ABS Tech Note: SNA•ps12 APPC Samples (10/92)

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TOPIC ----------------------------------------------------------


This tech note contains information regarding the SNA•ps APPC Developers
Kit sample applications. Information on the following subjects is presented
(examples are specific to the AS/400):

• Security issues
• Improvements to APDA samples
• General performance tips


DISCUSSION -----------------------------------------------------


Security issues - AS/400 Example
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The APDA APPC sample applications can easily be modified to pass
userID/password security. Change the MC Allocate request setting security =
kProgSec and fill in the userID and password parameters. This may be
necessary if you are having problems passing userID/password security on
the Allocate conversation request. Prior to OS/400 v1r3, the default user
for programs invoked via APPC was QUSER (a low privilege user) and the APPC
sample application programs worked successfully. Starting with OS/400 v1r3,
the security was tightened so that AS/400 APPC transaction programs cannot
be started without a valid userID/password combination. A symptom of the
problem is a "Program Start Request rejected" message on the QSYSOPR
message queue of the AS/400.


Improvements to The Sample Applications
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The APPC sample applications as they are currently distributed contain a
slight mismatch. The AS/400 thinks it is dealing with a record size of 4096
bytes, but the Macintosh is really sending 4092 bytes. This is due to the
way mapped conversations work. The Mac does a MC Send Data with length set
to 4096 bytes, but the first 4 bytes are reserved, so the AS/400 receives
only 4092 bytes of data. This can be corrected by changing the AS/400
source code and ICF file to do reads/writes of 4092 bytes and changing the
record length of the AS/400 physical file to 4092. Alternatively, changing
the Macintosh TP to perform a MC Send Data with the length parameter set to
4100 will correct the mismatch.


Performance
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Substantially improved performance (reduces the time by 50%) can be
obtained by specifying "binary" in the AS/400 open statement:

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    fopen(as400name, "rb type=record")
```

Further improvements can be obtained in the case where multiple file
transfers occur. If the AS/400 application is re-written to remain active
(that is handling multiple file transfer requests) until the Mac
application deallocates, the overhead of allocating a conversation for each
file transfer is eliminated.

Prestart Jobs - AS/400

Performance improvements can be obtained by prestarting the job on the
AS/400. This increases performance since there is no startup time when the
program is invoked. Creating a new subsystem or modifying the job's
priority can also yield increased performance. Use the following commands
to set-up the prestart option:

```
    End Subsystem: ENDSBS QCMN
    Create a class for QCMN (QSYS/QCMN)
    Work With Class: WRKCLS - change the job run priority from 50 to 30
    Add Prestart Job Entry: ADDPJE - add Prestart job entry for example
        MYLIB/FILECSVR (it is possible to designate a class to give your
        application a different priority than other prestart jobs in the
        same subsystem).
    Start Subsytem: STRSBS QCMN
```

SNA•ps Tuning

Modify the I-frame size in the SNA•ps line description, the maximum RU size
in the SNA•ps mode, and the buffer size used by the APPC sample application
TP. A combination of I-frame size=4105, max RU=4096, and application record
size=4092 has been found to work fine.
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