Technical Note

Using SQLXpress with XYPRO XYGATE/AC

Document Version 1.00

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XYGATE/AC

Introduction

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

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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 XYGATE. XYGATE allows users to log on using their own unique id, but to perform specific functions (such as database maintenance) using the shared id. The XYGATE product ensures that these operations are audited in such a way that individual activities can be traced to the unique id used to log on.

You must have SQLXpress version 1.10 or greater to implement this feature. Before attempting to configure SQLXpress to use XYGATE/AC, you should perform a standard installation of SQLXpress and endure that it is working properly under a single userid.

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 240,1
    OBJECT $SYSTEM.MERLON.SQLX
    STARTUP "-S"
    ACL $EVERYONE
    OPENSBYOBECTS \*.$*.*.*
```

   The STARTUP and OPENSBYOBECTS 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 SMSTART 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. Ensure that the output file is appropriate. The XYGATEAC process will inherit the in and out file settings of the SLA program. To change the PORTCONF file, you need to stop and restart any LISTENER 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=$SYSTEM.XYGATE.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 XYGATE/AC 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.

6. If necessary, start the SLA agent servers using SMSTART

7. Attempt to connect to the system using the SQLXpress client.

Audit

You can audit the SQLXpress session using the XYGATE audit facilities by causing the SQLXpress server to log status messages to its output file. To do this, modify the STARTUP setting in the XYGATEAC ACL to read:

```
STARTUP "-S -L>XAC_AUDIT_OUTPUT"
```

Whenever SQLXpress executes an SQL operation, information (including the text of the SQL statement) is written to the XYGATEAC process. This information will be written to the XYGATEAC audit trail if detail logging has been configured.