ABS Tech Note: SNA•ps15 APPC Return Codes (2/93)

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TOPIC ----------

This technical note discusses return codes obtained by SNA•ps APPC applications.

DISCUSSION ----------

Introduction

The purpose of this technical note is to detail those return codes for the SNA•ps APPC implementation which have changed or were omitted from the SNA•ps APPC Programmer's Reference.

Overview

SNA•ps Access is located in the Extensions folder under System 7 and in the System Folder under System 6. Programmers wishing to access APPC services on the Macintosh make calls to the SNA•ps Gateway via the SNA•ps Access file. SNA•ps Access is loaded at system startup time and provides all the necessary resources to access APPC calls.

SNA•ps Gateway 2.0 Changes

The SNA•ps Gateway 2.0 implements a new packaging scheme based on the number of connected SNA•ps Client machines, rather than the number of configured Logical Units as in previous releases.

Applications written to the SNA•ps Access API will need to handle a new error condition that can be returned from the Open Gateway Connection verb. The error occurs when the gateway rejects the request because the number of client machines limit has been reached.

If SNA•ps Access 1.1.1 or greater is on the client machine, an ioResult value of -4105 (kTooManyUsers) will be returned to the application.

If SNA•ps Access 1.1 is on the client machine, an ioResult value of -4099 (kConnFailureErr) will be returned to the application.

The SNA•ps APPC Developer's Kit will not be revised in conjunction with the SNA•ps Gateway 2.0 release. The new ioResult value will be incorporated into a subsequent release of the SNA•ps APPC Developer's Kit.

Undocumented SNA•ps Return Codes

The APPC API return values majorCode = 5, minorCode =12, obtained from the Allocate verb call, indicates that the SNA•ps gateway doesn't have enough memory to start an additional conversation. This is normally a temporary "low memory" condition and the application may retry the allocation. If the problem persists, more memory should be added to the NuBus card running the gateway (Apple Serial NB and TokenRing 4/16 NB cards are expandable to 1 or 2.5 Mb). SNA•ps Config can also be used to reduce the memory required for the SNA•ps gateway by decreasing the number of sessions and LUs, or by reducing the I-frame size.

A common programming error is that application developers do not issue Deallocate (deallocType ==kLocalDealloc) when a previous verb has completed leaving the conversation state as DEALLOCATED. The conversation resources are not freed until the TP application issues a Deallocate (deallocType ==kLocalDealloc) , Close Local LU or Close Gateway Connection. Over time, this can use up the available memory for the Gateway and cause the above mentioned error code to be returned.

The APPC return code majorCode = 1, minorCode =123, resulting from the Receive Allocate call, indicates that Open Local LU was issued with receiveAlloc = kFalse. This is corrected by specifying receiveAlloc = kTrue in the Open Local LU call.

These missing error codes will be incorporated into the header file SNAErrors.h the next time the APPC Developers Kit is updated.

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