

Technical Note

Using SQLXpress with XYPRO XYGATE/AC

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Introduction

This document explains how to modify the configuration of Merlon's SQLXpress product to utilize the facilities of the XYGATE/AC (XAC) product from XYPRO Technology Corporation. XAC is a general purpose access security and control product. It is available from:

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Simi Valley, CA 93063
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Background

SQLXpress is a client-server application. The client runs on a PC workstation and sends commands to a server program which runs on the NSK system. In order to use any client facilities, the user must enter a valid logon name and password, which is encrypted and sent to the SQLXpress server, which in turn logs on to the NSK system. Thereafter, functions performed by the server are subject to standard Guardian and Safeguard security settings.

Some installations however, may have in place a security scheme in which database development and maintenance functions are performed under a single "shared" or "functional" id. Accountability for these functions is ensured through the use of an access control product such as XAC. XAC allows users to log on using their own unique id, but to perform specific functions (such as database maintenance) using the shared id.

You must have SQLXpress version 3.21 or greater to implement this feature. Before attempting to configure SQLXpress to use XAC, you should perform a standard installation of SQLXpress and ensure that it is working properly under a single user-id.

Configuration Procedure

1. Use the XYGATE EDIT-XAC-ACL procedure to add at least one command for the SQLXpress server. Each entry should look something like:

```
COMMAND SQLXPRESS-DBA
      USER group,user
      OBJECT $vol.subvol.SQLX
      STARTUP "-s"
      ACL $EVERYONE
      OPENSBYOBJECTS \*.$vol.subvol.SLA $SYSTEM.SYSTEM.SQLCOMP
```

The text "group.user" should be replaced with the effective group and user-id under which you want to run SQLXpress

The text "\$vol.subvol" should be replaced with the actual volume and subvolume that contains the SQLXpress programs on your system

You may wish to further restrict the "ACL" setting, as appropriate for your installation.

You cannot use the VERIFYUSER setting with SQLXpress.

The STARTUP and OPENSBYOBJECTS settings are essential for proper functioning of SQLXpress. You can create entries with different user id specifications as appropriate for your installation.

2. Stop any running SQLXpress processes.
3. After a standard SQLXpress installation the SQLXpress server process (SQLX) is configured to be started in one of two ways: either
 - The full guardian filename for the SQLX program file is entered into the LSNINI file in the SQLXpress subvolume, or
 - The SXSTART macro in the SQLXpress subvolume contains commands to run a specific number of SQLX servers.

In either case, these entries must be replaced with the name of the SQLXpress Logon Agent program

(SLA). This program file should be present in the SQLXpress subvolume. The XYGATEAC process will inherit the in and out file settings of the SLA program, so you may wish to specify an out file that is consistent with your installation of XAC. To change the LSNINI file, you need to stop and restart any LISTEN processes.

4. Ensure that there are no SQLXpress processes running. Edit the SQLXpress INI file (SQXINI). Add the following lines to the end of the file:

```
[ACCESSCONTROL]
ACTIMEOUT=30
ACPROGRAM=$vo1.subvo1.XYGATEAC
ACCOMMAND=-n%NAME %CLASS
```

5. Create an EDIT file called ACMAP in the SQLXpress subvolume. Add as many lines as are appropriate for your installation. Each line contains a username pattern followed by a space and the XYPRO command which is used to start the SQLX server for these users; for example:

```
DBA.* SQLXPRESS-DBA
```

would cause the XAC command SQLXPRESS-DBA to be invoked when a user in the DBA group logged on. If, when a user logs on, there is no matching entry in the ACMAP file, the SQLX server will be run under the user's own id and will be subject to any of the inherent security restrictions for that id. The ACMAP file should be secured with Safeguard or Guardian so that anyone can read but only the SQLXpress administrator can update it.

6. If necessary, start the SLA agent servers using SXSTART
7. Attempt to connect to the system using the SQLXpress client.