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TSA PreCheck Matches Templates, Not Continuity

by [Nick Clark](#) | Published March 27, 2026 | [PDF](#)

TSA PreCheck expedites airport security for vetted travelers using identity verification that increasingly relies on biometric matching. The system compares a traveler's face or fingerprint against enrolled templates stored in a database. The matching works. But the system verifies a moment of similarity, not a trajectory of continuity. It asks whether this sample matches that template. It does not ask whether this person's biological identity trajectory is consistent with a verified individual. Biological identity based on trust-slope validation resolves this structural distinction.

What TSA built

TSA PreCheck combines pre-screening background checks with expedited security processing. The Credential Authentication Technology system verifies identity documents and increasingly uses facial recognition to match travelers against their photo identification. The biometric matching enables faster

processing by reducing the need for manual document inspection. The system's enrollment model requires travelers to submit personal information and biometric data during a background check process.

The verification is a comparison: does the person at the checkpoint match the enrolled template? The answer is binary with a confidence score. Match above threshold: verified. Below threshold: requires manual inspection. The template is static, captured at enrollment, and the comparison is a single-point-in-time evaluation.

The gap between matching and continuity

Template matching asks a narrow question: does this sample resemble the stored reference? Continuity-based identity asks a richer question: is this person's biological trajectory consistent with the verified individual over time? The first catches impersonation at a single checkpoint. The second detects anomalies in the individual's behavioral and biological pattern across their entire history of interactions with the system.

The distinction matters for security. A sophisticated impersonation that defeats a single template match may not defeat trajectory analysis. The real traveler's biological identity evolves along a predictable trajectory: gradual aging, consistent behavioral patterns at checkpoints, stable physiological signatures across encounters. An impersonator may match a template but will not exhibit the trajectory that the legitimate traveler has accumulated over years of interactions.

The stored template also creates a security vulnerability. A database of biometric templates is a high-value target. If compromised, the templates cannot be revoked or reissued like passwords. Continuity-based biological identity does not require stored templates. Identity derives from the accumulated trajectory itself, which cannot be stolen because it is not stored as a static reference.

What biological identity enables for airport screening

With trust-slope trajectory validation, each traveler accumulates a biological identity through their interactions with the screening system. Each encounter contributes to the trajectory: behavioral patterns at the checkpoint, physiological signals captured by existing sensors, and the consistency of these signals across time. Identity is validated by the trajectory's coherence, not by comparison to a stored template.

The stable sketching property means the system does not need to store raw biometric data. Biological signals are transformed into compact representations that preserve trajectory validation capability without enabling reconstruction of the original biometric data. Privacy is structural rather than dependent on database security.

Post-quantum resilience is inherent. The identity system does not depend on cryptographic key material that could be broken by future quantum computing. Identity derives from accumulated biological continuity, which is not a mathematical problem that quantum computers can solve.

The structural requirement

TSA PreCheck's biometric matching improves throughput. The structural gap is between point-in-time matching and trajectory-based identity. Biological identity provides continuity validation that detects anomalies templates cannot catch, eliminates the need for stored biometric databases, and provides post-quantum resilience. The screening system that validates identity through accumulated trajectory is structurally more secure than one that matches samples against stored templates.

[Biological Identity All 21 steps →](#)

Identity from behavioral continuity. No stored templates. No keys.

Primary Technical Disclosure

[◦ Continuity-Based Biological Identity Using Trust-Slope Validation](#)

Secondary Technical

[◦ Biological Trust Slope Construction: Identity Through Behavioral Continuity](#)[◦ Contact, Non-Contact, and Passive Resolution Modes for Biological Identity](#)[◦ Biological Hash Generation With Domain Separation](#)[◦ Biological State Inference From Continuity Baseline](#)[◦ Cross-Modal Biological Hash Fusion](#)[◦ Biological Continuity as Handoff Verification](#)[◦ Relational Trust Trajectories: Trust as Temporal Relationship](#)[◦ Identity as Behavioral Continuity: Beyond Single-Point Capture](#)[◦ Biological-Device-Agent Identity Layering](#)[◦ Biological Signal Acquisition Tiers](#)[◦ Noise-Tolerant Feature Normalization for Biological Signals](#)[◦ Stable Sketching and Helper Data for Biological Features](#)[◦ Predictive Identity Trajectory: Forecasting Biological Identity Evolution](#)[◦ Population-Scale Collision Resistance for Biological Hashes](#)[◦ Adaptive Indexing of Biological Trust Slopes](#)[◦ Delayed and Sparse Validation for Disconnected Environments](#)[◦ Policy-Governed Capability Binding for Biological Identity](#)[◦ Multi-Identity Delegation Without Biological Data Disclosure](#)[◦ External Credential Integration With Trust-Slope Integrity](#)[◦ Anti-Spoofing Through Continuity Validation](#)[◦ Identity Lifecycle Management and Phase-Based Reseeding](#)[◦ Quorum-Based Biological Identity Recovery](#)[◦ Privacy Governance and Revocation for Biological Identity](#)[◦ Human-Agent Primitive Integration for Biological Identity](#)

Applications (General)

[◦ Airport Security Without Biometric Databases](#)[◦ Estate Verification Through Behavioral Continuity](#)[◦ Biological Identity for Elder Care Continuity](#)[◦ Biological Identity for Child Development Tracking](#)[◦ Biological Identity for Addiction Recovery Monitoring](#)[◦ Biological Identity for Workplace Safety Monitoring](#)[◦ Biological Identity for Athletic Performance](#)[◦ Biological Identity for Immigration Processing](#)

Applications (Specific)

[● TSA PreCheck Matches Templates, Not Continuity](#)[◦ Global Entry Verifies Documents, Not Biological Continuity](#)[◦ Face ID Matches a Stored Model, Not a Living Trajectory](#)[◦ Samsung Knox Guards the Container, Not the Identity](#)[◦ ID.me Verifies Documents, Not Biological Continuity](#)[◦ Secure Scores Risk at a Single Point in Time](#)[◦ Plaid Identity Verifies Financial Accounts, Not Biological Persons](#)[◦ Onfido Detects Document Fraud, Not Identity Drift](#)[◦ Veriff Captures Sessions, Not Trajectories](#)[◦ Trulioo Queries Databases, Not Biological Trajectories](#)

[Biological Identity overview →](#)

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