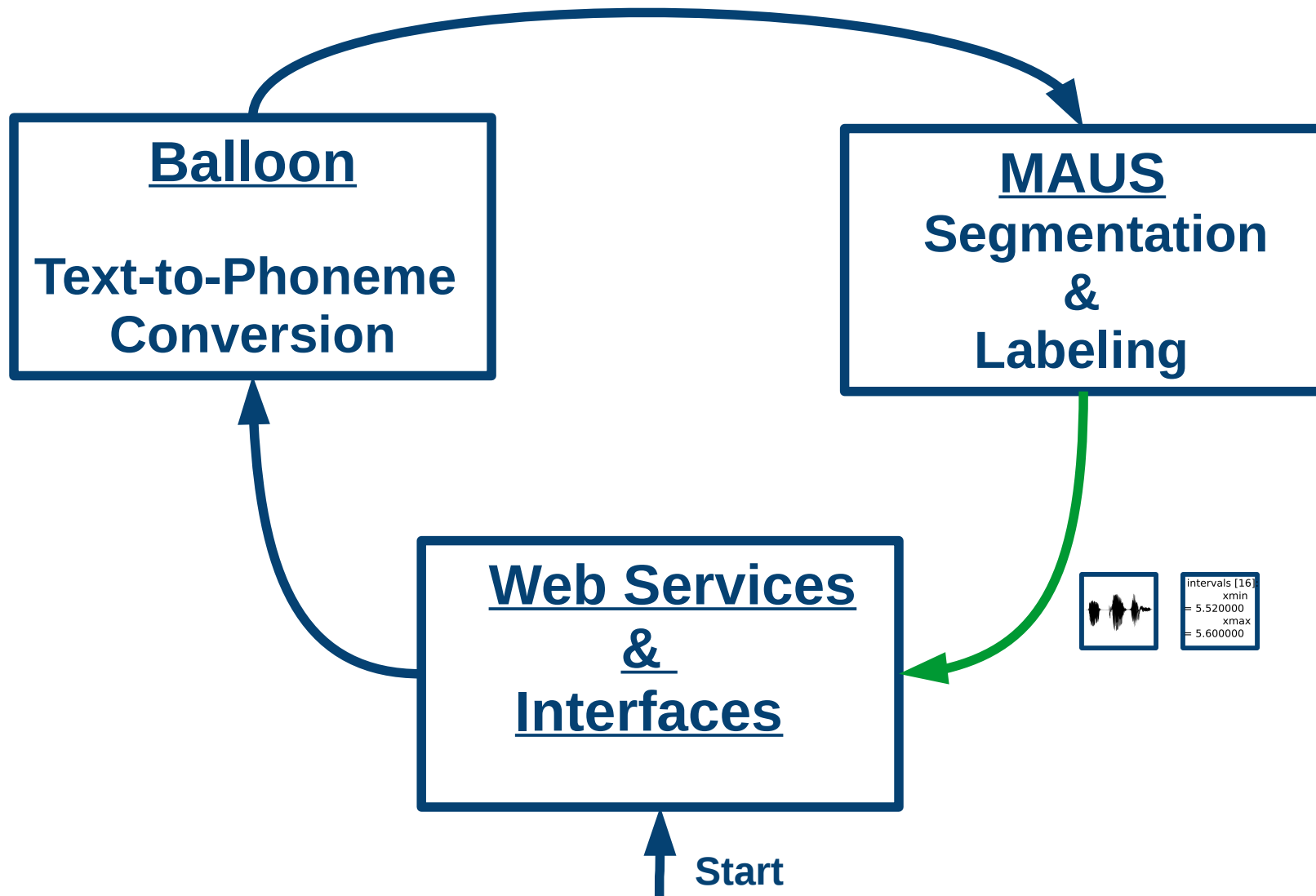
Decoding with Viterbi

- **Segmentation & Labeling**



## MAUS Segmentation & Labeling





- **RESTful web services**
- **Demonstration for web services**
- **Wide user acceptance**

# Demo

Web Services  
&  
Interfaces

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Nine CLARIN-D Data Repositories

- User uploads
  - Text: (orthographic) transcription
  - Sound fragment: WAV file
- Federated Login to WebLicht
- Creation of web service workflow:
  - phonetic analysis + alignment (BAS)
  - conversion Praat > ELAN (HZSK)
- Visualisation with Annex (MPI), TextGrid viewer (BAS)
- Post-processing with Praat, ELAN, EXMARaLDA, ...



- **Useful** for researcher:
  - saves **time**
  - high **quality** annotations > more detailed analysis
  - **freedom** to use preferred tools
- **Easy** to use
  - simple login procedure
  - click-and-go
- Fully **distributed**:
  - select modules *à la carte*
  - but transparent to user