

Comparative Biometric Testing Round 7: Overview

Summary

- Opportunities are available for participation in IBG's Comparative Biometric Testing (CBT) Round 7
- CBT is the only test program focused on end-to-end systems, from sensor to matching algorithms
- Thousands of commercial and government organizations use CBT results to make deployment decisions
- Participants are welcome to publicize and disseminate CBT results
- IBG's Biometric Performance Certification program certifies products tested in CBT for accuracy and usability
- CBT emulates real applications, such as physical access, logical access, and border management
- Approximately 20,000 samples and 40m match scores are generated for each system
- CBT generates a full range of accuracy and usability metrics: FMR, FNMR, FTE, FTA, and throughput
- CBT Round 7 is scheduled to begin in Q2 2009, with results anticipated in Q3
- The evaluation cost is \$40,000

Benefits of Participation in CBT Round 7

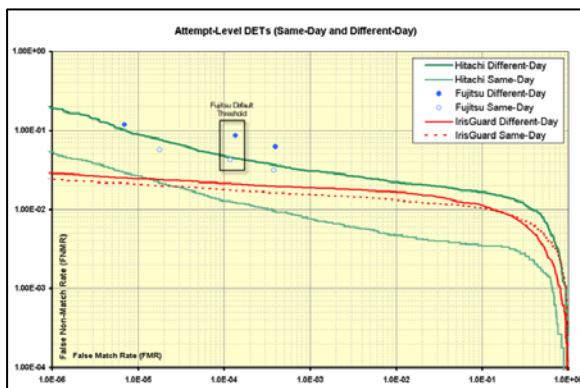
Independent performance assessment relied on by government and industry decision-makers

Broad Dissemination of Results to Decision-Makers across Government and Industry. The CBT Public Report, including performance data for all evaluated systems, is relied upon by IBG's worldwide audience of thousands of decision-makers and industry professionals in hundreds of government and commercial organizations.

Access to Detailed System Performance Data.

Reliable performance data relative to competing modalities and systems is difficult to collect. CBT generates benchmark performance data essential to engineering teams, product developers, and sales and marketing staff. In addition to the core test metrics, CBT generates demographic- and test subject-specific performance data, helping vendors identify areas for improvement in their capture and matching technologies.

Threshold	Same-Day				Different-Day			
	False Non-Matches	FNMR	# False Matches	FMR	False Non-Matches	FNMR	# False Matches	FMR
0.270	948	4.89%	0	0.00000%	829	5.56%	0	0.00000%
0.271	933	4.81%	0	0.00000%	809	5.42%	0	0.00000%
0.272	921	4.75%	0	0.00000%	798	5.35%	0	0.00000%
0.273	911	4.70%	0	0.00000%	785	5.26%	0	0.00000%
0.274	904	4.66%	0	0.00000%	775	5.19%	0	0.00000%
0.275	895	4.62%	0	0.00000%	764	5.12%	0	0.00000%
0.276	879	4.53%	0	0.00000%	756	5.07%	0	0.00000%
0.277	862	4.45%	0	0.00000%	740	4.96%	0	0.00000%
0.278	852	4.39%	0	0.00000%	728	4.88%	0	0.00000%
0.279	839	4.33%	0	0.00000%	720	4.83%	0	0.00000%
0.280	825	4.25%	0	0.00000%	708	4.75%	0	0.00000%
0.281	811	4.18%	0	0.00000%	699	4.69%	0	0.00000%
0.282	797	4.11%	0	0.00000%	692	4.64%	0	0.00000%
0.283	791	4.08%	0	0.00000%	684	4.58%	0	0.00000%
0.284	782	4.03%	0	0.00000%	673	4.51%	1	0.00001%
0.285	772	3.98%	0	0.00000%	663	4.44%	1	0.00001%
0.286	764	3.94%	0	0.00000%	653	4.38%	1	0.00001%



Independent, Third-Party Biometric Performance Certification. Biometric system accuracy and usability are essential considerations for government and commercial deployers, technology partners, and investors. Third-party testing by credible and experienced testing organizations is a precondition of procurement for many deployers. IBG has been recognized as the industry's leading source of objective performance data since the late 1990's.

IBG has tested over 60 systems through CBT, including fingerprint, face, voice, iris, hand geometry, vein, signature, keystroke, and other emerging modalities.

Comparative Biometric Testing Methodology Highlights

IBG's standards-compliant test methodologies have been proven in hundreds of tests since 1998

Compliance with U.S. and International Testing Standards. CBT conforms to the following U.S. and international standards for biometric performance testing:

- ANSI INCITS 409.1-2005: *Biometric Performance Testing, Principles and Framework*
- ANSI INCITS 409.3-2005: *Biometric Performance Testing, Scenario Testing and Reporting*
- ISO/IEC 19795-2: *Testing Methodologies for Technology and Scenario Evaluation*

System-Specific Capture and Matching Applications. IBG implements and integrates system-specific capture and matching applications into the CBT test platform using vendor-provided toolkits. IBG works with vendors' technical staff to ensure that capture and matching processes mirror real-world operations

Offline, Full Cross-Comparative Matching. CBT incorporates "all vs. all" matching in conjunction with live, real-time sample collection. The hybrid of offline and online testing generates tens of thousands of genuine comparisons and millions of impostor comparisons, resulting in reliable, representative data.

Performance Measurement at the Attempt and Transaction Levels. Enrollment and recognition data is collected through realistic, multi-attempt transactions, such that results are reflective of performance in fielded systems. CBT results help deployers establish decision policies that reduce genuine and impostor error rates.

Comparative Biometric Testing Round 7 and Biometric Performance Certification

Independent performance certification based on CBT results is a critical competitive differentiator

Systems tested in CBT that meet accuracy and usability criteria are certified through IBG's **Biometric Performance Certification** program. Certifications are obtained from Level 4 (most robust) to Level 1.

Usability Metrics	<ul style="list-style-type: none"> • Failure to enroll rates (FTE) / Transactional failure to acquire rates (T-FTA) • Enrollment transaction duration / Recognition attempt duration
Accuracy Metrics	<ul style="list-style-type: none"> • False match rates (FMR) / False non-match rates (FNMR) • Transactional false match rates (T-FMR) / false non-rates (T-FNMR)

Biometric Performance Certification is the only effort in the biometric industry that provides comparative executive-level performance results, simplifying decision-making for deployment, partnership, and investment.

Usability	Certified Level 3	
Failure to Enroll Rate (FTE)	1.55%	Level 3
Average Enrollment Transaction Duration (Seconds)	36.12	Level 3
Transactional Failure to Acquire Rate (T-FTA)	0.72%	Level 4
Average Recognition Attempt Duration (Seconds)	1.82	Level 4
Accuracy	Certified Level 4	
False Match Rate (FMR)	0.00126%	Level 4
False Non-Match Rate (FNMR)	0.945%	Level 4
Transactional False Match Rate (T-FMR)	0.00447%	Level 4
Transactional False Non-Match Rate (T-FNMR)	1.124%	Level 3

Comparative Biometric Testing Round 7: Key Participant Dates (Tentative)

Milestone	Date
Participation Agreement Deadline	05/01/09
System Delivery Deadline	06/01/09
Visit 1 Data Collection Commencement	06/22/09
Visit 2 Data Collection Completion	07/31/09
CBT Results to Participants for Comment	08/10/09
Participant Comments Deadline	08/20/09
CBT Report Publication	08/31/09

How to Participate

Participation in CBT Round 7 is \$40,000 per system. Government and commercial organizations, including biometric vendors, can nominate devices, systems, products, and algorithms for evaluation.

For more information, contact test director Michael Thieme (mthieme@biometricgroup.com). Visit www.biometricgroup.com/cbt.html for detailed test plans and other CBT documentation.