

V3 Applcore User Reference Guide

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1 Overview

1.1 Description

A user reference guide to V3 Applcore. This document covers a number of the operational characteristics of the BNCS V3 ApplCore system. Also included are some of the more interesting characteristics of the system.

2 Reserved Stringtable Line Numbers

2.1 Startup

30000

Entry point for all Applcore clients when first started.

2.2 Closedown

31000

Section executed when an Applcore client is closed down.

2.3 Wakeup

30500

Section executed when an Applcore client is returned to focus or to the top of the "Z" order.

2.4 Sleep

31500

Section executed when an Applcore client loses focus or is not at the top of the "Z" order.

2.5 Database

32000

Section Executed when a Database Update message is received

2.6 Device Mode

32400

Section Executed when a Device Modify message is received.

Beginning with V3 Applcore version: 3.08.35, dated: 09-July-2015 and CSI32 version: 1.2.54; Applcore has been modified regarding the handling of Device Modify messages.

If CSI configuration file (for V4 bncs_system.ini, for V3 CSI.ini) entry DistributeBBC_NETTXRXSTATUS is set to zero (DistributeBBC_NETTXRXSTATUS=0) then Applcore receives Device Modify messages from CSI only if there is Applcore code on Stringtable line 32400.

2.7 Panel Version Information

32700

Start of section for version information as viewed in a running panel by right clicking and selecting About.

Please refer to the separate file:

AddingVersionInformationtoapanel.pdf for a full description of panel version information in Borland Resource Workshop and V3 Applcore.

Note: All Applcore reserved Stringtable sections execute code continually on contiguous lines until an empty line is found.

3 Variables

3.1 Integer Variables

a% - z%

A% - Z%

Reserved:

S% = revertive source number

3.2 String Variables

a\$ - z\$

A\$ - Z\$

Reserved:

S\$ = revertive name

T\$ = system time

U\$ = system date

4 Memories

4.1 Integer Memories

10,000 Long signed integers available

From version 3.08.18:

65,536 Long signed integers available

4.2 String Memories

4096 String memories, each 255 characters long.

(total is 256, 255 characters + 1 for the NULL)

5 Timers

5.1 Applcore Timers

16 timers available, numbered 1 – 16

6 Start-up, ApplCore.ini & bncs_config

The section describes V3 ApplCore start-up behaviour, settings and modes available via the entries in the files: **ApplCore.ini** and **bncs_config.ini**

6.1 ApplCore Start-up

When ApplCore starts up the command line parameters are preserved in the ApplCore variable S\$ and if an integer value is present it is preserved in ApplCore variable S%.

6.2 ApplCore ApplCore.ini file entries

The following table lists the current entries in file: ApplCore.ini. ApplCore.ini is by default located in c:/windows/ directory, and optionally located in the specified BNCS windows directory – such as: c:/bncs/windows/

Applcore.ini is the initialisation file used by Applcore.exe to set certain parameters during start up. As all BNCS panels are bound to Applcore.exe this file is central to a BNCS system.

Note: In BNCS's infancy it was planned for all device drivers to be encapsulated within Applcore. This process started with UMD drivers, but soon after it was thought that drivers should be discrete hence the UMD set-up information contained within this file.

[System]	
WorkStation=41	This is now generally taken from CSI although some panels may use it. It is worth checking that it contains the same number as CSI.ini
AllowSystemMenuExit=0	If enabled allows System Menu exit. See note on interaction with Stringtable line number 2 (See section 6.4, item D).
BBCCSIEnable=1	1 = an Applcore panel will check to see if CSI is running before starting, if CSI is not found the panel will not start. 0 = Panel will start independently of CSI. If CSI is not running the panel will not be able to communicate with the BNCS system.
CycleAmazon=1	If enabled cycles the Amazon UMD

	protocol. Disable to stop flickering. default is: 1
DebugMode=0	OBSOLETE PARAMETER
FastClose=1	0=Applcore uses a timer when exiting 1= no timer used Required due to limited numbers of timers available with NT (virtual machines).
MaxExecWindows=24	Maximum number of panels which can be started. default is: 24
PrinterSupport=0	Printer support is disabled (0) by default, set to 1 to enabled printer support. Enabling may cause a start up (time) penalty.
TimeStampStartup=DIAGNOSTIC_USE_ONLY	Setting to 1 enables the start-up time-stamping diagnostic aid. Default is set to: DIAGNOSTIC_USE_ONLY
TxVerticalBarCRLF=0	TX command: If <CR> <LF> follows the text, then delete the <LF> (following the CR). Default is disabled (0).
iUmdChain2=-1	Com port number for iUmdChain2
iUmdChain3=-1	Com port number for iUmdChain3
iUmdChain4=-1	Com port number for iUmdChain4
UMDProtocol=TSL	Umd Protocol. TSL, PROBEL and AMAZON are available.
UMDBaudRate=38400	Baud rate for UMD chains
UmdSize=16	Umd size

UmdVirtualisation=0	Only relevant for TSL UMDs. If set to 0 then a 16 character UMD is treated as just that. If set to '1' then it is treated as two 8 character UMDS. Physically they are separated into two, but the unit has a single Id. The flag tells Applcore to package the left and right UMD data together.
VideoCard=OBSOLETE_PARAMETER	Obsolete
VideoCaptureApplication=overlay.exe	Sets video support commands path to application to exec. Default is "overlay.exe".
V2CompatibleApplNames=0	If set to 1 disables long file names function in ApplCore, i.e. V2 8+3 compatibility. Default is 0.
[Debug]	
ShowDebugWindow=1	Show the debug window when set to 1. Default is 0.
OutputParserTrace=1	This outputs all the commands in the stingtable as they are being executed. It is useful to see whether subroutines are being actioned correctly. The output is sent to the Debug output (see above). Basically it tells a panel programmer whether commands are being actioned in the order they expect.
OutputDebug=1	Show ApplCore debug information in the debug stream when set to 1. Default is 0.

EnableOutputDBWIN=0	<p>Enable ApplCore parser trace and debug information in the debug stream when set to 1.</p> <p>Default is 0. See application: DBWIN.</p>
LogToFile=0	<p>Enable ApplCore trace and debug stream being routed to a log file. The log file name and path is: c:\\bncslogs\\V3ApplCore.<DATE>.log"</p> <p>File name example: V3ApplCore.20101122.log</p>
DebugWindowPositionX=20 DebugWindowPositionY=0 DebugWindowSizeW=640 DebugWindowSizeH=480	<p>These allow initial size and positioning of the debug window. The defaults are shown: 20, 0, 640, 480</p>
VariablesWindowPositionX=200 VariablesWindowPositionY=20 VariablesWindowSizeW=400 VariablesWindowSizeH=450	<p>These allow resizing and positioning of the Variables windows.</p> <p>Note: these set the initial position and size of "Debug 1", "Debug 2" tracks "Debug 1" initial size and position, but with an offset of +200 on the X position.</p>
EmMessageWindowPositionX=0 EmMessageWindowPositionY=0 EmMessageWindowSizeW=200 EmMessageWindowSizeH=170	<p>These allow resizing and positioning of the Variables windows. Default size is 200 x 170 and positioned in the centre area of the screen.</p> <p>Note: 0,0 means locate at mid screen</p>
[Editor]	
EditorWindowPositionX=100 EditorWindowPositionY=100 EditorWindowSizeW=640 EditorWindowSizeH=480	<p>These allow resizing and positioning of the Editor window. Default size is 640 x 480 and positioned at 100, 100.</p>

[32Bit]	
SynchronousMode=1	Setting to 0 disabled the synchronous operating mode, i.e. disabled the serializing FIFO functions in V3 ApplCore. Default is 1.

6.3 V3 bncs_config.ini file notes

Versions from 3.08.32 will take their configuration from a V4 environment if it exists.

ConfigPath	%CC_ROOT%\%CC_SYSTEM%\config\system
SystemPath	%CC_ROOT%\%CC_SYSTEM%\windows\lib

This takes priority over the c:\bncs_config.ini file which was found to be inaccessible to ApplCore on later Windows Server operating systems.

Otherwise V3 ApplCore loads the supporting libraries (BNCS_CCxx.DLL and BWCC32.DLL) at run-time from the BNCS system configuration file (C:\bncs_config.ini) specified path: "**SystemPath**".

Commands which reference configuration files CSI.INI or APPLCORE.INI such as EF, SQ and the Vx series load them from "**ConfigPath**".

BNCS configuration file: C:\bncs_config.ini

[Config]	
ConfigPath=C:\Bncc\Windows	C:\WINDOWS
SystemPath=C:\Bncc\Windows	C:\WINDOWS

6.4 V3 Common ApplCore problems

A. Common Problems associated with Libraries:

Should you note a lack of BNCS_CC library button rendering, or ApplCore exceptions after adding the use of another custom control – be sure to check that there are not multiple of the BNCS_CCxx DLL's in other paths – such as **./** or **c:/windows/**

Another common error is having old versions in the path -- such as:

bncs_cc09.1234.dll

bncs_cc09.dll

This can cause all sorts of strange problems, when both DLL's are loaded by ApplCore, as the library loader algorithm in ApplCore and BNCS_CC.DLL loads all libraries for BNCS_CCxx.DLL (this is so all new libraries added to the system are automatically loaded).

B. "Slow Start-up" Problems:

1. Printer support can cause significant delays on ApplCore panel start-up. If printer support is not needed, try disabling the ApplCore printer support setting:
ApplCore.ini [System] "**PrinterSupport**" to **PrinterSupport=0**
2. Windows **ctfmon** process. The **ctfmon** process may cause panels to start slowly. Removing this process seems to correct the problem. The **ctfmon** program is a part of Microsoft Office XP - Alternative User Input Text Input Processor (TIP) and the Microsoft Office Language Bar. See: <http://support.microsoft.com/kb/282599>

C. Panels not moving to "top" – 'EH' Command Problems:

A problem with EH <PanelId%> 1 has been reported, such that the whole application should move to the top but does not.

The following notes are courtesy of Stuart Gandy
[stuart.gandy@bbc.co.uk]

The issue is described here on the Microsoft website.

<http://technet.microsoft.com/en-us/library/cc957208.aspx>

There are two settings that determine what happens – the following notes are from the Microsoft website:

- ForegroundLockTimeout - Specifies the time, following user input, during which the system keeps applications from moving into the foreground.
- ForegroundFlashCount - Specifies the number of times the taskbar button flashes to notify the user that the system has activated a background window.

If the time elapsed since the last user input exceeds the value of the ForegroundLockTimeout

<http://technet.microsoft.com/en-us/library/cc957208.aspx>

entry the window will automatically be brought to the foreground.

Go to the registry editor and check these settings under HKCU\ControlPanel\Desktop

Set the ForegroundLockTimeout to 0 to make the panel always come to the front.

We have tried this on the two machines that did not work here and they both now work and operate the EH command correctly.

D. Unusual Problems with Library's and Line Numbers:

A number of the custom control libraries offer event vectoring to Stringtable line numbers i.e. button press events execute specified line numbers.

When "**AllowSystemMenuExit**" is **SET** (non zero) in **ApplCore.ini** and the button target line number (Stringtable line) is a value of 2 --- the value of 2 is interpreted to be the Windows message "WM_DESTROY" which ApplCore assumes to be a WM_DESTROY message being sent to the ApplCore panel, consequently ApplCore calls PostQuitMessage() which posts a WM_QUIT to ApplCore and the panel will terminate.

7 Add an Icon

7.1 Add an Icon to an Applcore panel

- Open panel .rc file and Add New Resource
- Select the Icon resource
- Select the "Source" button on the first dialogue you are presented with
- Leave size and pallet selections as default
- The default bitmap will be presented, which will appear blank
- Edit as required and Save
- Rename the resource – it does not have to be Applcore
- Give it an Integer Identifier when asked to do so. BRW will allow you to use an already allocated %, but the recommendation is to use unique % ID's to prevent any unwanted unforeseen interaction.
- When bound to Applcore, the Icon will display in Windows Explorer.

8 Document Version history

8.1 Document version

Version No	Date	Details	Name
1.00.00	March 10	First version	DMR
1.00.01	July 2010	Adds Panel Vers History	DMR
1.00.02	Feb 2011	Adds Startup, Applcore.ini, BNCS_Config and Icon information	DMR
1.00.03	March 2011	Updated information regarding bncs_config.ini	SPJ
1.00.04	06April 2011	Added information section 6.4 regarding causes of slow start-up. Added notes regarding certain EH problems.	SPJ
1.00.05	3.11.11	Updates detail on adding an Icon – re bug #1616	DMR
1.00.06	05 March 2012	Updated to Atos. Added several sets of size and position applcore.ini vars. Supporting the Debug, Variables and message windows.	SPJ
1.00.07	29 March 2013	Updated integer memory – changed from 10,000 to 65536. Added “Editor” section in ApplCore.ini file.	SPJ
1.00.08	03 April 2013	Updated integer memory – description.	SPJ
1.00.09	07 August 2013	Updated Unusual Problems with Library’s and Line Numbers	SPJ
1.00.10	13 November 2013	Updated the Introduction, Unusual Problems with Library’s and Line Numbers	SPJ

1.00.11	24 th February 2015	Adds note about use of V4 environment variables rather than c:\bncs_config.ini Version	DGY
1.00.12 1.00.13	10 July 2015 11 August 2015	Changes for Bug 2704. V3 Applcore version 3.08.35, dated: 09-July-2015 requires CSI32 version: 1.2.54 or later. See section 2.6 "Device Mode" Stringtable line 32400.	SPJ