



Digital Identity Forum

ACUITY
MARKET INTELLIGENCE

presents

Driving Biometrics: PIV and Wider Trends

**November 3, 2006
London**

**c. maxine most
acuity market intelligence
cmaxmost@acuitymi.com**



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

Solution Adoption

Market Snapshot

Market Evolution

Core Issue Map

Countervailing Forces

Market Activity

Milestones

What PIV Reveals

Future

Misconceptions

Solutions Adoption Lifecycle

Market Demand, Drivers & Obstacles

Indications of "Maturing" Market

Bridging "Human-Machine Identity Gap"

Opportunity/Threat Dichotomy

Government & Commercial: EU, Asia, US

Industry Progress

The Good, The Bad, The Ugly

Crystal Ball Time

Myth Busting

“Reality Based” Analysis

Myth

Reality

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

Myth Busting

“Reality Based” Analysis

Myth

Reality

Biometrics “Fix” identity and limit choice

Public Policy/Legal Frameworks provide adequate protection

Biometrics are private, personal assets

Biometrics bind an established or chosen identity to an individual and can expand choice

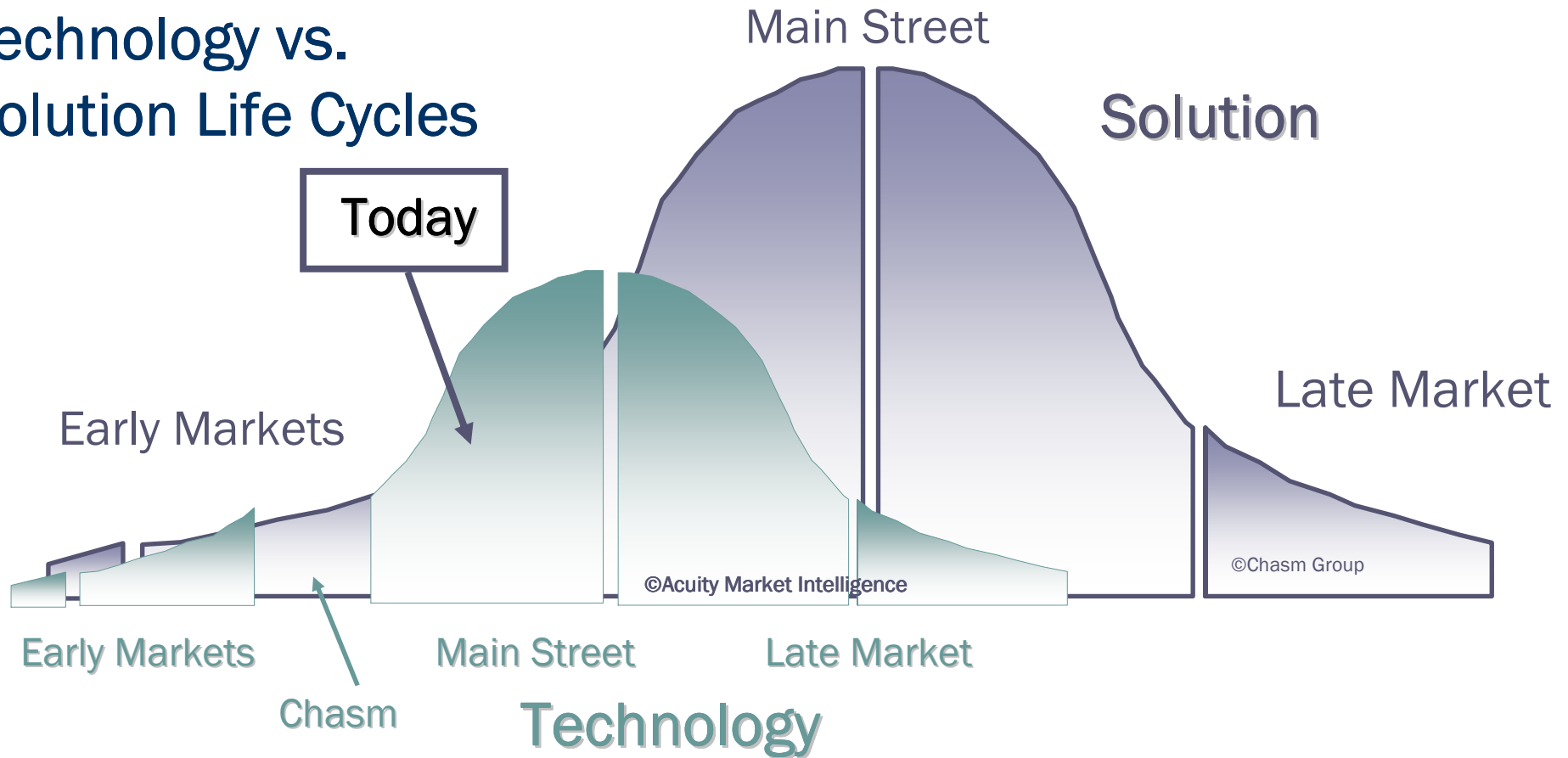
Current trespasses demonstrate potential for abuse. Systems MUST be designed to protect individuals from criminals, corporate interests and governments

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

Technology vs. Solution Life Cycles

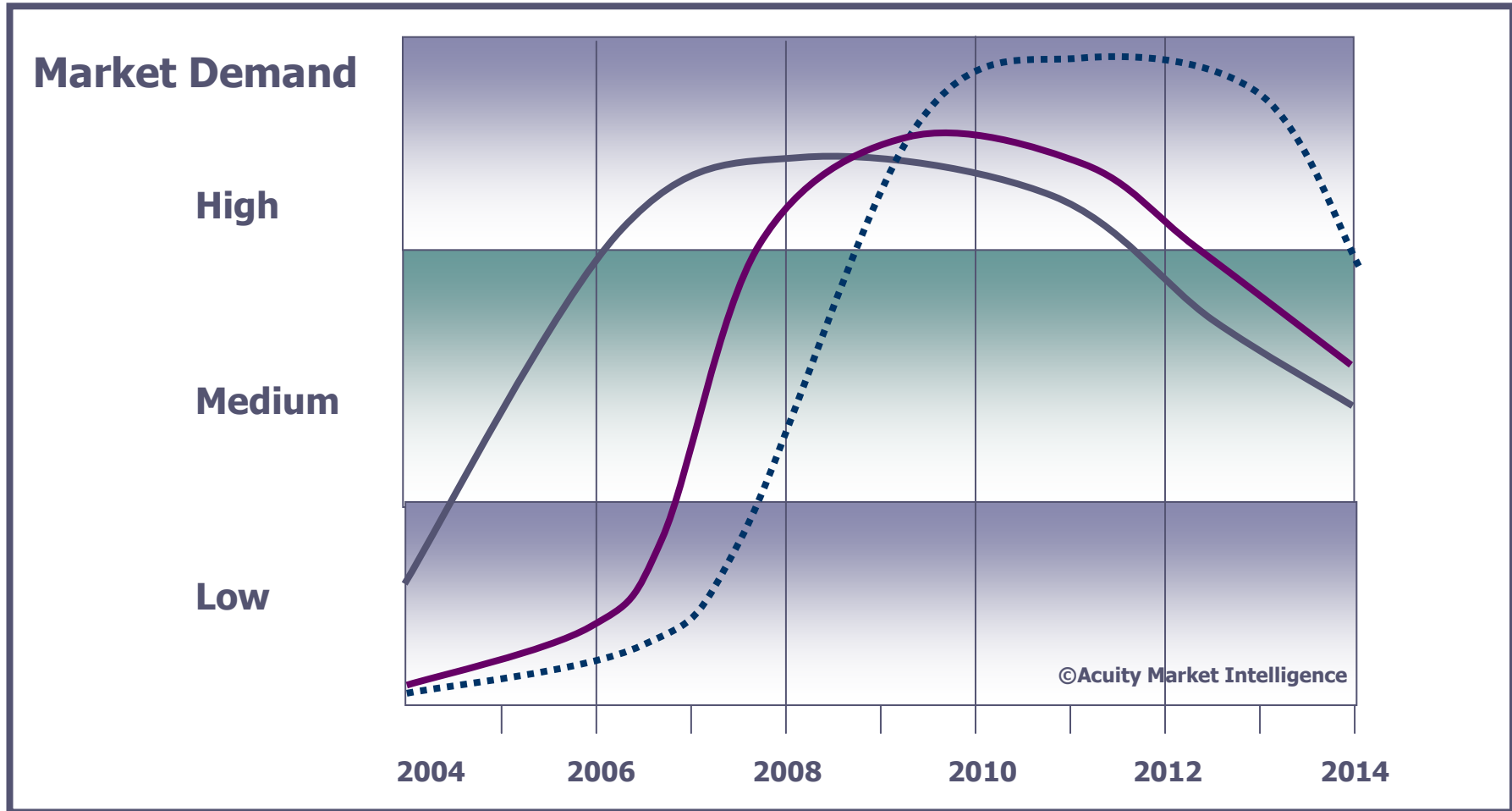


Snapshot: Public Sector Market Demand

Integrated eBorders —
passports, visas, border control

eID —
National IDs, ID Cards

eGovernment ...
ID verification, electronic access

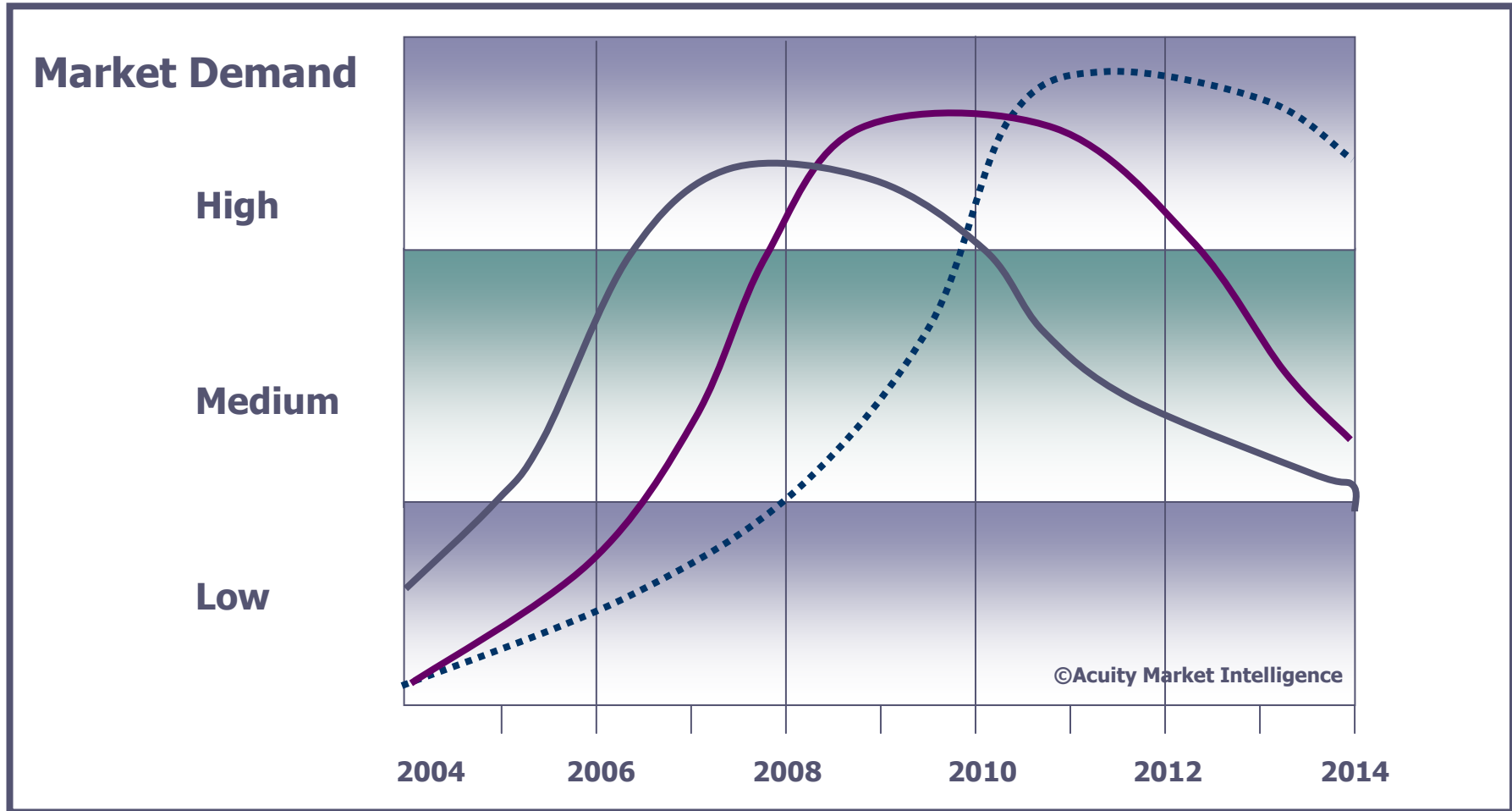


Snapshot: Commercial Market Demand

Enterprise Security
physical & logical access

Information Transactions
IP, accounts, private data

Financial Transactions
POS, electronic payments



Snapshot: Drivers & Obstacles

Factor	Public Sector		Commercial	
	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 – <i>Secure Mobility</i>	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

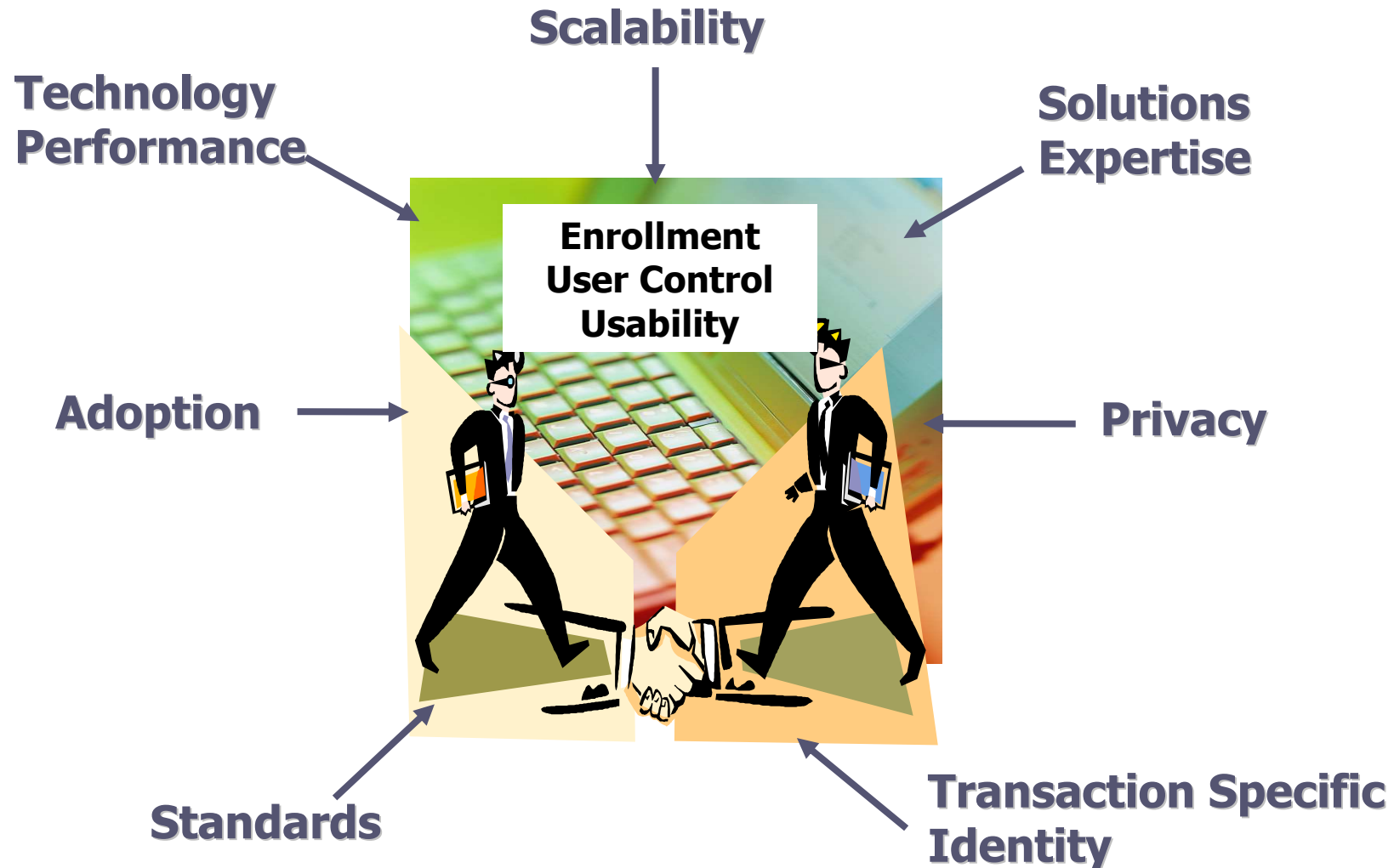
- ☞ Proven Technology
- ☞ Mergers & Acquisitions
- ☞ Price/Performances Curves
- ☞ Fusion
- ☞ Large Scale ID Programs
- ☞ Acceptance/Adoption
- ☞ Solutions Perspective

GAP  **Human Factors**
Enrollment
User Control
Usability



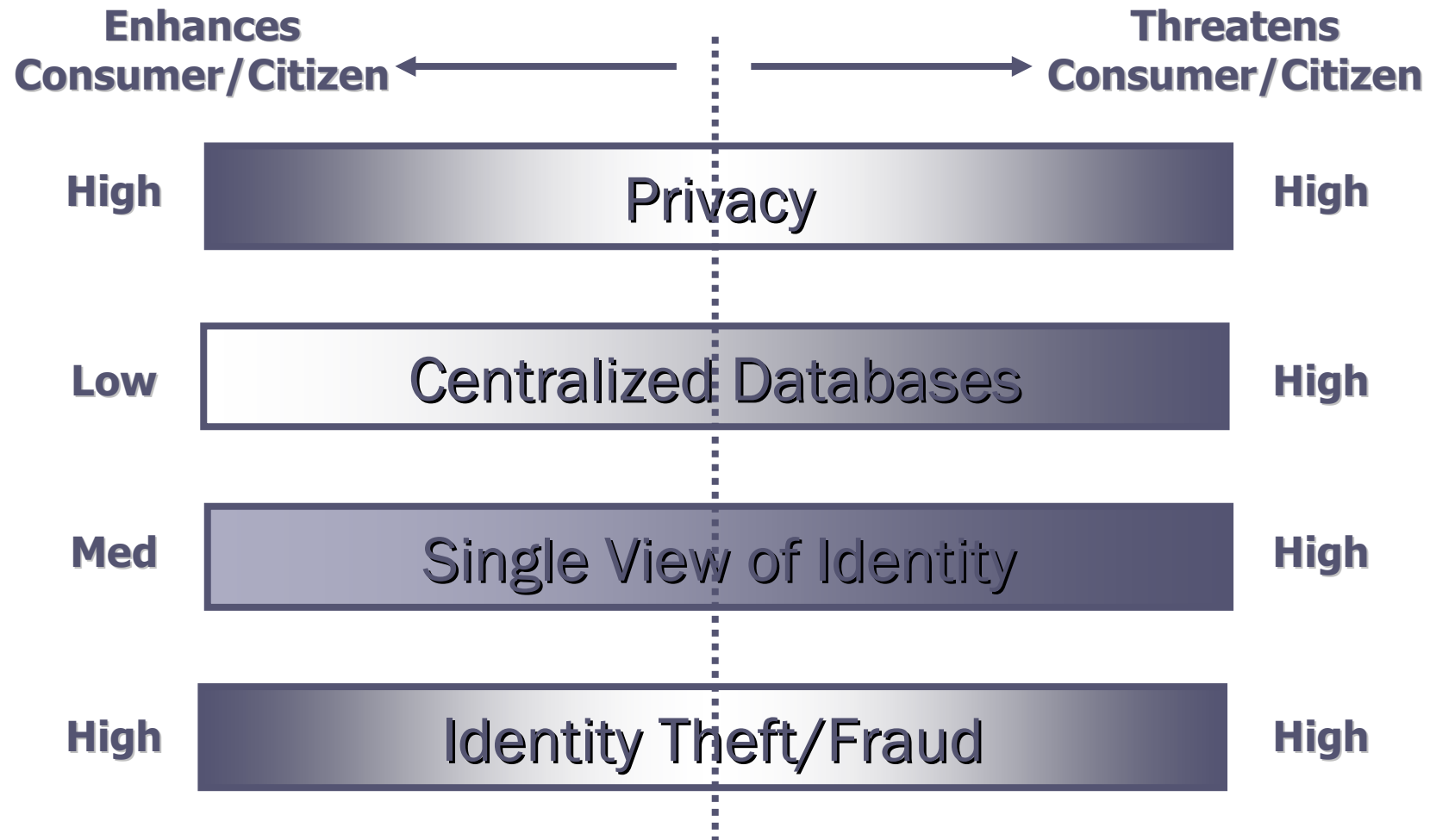
Core Issue Map

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



ACUITY

MARKET INTELLIGENCE

c. maxine most

principal

826 north street boulder, co 80304

+1 303.449.1897 cmaxmost@acuity-mi.com

Questions?

For more Information

www.acuity-mi.com

Analysis

Projections

Market Briefs

