SambaXP 2003

Content Management and CIFS: playing together in Intranet

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Agenda

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- Single sign-on
- NTLMSSP over HTTP for Unix applications
- Midgard Content Management framework
- NTLMSSP support in Midgard
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Overview

Few facts:

- **Most companies do run internal CIFS-enabled networks**
- **Most companies do have internal Web-based applications**
- **The same users utilise both CIFS resources and internal Web-based applications**
- **There is a need for user administration in both cases**

Overview: Microsoft Windows environment

In Microsoft Windows-based environments:

- MS Internet Explorer can send authorization information based on user's domain logon credentials
- MS Internet Information Services is capable to verify authentication information against domain controller
- Same applies to MS Proxy and some other products

Single Sign-On

By using those products developer can implement a feature called "Single Sign-On" for their Intranet Web-based applications

Pros:

- User is authenticated only once, at logon time
- Once authorized, user doesn't need to enter password multiple times for different applications
- A centralized approach can be used for setting and changing priviledges, keeping sensitive information in one place

Cons:

- Highly depends on an availability of a Microsoft products on both client and server side

Single Sign-On: Mixed environments

In a mixed environments (Unix-like servers and Windows clients) on a server side:

- Squid proxy server can be used to authenticate users against domain controller
- A number of modules for Apache provides (incomplete and sometimes broken) support to authenticate against domain controller
- There is a number of Java-based components to provide similar functionality for J2EE applications

Single Sign-On: Mixed environments

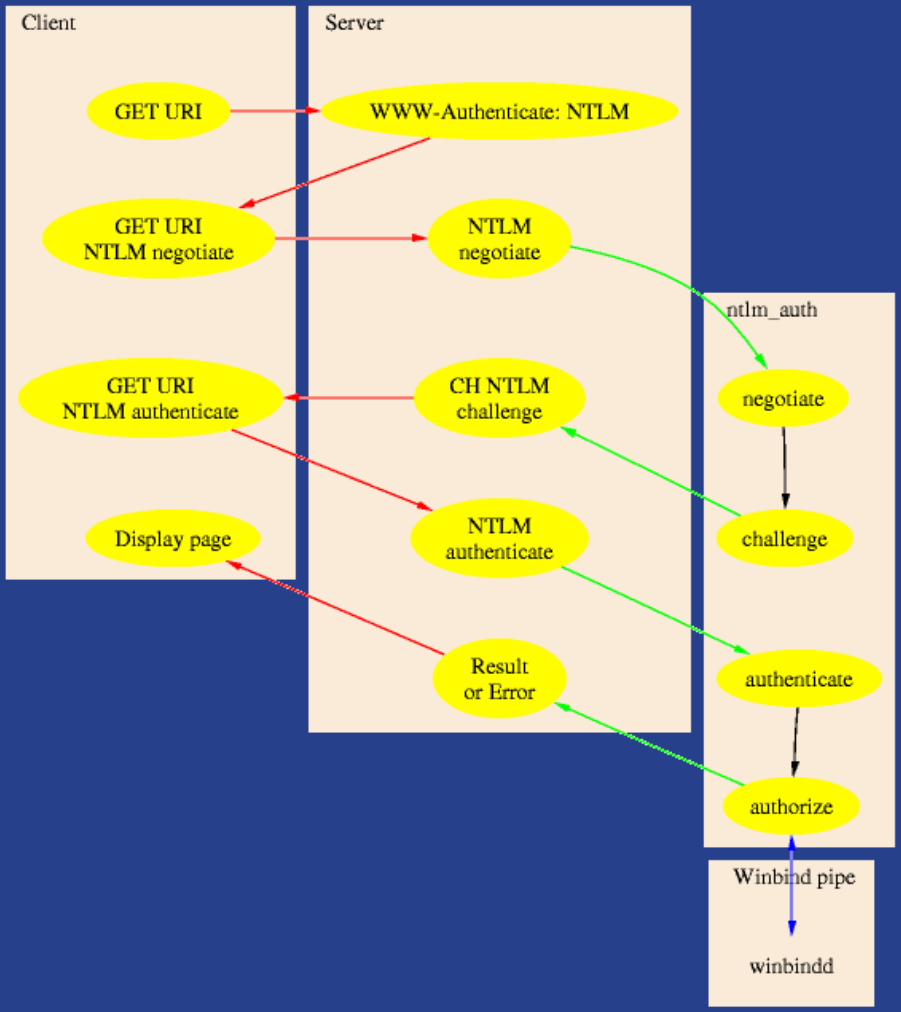
In a mixed environments on a Windows client side:

- MS Internet Explorer 4+ can be used to send authorization information to a server requested NTLM authentication scheme
- Mozilla 1.4 alpha can be used to achieve the same goals natively since late March'03
- Mozilla < 1.4 alpha can be used with a third-party Python-based module

In a mixed environment on a Unix-like client side:

- No browser is known to work with NTLM authentication scheme yet

NTLMSSP over HTTP



Midgard content management framework

What is Midgard?

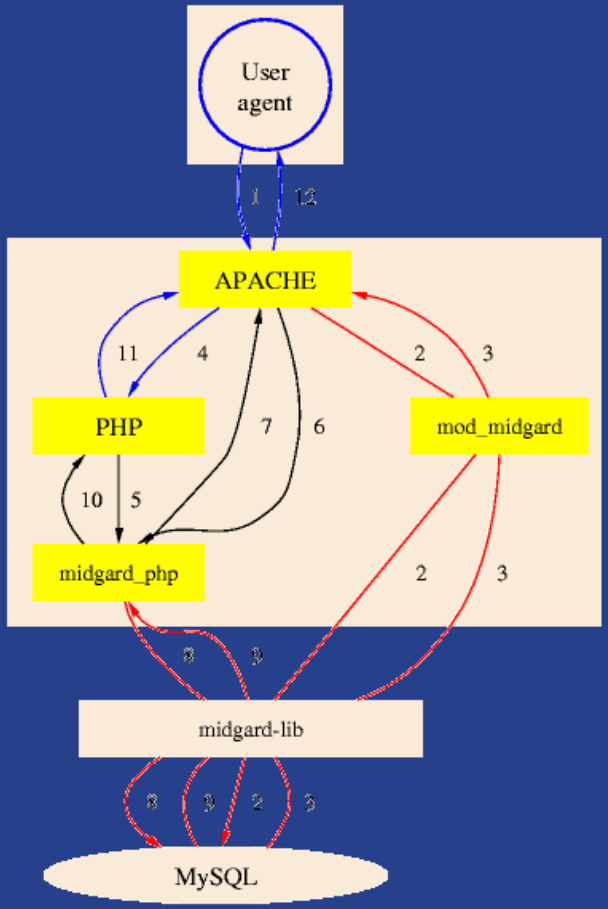
- Web Application Server
- Content Management System
- PHP Development Environment
- Layout Controlling Tool

Midgard content management framework

Key Benefits

- Integrates seamlessly with Apache
- Uses the PHP scripting language (PHP3 and PHP4 supported)
- WebIWYG Management System
  - Platform independent, works with any Web browser
- Completely free, Open Source
  - Uses the GPL, LGPL and MIT licenses

Midgard architecture



NTLMSSP support in Midgard

- Uses ntlm_auth from Samba 3.0 to get NTLMSSP server work
- Generalized NTLMSSP processor is in libmidgard
- HTTP-specific part is in mod_midgard
- Allows both NTLMSSP and Basic authentication
- No changes in underlying web site code at all

NTLMSSP support in Midgard

Apache module provides:

- a configurable map between domains and Midgard's site groups (a collection of sites isolated from other sites)
- user priviledges mapping for exception cases (how do we live without them?)

Midgard library provides:

- a generalized NTLMSSP processor which communicates with ntlm_auth
- tight integration with Midgard's own authorization facilities

NTLMSSP support in Midgard

When user is authenticated against a domain controller:

- **a policy definition process is started:**
  - **convert domains into site groups**
  - **raise or low priviledges depending on an account state**
- **a short-path authorization in Midgard database is performed:**
  - **no password check (already done during NTLMSSP exchange)**
  - **user existance check**
  - **user priviledges are raised or lowered depending on a policy check result**

NTLMSSP support in Midgard

When user is failed to authenticate against a domain controller:

- a Basic authentication fallback is provided
- user is asked to enter its conventional Midgard credentials
- a normal Midgard authorization path is performed

Known caveats in NTLMSSP over HTTP support

- Internet Explorer has broken behaviour w.r.t. authentication in some versions
- Cannot be proxed through, direct Keep-Alive connection is required for whole session
- Samba 3.0 winbindd uses a priviledge separation on a pipe, there is an additional configuration effort for administrators

ToDo work

Short period:

- support Apache 2
- develop a generic mod_samba_ntlm_auth module for Apache:
  - use ntlm_auth interface to keep implementation details of Winbind isolated in Samba source tree
  - develop (de)multiplexor mode for ntlm_auth:
    - handle multiple simultaneous requests on the same pipe
    - support 1:N model of Squid and Apache 2
    - be compatible with existing Squid and Midgard one user at time protocol
  - add support for fetching group membership through ntlm_auth:
    - deal with INFO3 groups info
    - add a proper generic INFO3 caching

ToDo work

Long period:

- **create SAML-aware NTLMSSP authentication**
- **support other Content Management Systems (Zope, RH CMS, ...)**

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