BTOS Release Notes

Style: B27-B38 ST8

Level: 8.1.2

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NEW FEATURES

The new features in this release are:

-   B24 Low Cost Teller Workstation
    Support (Refer to the following
    documents:)

    3641 1205 B24 TWS Software Design
    Specification

    3641 1197 B24 TWS Software
    Functional Specification

PRODUCT IMPROVEMENTS

The major product improvements in this
release are:

-   A new parallel printer driver
    eliminates the known problems with
    the previous one.

-   A much improved RS-422 Shared
    Resouce Processor (SRP) protocol
    handler provides performance
    improvements of up to six times
    prior versions. Also, transmit
    underrun errors are now handled
    correctly.

-   The Variable Length Parameter Block
    (VLPB) logic now returns an error
    code if the user attempts to enter
    a subparameter longer than 255
    characters.

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- The Executive now saves up to 1024
  bytes of form fill-in information.
  The Executive stores this
  information in the VLPB as
  subparameters (of no more than 255
  bytes) of parameter 0, starting
  with subparameter 2 and continuing
  until the last subparameter stored
  is less than 255 bytes in length.

- XBif is now nationalizable.

- The FILES command, on a passworded
  volume, now correctly returns erc
  219 (access denied) when it fails
  to complete a full report because
  of protected files.

- In Executive input forms, the
  password is now deleted when the
  user deletes the caret ("^") with
  either the DELETE or the BACKSPACE
  key. Also, if the user attempts to
  overtype the caret or to insert a
  space after the caret, the
  Executive simply beeps.

- An improved Hardware ID handler
  eliminates known compatiblity
  problems.

- Bootstrap now boots correctly on
  the B27 workstation, and correctly
  changes the sys volume to floppy.

- XON/XOFF handshake on RS-232
  communications now works correctly.

- MCR now works correctly, returning
  an error code when contents are
  discarded after 20 seconds.

- ACTION-OVERTYPE and video timeout
  now work on B27 and B22 work
  stations.

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- Maintain File now warns the user and offers to CANCEL or FINISH if either the output file or the log file will overwrite an existing file.

- The BTOS operating system now ignores keystrokes entered before the keyboard translate tables are loaded. This eliminates an occasional erc 610 that occurred upon booting.

- The BTOS operating system now correctly handles the default node name.

- In debugger, search for byte pattern (CODE-O) now works correctly for all forms of address range.

- InitOverlay function now works correctly, even when very small overlays are requested.

- User File Editor now correctly handles a template with ten user environments.

- BTOS now correctly creates temporary directories ("<$>"), even when the system volume is password protected.

- CODE-Z (Zoom Command) is now correctly rejected by the B27 editor on a B27 with color monitor.

- Calls to ReadCommLineStatus and WriteCommLineStatus no longer intermittently produce erc 62 when DcxServer is installed.

- Form feed Translation: The
  characters 08h, 09h, 0Ah, 0Ch, 0Dh
  (backspace, tab, line feed, form
  feed, carriage return,
  respectively) are considered
  'special' character by the BTOS
  printer driver because certain
  attributes of the document being
  printer are affected by the
  printing of these characters. It
  is possible to translate these
  characters in BTOS release 8.1.2,
  but the following will occur when
  these characters are, in fact,
  translated:

  Character-count tracking (i.e., the
  number of character 'debited'
  against the line currently being
  printed) is incremented by on for
  every character which is
  translated, even if the translation
  is one-to-many. This is necessary
  in order to prevent multi-byte
  escape sequences from truncating a
  line, while still tracking line
  count accurately when the
  translation tables are used for
  nationalization or wheel
  accomodation. Note that the normal
  effect of these characters on
  character-count tracking is
  different when translation is not
  performed on these characters
  (e.g., printing a line feed clears
  the character count instead of
  incrementing it and printing a tab
  increments the character count by
  more than one, depending on tab
  expansion specified).

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No new line mapping will occur if
the 0Ah (line feed) character is
translated. It is assumed the user
wishes to specify what character(s)
will be emitted when this character
occurs, and that the character may
have some meaning other than 'end-
of-print-line'.

No tab expansion will occur if the
09h (tab) character is translated.

No clearing of horizontal position
will ever occur on encountering a
character which has been
translated.

Translating a character to itself
(e.g., 0Ah = 0Ah) has no effect on
printing, and does not qualify as
translating the character.

KNOWN LIMITATIONS

If there is a workaround for any of
these limitations, it is included in the
discussion.

Request File Loading

Request file loading can cause BTOS to
crash at boot time with an error 101.
You can avoid this problem by examining
the need for the utilities or
applications that load excess request
files.   If the target system requires
all loaded request files, you can
customize BTOS and decrement the
nPartitions and/or the nWsTotal
parameter in the operating system
assembly file until BTOS boots
successfully.

Optional Request File Loading During
Standalone Utilities Installation

To allow for successful loading of the
operating system, you can rename or
delete request files that are optionally
loaded during installation of the
Standalone Utilities. These request
files are as follows:

Request.H.Sys   (Hardware ID)
Request.VP.Sys   (Telephone Server)
Request.XBif.Sys   (XBif Server)
Request.2.Sys   (DCXServer)
Request.PMOSS.Sys   (PMOSS)

Similarly, the following files are
optionally loaded during Language
Development software installation:

Request.Graphics.Sys   (Graphics)
Request.Mouse.Sys   (Mouse)

Note: To allow access to the system
returning an error 101, boot that system
off a bootable diskette or a master,
rename the unnecessary request files,
and then reboot locally.

ECC Drives

If you run IVOLUME to format a
Winchester disk in ECC mode and specify
a Crash File, you should enter the
following bad spots:

cylinder/head/sector

where:

cylinder = 0
head   = 0
sector   = #2 through #15

For example, 0/0/#2, 0/0/#3 ... 0/0/#15.

You must enter these bad spots if you
are using CrashDump.sys to study system
crashes on BTOS 8.1.1 You do not need to
mark these as bad spots if you do not
specify a Crash file, or you only use
Crash Dump.sys as a swap file for the
Context Manager.

Math Server

Only the hardware Math Server is
implemented in BTOS 8.1.2.

Adding Hardware Modules

Adding hardware modules on the bus can
result in an error 101. Installing more
servers from the executive level than
memory allows can result in an error
430. You can use the same workarounds
recommended for request file loading
problems (previously described) to avoid
these problems.

Queue Manager/Spooler Limitations

If You attempt to load more than the
Queue Manager limit (10 queues,
including the required
SpoolerStatus.Queue), the system returns
error 911 at the Executive level.

If your system returns error 420
(indicating that the Executive cannot
initialize) and the system hangs after
you install Spooler and execute the
SPOOLER STATUS command, your system
tried to use more than the defined
number of real time clocks. To avoid
this situation, either review your
system requirements to remove system
services or queues that use up your
system real time clocks, or generate a
custom operating system and increase the
'nPTiming' parameter in increments of 10
until no error occurs.

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Pascal 5.1 Programs Linked with
Pascal 8087.fls (Math Co-Processor Only)

A Pascal 5.1 program linked with Pascal
8087.fls will not operate on a B38 math
co-processor (MCP). (Pascal 5.1 does not
use the B38 co_processor.)

Workaround: If the program requires the
use of the 80287 co-processor, you must
compile and link the program with Pascal
6.0. Or you must install the hardware
Math Server.

Pascal on a B38 Workstation

A Pascal 4.0 or earlier program is not
compatible with a B38 workstation.

Workaround: Recompile your program
using Pascal 5.1 or 6.0, and relink with
CTOS.lib 7.0.7 or 8.0/8.1 respectively.

PMOSS 1.0 Known Limitations

ISR Limitations

PMOSS 1.0 supports only the following
two types of protected mode interrupt
service routines (ISRs): raw RS-232 comm
ISRs and programmable interval timer
(PIT) ISRs. Raw ISRs for serial ports
are not permitted to modify the SS
register; doing so causes a general
protection fault. A user written PIT
ISR must not enable interrupts during
its execution. The only permissible
system calls in both raw comm ISRs and
PIT ISRs are ReadCommLineStatus,
WriteCommLineStatus, SetTimerInt, and
ResetTimerInt.

Math Co-Processor

You Cannont use the 80287 math co-
processor in a protected mode server.

Unsupported Interfaces

PMOSS does not support the Virtual Code
Segment facility (or Overlay Manager).
You must not use the "/o" linker option
to link programs to be executed in
protected mode.

Multiple Run Files in the Same Partition

PMOSS does not support multiple run
files in the same partition (LoadTask,
LoadInteractiveTask).

Parameter Management

PMOSS does not support parameter
management for programs that create the
Variable Length Parameter Block (VPLB)
using RgParamInit.

Restrictions on Send and Psend

When used to send messages inter-task,
Send and Psend have the following
restrictions: The pMsg operand must
either have a zero selector or be a
pointer to a request block. The pointer
to a request block must be that of an
outstanding request originated by the
task (by a Request or Request Direct) to
which the pMsg is being sent. If the
selector is a pointer, the sender must
also place ercInterTaskSend (14106) in
the ercRet field before doing the Send
or Psend.

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COED Facility

PMOSS does not support the COED
facility.

ServeSc

PMOSS does not support the ServeSc
object module procedure.

Customizer

When customizing a workstation for 15
workstations, specify
%SET(nPartitions,12) instead of 25 in
xxx.asm.

KNOWN PROBLEMS

This information is provided so that you
can avoid the problem. These problems
are listed in the Product Support
Information Manual (PSIM); fix schedules
will be maintained in the PSIMs.

Incorrect Printer Configuration File

The printer configuration default file
for serial printers is incorrect in
denoting that both the CTS and XON/XOFF
protocols are handled. Though the BOTH
option indicates the handling of both
protocols, the default is actually CTS
only.

Workaround: If a serial printer can
perform only XON/XOFF protocol, then you
must change the configuration file to
stipulate XON/XOFF rather than BOTH.

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B38 Cluster Bootstrap Procedure

Without operator intervention, B38
cluster bootstrap (cluster without local
files or with local files on diskette
only) loads only the B28 operating
system (t2clstrxx.sys) instead of the
B38 (t3clstrxx.sys). The default for the
boot ROM on both the B28 and B38
operating systems are functionally the
same.

Workaround: To circumvent loading a B28
operating system on a B38, use the
spacebar or menu boot which requires
entering the workstation type (231 or
232). Ws23?>sysimage.sys is for future
development purposes, but you can use it
interchangeably with the B28 current
operating system.

Using ECC Disk Drives with an Earlier
BTOS

ECC drives are supported in BTOS 8.0 and
higher levels only. ECC formatted drives
can be formatted under BTOS 7.0 (or
earlier) but they are not capable of
automatic error correction.

Caution: If you boot with BTOS 7.0 (or
earlier) winchester disk drives that
were formatted in ECC mode with BTOS 8.0
(or later), all data on the disk will be
lost.

Workaround: Do not downgrade a system
with ECC disk drives to a previous
operating system without backing up
data.

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Some RS-232 Applications on the DCX

Hardware-dependent RS-232 applications
won't run on the DCX. Since byte streams
are device dependent, applications using
byte streams will run on the DCX without
modification.

Workaround: Convert device-dependent
applications to use byte streams.

PMOSS 1.0 Known Problems

Startup ACTION-FINISH Problem

Using ACTION-FINISH at the instant of
startup of a protected mode program can
occasionally cause unpredictable
results, including system crashes.

AllocAreaSL

The AllocAreaSL procedural interface
(documented in the BTOS Protected Mode
Programming Guide) returns a pointer
whose offset is not necessarily zero.
Replacing AllocMemorySL calls with
AllocAreaSL calls can cause a crash 26
(illegal instruction) in REAL MODE on a
B28/B38 if the offset of the allocated
memory area's last byte is 0FFFFH and
you attempt a word access for the last
byte. An account of the Pascal
compiler's code generation problems for
protected mode is documented in the BTOS
Protected Mode Programming Guide.

BOOTSTRAP Command

If you are using PMOSS and you want to
boot your system, use the Reset switch.
The BOOTSTRAP command may occasionally
fail to reset all conditions necessary
for PMOSS to run.

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(ST8) Standalone Operating System 8.01.02.
B26 to B38

Seven diskettes (ST & SU) containing Standalone
Operating System

	BTOS Release Notes Level 8.1.2
3027057	Field Communication Form
1130838	User Guide to Fault Reporting
5022148	BTOS Sort/Merge Operations Reference Manual
5022148-001	BTOS Sort/Merge Operations Reference Manual PCN
5026065	BTOS Protected Mode Programming Guide
5026172	BTOS Protected Mode Operating System Server (PMOSS) Installation Guide
5026222	BTOS Standard Software Operations Guide
5026222-002	BTOS Standard Software Operations Guide PCN
5026321	BTOS Status Codes Reference Manual
5026321-001	BTOS Status Codes Reference Manual PCN
5026321-002	BTOS Status Codes Reference Manual PCN
5026339	BTOS Standard Software Operations Quick Reference Guide
5026339-001	BTOS Standard Software Operations Quick Reference Guide PCN
5026339-002	BTOS Standard Software Operations
5026594	BTOS Editor Operations Guide