GAFS / SSL configuration

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Configuration of the GAFS services for grid-ssl mode

A detailed explanation on enabling ssl and grid-ssl in GAFS is given in:
http://www.xtreemfs.org/xtfs-guide-1.4/index.html#sec:cfg_ssl

The necessary changes are:

To enable Gird-SSL support within GAFS. In this mode the services and client will use SSL for mutual authentication with X.509 certificates (SSL handshake). After successful authentication the communication is via plain TCP.

You need to:

- install the latest GAFS/XtreemFS packages from
  http://download.opensuse.org/repositories/home:/xtreemfs:/unstable/

- create a jks-container which contains the trusted federation's CA-certificate(s): *trusted.jks*

- a valid certificate within this CA for the Federation for the GAFS-manager: *cert.p12*

- valid certificates within the CA for the GAFS components: MRC, OSD, DIR (those can be the same certificates): *dir.p12, mrc.p12, osd.p12*

- Configure GAFS MRC/DIR/OSD for grid-ssl

- Configure GAFS-manager for grid-ssl.

- Adapt fuse-client commands.

Configure the GAFS-MRC for SSL-support:

Modify the configuration of the MRC.

Edit **/etc/xos/xtreemfs/mrconfig.properties** and do the following changes:

 # Authentication providers are used to retrieve the user identities

 # from the client or from certificate.

authentication_provider = org.xtreemfs.common.auth.FederationIdX509AuthProvider

 # specify whether SSL is required

ssl.grid_ssl = true

ssl.enabled = true

 # server credentials for SSL handshakes

ssl.service_creds = /etc/xos/xtreemfs/truststore/certs/mrc.p12

ssl.service_creds.pw = p12_passphrase

ssl.service_creds.container = pkcs12

 # trusted certificates for SSL handshakes

ssl.trusted_certs = /etc/xos/xtreemfs/truststore/certs/trusted.jks

ssl.trusted_certs.pw = trusted_pass

ssl.trusted_certs.container = jks

 # administrator password for privileged operations

admin_password = admin_passphrase

The mrc-service has to be restarted after the configuration changed were done. See
http://www.xtreemfs.org/xtfs-guide-1.4/index.html#sec:startstopservice

Configure the GAFS-OSD for SSL-support:

Modify the configuration of the OSD.

Edit **/etc/xos/xtreemfs/osdconfig.properties** and do the following changes:

 # specify whether SSL is required

ssl.grid_ssl = true

ssl.enabled = true

 # server credentials for SSL handshakes

ssl.service_creds = /etc/xos/xtreemfs/truststore/certs/osd.p12

ssl.service_creds.pw = p12_passphrase

ssl.service_creds.container = pkcs12

 # trusted certificates for SSL handshakes

ssl.trusted_ certs = /etc/xos/xtreemfs/truststore/certs/trusted.jks

ssl.trusted_ certs.pw = trusted_ pass

ssl.trusted_ certs.container = jks

 # administrator password for privileged operations

admin_ password = admin_ passphrase

The osd-service has to be restarted after the configuration changed were done. See
http://www.xtreemfs.org/xtfs-guide-1.4/index.html#sec:startstopservice

Configure the GAFS-DIR for SSL-support:

Modify the configuration of the DIR.

Edit **/etc/xos/xtreemfs/dirconfig.properties** and do the following changes:

 # specify whether SSL is required

ssl.grid_ ssl = true

ssl.enabled = true

 # server credentials for SSL handshakes

ssl.service_ creds = /etc/xos/xtreemfs/truststore/certs/dir.p12

ssl.service_ creds.pw = p12_ passphrase

ssl.service_ creds.container = pkcs12

 # trusted certificates for SSL handshakes

ssl.trusted_ certs = /etc/xos/xtreemfs/truststore/certs/trusted.jks

ssl.trusted_ certs.pw = trusted_ pass

ssl.trusted_ certs.container = jks

 # administrator password for privileged operations

admin_ password = admin_ passphrase

The dir-service has to be restarted after the configuration changed were done. See
http://www.xtreemfs.org/xtfs-guide-1.4/index.html#sec:startstopservice

GAFS-manager configuration for SSL-support:

The GAFS-manager has to be configured to connect to the GAFS using SSL.

See: http://contrail.projects.ow2.org/xwiki/bin/view/Documentation/gafs-manager-api#HConfiguretheGAFS-managerforSSL-support

Brief version:

Edit **webapp/WEB-INF/default_dir** and do the following changes:

 # administrator password for privileged operations

 # set this to the same value as in the mrcconfig.properties

admin_password = admin_passphrase

 # specify whether SSL is required

ssl.enabled = true

 # server credentials for SSL handshakes

ssl.service_creds = pathToCert/cert.p12

ssl.service_creds.pw = passphrase

ssl.service_creds.container = pkcs12

Adapt the fuse client commands:

The syntax for the GAFS fuse client slightly changes when using SSL.

See http://www.xtreemfs.org/xtfs-guide-1.4/index.html#sec:cfg_ssl for further details

Brief version:

Mounting a volume *contrail* using the user's certificate. The protocol is named pbrpc**g** and a user's certificate is needed for mounting.

mount.xtreemfs –**pkcs12-file-path user.p12** –**pkcs12-passphrase pass**
pbrpcg://hosthost:32638/contrail /mnt/xtreemfs/