Digital Identity Forum

ACUITY
MARKET INTELLIGENCE

presents

Driving Biometrics: PIV and Wider Trends

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ACUITY MARKET INTELLIGENCE

Acuity Market Intelligence cuts through the clutter of information overload to provide *technology-neutral* and *vendor-independent* insight, analysis and solutions assessment for emerging technology markets.

Markets Identification Solutions, Biometrics, Authentication

Clients Vendors, Targeted Solution Providers, Integrators, End Users

Services Market Analysis & Strategic Planning
Opportunity Assessment & Analysis
Technology Adoption & Deployment Evaluations

Today's Discussion

What are the dynamics guiding the development of biometrics solutions today and how does PIV reflect these market conditions?

Myth Busting	Misconceptions
Solution Adoption	Solutions Adoption Lifecycle
Market Snapshot	Market Demand, Drivers & Obstacles
Market Evolution	Indications of "Maturing" Market
Core Issue Map	Bridging "Human-Machine Identity Gap"
Countervailing Forces	Opportunity/Threat Dichotomy
Market Activity	Government & Commercial: EU, Asia, US
Milestones	Industry Progress
What PIV Reveals	The Good, The Bad, The Ugly
Future	Crystal Ball Time

Myth Busting

"Reality Based" Analysis

Myth	Reality
Not Ready for Prime Time	**Technology Performance Proven** **Profitable Companies** **Demonstrable ROI**
Consumers Resistant	**Consumers adopt where available: supermarkets, convenience stores, registered traveler, etc.** **Surveys worldwide indicate willingness to adopt**
Scalability Issues Understood	**Requisite knowledge to build large scale secure, reliable, privacy enhancing solutions does not yet exist**

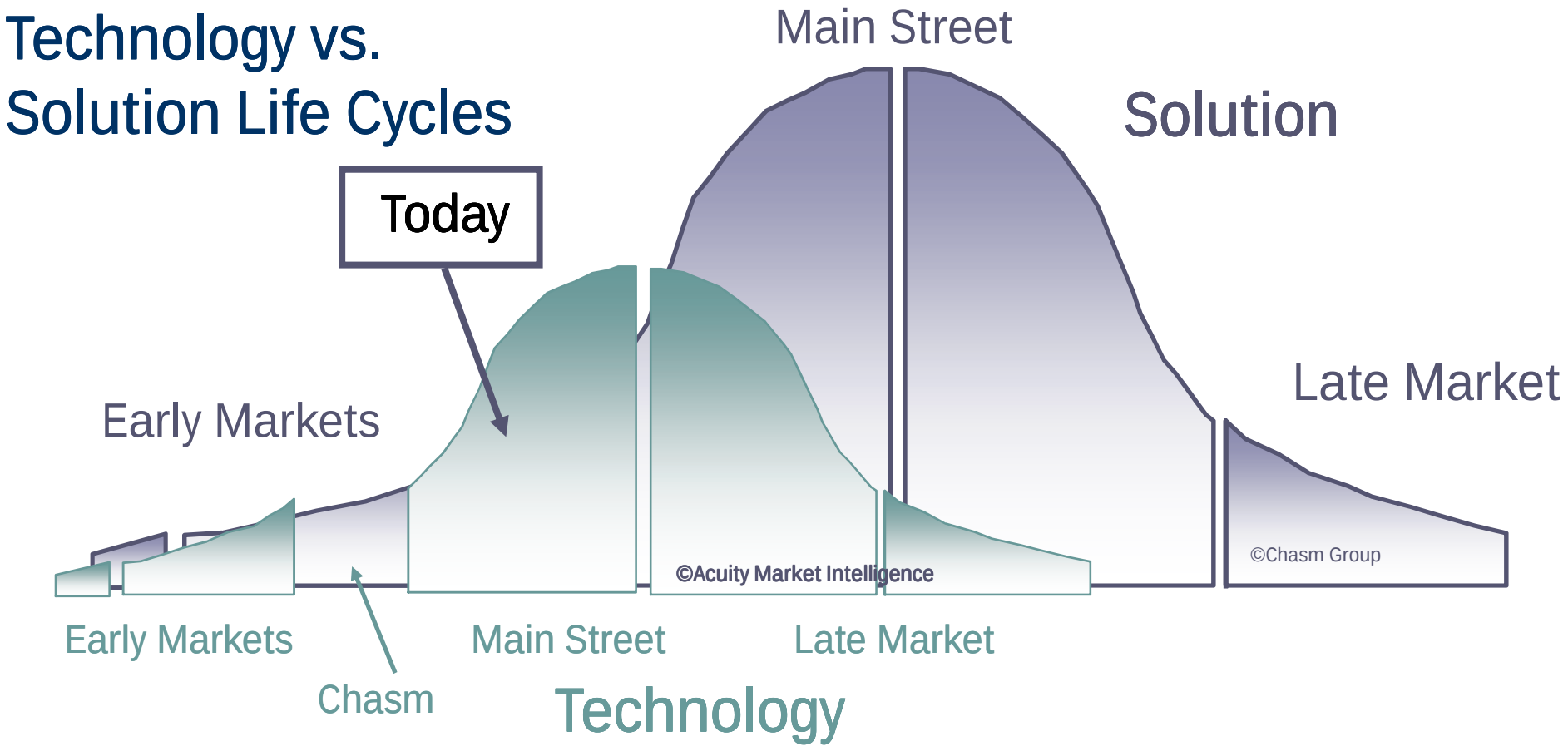
Myth Busting

"Reality Based" Analysis

Myth	Reality
Biometrics "Fix" identity and limit choice	**Biometrics bind an established or chosen identity to an individual and can expand choice**
Public Policy/Legal Frameworks provide adequate protection	**Current trespasses demonstrate potential for abuse. Systems MUST be designed to protect individuals from criminals, corporate interests and governments**
Biometrics are private, personal assets	**Biometric images are public personal assets. Biometric templates are algorithmic representations of this image data**

Solutions Adoption

For enabling technologies like biometrics, the **Solution Adoption Lifecycle** hits the Tornado as the **Technology Adoption Lifecycle** peaks in the Mainstream

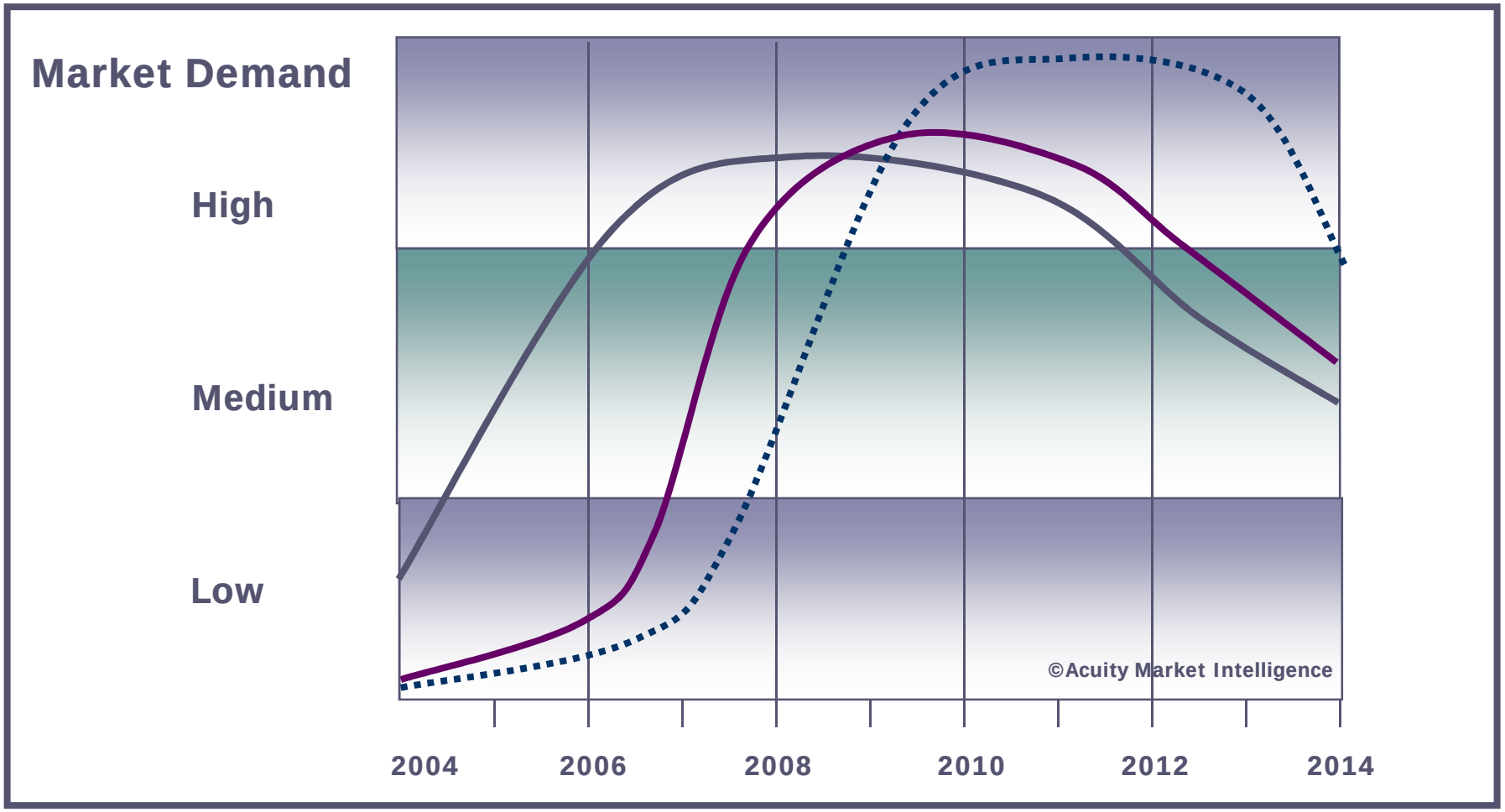


Snapshot: Public Sector Market Demand

Integrated eBorders — passports, visas, border control

eID — National IDs, ID Cards

eGovernment — ID verification, electronic access

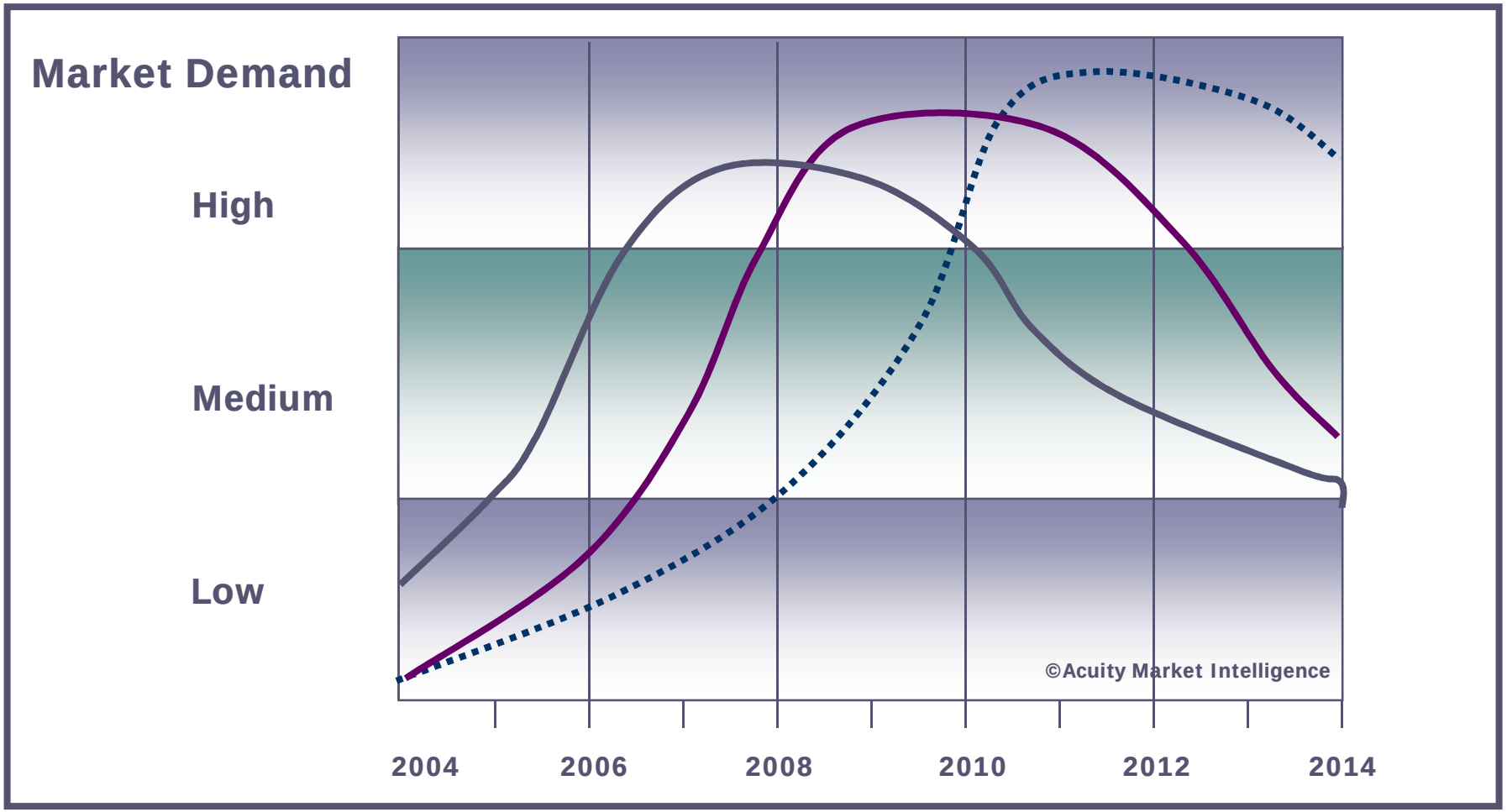


Snapshot: Commercial Market Demand

Enterprise Security — physical & logical access

Information Transactions — IP, accounts, private data

Financial Transactions — POS, electronic payments



Snapshot: Drivers & Obstacles

	Public Sector		Commercial	
Factor	**Driver**	**Obstacle**	**Driver**	**Obstacle**
Post 9/11, 3/11, 7/7 Terrorism Fears	X		X	
US-VISIT	X		X	
Improved Gov Services – cost/efficiency	X		X	
9/11 Commission Endorsement	X		X	
ICAO, ILO Endorsement	X		X	
EU ePassport, Visa Efforts	X		X	
EU Expansion Borders – *Secure Mobility*	X		X	
Identity Fraud & Theft	X		X	
Financial Transaction Fraud	X		X	
Information Security	X		X	
Password Fatigue	X		X	
Data Protection/Privacy Concerns		X		X
Big Brother		X		X
Poor Communications by Industry, Press		X		X
Large Scale ID Solution Requirements/Expertise		X		X
Industry Fragmentation		X		X

Market Evolution
Indications of "Maturing" Market

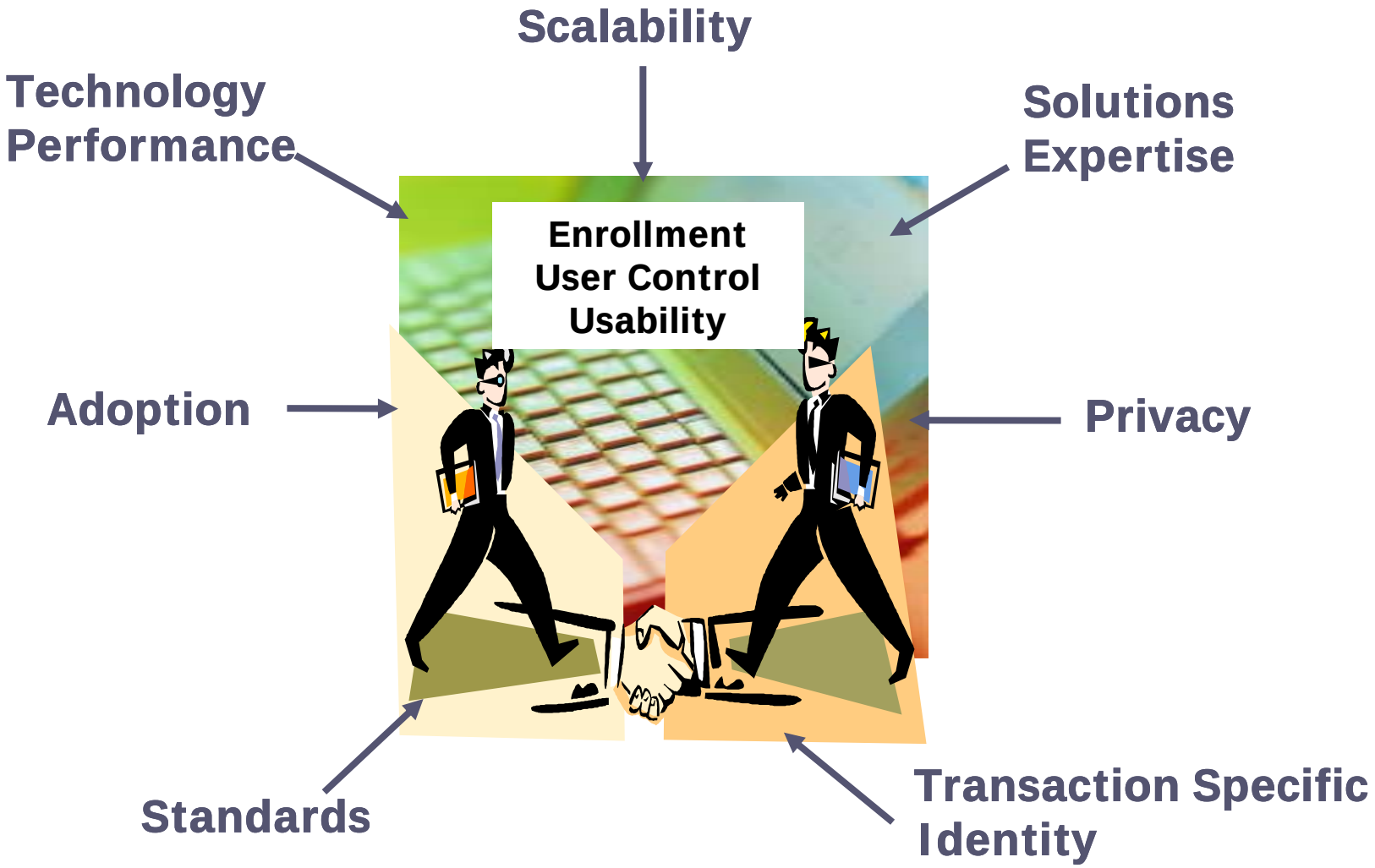
- Proven Technology
- Mergers & Acquisitions
- Price/Performances Curves
- Fusion
- Large Scale ID Programs
- Acceptance/Adoption
- Solutions Perspective

GAP ⇨ **Human Factors**

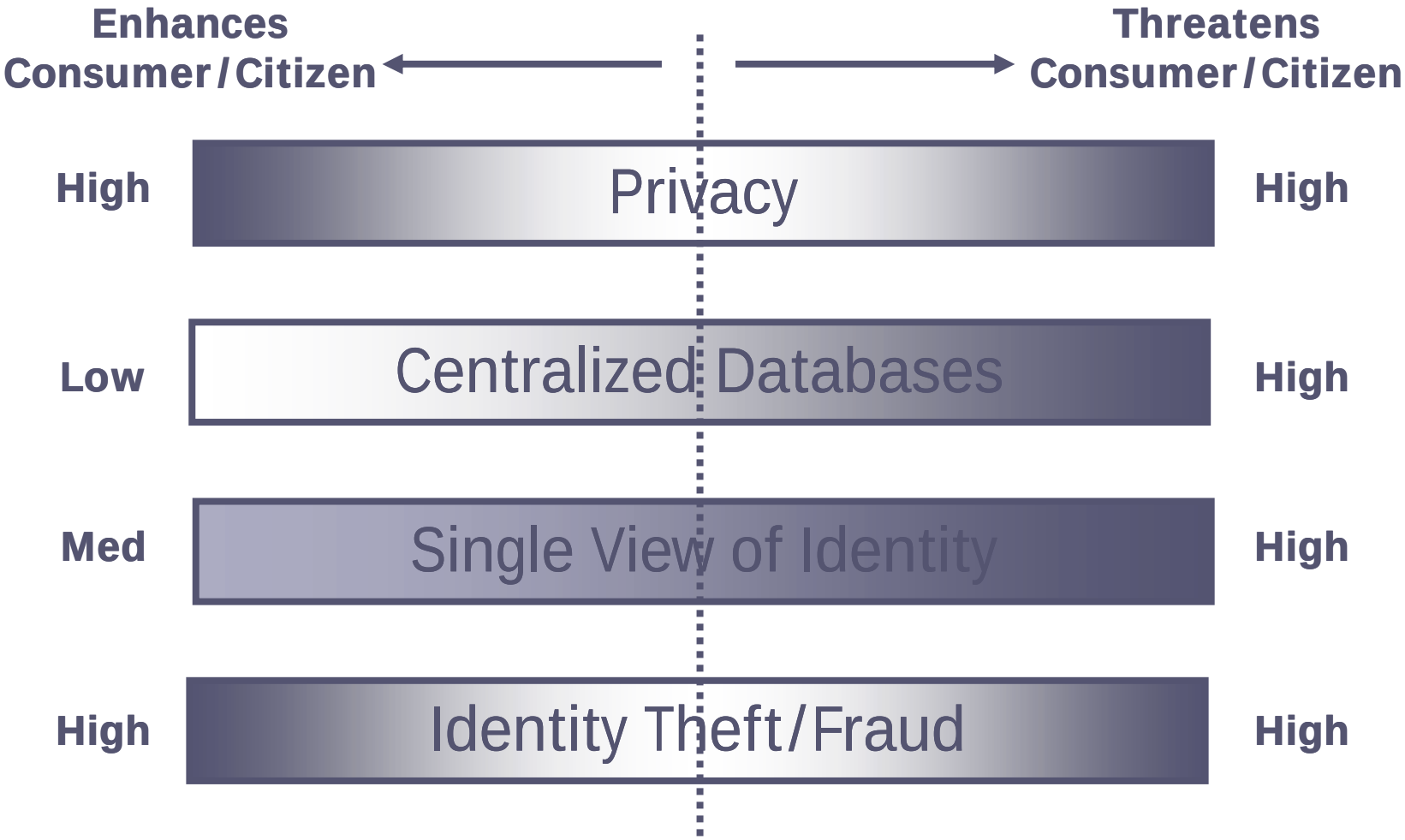
Enrollment
User Control
Usability

Core Issue Map

Bridging the "Human-Machine Identity Gap"



Countervailing Forces
Opportunity Threat Dichotomy



Market Activity
Government and Commercial

- EU
  - GOV: sPassports, Visas, Asylum Seekers, Nat IDs, VIS, SIS
  - Commercial: Limited
- Asia
  - GOV: ePassports, Nat IDS,
  - Commercial: ATMs, Mobile Payments, Consumer Door Locks
- US
  - GOV: US-VISIT, Registered Traveler, TWIC, PASS, PIV (Personal Identity Verification), PASS (People Access Security Service)
  - Commercial: Enterprise Security, Consumer Transactions

Milestones
Industry Progress

- EU & Worldwide ePassport Issuance
- International cooperation on ePassports
- Standards
- Tens of millions of sensors shipped
- Approaching integration into 20% of PCs
- Pay-by-Touch 3.5M enrolled
- Japanese ATMS/mobile phones
- Iris for 80M in India
- EU considering broad based Registered Traveler

What PIV Reveals
The Good, The Bad, The Ugly

HSPD-12 (unfunded) mandate to develop interoperable Personal Identity Verification card for all US Federal employees and contractors

- The Good
  - Real Possibility – Defacto US ID standard
  - 2.7M employees, 800K Postal service
- The Bad
  - Poor process management - redundancy
  - Underestimation of Problem – technical, human factors, budget
  - Requisite Knowledge disparate
  - Failure to recruit/rely/listen to experts – internal/external
- The Ugly
  - What we have now is demo capability
  - At least 2 years before adequate production capability is achieved – not a technology problem
  - Indicative of how a range of government programs have been managed – focus on technology NOT process, requirements not well understood

Future
Crystal Ball Time

- Mainstream ubiquity as massive convergence takes hold and individual biometric categories disappear. More than consolidation of key players or one technology winning out over another. Actual merging and morphing of the capture devices and the algorithms
- Algorithms from optics, machine vision and intelligence video significantly improve performance
- In 2 - 5 years a major snafu with one of the large conspicuous government projects
- By 2010 begin to understand the implications of large scale ID systems. Majority of personal devices that store personal data include biometrics
- By 2015 can build secure, privacy enhancing, large scale solutions. Online transactions are routinely biometrically enabled
- Ultimately, capture devices and algorithms indifferent, regardless of scale, to nature of the type of pattern-data being analyzed
- Over time capture devices become ubiquitous, cheap, reliable commodities compressed into a tiny form factor embedded in virtually everything

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Questions?

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Analysis
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