*Bienvenidos*

*Bienvenu*

# Sponsor's Welcome to NIST SRE-06

*Jack Godfrey*

*US Dept of Defense*

*Benvenuto*

*Willkommen*

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# Sponsor's Expectations

- **Why the US Govt supports SRE**
    - **To monitor SOA *at a high level* (application independent but technology focused)**
    - **To assess promising areas, approaches for the future**
    - **To inform strategic planning at several agencies**
- **Why NIST evaluations**
    - **To create a virtual community where a mix of sharing and competing lead to progress**
    - **No product assessment or application development involved (NIST charter)**

# Sponsor's Responsibilities

- **Fund program, oversee the process**
  - **Coordinate among agencies**
- **Determine data requirements & costs**
- **Specify tasks, set schedules, contract for services**
  - **Division of labor (LDC/NIST/others) is *implicit* in contracts**
- **Re-assess progress, cost/benefit, task definitions (~annually)**

# Sponsor's Report Card

- **Fund, coordinate:**       **A**
- **Task definitions:**       **B**
- **Data requirements:**       **C+**
- **Plan, Schedule:**       **F**
  - **Kickoff meeting w/ NIST late**
  - **Postponed decisions due to uncertainty about data collection**
    - **Failure to release MIXER3 platform to LDC compressed cross-channel collection**
  - **Pushed NIST's schedule back ~2 mos.**

# Remedial Plan

- **Met w/ management at LDC and NIST**
- **Identified problems, outlined solutions**
  - **Most will be presented in following talks**
- **Meet as soon as '06 results analyzed**
  - **Set more realistic schedule and budget**
  - **Write a detailed protocol for handling data from collection through evaluation**
  - **Add QC steps as needed**
- **Make changes known ASAP on website**

# Your Role

- **Your efforts give SRE its value**
- **Thanks for your patience w/ problems**
- **Results show good progress on a large, varied, and difficult data set**
- **Investment for 2007 is likely**
  - **Cross-channel robustness still a target**
  - **Other challenges??**
- **Send comments and suggestions for improvement to Alvin Martin**

# "Pre-Overview" of SRE06

- **Largest SRE to date**
  - **# sites:  SRE96 = 6      SRE06 = 36**
  - **Hrs train/test data: SRE96 = 44        SRE06 = 2600**
- **Commonalities among top-scoring systems**
  - **Latent Factor Analysis session compensation for GMM-UBMs**
  - **Nuisance Attribute Projection compensation for SVMs**
  - **Gaussian SuperVector SVM classifiers**
  - **MLLR SVM classifiers**
  - **Fusion of systems with single layer perceptron (logistic regression)**
- **Error rates dropping dramatically**
  - **1c/1c EER=3.5% (even ~2.0% for cross-site fusions!)**
  - **8c/1c EER=1.5%**
- **Minor loss in non-English trials for best systems**
- **Cross-channel results closing in on telephone results**

(*this & next slide courtesy of Doug Reynolds*)

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# Historic Performance

- **Consistent and steady improvement for data/task focus**

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|------|------|------|------|------|------|
| SWB1 | SWB2 | | MIXER2-3 | | |

- **New data sets designed to be more challenging**
- **New features, classifiers and compensations drive error rates down over time**

| 2001 | Extended Data Task introduced, word-ngrams |
|------|-------------------------------------------|
| 2002 | SuperSID Workshop: High-level features |
| 2003 | Feature Mapping, SVM-GLDS |
| 2004 | Phone/Word-SVM |
| 2005 | NAP, SVM-MLLR, word/phone lattices |
| 2006 | SVM-GSV, GMM-LFA, MultiFeat SVM-GLDS, SVM-MLLR+NAP |



1conv4w/1conv4w — EER (%), minDCFx100

8conv4w/1conv4w
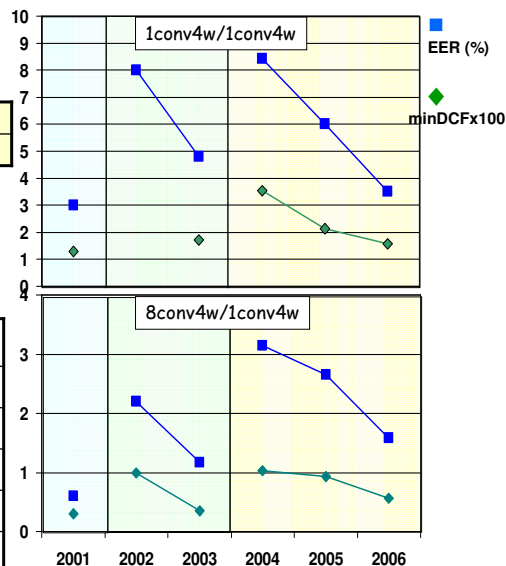
# Gracias a todos --

- **To all of you for your participation, hard work, and flexibility**
- **To NIST for evaluation**
- **To LDC for data collection & processing**
- **To Kay, Pedro, and host committee**