Apache httpd 2.2.8 with mod_auth_cas 1.0.7 on Ubuntu 8.04

Revised: 2008-08-29

Build and install the mod_auth_cas module

Assuming a threaded Apache2 httpd is already installed, get the Apache httpd header files needed to build mod_auth_cas:

```
aptitude install apache2-threaded-dev
```

Download, or use subversion to check out the source for mod_auth_cas, for example:

```
svn co https://www.ja-sig.org/svn/cas-clients/mod_auth_cas/trunk
mod_auth_cas
cd mod_auth_cas/src
sudo apxs2 -i -c mod_auth_cas.c
```

Enable Apache to load the new module by creating the file **/etc/apache2/mods-available/cas.load**:

```
LoadModule auth_cas_module /usr/lib/apache2/modules/mod_auth_cas.so
```

Then create the file **/etc/apache2/mods-available/cas.conf**:

```
<IfModule mod_auth_cas.c>
    CASVersion 2
    CASDebug On
    CASCertificatePath /etc/ssl/certs/cacert.pem
    CASLoginURL https://auth-test.berkeley.edu/cas/login
    CASValidateURL https://auth-test.berkeley.edu/cas/serviceValidate
</IfModule>
```

Finally, enable the module:

```
sudo a2enmod cas
```

Install certificates and configure Apache httpd

Install a certificate chain for the CAS server into the **/etc/ssl/certs/cacerts.pem** file as configured above in the **CASCertificatePath** directive. For example, this could be done by concatenating the individual certificates in the certificate hierarchy as obtained by visiting the CAS web server (**https://auth-test.berkeley.edu/cas/login**) and using the browser's tools to export each of the three certificates in the chain to a file. The following certificate chain for **auth-test.berkeley.edu** can be saved to a **cacerts.pem** file for testing.

```
-----BEGIN CERTIFICATE-----
MIICPDCCAaUCEHC65B0Q2Sk0tjjKewPMur8wDQYJKoZIhvcNAQECBQAwXzELMAkG
A1UEBhMCVVMxFzAVBgNVBAoTDlZlcmlTaWduLCBJbmMuMTcwNQYDVQQLEy5DbGFz
```

```
cyAzIFB1YmxpYyBQcmltYXJ5IENlcnRpZmljYXRpb24gQXV0aG9yaXR5MB4XDTk2
MDEyOTAwMDAwMFoXDTI4MDgwMTIzNTk1OVowXzELMAkGA1UEBhMCVVMxFzAVBgNV
BAoTDlZlcmlTaWduLCBJbmMuMTcwNQYDVQQLEy5DbGFzcyAzIFB1YmxpYyBQcmlt
YXJ5IENlcnRpZmljYXRpb24gQXV0aG9yaXR5MIGfMA0GCSqGSIb3DQEBAQUAA4GN
ADCBiQKBgQDJXFme8huKARS0EN8EQNvjV69qRUCPhAwL0TPZ2RHP7gJYHyX3KqhE
BarsAx94f56TuZoAqiN91qyFomNFx3InzPRMxnVx0jnvT0Lwdd8KkMaOIG+YD/is
I19wKTakyYbnsZogy1Olhec9vn2a/iRFM9x2Fe0PonFkTGUugWhFpwIDAQABMA0G
CSqGSIb3DQEBAgUAA4GBALtMEivPLCYATxQT3ab7/AoRhIzzKBxnki98tsX63/Do
lbwdj2wsqFHMc9ikwFPwTtYmwHYBV4GSXiHx0bH/59AhWM1pF+NEHJwZRDmJXNyc
AA9WjQKZ7aKQRUzkuxCkPfAyAw7xzvjoyVGM5mKf5p/AfbdynMk2OmufTqj/ZA1k
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
MIIEnDCCBAWgAwIBAgIQdTN9mrDhIzuuLX3kRpFi1DANBgkqhkiG9w0BAQUFADBf
MQswCQYDVQQGEwJVUzEXMBUGA1UEChMOVmVyaVNpZ24sIEluYy4xNzA1BgNVBAsT
LkNsYXNzIDMgUHVibGljIFByaW1hcnkgQ2VydGlmaWNhdGlvbiBBdXRob3JpdHkw
HhcNMDUwMTE5MDAwMDAwWhcNMTUwMTE4MjM1OTU5WjCBsDELMAkGA1UEBhMCVVMx
FzAVBgNVBAoTDlZlcmlTaWduLCBJbmMuMR8wHQYDVQQLExZWZXJpU2lnbiBUcnVz
dCBOZXR3b3JrMTswOQYDVQQLEzJUZXJtcyBvZiB1c2UgYXQgaHR0cHM6Ly93d3cu
dmVyaXNpZ24uY29tL3JwYSAoYykwNTEqMCgGA1UEAxMhVmVyaVNpZ24gQ2xhc3Mg
MyBTZWN1cmUgU2VydmVyIENBMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKC
AQEAlcMhEo5AxQ0BX3ZeZpTZcyxYGSK4yfx6OZAqd3J8HT732FXjr0LLhzAC3Fus
cOa4RLQrNeuT0hcFfstG1lxToDJRnXRkWPkMmgDqXkRJZHL0zRDihQr5NO6ziGap
paRa0A6Yf1gNK1K7hql+LvqySHyN2y1fAXWijQY7i7RhB8m+Ipn4G9G1V2YETTX0
kXGWtZkIJZuXyDrzILHdnpgMSmO3ps6wAc74k2rzDG6fsemEe4GYQeaB3D0s57Rr
4578CBbXs9W5ZhKZfG1xyE2+xw/j+zet1XWHIWuG0EQUWlR5OZZpVsm5Mc2JYVjh
2XYFBa33uQKvp/1HkaIiNFox0QIDAQABo4IBgTCCAX0wEgYDVR0TAQH/BAgwBgEB
/wIBADBEBgNVHSAEPTA7MDkGC2CGSAGG+EUBBxcDMCowKAYIKwYBBQUHAgEWHGh0
dHBzOi8vd3d3LnZlcmlzaWduLmNvbS9ycGEwMQYDVR0fBCowKDAmoCSgIoYgaHR0
cDovL2NybC52ZXJpc2lnbi5jb20vcGNhMy5jcmwwDgYDVR0PAQH/BAQDAgEGMBEG
CWCGSAGG+EIBAQQEAwIBBjApBgNVHREEIjAgpB4wHDEaMBgGA1UEAxMRQ2xhc3Mz
Q0EyMDQ4LTEtNDUwHQYDVR0OBBYEFG/sr6DdiqTv9SoQZy0/VYK81+8lMIGABgNV
HSMEeTB3oWOkYTBfMQswCQYDVQQGEwJVUzEXMBUGA1UEChMOVmVyaVNpZ24sIElu
Yy4xNzA1BgNVBAsTLkNsYXNzIDMgUHVibGljIFByaW1hcnkgQ2VydGlmaWNhdGlv
biBBdXRob3JpdHmCEHC65B0Q2Sk0tjjKewPMur8wDQYJKoZIhvcNAQEFBQADgYEA
w34IRl2RNs9n3Nenr6+4IsOLBHTTsWC85v63RBKBWzFzFGNWxnIu0RoDQ1w4ClBK
Tc3athmo9JkNr+P32PF1KGX2av6b9L1S2T/L2hbLpZ4ujmZSeD0m+v6UNohKlV4q
TBnvbvqCPy0D79YoszcYz0KyNCFkR9MgazpM3OYDkAw=
-----END CERTIFICATE-----
-----BEGIN CERTIFICATE-----
MIIFEzCCA/ugAwIBAgIQcKLSSuPzTRQLiTggZigzGTANBgkqhkiG9w0BAQUFADCB
sDELMAkGA1UEBhMCVVMxFzAVBgNVBAoTDlZlcmlTaWduLCBJbmMuMR8wHQYDVQQL
ExZWZXJpU2lnbiBUcnVzdCBOZXR3b3JrMTswOQYDVQQLEzJUZXJtcyBvZiB1c2Ug
YXQgaHR0cHM6Ly93d3cudmVyaXNpZ24uY29tL3JwYSAoYykwNTEqMCgGA1UEAxMh
VmVyaVNpZ24gQ2xhc3MgMyBTZWN1cmUgU2VydmVyIENBMB4XDTA3MDUzMTAwMDAw
MFoXDTA5MDUzMDIzNTk1OVowgYcxCzAJBgNVBAYTAlVTMRMwEQYDVQQIEwpDYWxp
Zm9ybmlhMREwDwYDVQQHFAhCZXJrZWxleTEUMBIGA1UEChQLVUMgQmVya2VsZXkx
GTAXBgNVBAsUEElTVC1DQ1MtT1NTLVVOSVgxHzAdBgNVBAMUFmF1dGgtdGVzdC5i
ZXJrZWxleS5lZHUwgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMbzY5/rKSMJ
DKnZOiWTQL4dcfzG1RZHPgwr0vke913IlJm+X07Yp/slqTxWg23t4Ahb2mhdx4n9
yikcfWxjZcDzjPNBMHCuZyaQZFglfP7uM+7j2e7DLBFyC1bV4LgdOd1r2v4n0y5j
vs8r254bW0AR/WV9AZDCgAgUNF5f6A55AgMBAAGjggHSMIIBzjAJBgNVHRMEAjAA
MAsGA1UdDwQEAwIFoDBEBgNVHR8EPTA7MDmgN6A1hjNodHRwOi8vU1ZSU2VjdXJl
LWNybC52ZXJpc2lnbi5jb20vU1ZSU2VjdXJlMjAwNS5jcmwwRAYDVR0gBD0wOzA5
BgtghkgBhvhFAQcXAzAqMCgGCCsGAQUFBwIBFhxodHRwczovL3d3dy52ZXJpc2ln
bi5jb20vcnBhMB0GA1UdJQQWMBQGCCsGAQUFBwMBBggrBgEFBQcDAjAfBgNVHSME
GDAWgBRv7K+g3Yqk7/UqEGctP1WCvNfvJTB5BggrBgEFBQcBAQRtMGswJAYIKwYB
BQUHMAGGGGh0dHA6Ly9vY3NwLnZlcmlzaWduLmNvbTBDBggrBgEFBQcwAoY3aHR0
cDovL1NWUlNlY3VyZS1haWEudmVyaXNpZ24uY29tL1NWUlNlY3VyZTIwMDUtYWlh
```

```
LmNlcjBtBggrBgEFBQcBDARhMF+hXaBbMFkwVzBVFglpbWFnZS9naWYwITAfMAcG
BSsOAwIaBBSP5dMahqyNjmvDz4Bq1EgYLHsZLjAlFiNodHRwOi8vbG9nby52ZXJp
c2lnbi5jb20vdnNsb2dvLmdpZjANBgkqhkiG9w0BAQUFAAOCAQEAOVyAsUUgOVuA
zxCny2AtxdPKPag3IOFOnjPLSUAof5P0eYgE+iMYaMd5ctmMiDIlQDDXMl5G3BZg
tpb00yyX8CfN5AdnfdI2J4CSf8pX6Toz77r+otY1gwHooVHq3pW2g5TvAYbooJhM
aAYBBdNzFtGPKNOnYv8zrSUtl4xmhSiL9Uj9WcVyJEMI/T+c8lyy1BywUBKpSNBQ
kOyUiXXkM8SB+ZkmC/W2BAUAkdtTEZghTYiOE2njOiKntcAWQa3z0j4KQi1+l3/y
vj9uo6tyhONDVEAZN+PO7KN3K37yNVM1Cwcn7WWpwuNeJ+gkFfKNORiTZOMafX2j
fuccfP3q9w==
-----END CERTIFICATE-----
```

Create a directory for CAS to store cookies:

```
mkdir -m 700 /var/cache/apache2/mod_auth_cas
chown www-data:www-data /var/cache/apache2/mod_auth_cas
```

Enable SSL for the Apache web server:

```
sudo a2enmod ssl
```

To configure Apache for HTTPS, add the following four SSL-related lines to the **/etc/apache2/sites-available/default** file, or the configuration file for your secure virtual host. They should be placed in the **VirtualHost** section under the **DocumentRoot** line, for example:

```
NameVirtualHost localhost
<VirtualHost localhost>
    ServerAdmin webmaster@localhost
    DocumentRoot /var/www/
    SSLEngine on
    SSLOptions +StrictRequire
    SSLCertificateFile /etc/ssl/certs/server.crt
    SSLCertificateKeyFile /etc/ssl/private/server.key

    <Directory />
        Options FollowSymLinks
        AllowOverride AuthConfig
    </Directory>

    <Directory /var/www/>
        Options Indexes FollowSymLinks MultiViews
        AllowOverride AuthConfig
        Order allow,deny
        allow from all
    </Directory>

    ErrorLog /var/log/apache2/error.log
    LogLevel warn
    CustomLog /var/log/apache2/access.log combined
    ServerSignature On
</VirtualHost>
```

To protect pages using a **.htaccess** file (as allowed via the **AllowOverride AuthConfig** directive above) or as part of the Apache configuration file itself, use directives such as:

```
AuthType CAS
require valid-user
```

A couple of points to note:

- CAS at UC Berkeley returns the CalNet Directory **uid** value by default as the **REMOTE_USER** server variable.
- Since **https://localhost/** is already registered as a valid CAS URL for **auth-test.berkeley.edu**, you can now test your configuration from the local console via a URL such as **https://localhost/index.html** in the browser.