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FIGI FINANCIAL INCLUSION GLOBAL INITIATIVE

FIGI Symposium

22–24 January 2019
Cairo, Egypt

#financialinclusion

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Authentication Work stream FIGI Security Infrastructure and Trust Working Group

Abbie Barbir, Chair

Security, Infrastructure, Trust Working Group

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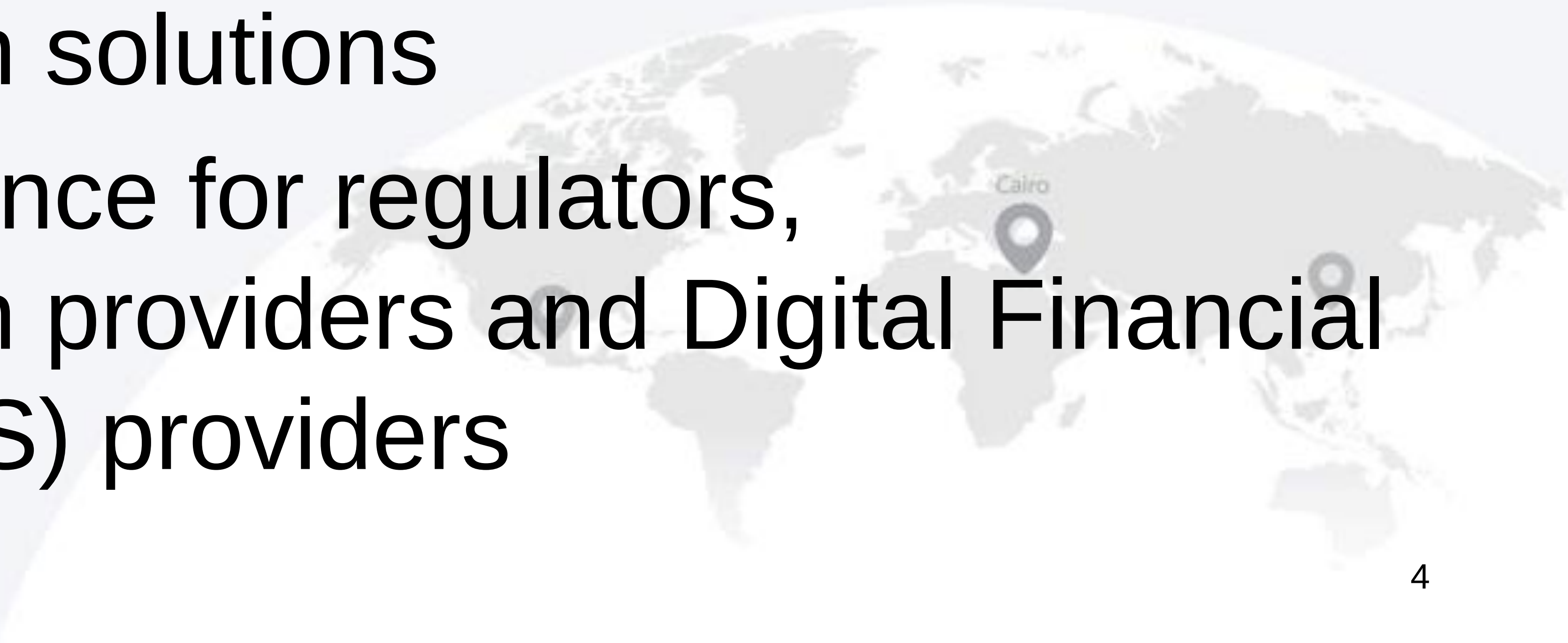
- To enhance confidence in using Digital Financial Services (DFS)
- To address DFS security issues and mass digital fraud in developing countries
- To assess new technology impact on security & consumer protection

Authentication Workstream

- To provide use cases, requirements, definitions and examples of strong authentication solutions
- To offer guidance for regulators, authentication providers and Digital Financial Services (DFS) providers



Scope and Focus

- Strong interoperable authentication to support DFS
- Use cases (web/Mobile)
  - National solutions (e.g Aadhaar in India. AliPay)
- Means of evaluating authentication assurance (ITU-T X.1254)
- Digital Lab setup
  - APIs for interoperable authentication Supporting FIDO Standards (ITU-T X.1277 / ITU-T X.1278) including API for:
    - End point validation, subscription and registration
    - Device Registration enabling service provider to register an Authenticator with user account and policy.
    - Device authentication.
    - Transaction Confirmation: Support for user to confirm a specific transaction is provided.
    - Deregistration: Relying party can trigger the deletion of the account-related authentication key material

Trouble With Passwords

Most people use less than 5 passwords for all accounts

50%

of those haven't changed their password in the last 5 years

Reuse makes them easy to compromise

39%

of adults use the same password for many of their online accounts

They are very difficult to remember

25%

of adults admit to using less secure passwords, because they are easier to remember

There are lots of places to steal them from

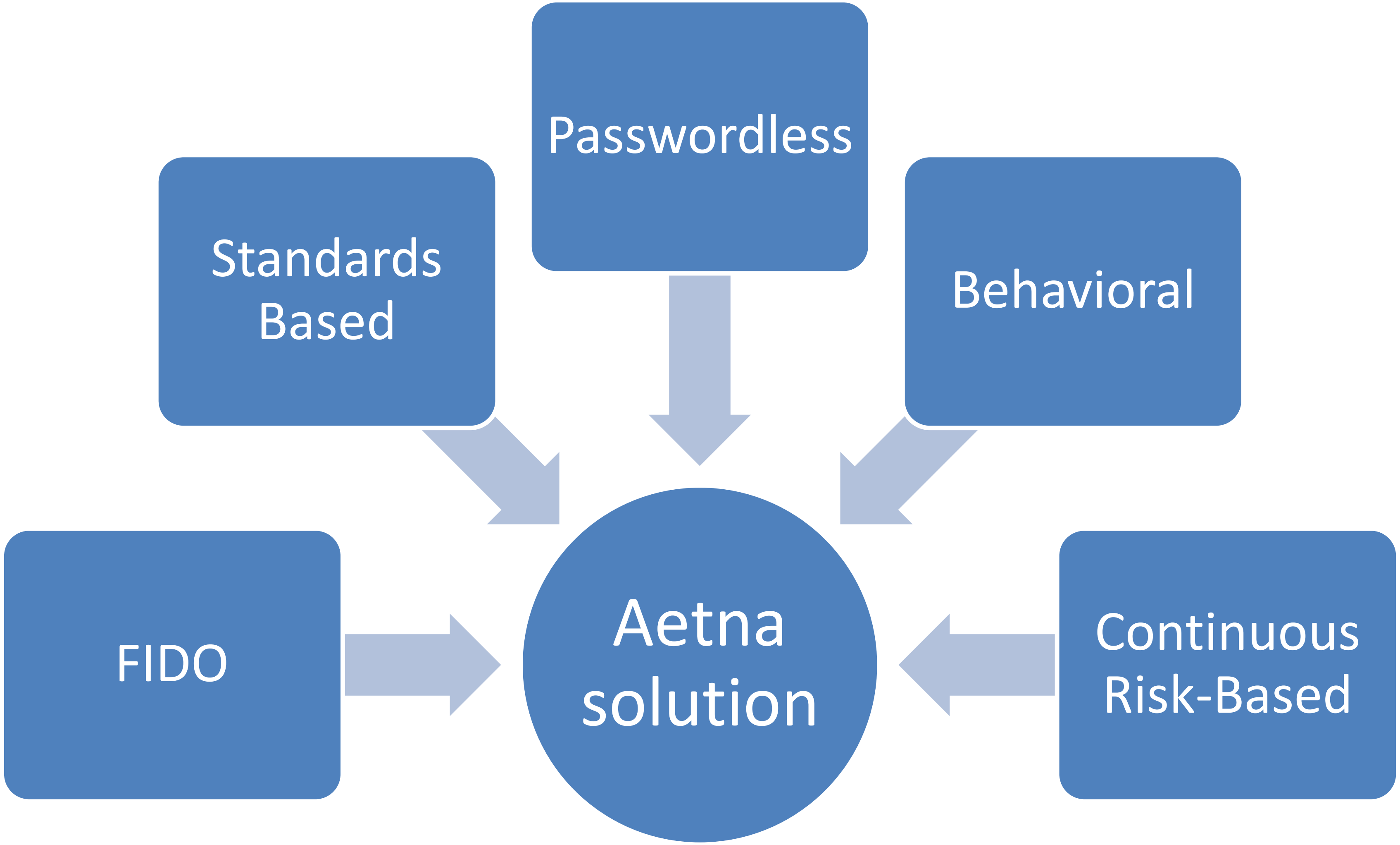
49%

of adults write their passwords down on paper

Over 3 billion user IDs and passwords were stolen in 2016

Sources: Pew research; Telesign research

Aetna Next Generation Authentication



Passwordless

Standards Based

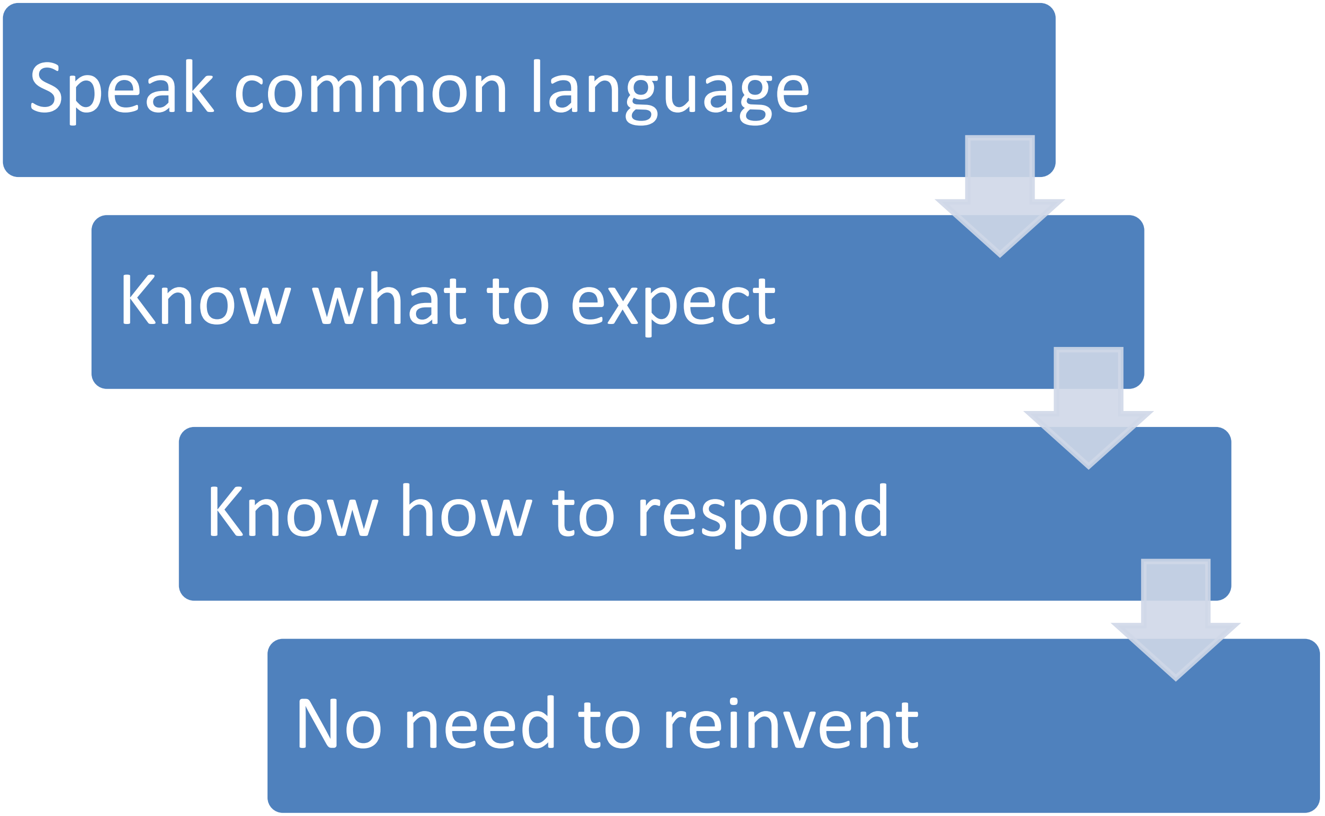
Behavioral

FIDO

Aetna solution

Continuous Risk-Based

Standards = Interoperability


Speak common language

Know what to expect

Know how to respond

No need to reinvent

- ITU X.1252 (Revision)
- ITU X.1254 (Revision)
- ITU X.509
- ITU-T X.1276
- ITU-T X.1277, ITU-T X.1278
- ISO 29115 (Revision)
- ISE FICAM
- NIST 800-63-3
- FIDO 2.0 WebAuthN (w3C)
- Oauth 2.0
- OIDC

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Discussion Paper: Secure Authentication Use Cases for DFS and Guidelines for Regulators and DFS Providers

Andrew Hughes, Editor

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The Discussion Paper

The Sources

- Contributions from working group members over the last 12 months
- Additional contributions from industry consortia and standards development bodies

The Contents

- Describes standards and regulations for strong authentication
- Implementation examples for use cases
- Guidance for regulators, authentication providers and DFS providers
- Standardization objectives

‘Authentication’

Authentication Systems

- Used in two ways:
  - Establish that the person is who they claim to be when enrolling for an account
  - Verify that a returning customer is the same one that previously opened an account

For Account Creation

- Ask for and verify identification information
  - – For DFS – ‘Know Your Customer’ (KYC) procedures
  - – “e-KYC” examples are given in this report
  - – Obtain from previously-established accounts based on regulatory obligations

For Returning Customers

- For returning customers, ask for evidence that they are the same person as seen before
    - Ask for a secret only known to them
    - Have them demonstrate possession and control of a credential or device previously issued
    - Compare a biometric sample to one ‘on file’

Multi-factor Authentication Approach

- Combine multiple authentication factors to strengthen overall authentication mechanism
  - – Knowledge-based factor
  - – Possession-based factor
  - – Factor based on physical or inherent characteristic

Advanced Authentication Techniques

- Convenient and easy to use
- Eliminate or reduce reliance on passwords
- Examine real-time behaviour to detect anomalies
- Dynamic risk scoring of authentication confidence
- Background authentication throughout transaction
- Broadly similar to anti-fraud techniques

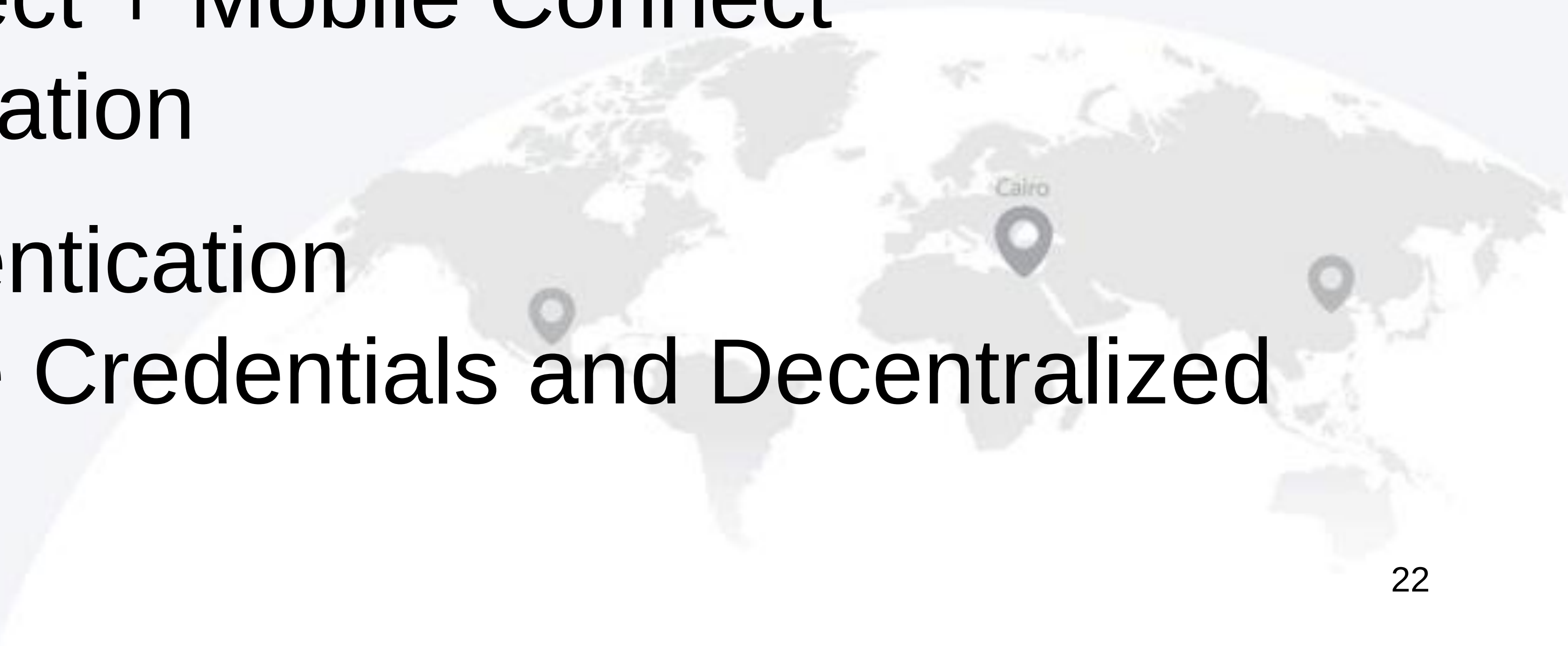
The Standards and Specifications

Standards and Regulations

- These contain ‘levels’ and requirements
- ITU-T Recommendation x.1254
- NIST SP 800-63-3
- eIDAS Regulation
- Payment Services Directive 2

Technical Specifications

- FIDO Alliance specifications
  - ITU-T Recommendations x.1277, x.1278
- OpenID Connect + Mobile Connect
- IFAA Authentication
- Aadhaar Authentication
- W3C Verifiable Credentials and Decentralized Identifiers



The Use Case Examples

The Use Cases

- Use cases
  - Enrolment and account opening
  - Authentication to access a DFS

Account Opening

- Aadhaar eKYC – from national ID
- K-FIDO Enrolment – from national ID
- City of Zug eID – from citizen register
- FIDO account enrolment
- Healthcare provider – member enrolment

Access A Service

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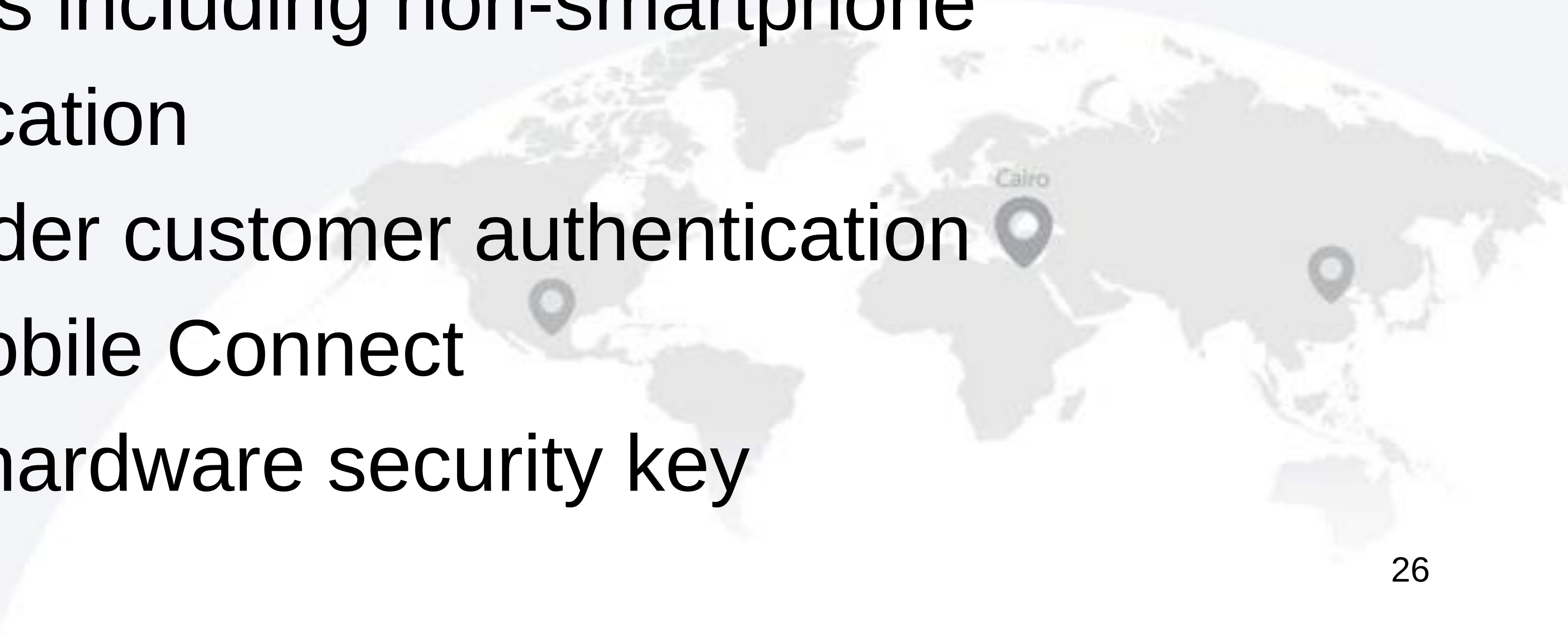
- IFAA – mobile payment – fingerprint or face
- Aadhaar Authentication & Universal Payments Interface – several modalities including non-smartphone
- K-FIDO Authentication
- Healthcare Provider customer authentication
- SK Telecom – Mobile Connect
- FIDO Alliance – hardware security key



The Guidance

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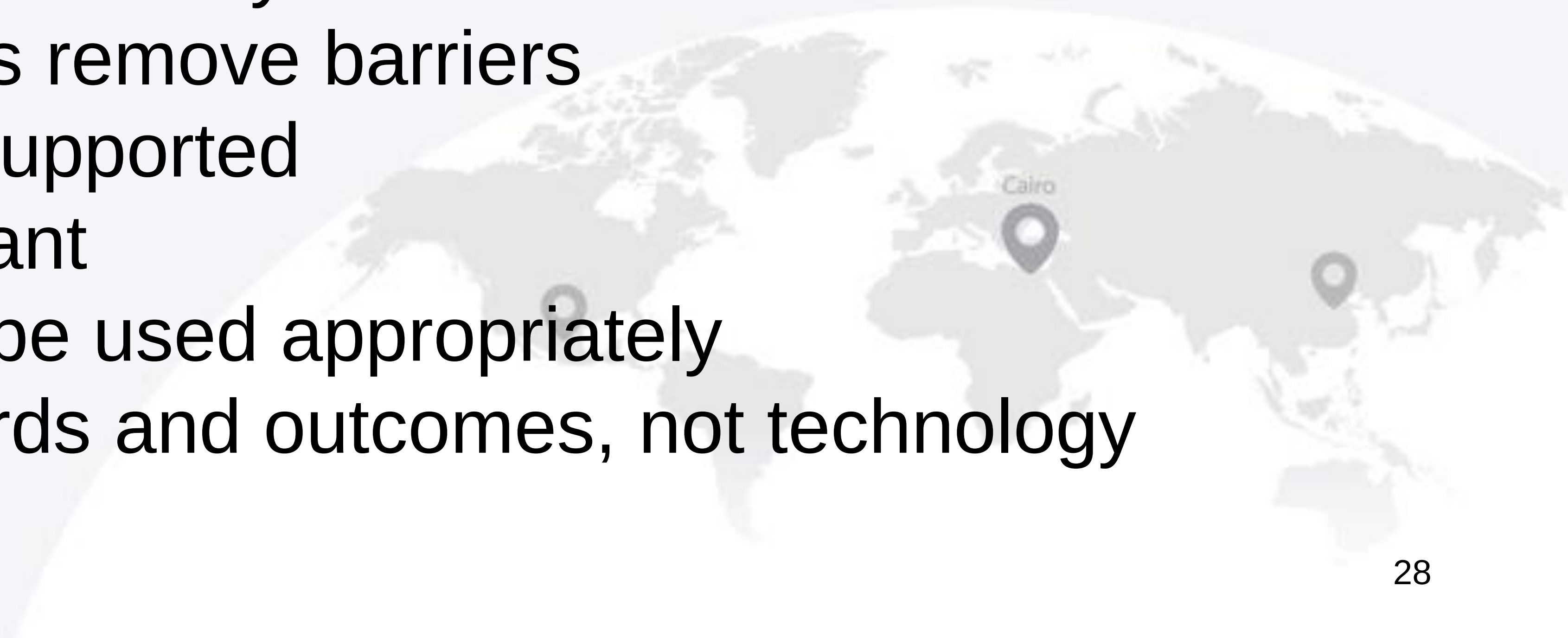
Guidance for Regulators

- Require strong authentication
- Recognize limitations of shared secrets
- Make authentication easy to use
- New technologies remove barriers
- Mobile must be supported
- Privacy is important
- Biometrics must be used appropriately
- Focus on standards and outcomes, not technology



Biometric Authentication

- Design considerations
  - Accuracy, universality, stability/permanence, collectability, resistance to circumvention, acceptability, usability, cost

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Standardization

- More work is needed for
  - Behavioral biometrics
  - Relative strengths of authentication
  - Mobile security capabilities and authenticator strengths
  - User experience

Closing Remarks

- Keep watching this space for innovation – the rate of invention is very high & technologies and approaches are maturing
- Please review and provide feedback
- Don’t be the next weak link in the chain!

To Provide Feedback

- Download the report

  https://www.itu.int/en/ITU-T/extcoop/figisymposium/Documents/Secure%20Authentication%20Use%20Cases.pdf

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