Support Group Application Note
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Issue: 3
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Acorn

ANFS Application Note

Applicable Hardware : BBC Master Series

Related Application Notes:

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Acorn Computers Limited
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The Advances Network Filing System contains the features of the NFS with the following additions:

* Local buffering.
  All open files will be buffered in RAM in the I/O processor. All uses of OSBGET and OSBPUT calls will be significantly faster. Up to 16 buffers are allocated dynamically. If only one file is open, for example, 16 pages of data are buffered on that file.

* New machine entry points for automatic retries of packets.

* File server extensions.

* Extra commands in ROM:

ANFS:

*CDIR <Dir> (<Number>) - create directory. Number can be between 1 &245 entries, with 19 as default.

*FS (<stn id>) - changes file server number. Enables user to be logged on to more than one file server.

*FLIP - exchanges CSD and CSL. Useful when files which are to be Loaded, via OSFILE, are stored in the Library.

*HELP - has sublevels Net & Utils.

*LCAT (<Dir>) - catalogue the current library, or pathname.

*LEX (<Dir>) - examine the current library or pathname.

*WIPE - (<dir>) - Deletes files or directories also:
*I am (<stn id>) <user id> ((:<CR>)<password>) - now accepts <DELETE> and CTRL U during invisible input.

*PASS (:<CR>) <old password> <new password>. Now accepts a ":" within the line to allow invisible passwords.

UTILS: These now work when ANFS is the currently selected FS or not:
*POLLPS (<stn id>:<ps type>) - shows CSPS number and type. Also lists all network printers and their state.

*PROT (<prot type>).... - protects against some/all ops.

*PS (<stn id>:<PS type>) - selects PS.

*UNPROT (<prot type>)... - converse of PROTECT.

*WDUMP <filename> (<offset> (<address>)).

*CONFIGURE:

FS <stn id> - selects default file server.
PS <stn id> - selects default printer server.
SPACE <number> - moves OSHWM to use old FS utilities.

NOSPACE <number> - converse of SPACE.

*STATUS:

FS - returns station number at default file server.
PS - returns station number at default printer server.
SPACE - returns "Space" or "NoSpace".

* Extra Filing System interfaces:

*OPT 5 - Additional bootstrap, by *RUNning 'FindLib'. For FS Library compatible with this machine. CMOS RAM bit.

*OPT 6 - OPT 6,1 claims &200 space instead of using &B and &C. OPT 6,0 reverts to normal. CMOS RAM bit.

*OSFILE - with A=&7 on entry, a file is created. This behave similarly to 'save' (A=&0) but no data is transferred.

*OSARGS A=&FF - Now functions and ensures all open files to the file server. A call with Y=0 and A=2 returns 0 to differentiate from NFS 3.nn.

OSARGS A=3 - performs BASIC "EXT#channel=value".
OSARGS A=4 - returns space allocated to file.
OSARGS A=&80 - returns variety of file/FS info.

*OSWORD A=&E - Read the time.

OSWORD A=&10 - extended for zero length transmissions.
OSWORD A=&13 - returns fault indication.

* Extended error messages:

* 'Not listening' & 'No Reply' now have the station number added.

* 'Won't' (&93,147) - occurs when trying to *RUN a file with load address of &FFFFFFxx and trying to execute address which isn't &FFFFFFxx.

* 'Bad parameter' (&94,148).
* 'Station <stn id> not present' (&A4,164)
* 'Printer busy' (&A6,166)
* 'Printer jammed' (&a7,167)
* 'Bad net sum' (&AA,170)
* 'Bad rename' (&B0,176)
* 'Outside file' (&B7,183)
* 'Write only' (&D4,212)
* 'No more FCBs' (&C0,192)
* 'Bad station number' (&D0,208)
* 'Bad net number' (&D1, 209)
* 'Remoted' (&0)
* 'Syntax (&DC,210) - recognised command by wrong syntax.
* 'Net channel' 'On channel' 'Not on this file server' (&DE,222)
* 'Bad number' (&F0,240)
* 'Bad hex' (&F1,241)
* 'Bad address' (&FC,252)
* 'Bad string' (&FD,253)

* Fatal error caused by OSWORD A=&14 function code 2 now produces 'Remoted'.

* Additional library functionality:
  * Any file with exec address of &FFFFFFFF that is *RUN, */<filename> or *<filename> will be *EXEC'd.

* Screen saving:
  To differentiate between 'standard' and shadow screen modes, the following is used:
  *FFFExxxx - current screen RAM
  *FFFFxxxx - User RAM or non-shadow mode screens.

* Auto action during Logon can now be stopped using CTRL key.

* Number of "retries" is now adjustable.

* 'Help' extensions so that help text can be held on FS disc.