Single Sign-on and Identity Management

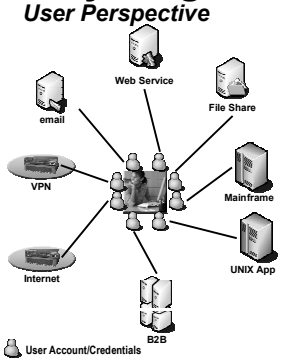
Joe Donahue
Federal Program Manager
Directory Services
Microsoft

Agenda

- Why Single Sign-on
- The Challenges of SSO
- Implementing SSO today
  - Windows SSO
  - Reduced Sign-on (Enterprise SSO)
  - Web SSO (B2E, B2B & B2C)
- Microsoft Identity Roadmap

Why Single Sign-on

User Perspective



The Problem

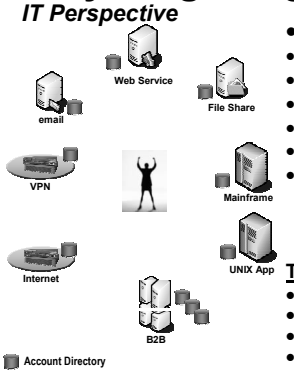
- Too many credentials
- Which one for which app
- Multiple logons

The Business Impact

- Increases risk of compromise
- Reduced productivity
- Increased helpdesk expenses

Why Single Sign-on

IT Perspective



The Problem

- Provisioning new accounts
- Password management
- Auditing user activity
- De-provisioning users
- Managing non-employee access
- Deploying Enterprise Applications

The Business Impact

- People Intensive
- Delayed access for new hires
- Risk of unauthorized access
- No single view of the user

The Challenges

- **Multiple Platforms and Application Models**
  - Windows Server, multiple versions of UNIX, OS390, AS400
  - Legacy & custom applications
  - Web applications and services
  - Network gateways (VPN, Wireless, Internet)
- **Different Security Mechanisms**
  - Kerberos
  - Basic Authentication
  - X.509 Certificates
  - Passport
  - Proprietary (eg database lookups)
- **Multiple Account Directories**
  - Active Directory
  - LDAP
  - Databases
  - Application integrated
- **Complexities with B2B and B2C**
  - Concerns about mixing partner & customer accounts with employee accounts
  - Privacy (outbound) as well as security (inbound) concerns
  - Are external users & their entitlements up to date?
  - Day to day management issues (eg password reset)

Implementing Single Sign-on Today

Windows Single Sign-on	❑ Active Directory – The foundation for Identity management ❑ Windows Integrated Applications ❑ Network Single Sign-on with Windows Server
Reduced Enterprise Sign-on	❑ Extending Windows SSO to non-integrated applications ❑ Using Active Directory for LDAP authentication ❑ The role of Microsoft Metadirectory Server (MMS) ❑ Active Directory in Application Mode (ADAM) usage
Web Single Sign-on	❑ B2E using Active Directory and IIS ❑ B2C using Active Directory and Passport ❑ Extranet Access Management using Active Directory

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Windows Single Sign-on

Active Directory – Foundation for Identity Management

Central Repository for:
- User Accounts & Attributes
- System Accounts & Attributes
- Organizational & Security Groups
- Application & Service Locations
- Management Policy
- Security Policy
- Digital Certificates
- Network Access Permissions
- Printer Locations
- File Shares Locations

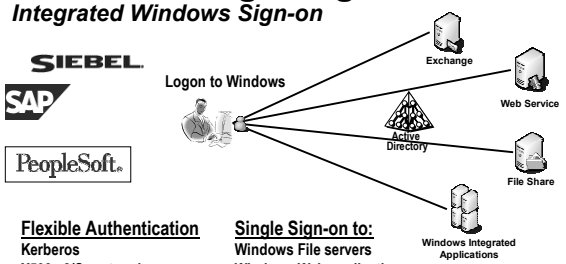
...

Integrated Security
- Kerberos v5
- x.509 Certificates (PKI)
- Security Domain

Directory Access Protocols
- LDAP v3 – Standards-based access
- ADSI – Simple COM-based Interface
- DSML – XML Interface

Windows Single Sign-on

Integrated Windows Sign-on

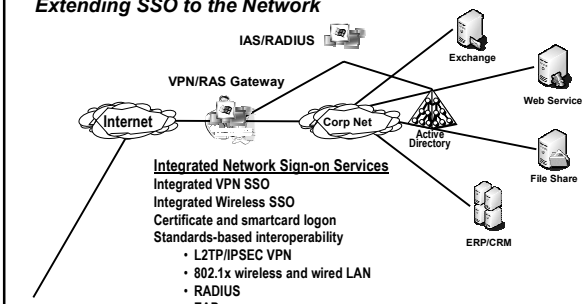


Flexible Authentication
Kerberos
X509 v3/Smartcard
Biometrics
Passport (Web)
Basic (Web)
Digest (Web)

Single Sign-on to:
Windows File servers
Windows Web applications
Exchange email
SQL Server
BizTalk Server
Other Microsoft applications
3rd Party Integrated Apps

Windows Single Sign-on

Extending SSO to the Network



Integrated Network Sign-on Services
Integrated VPN SSO
Integrated Wireless SSO
Certificate and smartcard logon
Standards-based interoperability
- L2TP/IPSEC VPN
- 802.1x wireless and wired LAN
- RADIUS
- EAP
- PEAP (Windows Server 2003)

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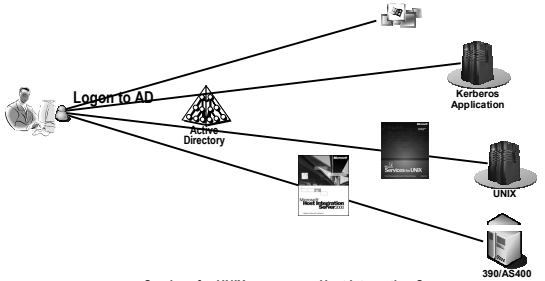
Reduced Enterprise Sign-on

Extending Windows SSO



Kerberos
- Native AuthN protocol
- MIT v5 Compliant
- Carries group info in PAC
- Windows PAC is open

Services for UNIX
- NIS Server for AD
- NIS-AD directory sync
- Password synchronization
- User name mapping

Host Integration Server
- Windows to RACF accounts
- Windows to 0S/400 Security System
- Bi-Directional Password Synchronization

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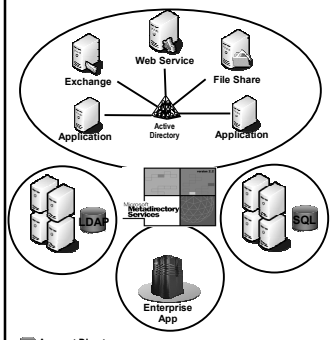
Reduced Enterprise Sign-on

LDAP Authentication & Directory Integration



Integrate LDAP with AD

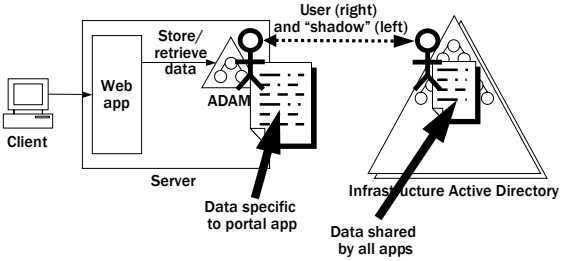
- LDAP v3 compliant
- Single AD and LDAP user account
- ADAM for personalization data

Microsoft Metadirectory Server

- Directory synchronization
  - LDAP (eg iPlanet & others)
  - Relational databases
  - DSML
  - Application specific
- Account Provisioning
  - Automate account creation
  - Automate account de-provisioning
- Password Management (MMS 2003)
  - Self-service password reset
- Certificate Management

ADAM Usage

Integrating extended LDAP app with AD



- Store app data without extending infra DS schema
- App data keyed off identifier from infra directory
- Maintain central user repository!

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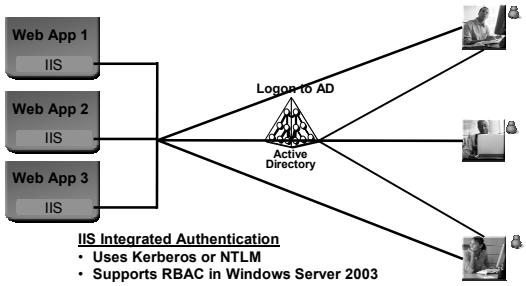
Web Single Sign-on

B2E Using Active Directory and IIS

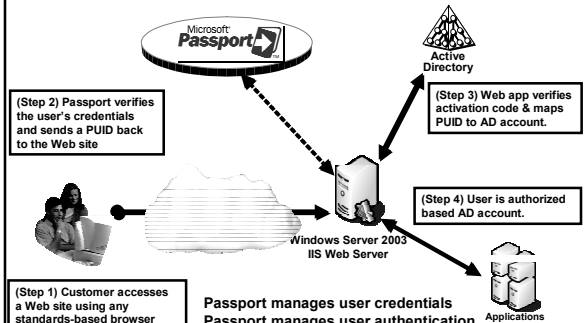


IIS Integrated Authentication

- Uses Kerberos or NTLM
- Supports RBAC in Windows Server 2003
- Supports URL authorization in Windows Server 2003

Web Single Sign-on

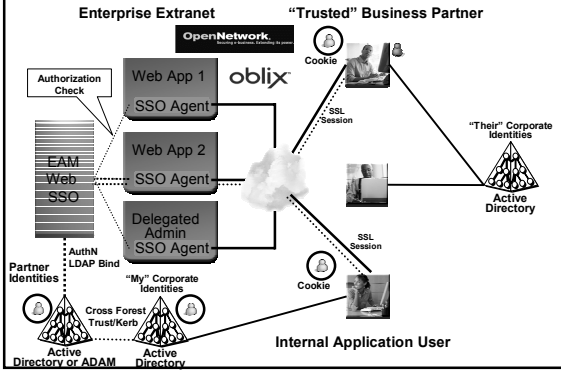
B2C Using Passport and Active Directory



Passport manages user credentials
Passport manages user authentication
You manage user access controls

Web Single Sign-on

Extranet Access Management using AD



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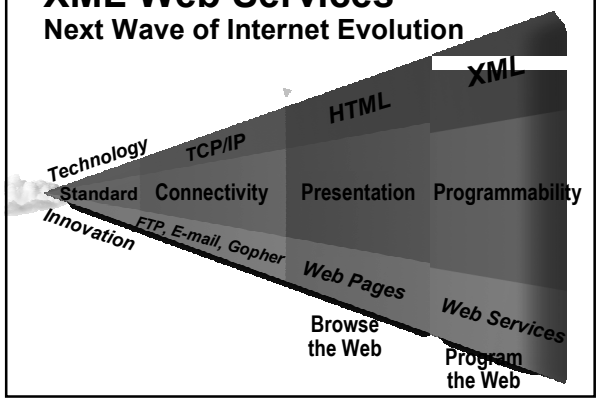
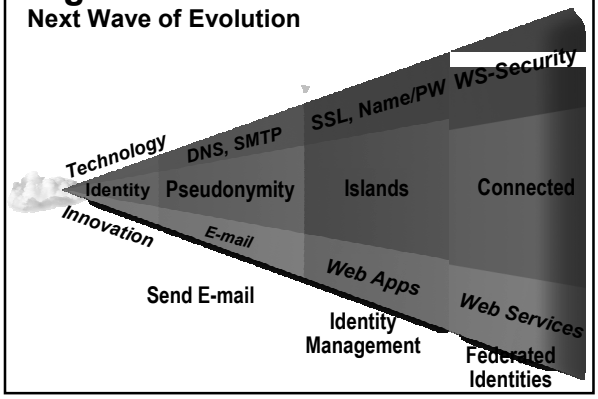
What's Next?

Vision and Roadmap

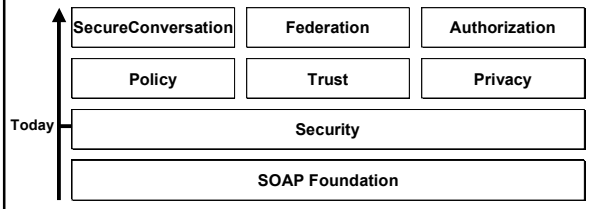
XML Web Services
Next Wave of Internet Evolution



Digital Identities
Next Wave of Evolution



Web Services Security



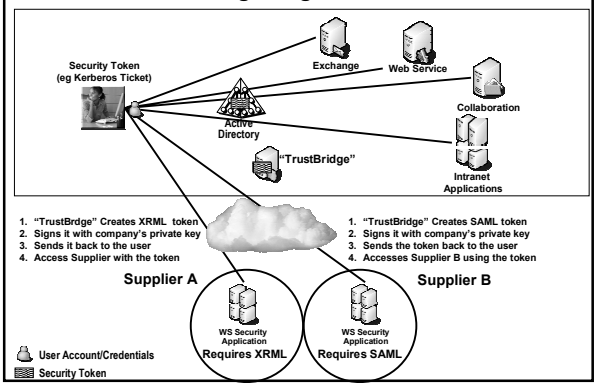
Security in a Web Services World
– IBM/MSFT White Paper

WS-Security Specification
– At OASIS, broad industry support

The Vision of Single Sign-on

- **A *Single* User Identity**
  - **A single corporate identity**
  - **A single consumer identity**
- **Strong multifactor authentication**
  - **Certificates**
  - **Biometrics**
- **Interoperability (client and server)**
  - **Multi-Platform**
  - **Multi-Application**
  - **Multi-Protocol**
- **Federated Authentication and Access**
  - **Single Sign-on that spans businesses**
  - **Single sign-on that spans consumer applications**

The Vision and Future of SSO
B2B Federated Single Sign-on



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Identity Management Roadmap

- **XML Web Services Specifications**
  - Broad set of specifications to enable federation of Web Services
  - In collaboration with IBM, Verisign, etc.
  - WS-Security working group within OASIS
    - Kerberos, X509v3, SAML and XrML "security tokens"
- **Windows Server 2003 – April 2003**
  - Cross Forest Trust – *Intranet* Federation
  - Native support for Passport authentication
  - Integrated Role-Based Access Control
  - Web Services integration (.NET framework and UDDI)
- **MMS 2003 – Windows Server 2003 + 90 days**
  - Directory Integration & Synchronization
  - Account Provisioning
  - Password Management
  - Single view of a user across the enterprise
- **Active Directory Application Mode – Windows Server 2003 + 90 days**
  - Enables AD to be deployed as a "simple" LDAP directory
  - Used for application specific user information
- **"Jupiter" (e-business server) – Q4 2003**
  - SSO through adapters to enterprise applications
- **Passport Federation Support – H2 2003**
  - Authentication authority for consumer web services
  - Federation support in 2003 based on Web Services
- **"TrustBridge" – TBD**
  - Based on WS-Security for identity interoperability
  - True federated Single Sign-on (no duplicated or mapped ids)
  - Web Security runtime to enable federated applications

Summary

- ***Standardize on a Single Directory Technology***
  - Consolidate LDAP directories with Active Directory
  - Use AD with integrated security for Windows SSO
  - Use AD/AM for application specific user information
- ***Use Kerberos for Interoperability***
  - Industry standard protocol for authentication
  - Native protocol used by Windows Servers and Clients
  - Used by many UNIX-based applications
- ***Use MMS to Simplify Identity Management***
  - Directory integration synchronization
  - Simple Account provisioning
  - Password management
  - Single view of the user across the enterprise
- ***Plan for Federated Identity Management***
  - Utilize Web services standards (XML, SOAP, UDDI)
  - Get familiar with WS-Security
  - "TrustBridge" will enable secure identity federation

Microsoft Government

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