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Identity and Access Management for the Extended Enterprise

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Create an Information Advantage for our

People and Mission Partners

Value Proposition is The Context

- Strong IdAM are Key to Info Sharing in Cyber Space
  and in Physical Access to Sensitive Locations

  – Identity Management
    - Who are you?
    - DoD Accepting eAuthentication Level 4
      (aka FBCA Med-HW and Above)

  – Access Management
    - Enforcement of Sharing Policies
    - Based up Resource Attributes

- Exploit Investments in Capabilities, Standards, Policies/Rules
    - Three Classification Fabrics
    - Extended Enterprise (ISE) (Particularly 24/7 Partners)
    - Unanticipated & Less Mature Mission Partners

Where Are We Today

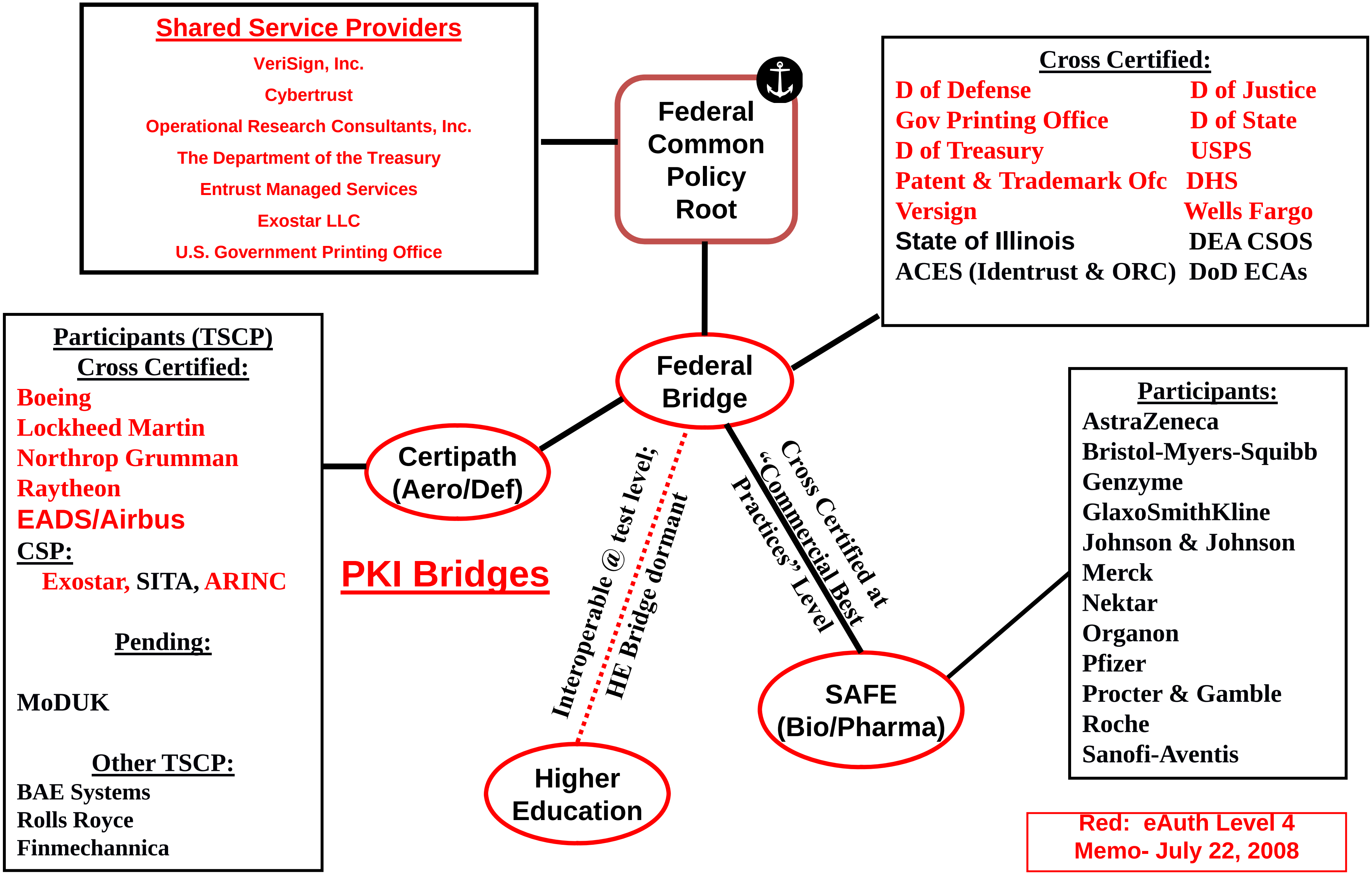
- Major Identity Management Thrusts:
  - Federal Identity Credentialing Committee, FPKIPA
  - DoD-DNI Joint Efforts on the Classified Fabrics
  - CNSS for National Security Systems
- Major Access Management Thrusts:
  - Federal Backend Attribute Exchange (derivative of HSPD-12)
  - DoD-DNI Joint Efforts on the Classified Fabrics
  - IC/DoD Authorization & Attribute Services Tiger Team
    - Advancing ABAC/ICABAAD
- DoD is Member of the Federal IdAM Federation
- External Partners are Following Our Lead With Their Investments

Expansion of DoD Approved External PKI
Memo of July 22, 2008

The following PKIs are approved for use with DoD information systems upon successful completion of interoperability testing.

- FBCA member PKIs cross certified at Medium Hardware or High Assurance Levels
- PKI members of other PKI Bridges that are cross certified at FBCA Medium Hardware or High Assurance Levels
- PKIs that Assert the Federal PKI Common Policy Medium Hardware or High Assurance Levels
- Also, Approved Foreign, Allied, Coalition partner and other External PKIs (described in attachment to memo)

Identity Federations



Shared Service Providers

VeriSign, Inc.
Cybertrust
Operational Research Consultants, Inc.
The Department of the Treasury
Entrust Managed Services
Exostar LLC
U.S. Government Printing Office

Federal Common Policy Root

Cross Certified:

D of Defense	D of Justice
Gov Printing Office	D of State
D of Treasury	USPS
Patent & Trademark Ofc	DHS
Versign	Wells Fargo
State of Illinois	DEA CSOS
ACES (Identrust & ORC)	DoD ECAs

Federal Bridge

Participants (TSCP)
Cross Certified:

Boeing
Lockheed Martin
Northrop Grumman
Raytheon
EADS/Airbus

CSP:
Exostar, SITA, ARINC

Pending:

MoDUK

Other TSCP:
BAE Systems
Rolls Royce
Finmechannica

Certipath (Aero/Def)

PKI Bridges

Interoperable @ test level; HE Bridge dormant

Higher Education

Cross Certified at "Commercial Best Practices" Level

SAFE (Bio/Pharma)

Participants:
AstraZeneca
Bristol-Myers-Squibb
Genzyme
GlaxoSmithKline
Johnson & Johnson
Merck
Nektar
Organon
Pfizer
Procter & Gamble
Roche
Sanofi-Aventis

Red: eAuth Level 4
Memo- July 22, 2008

Jasnuary 2009

Fed Bridge Status: http://www.cio.gov/fpkia/crosscert.htm

PIV Fielding Status: http://www.idmanagement.gov/drilldown.cfm?action=agency_hspd12_impl_rpt

Interoperability Testing of Approved External PKI Memo July 22, 2008

- Purpose
  - – Ensure that certificates are technically interoperable with DoD systems, and certificate revocation information can be obtained by DoD systems
- Content
  - – Tests interoperability using Direct Trust method
  - – Tests interoperability using Cross-Certification method
  - – Use cases: Client Authentication to a Generic Web Site
    Digital Signing and/or Encrypting Email
- Status
  - – DISA is scheduling qualified* Certipath member PKIs for JITC testing began at the end of September 2008
  - – Developing Interoperating MOA for non-Federal external PKIs
    - Internal DoD legal requirement
    - Covers Responsibilities, Termination of interoperating, Liabilities, etc.

*PKIs from other PKI Bridges, cross certified with the FBCA at the Medium Hardware level of Assurance

JITC Interoperability Testing

- Test Plan – Developed in testing between JITC and DoS

  http://jitc.fhu.disa.mil/pki/pke_lab/partner_pki_testing/partner_pki_status.html

- Federal Partner Test Schedule
  - Complete – State, Treasury, Justice, Transportation, EPA, NOAA,
  - Discussions started with Others

- Other Bridge Testing (Certipath)

Enterprise	Sponsor	Test Start Date
Boeing	Army FCS	Complete
Lockheed	Army FCS	Complete
Northrop G	Navy SUPSHIP	Complete
Raytheon	Army FCS	Complete
UAL (Exostar)	USAF Exec Fleet	TBD

Recent and Emerging Successes

- **DoD Approved External PKI List Extended**
- **Joint Lessons Learned Information System**
- **Future Combat System Collaboration**
- **Security Cooperation Information Portal (Foreign Military Sales)**
- **Synchronized Predeployment and Operational Tracker (SPOT)**
- **Defense Industrial Base Critical Infrastructure Protection**

Partner Expectations

Partners Can Expect

- Strong Credentialing of our Employees (Authentication)
- Access to Our Public Key Encryption Certificates
- Access to Robust Certificate Status Service
- Service Access to Attribute Service (Authorization) – Future

Expectations from Partners

- The Same as From Us for 24/7 Partners – Plus
- Binding Federation Governance Agreement(s) / Rules that Establish and Maintain Trust
- Consistency on Unanticipated & Less Mature Partners

Summary

Strong Identity and Access Management Are Key to Information Sharing and Collaboration

- **We Need a Clear, Concise, Consistent, Published Course for Ourselves and Our Mission Partners.**
- **Mission Partners are Fielding Strong Identity & Managed Credentials (PKI) as well as Identity Federations**
- **Progress Continues in IdAM Expansion toward Consistent Dynamic Policy-Based Sharing**

Backup

Credential Service Providers (at eAuth-4) for External Partners (non-Federal)

- **CSPs on Fed Bridge at eAuth-4**

  http://www.cio.gov/fpkia/crosscert.htm

  – **Verisign**

  – **Wells Fargo**

- **CSPs on Other Bridges at eAuth-4 (Certipath only today)**

  http://www.certipath.com/pki-ts.htm

  – **Exostar**

  – **ARINC**

Status, Fabric by Fabric

- **TS/SCI Fabric**
  - **Environment: Homogeneous**
  - **Lead is DNI/CIO**
  - **PKI: IC PKI available for authentication by US**
  - **Federation: Among IC Certificate Authorities (CAs) and Commonwealth CAs**
  - **Notes: Enterprise services for central identity management, Enterprise attribute, authentication, and authorization services**

- **Secret Fabric**
  - **Environment: More diverse**
  - **Lead: CNSS (DoD CIO Chairs)**
  - **PKI: Minimal, CNSS PKI WG Recommendations for SAB. DoD implementing in FY09**
  - **Federation: Commensurate with CNSS Authority (DoD CIO Chairs)**
  - **Notes: No centralized Identity Mgmt, Therefore immature IdAM environment at this time**

- **Unclassified Fabric**
  - **Environment: Extremely Diverse, Complex Environment**
  - **Lead: No Single Lead; Must Cooperate & Federate (DoD & Exec Branch are Heavies)**
  - **PKI: 24/7 Partners Adopting eAuthentication Level 4**
  - **Federation: Federal Identity & Access Management Federation is Central**
  - **Notes: Multiple enclave-specific IdAM services, Most Partners Not Yet Mature**

Key Conceptual Threads
in DoD Net-Centric Information Sharing

- **Extended Enterprise**
  - All Internal and External Participants Required for Mission Success
  - Facilitates Collaborative and Coordinated Decision Making
  - Shared Situational Awareness and Improved Knowledge
- **Federation**
  - Autonomous Organizations Operating Under a Common Rule Set for a Common Purpose
  - Legally Binding Framework Policies, Standards and Protections to Establish and Maintain Trust
- **Information Mobility**
  - Dynamic Availability of Information.
  - Enhanced or Impeded by Culture, Policy, Governance, Economics and Resources and Technology and Infrastructure
- **Trust / Trustworthiness**
  - Cornerstone of Information Sharing is Trust in Partner Enterprises
  - Trusting Policies, Procedures, Systems, Networks, and Data

Threads permeate all Information Sharing Activities

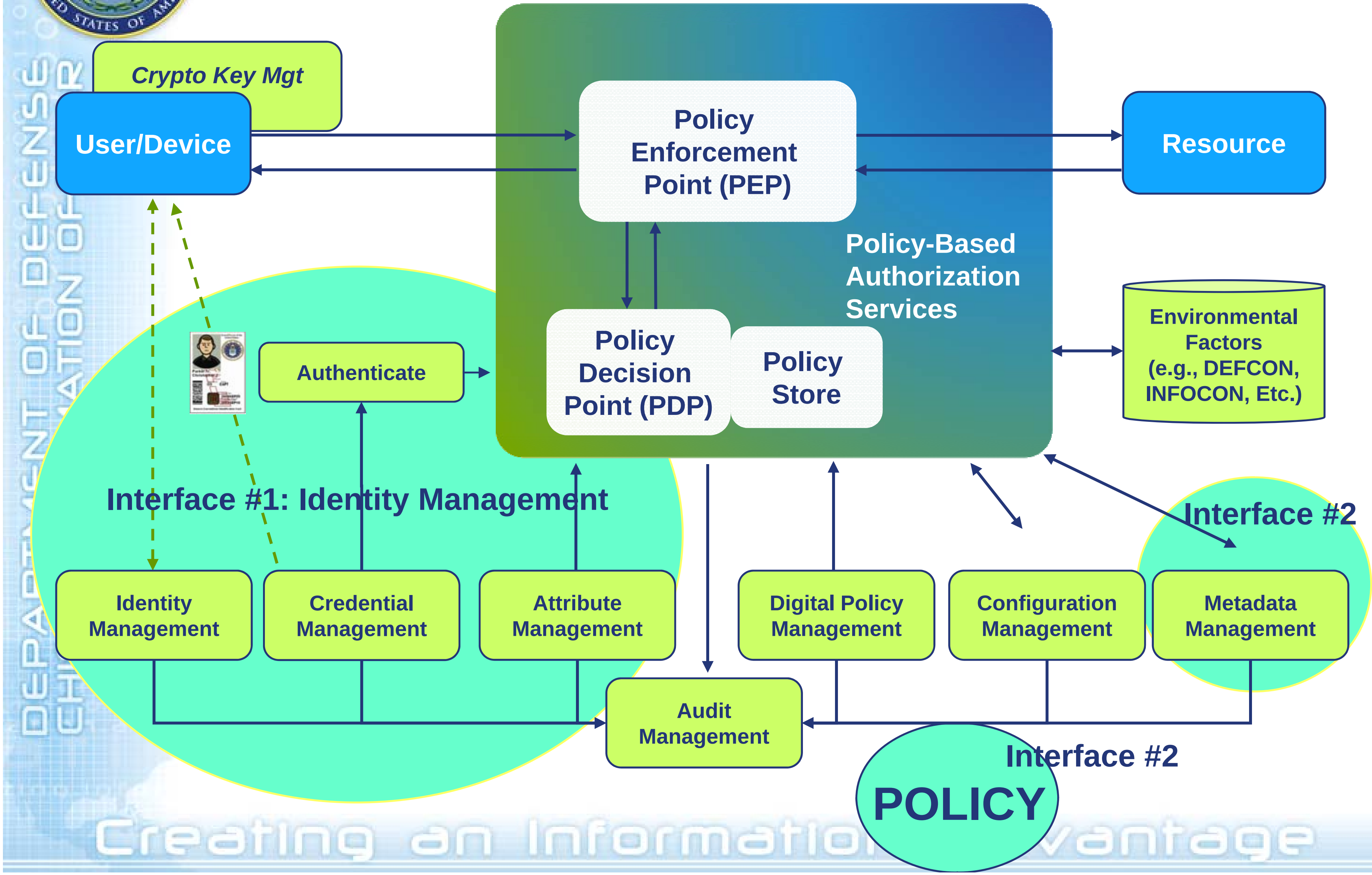
IdAM Collaboration

- DoD / IC
  - DoD/IC PKI Tiger Team
    - Coordinate and align on hardware authentication solution
    - Develop comprehensive PKI solution for our mission partners
  - DoD/IC Authorization and Attribute Services Tiger Team (AATT)
    - Co-Chairs: NSA and DOD/CIO
    - Advance Dynamic Policy-Based Sharing Capabilities
  - Cover Tiger Team
    - Provide recommendations on the use and protection of identities
- Federal (Created by OMB and Federal CIO Council)
  - Federal Identity Credentialing Committee
  - Federal PKI Policy Authority
  - HSPD-12 Executive Steering Committee
  - eAuthentication Executive Steering Committee

Identity and Access Management Unclassified Sharing

- **Internally**
  - Operations - Mission & Business
    - Strong Id Proofing & Vetting (eAuth Level-4 & CAC/PIV)
    - Static ACL and limited ABAC (internally)
  - Non-CAC/PIV Holders (e.g., Family Accounts)
    - eAuth Level 2 or Level 3 Credentials
    - Limited functionality – Bounded privileges
- **External Partners**
  - 24/7 Partners - eAuth Level 4 and static ACL
  - Unanticipated & Less Mature Partners
    - Situational Dependency
    - Under Development for controlled functionality / privileges
- **Partner Expectations**
  - Strong Credentialing of Employees (Authentication)
  - Access to Public Key Encryption Certificates
  - Access to Robust Certificate Status Service
  - Service Access to Attribute Service (Authorization) – Future
  - Binding Federation Governance Agreement(s) / Rules(s) that Establish and Maintain Trust
  - Consistency on Unanticipated & Less Mature Partners

Dynamic Attribute-Based Access Management is Policy Compliant Information Sharing


Crypto Key Mgt
User/Device
Policy Enforcement Point (PEP)
Resource
Policy-Based Authorization Services
Policy Decision Point (PDP)
Policy Store
Environmental Factors (e.g., DEFCON, INFOCON, Etc.)
Authenticate
Interface #1: Identity Management
Interface #2
Identity Management
Credential Management
Attribute Management
Digital Policy Management
Configuration Management
Metadata Management
Audit Management
Interface #2
POLICY