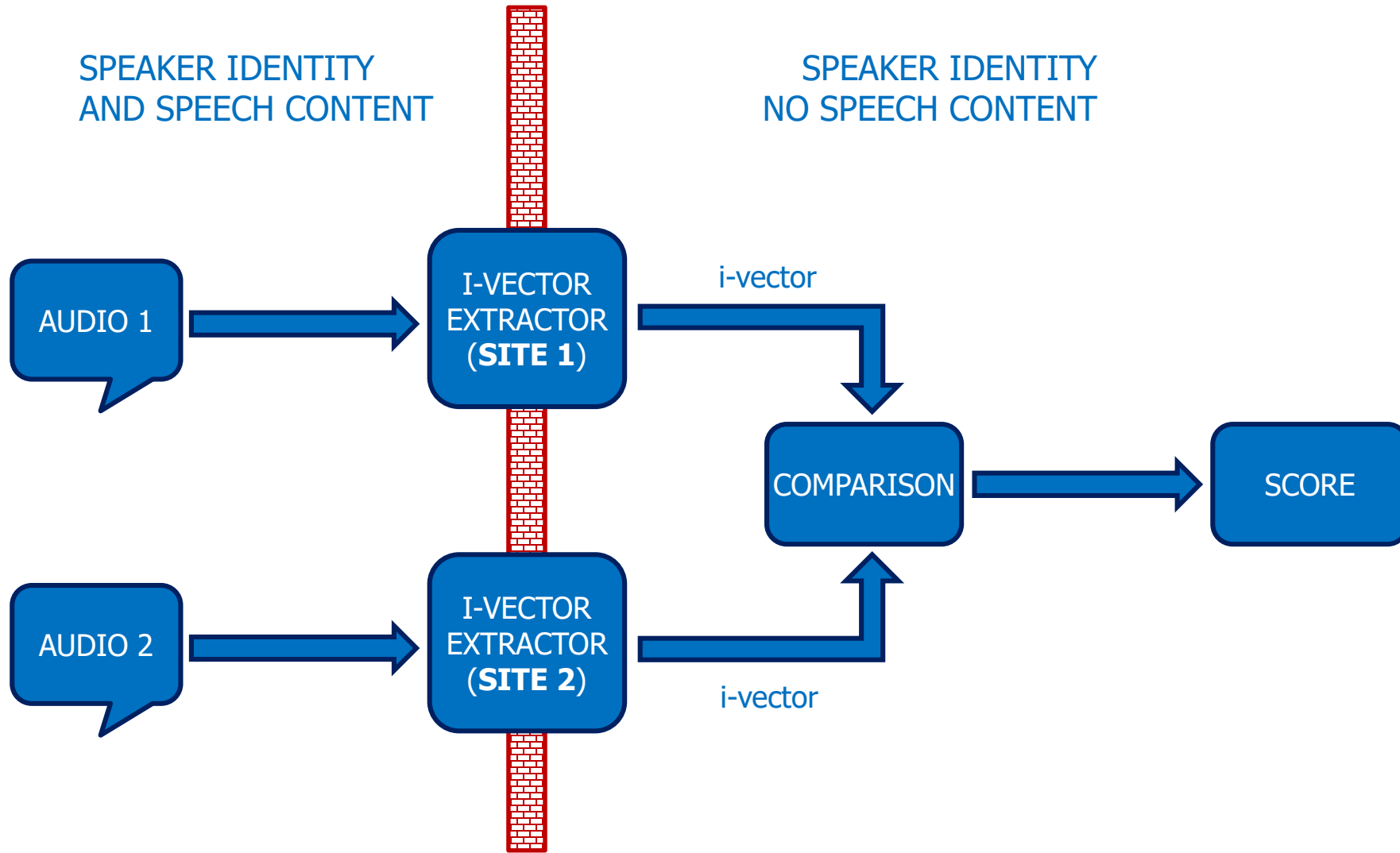
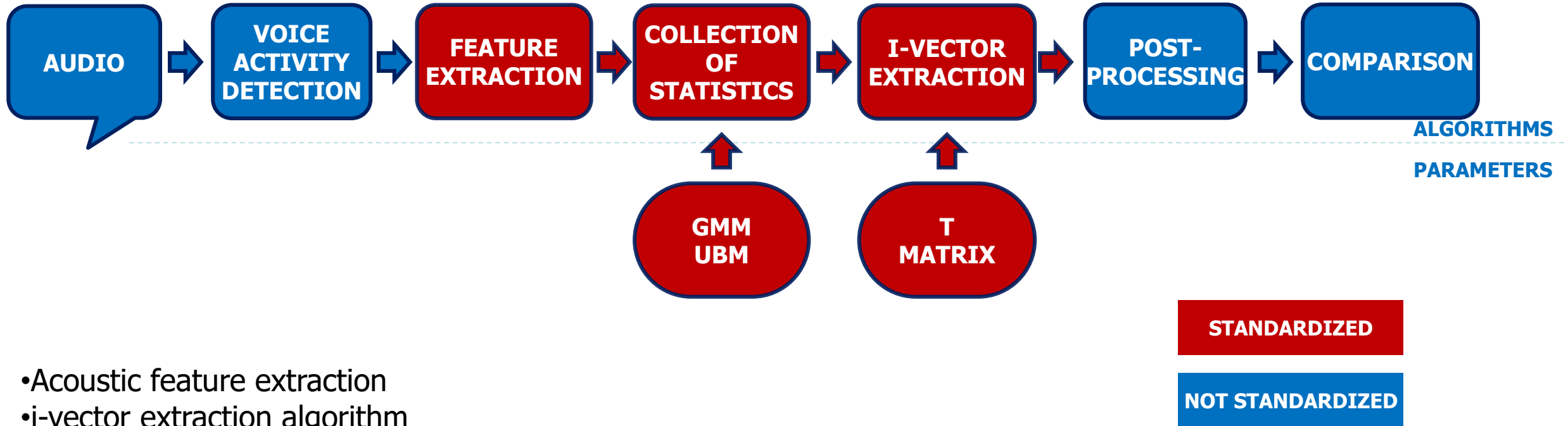


- The full standard initiative is located at www.voicebiometry.org
- Quick description
- Standard manual with detailed description and a quick user guide to...
- The reference demo package
 - Contains full speaker-recognition (demo) pipeline

- Information-rich
- Low-dimensional
- Fixed-length
- Vector of real numbers
- Based on statistical model
- Easy to compare
- Easy to store
- Not recoverable to speech

Dehak, N., et al., Support Vector Machines versus Fast Scoring in the Low-Dimensional Total Variability Space for Speaker Verification In Proc Interspeech 2009, Brighton, UK, September 2009



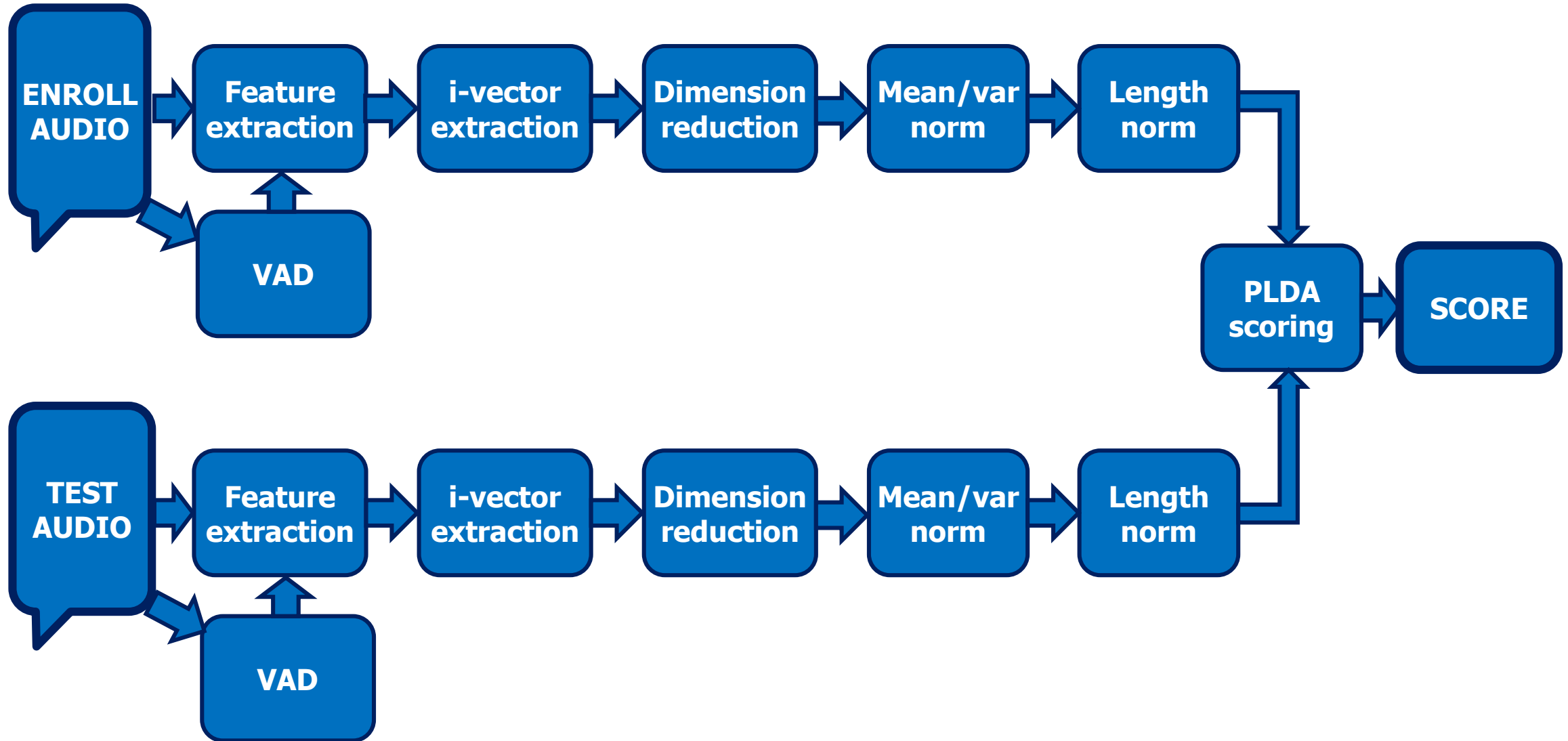


- Acoustic feature extraction
- i-vector extraction algorithm
- i-vector extraction parameters (GMM parameters, i-vector extractor parameters)
- The data exchange formats
- (tuned for telephone speech)

- Pre-emphasis
- 25ms windowing with 10ms shift
- Hamming window
- 24 Mel filter-banks in the range of 125 – 3800 Hz
- 19-dimensional MFCC coefficients + C_0
- Delta + Double-delta
- Short-time Cepstral Mean and Variance Normalization
 - Over 3 second window

- 2048 Gaussian mixture components
- Diagonal covariances
- Trained on 1156 hours of the NIST SRE 2004-2008 data (gender independent)
- Trained using gradual Gaussian splitting with 10 EM steps in each split
- The UBM is used to extract the sufficient statistics for the i-vector extractor and to normalize (whiten) these statistics

- Trained on the same data as UBM + Switchboard 2 (phases 2 and 3) + Fisher English (phases 1 and 2)
- 600 dimensional
- 10 iterations of EM and MD steps



- Python code
 - Readability and ease of understanding
 - Extensibility
- Standard Python packages
- Numpy + Scipy

- NIST SRE 2010, cond 5, female

	New DCF	Old DCF	EER
2010/cond5/f	0.3877	0.1142	2.26

- i-vectors produced by one system are incompatible with those generated by a different system
- We run experiments for training an i-vector transformation to migrate i-vectors of one systems to another
- Take it as an invitation for tomorrow's talk:

“Migrating i-vectors Between Speaker Recognition Systems Using Regression Neural Networks”

THANK YOU