

Internet2 Overview, Services and Activities

Fall 2007 Council Briefings

October 7, 2007



Agenda

- **Building Community** - *Marianne Smith*
- **International Partnerships** – *Heather Boyles*
- **Middleware and Security** - *Renee' Frost*
- **Discipline Communities** - *Ann Doyle*
- **Internet2 Network Infrastructure Overview** -
Rick Summerhill
- **Cyberinfrastructure** - *Russ Hobby*

Renee Woodten Frost

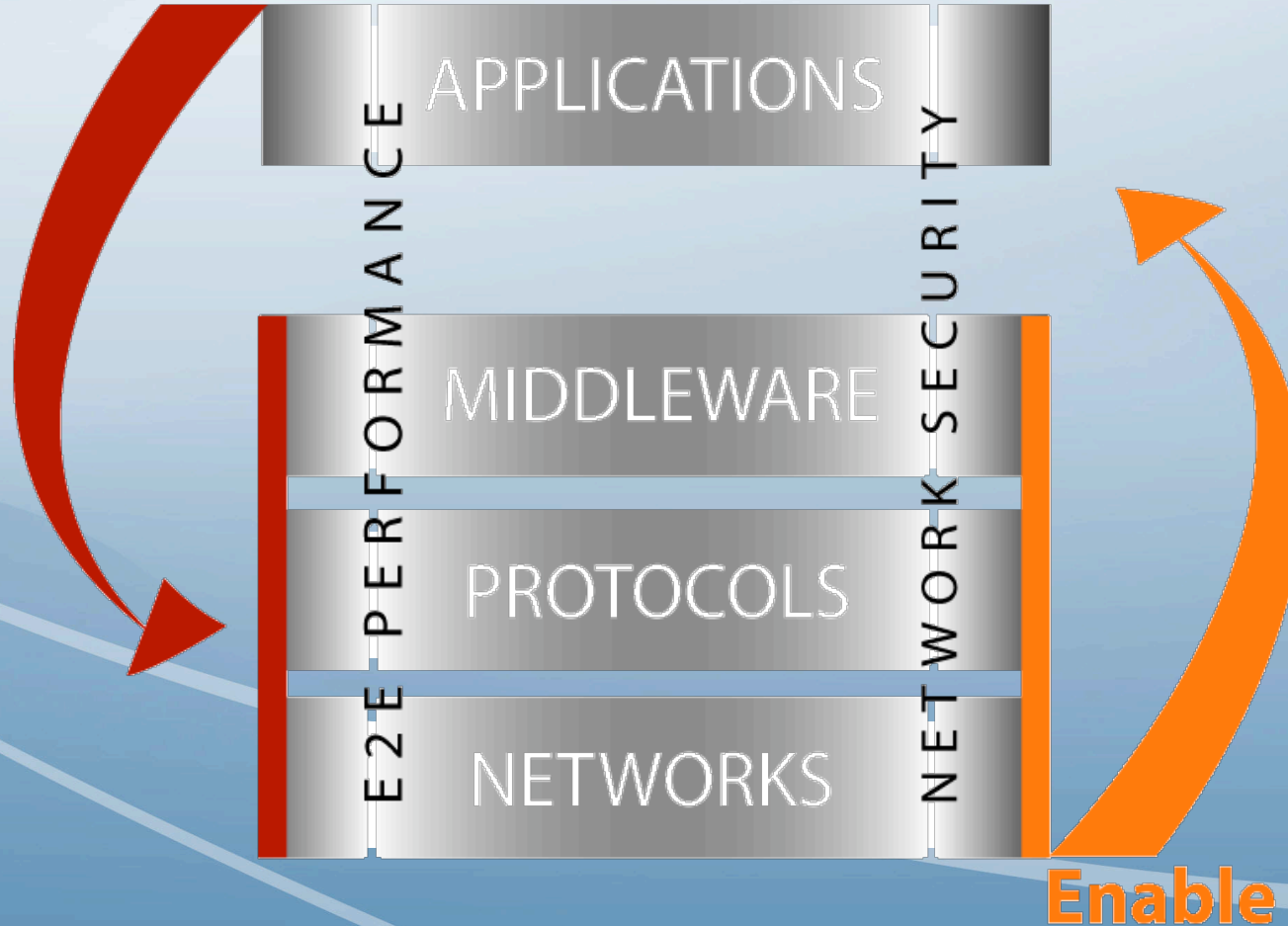
MIDDLEWARE

INTERNET®



Integrated Systems Model

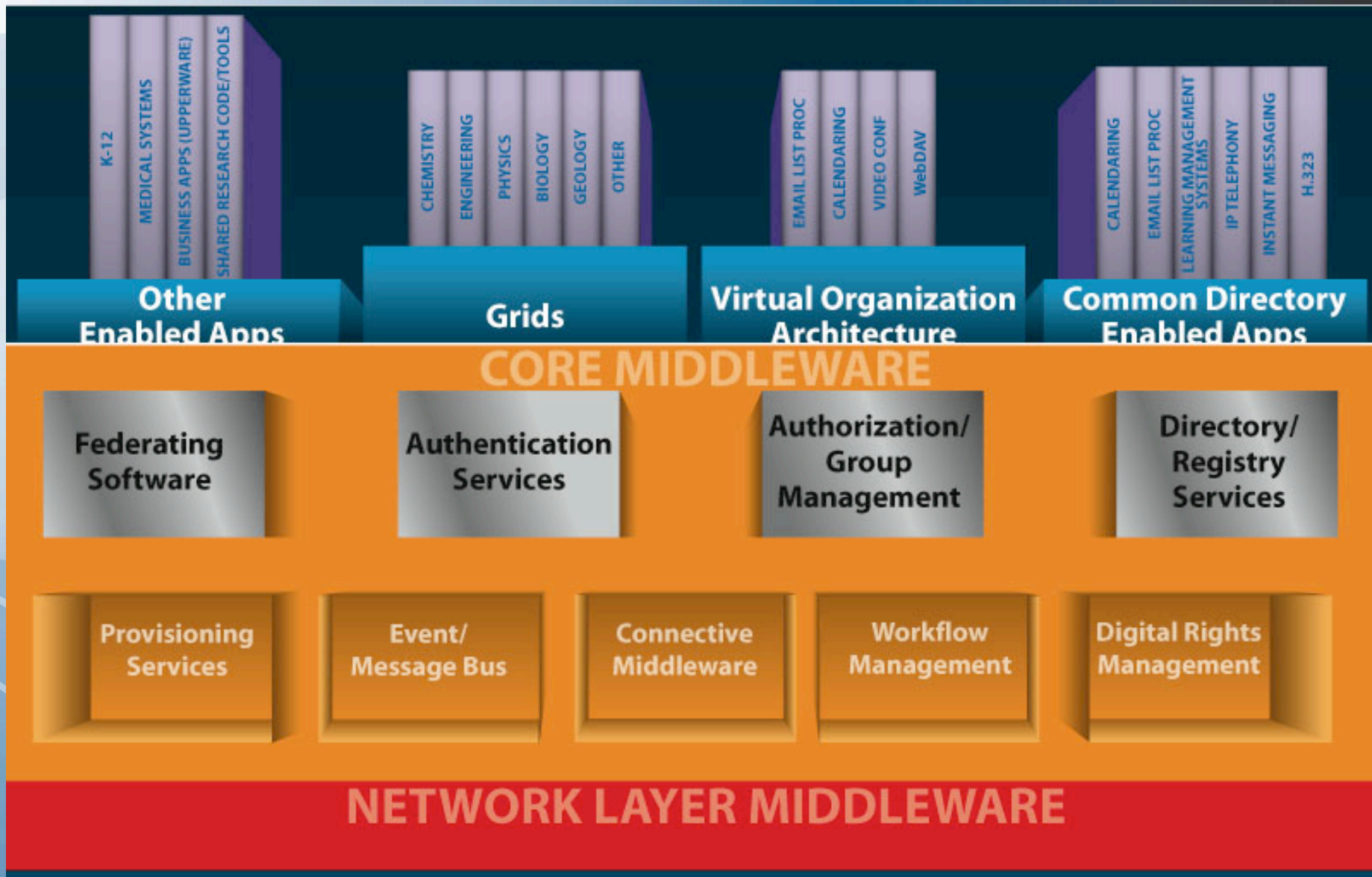
Motivate



Enable

Middleware Infrastructure

- Focus:
 - Inter-institutional collaboration
 - Scalable authenticated/authorized access to remote resources
- Internet2 role:
 - Defining/creating architecture
 - Tools to implement: Shibboleth, Grouper, Signet, CoManage
 - Infrastructure/Services to scale: InCommon, USHER
- MACE – advisory group
 - Chaired by Bob Morgan, U Washington

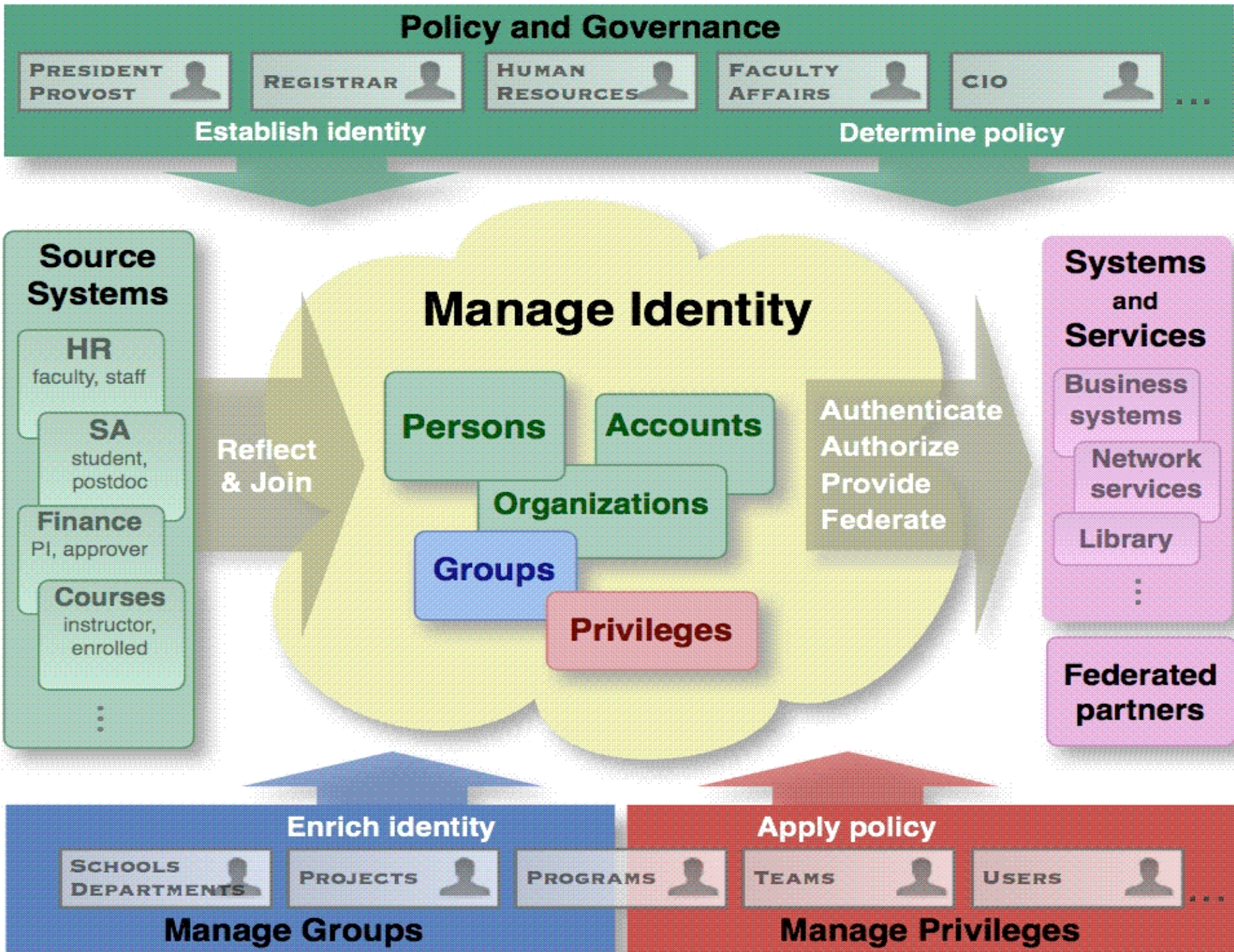


Landmark Work

- Consensus standards – eduPerson, eduOrg, eduMember, eduCourse, commObject (H.350)
- Best Practices and Deployment Strategies – LDAP Recipe, Group Management, Metadirectories, Enterprise Directory and Authentication Implementation Roadmaps
- Tools – KX.509, LDAP Analyzer, LOOK

Landmark Work

- Software systems – OpenSAML, Shibboleth, Signet, Grouper
- Outreach – CAMPs, presentations, publications, case studies, Extending the Reach program
- Services – InCommon Federation, USHER (PKI)



Recent Middleware Activities

- Authentication - Federation Interoperability
InCommon with federal gov't e-auth federation
InCommon with state and other national federations
- Authorization – Grouper and Signet
- Collaboration Tools, CoManage
- Virtual Organization Support
- PKI, USHER
- Middleware Diagnostics – EDDY toolkit
- Workflow Support

Federated Model

- Leverages enterprise identity for inter-realm purposes
 - Uses local authentication
 - Allows variety of authentication options
- Passes agreed upon authentication and attributes (identifiers, affiliations, memberships, entitlements)
- Based on privacy, security, and trust as critical issues
- Scalable

What is a Federation?

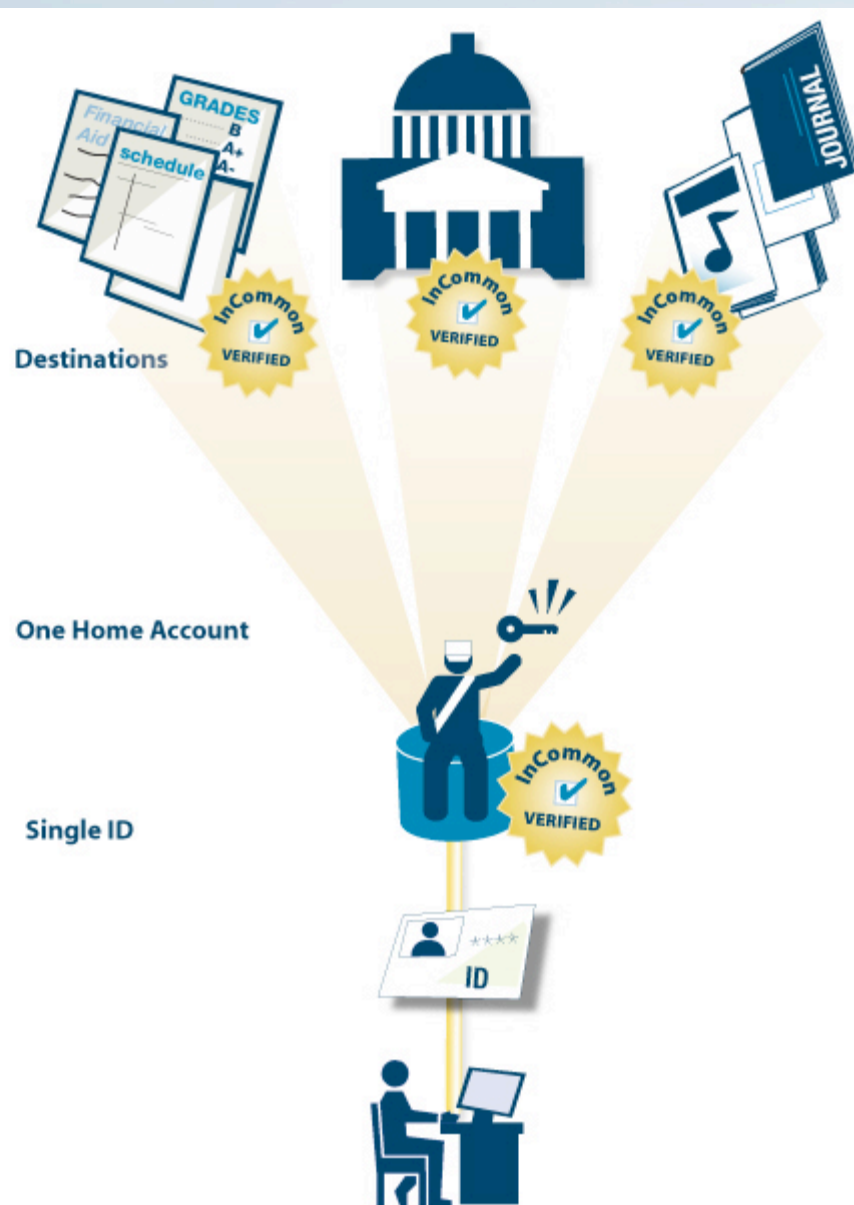
A coalition of collaborating organizations

- supporting agreed upon policies
- leveraging existing identity and resource management technologies

to permit fine-grained

- privacy control for online individuals and
- resource protection for a wide variety of online services and information.

InCommon Federation



- US HE Federation
- Governed by Steering Committee
- Operated by Internet2

46 HE participants

17 Sponsored participants

NIH

Future

Libraries

Student Services

US Fed govt

Feds within Feds

InCommon Federation Purpose

- Establishes Prerequisites:
 - Official Enterprise Directory, Web Single Sign On,
 - Identifiers, Attributes, Federating Software (Shibboleth - an open-source, standards-based, privacy-preserving federating software), Trusted CA(s)
- Operates common services
- Helps resolve problems and disputes
- Enforces policy and practice requirements of its participants

USHER

U.S. Higher Education Root (USHER) Certificate Authority

- A public key infrastructure (PKI) supported by the higher education community for emerging deployments in research, education, and transactions in higher education that require PKI
- Issuing certificates as of June 2007

National Science Foundation Middleware Initiative (NMI)

- NSF program: support/deploy middleware for R&E
- Two types of awards
 - System Integrators
 - EDIT – Internet2, EDUCAUSE, SURA
 - Grids – ISI, Wisconsin, Argonne, Michigan, IU
 - Academic pure research components
- Issued periodic NMI releases of software, services, architectures, object classes and best practices
- Three rounds of awards – 2001, 2003, and 2007

Focus on Collaboration Tools/Platform

- Collaboration = key to academic life
- Integration of middleware/IAM tools in support of collaboration, especially for researchers
 - Enterprise user database, group management, and privilege management
- CoManage
 - transparently manages identities and attributes to use capabilities of collaboration tools
 - offers delegation, privacy management, and maybe even diagnostics

Security

Relationship between Middleware and Security

- Middleware = well-defined infrastructure layer
- Security = more like an attitude, not crisply defined, spans all layers

Security

- Much of the middleware work, in its identity management and access control areas, is also a large part of the security space
- Security for Internet2 services
- Salsa as the point for member engagement
- Development of new security capabilities

Security for Internet2 Services

- Internet2 Network – network operational security practices for continuous evaluation and improvement
- Securely providing trust - middleware services
 - InCommon Federation
 - USHER

Salsa

- Advisory on issues, priorities, directions
- 10-12 members representing R&E expertise, chaired by Mark Poepping, CMU
- Works in collaboration with the EDUCAUSE/Internet2 Security Task Force
- Facilitates member engagement

Computer Security Incidents (CSI2)

- A development working group working closely with REN-ISAC at Indiana University
- Funded in part by Dept of Justice grant
- Facilitating secure exchange of real-time security information; aimed at incident handlers
- Chaired by Chris Misra, UMass

Disaster Recovery Working Group

- Explore contingency planning; recovery plans, policies, and procedures; warm & hot sites; contractual & SLA models, etc
- Explore and document recommended practices for disaster planning and recovery
- Chaired by Don McLeod, Cornell

Federated wireless network access (FWNA)

- Support access for visiting scholars – working with eduroam community
- Radius and SAML study to integrate network access and attribute exchange
- Chaired by Kevin Miller, Duke