E-Authentication Guidance

NIST KBA Symposium

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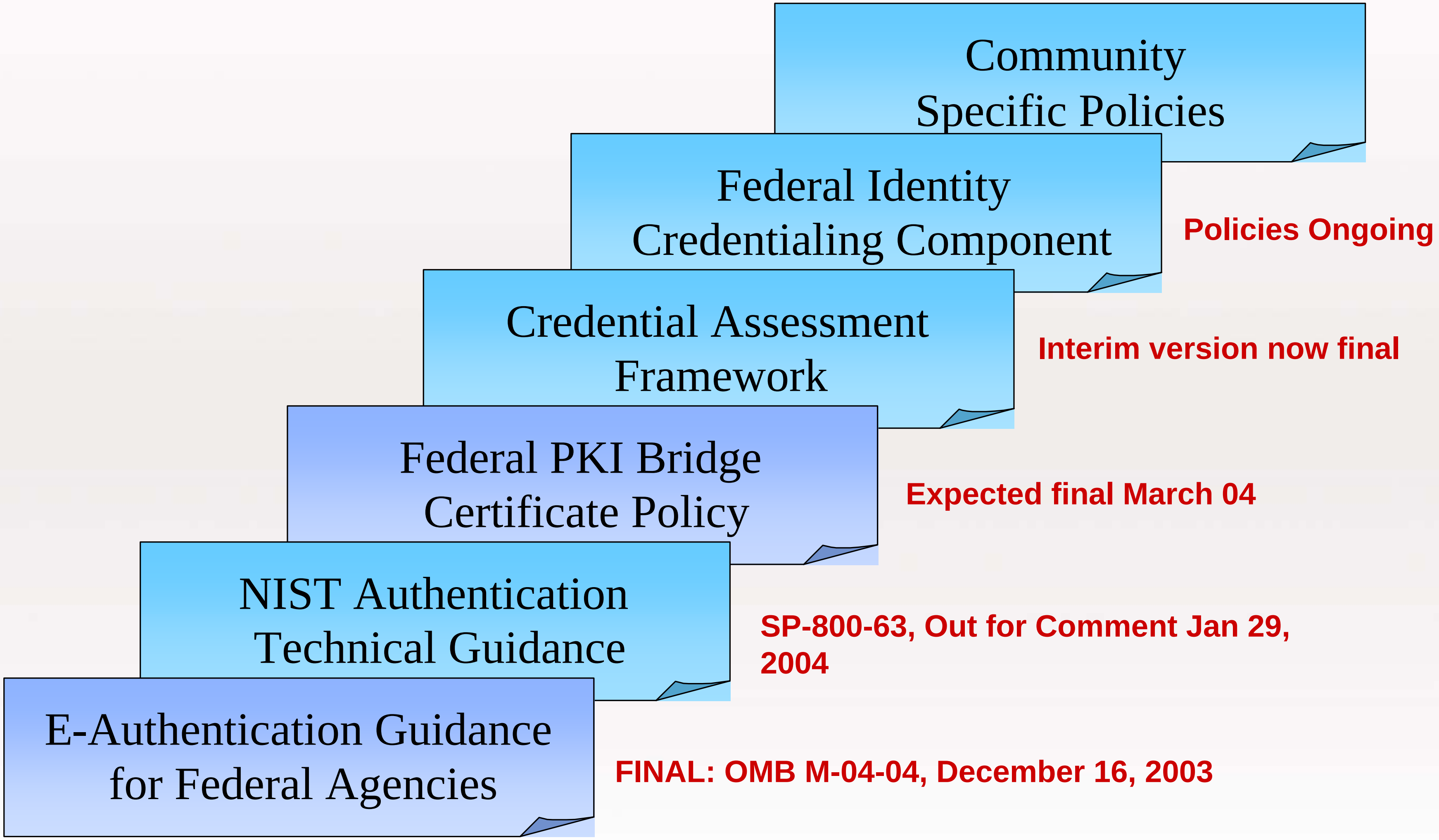
E-Authentication Goals

- Build and enable mutual trust needed to support wide spread use of electronic interactions between the public and Government, and across Governments
- Minimize the burden on public when obtaining trusted electronic services from the Government, and across the governments
- Deliver common interoperable authentication solutions, appropriately matching the levels of risk and business needs

Areas of Focus

- Policy
- Technology: Architecture/Requirements
- Applications (bringing Applications on to a shared service): Conducting a pilot
- Credential Providers (accrediting electronic credential providers to they could be used across govt.)
- FICC: Smart Cards/IDs for Federal Employees

Part of a Larger Policy Framework



Community Specific Policies

Federal Identity Credentialing Component

Policies Ongoing

Credential Assessment Framework

Interim version now final

Federal PKI Bridge Certificate Policy

Expected final March 04

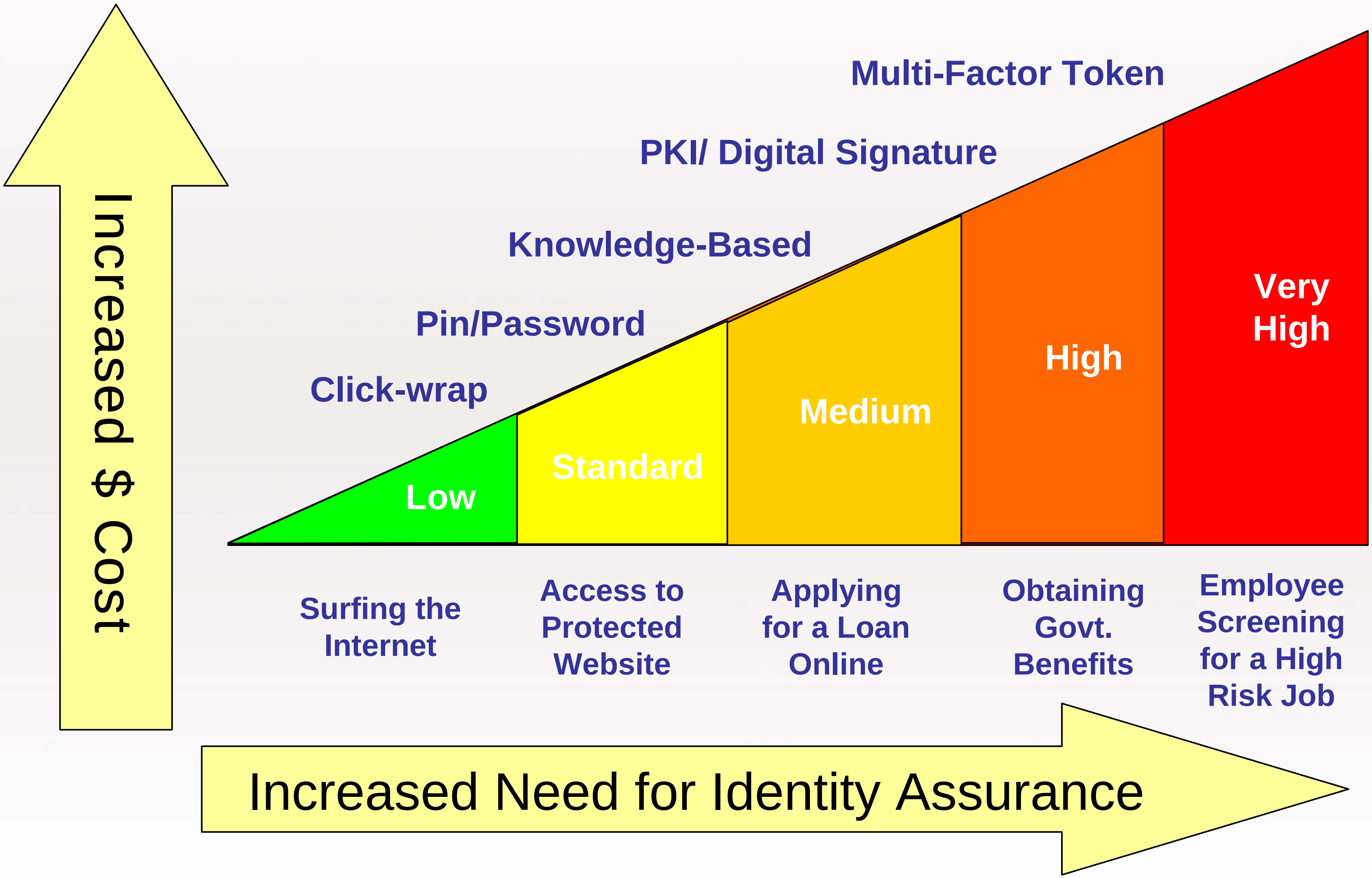
NIST Authentication Technical Guidance

SP-800-63, Out for Comment Jan 29, 2004

E-Authentication Guidance for Federal Agencies

FINAL: OMB M-04-04, December 16, 2003

Approaching Authentication…



OMB Authentication Guidance

- M-04-04 Signed by OMB Director on 12/16/2003
- Supplements OMB Guidance on implementation of GPEA
- Establishes 4 identity authentication assurance levels
- Requires agencies to conduct “e-authentication risk assessments”
- Planned result is a more consistent application of electronic authentication across the Federal Government

Scope

Applies To:

- Remote authentication of human users of Federal agency IT systems for e-government.
- Identification and analysis of the risks associated with each step of the authentication process

Does Not Apply To:

- Authentication of servers, or other machines and network components.
- Authorization -- the actions *permitted* of an identity after authentication has taken place.
- Issues associated with "intent to sign," or agency use of authentication credentials as electronic signatures.
- Identifying which technologies should be implemented.

Definitions

- **Authentication**—process of establishing confidence in user identities electronically presented to an information system.
- **Identity authentication**—confirming a person's unique identity.
- **Authorization**—identifying the person's user permissions.
- **Attribute authentication**—confirming that the person belongs to a particular group (such as military veterans or U.S. citizens).

Risk Assessment Steps

1. Conduct a risk assessment of the e-government system.
2. Map identified risks to the applicable assurance level.
3. Select technology based on e-authentication technical guidance.
4. Validate that the implemented system has achieved the required assurance level.
5. Periodically reassess the system to determine technology refresh requirements.

Assurance Levels

M-04-04:E-Authentication Guidance for Federal Agencies

OMB Guidance establishes 4 authentication assurance levels

Level 1	Level 2	Level 3	Level 4
Little or no confidence in asserted identity (e.g. self identified user/password)	Some confidence in asserted identity (e.g. PIN/Password)	High confidence in asserted identity (e.g. digital cert)	Very high confidence in the asserted identity (e.g. Smart Card)

NIST SP800-63 Electronic Authentication

NIST technical guidance to match technology implementation to a level

Categories of Harm and Impact

- Inconvenience, distress, or damage to standing or reputation
- Financial loss or agency liability
- Harm to agency programs or public interests
- Unauthorized release of sensitive information
- Personal safety
- Civil or criminal violations.

Maximum Potential Impacts

	Assurance Level Impact Profiles			
Potential Impact Categories for Authentication Errors	**1**	**2**	**3**	**4**
Inconvenience, distress or damage to standing or reputation	Low	Mod	Mod	High
Financial loss or agency liability	Low	Mod	Mod	High
Harm to agency programs or public interests	N/A	Low	Mod	High
Unauthorized release of sensitive information	N/A	Low	Mod	High
Personal Safety	N/A	N/A	Low	Mod High
Civil or criminal violations	N/A	Low	Mod	High

Other items covered

- Examples for each level
- Use of anonymous credentials
- Impact of the authentication process
- Considering costs and benefits

Effective Dates

- **90 days from completion of the final NIST E-Authentication Technical Guidance**—New authentication systems should begin to be categorized, as part of the system design.
- **December 15, 2004**—Systems classified as "major" should be categorized.
- **September 15, 2005**—All other existing systems requiring user authentication should be categorized.

What’s missing?

- Attribute authentication
- Knowledge based authentication