Branches™ Release Notes



Acorn Software, Inc.
Hudson, MA

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Preface

January 2003 -- Welcome to Cottage Software Works, Inc's Branches documentation. We at CSW are happy to add you to our worldwide group of users who enjoy the advantages of data library management software.

In this preface, you will find the following information:

- what information our documentation contains
- who this manual is written for
- what conventions we used

As you know, Acorn Software closed its doors in February of 2000. With this closure came the loss of the Acorn Software product line, including Branches. After much negotiation and thought, the holder of the rights to Branches (Dick Munroe, munroe@csworks.com) has decided to release Branches as an open software product for OpenVMS. Thus we here at Cottage Software Works, Inc. are pleased to announce that with the 3.3B release, Branches is now available under the Open Software Initiative license.

Support is available for Branches from Cottage Software Works, Inc.:

Cottage Software Works, Inc.
464 Common St. PMB 361
Belmont, Ma.

617 901 9052
support@csworks.com

Support is available on a per hour charge basis. Contact Cottage Software Works, Inc. for details.

Vendors wishing their products to be supported by Branches may either provide the implementation themselves (after all, the source for Branches is available) or may contract with Cottage Software Works, Inc. to provide the implementation. Contact Cottage Software Works, Inc. directly for details.

What information our documentation contains

Our documentation set consists of three items: the user guide, related release notes and on-line help. The user guide contains information on

installation and use; these release notes are kept as current as printed matter can be. The on-line help is meant to jog your memory of specific details of operation and serves as the most up-to-date documentation.

Although we will keep you informed on new product features by reoccurring mailings, you are welcome to take a copy of our documentation *at any time* from the Internet. This, and all other Acorn documentation, is available from our web site at http://www.acornsw.com/.

Who this manual is written for

We have written our documents with the experienced OpenVMS system manager and application developer in mind. We have relied upon your knowledge and experience as well as your access to the complete VMS documentation set.

If you are taking the first steps with a data library management system, we have included several sections of examples in the installation chapter of the user guide. Should you experience problems, our error messages section contains helpful information for resolution of problems or difficulties. If you have further questions, we will be happy to address them. Feel free to contact us on the Internet at support@acornsw.com.

What conventions we used in these release notes

Our documentation follows these conventions:

Character	Convention
italics	indicates optional items that you substitute the specific names or numbers in Branches or DCL commands
Oloron Program	indicates OpenVMS examples, other literal text seen by the user or program documentation in response to Branches commands.
shaded note	**indicates that we ask you to pay very strict attention to the information contained in the gray area.**

Branches Release Notes

This chapter presents, in order of their occurrence, the changes from the previous versions of Branches to the current version of Branches. We have included these items in the user guide *and* we have them here for your quick reference.

Changes from 3.2B to 3.3B

Changes to the license system.

In keeping with the principles of Open Software, Branches no longer maintains or enforces any form of license. People wishing to get either the source of Branches or the latest installation kits may do so over the web at:

http://sourceforge.net/projects/branches/

Support is available from Cottage Software Works, Inc. For details on support, please contact:

Cottage Software Works, Inc.
464 Common St. PMB 361
Belmont, Ma. 02478

617 901 9052
support@csworks.com

Vendors wishing to support their products on OpenVMS may do so by either doing the developoment themselves (after all, the sources are available) or by contract with Cottage Software Works, Inc.

BRANCHES LICENSE

The BRANCHES LICENSE command has been removed from Branches.

OpenVMS/VAX Support

Cottage Software Works, Inc. does not have any in-house VAX systems. Therefore support for Branches on OpenVMS/VAX has been dropped. While we believe that Branches can still be compiled and used on OpenVMS/VAX systems, Cottage Software Works, Inc. will not, by default, provide support for Branches running on OpenVMS/VAX. Should a vendor or user wish to contract for OpenVMS/VAX support this decision will be reviewed.

Changes to the license system.

Branches will continue to operate in the face of changes from cluster to non-cluster, but does so by installing a new temporary key. You have 45 days to apply for and receive a new key for your changed configuration.

New library support

The Spectralogic TREEFROG is now supported. The type is:

TREEFROG

New minimum system requirements

Branches has been modified to use the C++ Standard Template Library which, in turn, requires the 6.2 C/C++ run time library patches. These patches are only available for VMS/VAX for version 5.5-2, therefore we will be supporting Branches on VMS/VAX **with** the C/C++ run time library patches on VMS/VAX 5.5-2 or higher. A working version of these patches is supplied with Branches for separate installation.

Similarly, since OpenVMS/AXP 6.2 is the minimum version guaranteed to have the necessary support for the C++ Standard Template Library, the minimum required version of OpenVMS/AXP is now 6.2.

No Unload on dismount

For reasons we haven't fully researched, some tape and disk devices default to "no unload on dismount" as their default behavior. This makes it impossible to correctly run Branches since the unloading of the drive makes it possible for Branches to manage media. Branches now sets all drives used by Branches to a default behavior of "unload on dismount" when the Branches server is started. Note that cluster wide tape devices may not operate correctly since the "unload on dismount" behavior is modified only on the node on which the Branches server is started.

Hardware Initialization Control

A new configuration line:

DISABLE-HARDWARE-INITIALIZATION [0 | 1 | 2]

Has been added to the configuration file. **Use this with caution.**

With an argument of 0, Branches assumes that the library always maintains correct hardware state and never issues an initialize element status SCSI command.

With an argument of 1, Branches assumes that the library needs to be initialized once, and will thereafter be operated in a manner which will

always maintain correct hardware state. No further initialize element status SCSI commands will be issued by Branches.

With an argument of 2, Branches assumes the library will not maintain correct hardware state. Branches issues further initialize element status SCSI commands as necessary.

This configuration line has been added for those customers with libraries having very long initialization times and who can manage their libraries so that multiple initializations are not necessary.

The default for this configuration line is 2 which is consistent with the past behavior of Branches.

Multi-Media library support

A new configuration line:

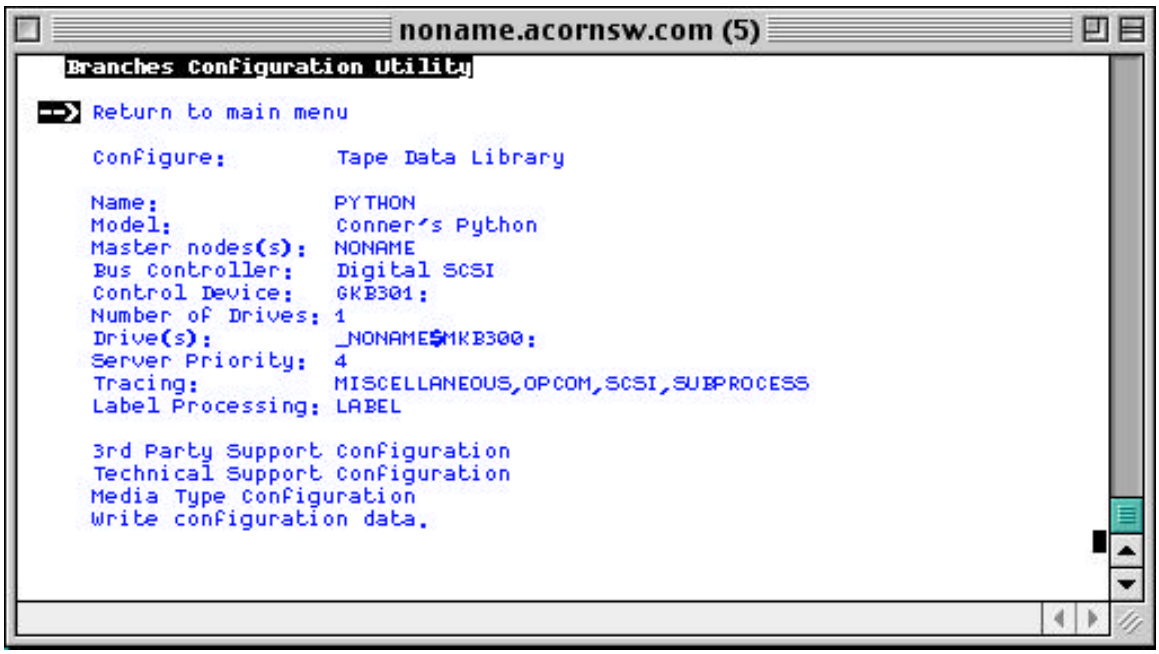
DRIVE-MEDIA-TYPE device,mediaType

Has been added to the configuration file. These lines allow you to specify what media may be loaded into a specific drive in the library. If no media types are specified, then a drive may accept all media types.

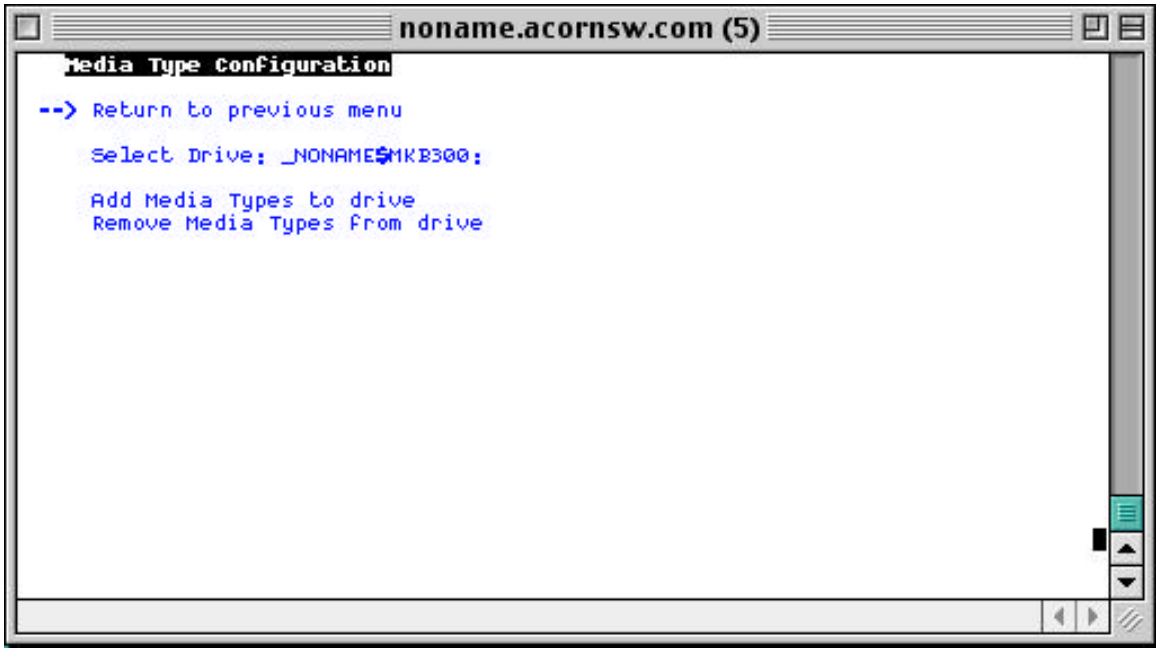
The Branches IMPORT, IMPORT/MAGAZINE, and IMPORT/INITIALIZE all accept a new /MEDIA_TYPE qualifier. Media in a library that have no media type may be loaded into any drive.

MediaType is a character string of up to 31 characters, consisting of the letters A to Z, 0 to 9, $, _, and -.

The Branches SET SLOT command accepts a /MEDIA_TYPE qualifier.0

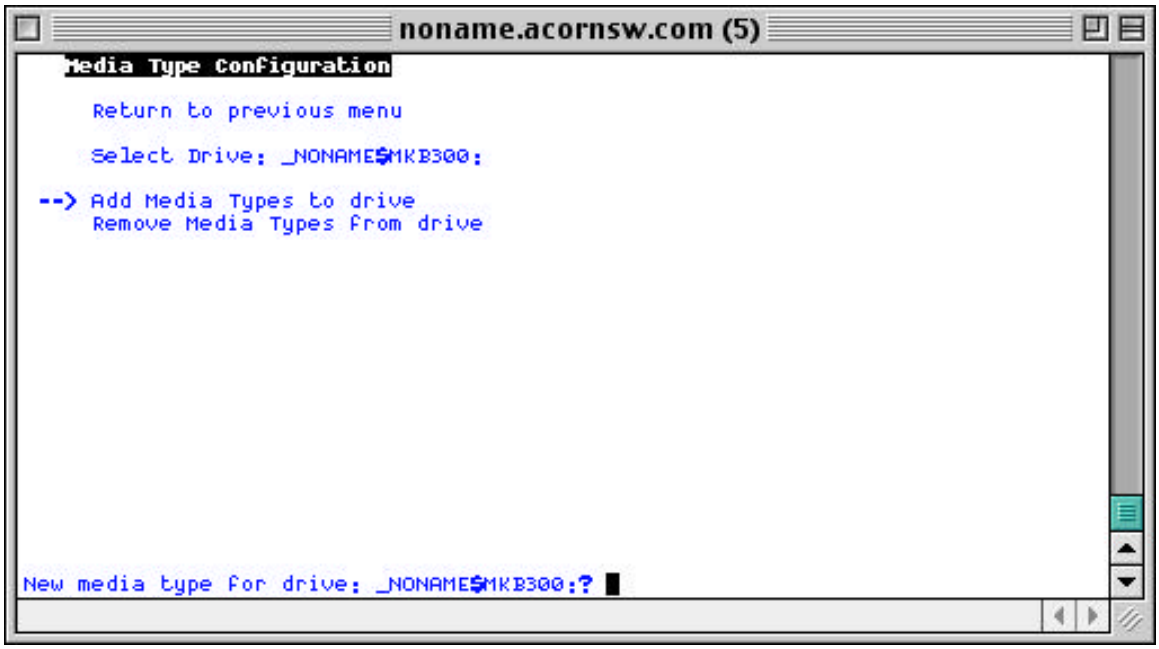


Using the Branches configuration utility, select Media Type Configuration.



Media types are specified per drive. To select the proper drive, position the arrow to the Select Drive line and use the return or enter key until the desired drive appears.

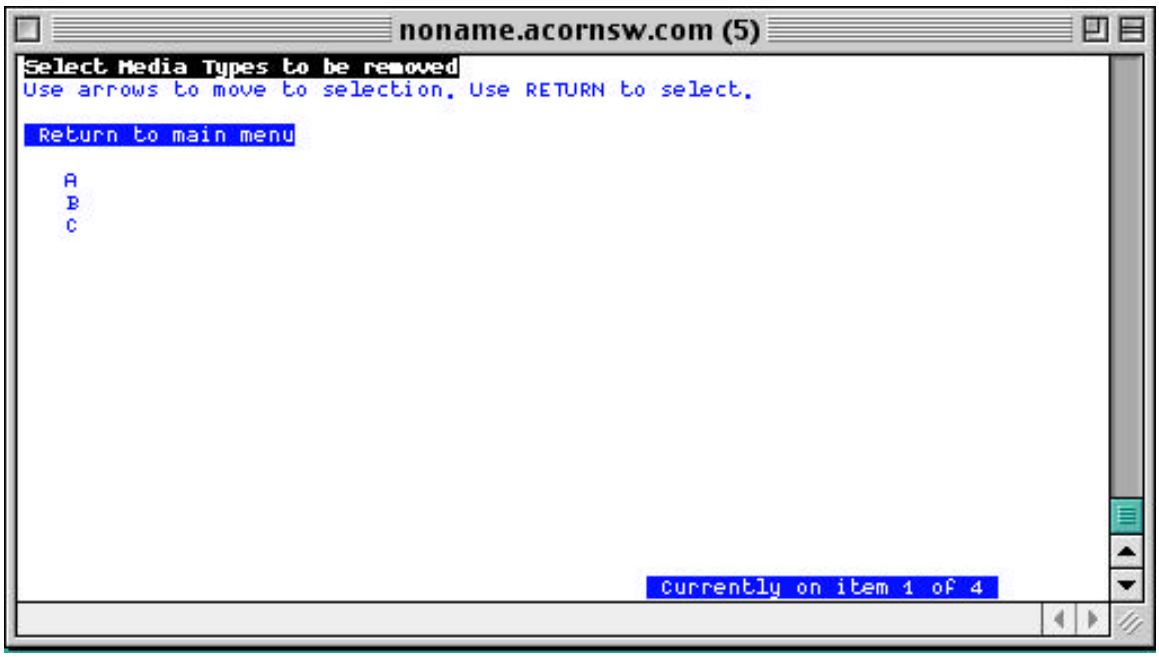
More than one media type can be specified per drive. Once media types are specified for a drive only media specifying those media types and media with no specified type (the default) are loaded into that drive.



Media types are arbitrary character strings consisting of the letters:

- A to Z
- 0 to 9
- $
- _
- -

The string representing the media type may be up to 31 characters long. Media types are converted to upper case when stored and are therefore case insensitive.



To remove media types, simply select them with the pointer and use the return / enter key.

Branches Import

Imports media into a library. For data libraries with mailboxes, the specified media will be placed in the mailbox and then imported. For data libraries with magazines, the media is placed in the magazine.

This command requires:

- OPER and TMPMBX privileges.

Media imported using the /SCRATCH qualifier remains as SCRATCH media until it has been placed in a device in response to a Branches LOAD, Branches MOUNT, DCL MOUNT or SYS$MOUNT request.

Format **BRANCHES IMPORT [volumelabel[, volumelabel ...]]**

Qualifiers	Notes
/INITIALIZE	Import media into a library and initialize all volumes with the associated media with their specific labels. If not enough labels are provided, media with multiple sides are initialized with the name volumelabelA, volumelabelB, etc. The /INITIALIZE and /MAGAZINE qualifiers are mutually exclusive.
/MAGAZINE	Accept a magazine of media into a library and, for each piece of media present, read the label on each side of the media and place the media into the library inventory database. The /INITIALIZE and /MAGAZINE qualifiers are mutually exclusive.
/MEDIA_TYPE	Specifies the type of media being imported. In order to use this media, at least one drive in the library must be defined to use this or any media type.
/LIBRARY[=DEFAULT]	The data library to which the media is to be imported.
/SCRATCH	The imported media is to be considered scratch media.
/SLOT=number	All media must, at some time, be initialized. In the case of libraries with magazines, the /SLOT qualifier allows a specific media in the magazine to be initialized and placed into the library inventory database. Slots are always numbered from 0. 0 is the first slot in the magazine. The /SLOT and /MAGAZINE qualifier are mutually exclusive. The /SLOT qualifier may be used at any time to reimport or reinitialize media that are already within a data library. If the specified slot does not have media in it **and** the data library has a mailbox, then Branches will request that media be placed into the mailbox for processing into inventory.

Branches Set Slot

Modifies information about the media managed by Branches.

Format **BRANCHES SET SLOT slot-number**

Qualifiers	Notes
/LIBRARY[=DEFAULT]	Specifies the library whose contents are to be displayed.
/MEDIA_TYPE	Specify the type of media contained in this slot. In order to use the media, at least one drive in the library must be defined to use this or any media type.
/NOMEDIA_TYPE	Specify that the media type for this slot is undefined.
/STATE=state	Specifies one of the following: DISABLED The slot cannont be used. FULL The slot contains media. EMPTYThe slot is empty
/[NO]VID[=string]	Specifies the volume id, if any, of this media.

Configuration Utility

When using the support parameters, the configuration utility would write the configuration file incorrectly. This has been fixed.

The configuration utility fully supports the new multi media library configuration capabilities.

StorageTek ACSLS support

Preliminary changes are in place to support network attached StorageTek libraries through the StorageTek ACSLS interface. This support will be fully implemented in the final release of Branches 3.2.

HyperTape support

HyperTape support has been modified to accommodate the planned ACSLS support. These changes should be transparent to all customers who have **not** been developing an interface to another 3rd party media manager.

Changes from 3.0 to 3.1

HyperTape support

Acorn Software, Inc. now supports BridgeHead Software's multi-platform archive and media management package, HyperTape. To do this, Branches has been extended to allow "user" defined command procedures to be executed before and after all Branches commands which manipulate the state of the inventory table. The interfaces to these callouts are documented in the command procedures themselves and will not be further documented unless 3rd party developers request specific information

Branches 3.1 **requires** OpenMedia Manager in order to operate with HyperTape. This requirement will be lifted in later versions of Branches.

Installing HyperTape

Branches 3.1 does not have all the ease of use features planned for HyperTape integration. The following steps will be [largely] automated starting with the release of Branches 3.2.

The installation requires manual modification of the OpenMedia Manager database and editing of files to achieve full integration of HyperTape and Branches.

1. Install the latest version of OpenMedia Manager and verify that it functions (this process is described fully in documentation provided by Bridgehead Software and will not be discussed further here. Acorn Software, Inc. can provide

installation services for HyperTape, OpenMedia Manager, and Branches for additional charges).

2. Install [as appropriate] the HyperTape Control, Backup, and Service node software.

3. Install the OpenMedia client software on your OpenVMS system. If you are using fail-over Branches servers, make sure that the OpenMedia client software is installed on **each** OpenVMS system participating as a fail-over server.

4. The Branches server usually runs under the SYSTEM user name. Add the SYSTEM user name (or the user name under which you plan to run the Branches server) and password to the User table of the OpenMedia Manager database. If you are using fail-over Branches servers (multiple host processors connected to a single library), make sure that the SYSTEM username and password for **each** node running a Branches Server (whether fail-over or not) is added to the OpenMedia Manager database.

5. Make sure that your OpenVMS system(s) can use MMCLI to access the OpenMedia Manager database.

6. Connect your data library to your OpenVMS systems(s). Verify that the data library is properly connected to your OpenVMS system as detailed in the Branches User's Guide.

7. Install Branches on your OpenVMS system(s). If you are using fail-over Branches servers (multiple host processors connected to a single library), make sure that Branches is installed on **each** OpenVMS system running a fail-over server.

8. Using the Branches Configuration Utility, configure Branches for your data library. This process is fully documented in the Branches User's Guide and will not be discussed further here. Do **not** enable Branches / HyperTape support at this time.

9. Start Branches.

10. Verify that Branches correctly controls your data library and that tapes are properly mounted and dismounted by Branches.

11. Add the necessary information to the OpenMedia Manager database to define the following:

- the host to which the data library is connected.
- the data library.
- the drives in the data library.
- the media supported by the drives.
- the physical tapes.

Most of these steps will be fully automated or otherwise supported from OpenVMS in Branches 3.2. Otherwise refer to your OpenMedia Manager documentation or your OpenMedia Manager support organization.

12. Create a template file used to update the OpenMedia Manager database when media is imported into your data library. Look in BRNCH_HYPERTAPE_TEMPLATES:LIBRARYNAME–TAPE.TEMPLATE for complete instructions on creating a tape template file for your data library.

13. Using the Branches Configuration Utility, enable HyperTape integration support.

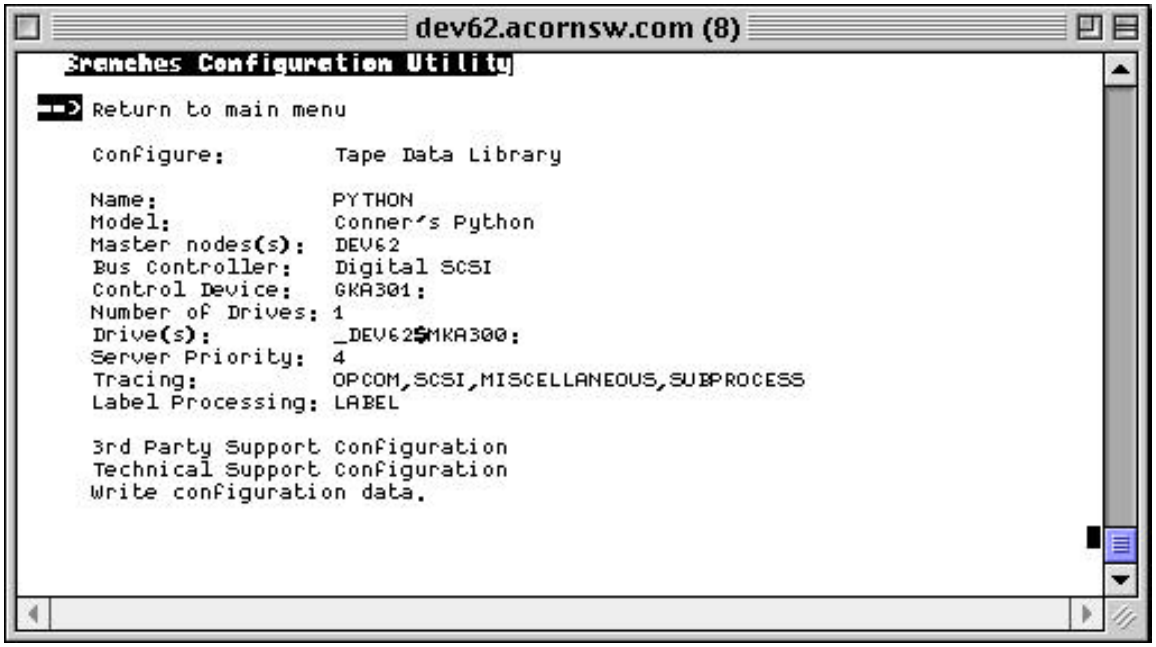
14. Import media that does not otherwise appear in your OpenMedia Manager database into your data library.

15. Using MMCLI, verify that that the new media now appears in the OpenMedia Manager database.

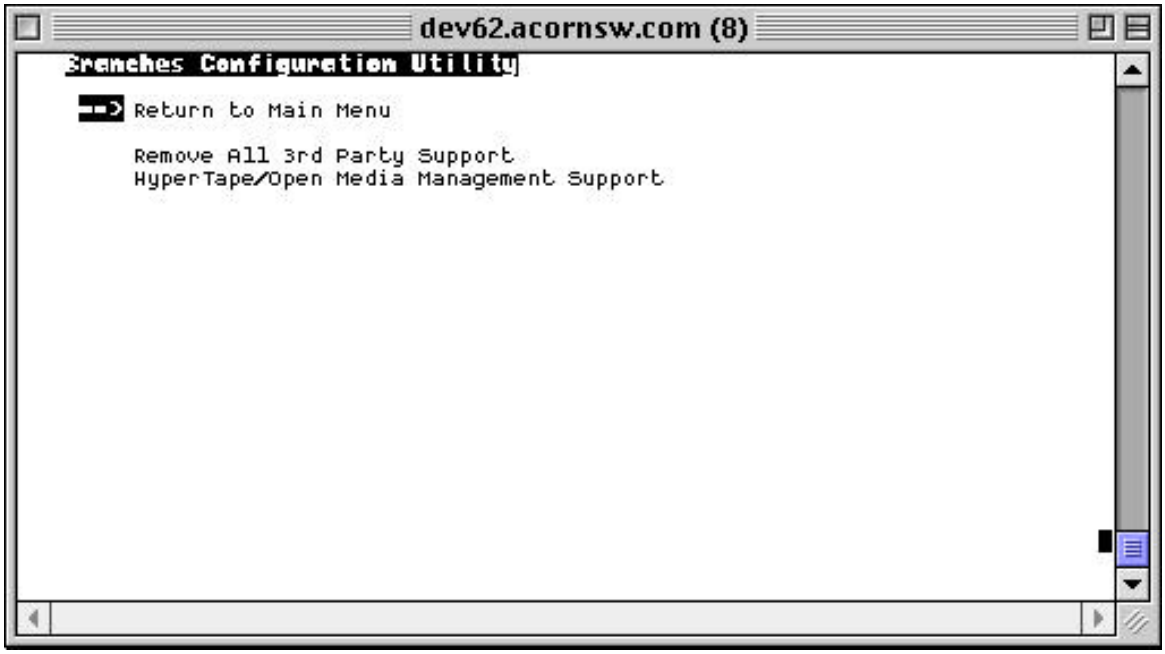
You have now integrated Branches, HyperTape, and OpenMedia Manager and are ready to begin using HyperTape.

Branches Configuration Utility

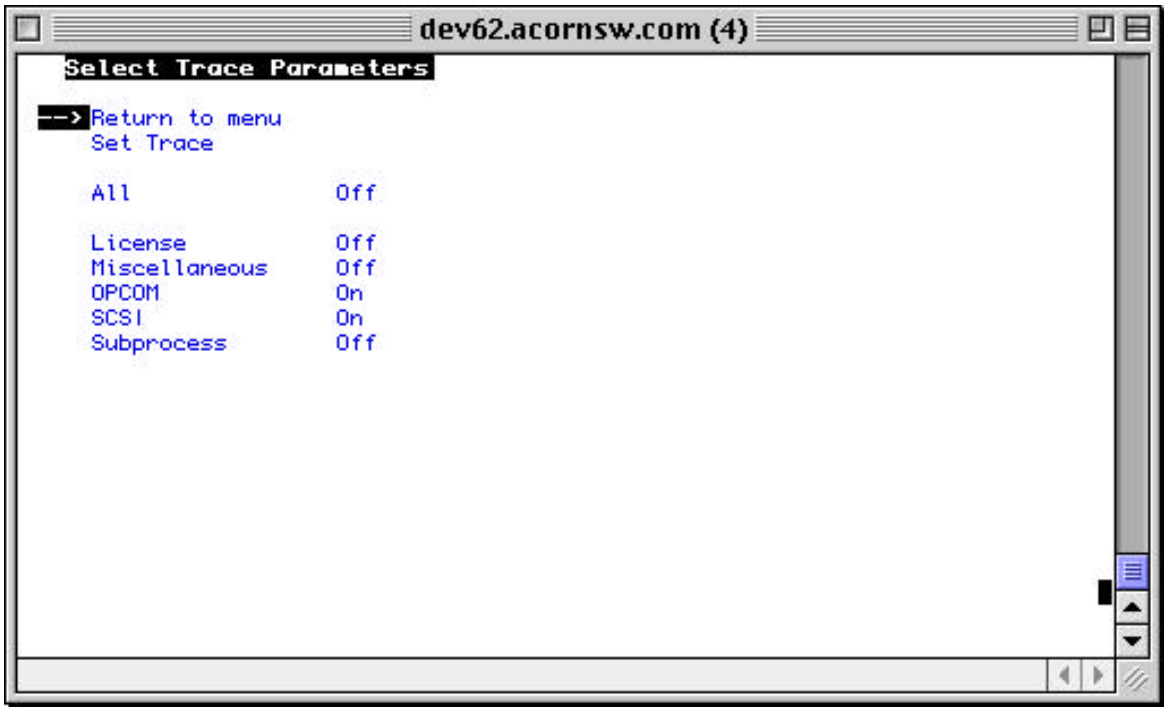
Branches now has general mechanisms for supporting 3rd party archive and media management packages.



A new entry has been added to the Branches Configuration Utility editing and creating menus. If you are planning on using any of the supported 3rd party packages, select this menu item **after** you have completed all other configuration and verification tasks to make sure that your data library operates correctly with OpenVMS and Branches as configured.



At this time, the only fully supported 3rd party package is HyperTape with OpenMedia Management. Later versions of Branches will support HyperTape without requiring OpenMedia Manager.



Branches/HyperTape Logical names

While our testing has been extensive, there may be occasions when it is necessary to debug the interface between HyperTape / OpenMedia Manager and Branches. Branches provides 3rd party integration by providing command procedures executed in response to Branches DCL commands . These command procedures maintain the 3rd party information (in this case, OpenMedia Manager) in synchronization with the executed Branches commands.

To find out what's happening with these command procedures, you must first enable SUBPROCESS tracing, either at Branches server startup time or through use of the BRANCHES SET TRACE command. You may then set one (or both) of the following **system wide, executive mode** logical names:

BRNCH_HYPERTAPE_DEBUG – If defined to **any** non-null value causes "debugging" output to be captured in the Branches output log file. This output is defined to be whatever the developers believed to be of interested.

BRNCH_HYPERTAPE_VERIFY – Turns the DCL VERIFY state on for the duration of the command procedure.

Under normal circumstances these logical names should not be defined and SUBPROCESS tracing should be disabled.

Reconciling Branches and OpenMedia Manager.

A command procedure for synchronizing Branches and OpenMedia Manager is provided with Branches 3.1. Its name is:

RECONCILE_LIBRARY_BRANCHES.COM

And is installed in OMMHOME:[BIN] (if OpenMedia Manager is installed and running when Branches is installed) and BRNCH_HYPERTAPE_BIN. Simply run this command procedure with the name of your library as its parameter in order to perform the synchronization. Whenever you have **manually** altered the contents of your data library, you must either run this command procedure, or execute the BRANCHES INITIALIZE/VERIFY command (which will also reconcile Branches and OpenMedia Manager).

Changes resulting in 3.0

New licensing system.

The overall licensing structure has changed to allow licensing of more than one different type of data library per system as well as license the number of particular libraries per system.

Note: **You must apply for a new license for your system after installing Branches 3.0. You have 45 days after installing to do so.**

New configuration lines.

Two new optional lines have been added to the configuration file.

```
LABEL [labelOption]
```

Valid settings of the LABEL configuration file line and their semantics are:

- LABEL
  (Default setting) The label is read from the tape and used to populate the inventory table. If an unlabelled tape is imported, a label of "++++++++++++" will be displayed.

- LABEL_REQUIRED
  The label is read from the tape and used to populate the inventory table. If there is no label on the tape, the tape is rejected and placed in the mailbox or left in the magazine without updating the inventory table.

- BARCODE
  The barcode is defined to be the tape label **if** there is a barcode on the media. If there is no barcode, the label is read. The result is then used to populate the inventory table.

- BARCODE_REQUIRED
  The barcode is defined to be the tape label. If there is no barcode the tape is rejected and placed in the mailbox or left in the magazine without updating the inventory table.

```
INITIALIZE-ELEMENT-STATUS  0 or 1
```

Can be used with **some** libraries to speed up initialization by suppressing the issuing of the SCSI initialize element status command. This feature is not fully implemented at this time, but it has been implemented for all libraries at this time, but it **has** been implemented for the Pioneer 1004X.

The default is 1. Turning off this feature **may** result in loosing track of some media inside the library. We haven't seen this, but should it happen, simply recreate the inventory table from scratch and all should be well.

New configuration utility.

The Branches Configuration Utility has been completely rewritten. It is now menu driven and substantially more helpful the previously. Unfortunately we don't have screen shots or text documentation ready at this time. If you have any problems with the utility, please contact us immediately so that we can sort it out prior to the end of the beta test period.

Modification to KITINSTAL

The Branches installation procedure now automatically modifies SYS$SYSTEM:MODPARAMS.DAT. If necessary, the Branches installation informs you of this fact, and terminates. You must then run AUTOGEN your system and reboot in order to install Branches.

The Branches installation procedure now automatically modifies the quotas of the account from which you are installing if necessary. It informs you oaf the fact and terminates. You must then log out and log back in again in order to install Branches.

Modifications to Branches License command.

Branches License

Produces a license and key request form for Branches. Please see the section, Branches Key Request and License Form, for an example of the output of this command.

The command, Branches License/Install, requires:

- SYSPRV privilege.

Each type of library connected to a system that runs a Branches server must be licensed separately. This means that a given system may have several licenses installed.

Format	**BRANCHES LICENSE [libraryName]**
Note:	**If the library name is omitted a license request form is generated for the default library.**

BRANCHES LICENSE/INSTALL licenseKey

Qualifiers	Notes
/OUTPUT[=SYS$OUTPUT:]	The file to contain the license request form. The license request form is written to SYS$OUTPUT by default.
/INSTALL	Cannot be used with /OUTPUT or /TEMPORARY. Installs a license. Branches must be licensed on each node on which it will run and for each data library on each node. Key parameter, provided by Acorn, must be entered.
/TEMPORARY	Cannot be used with /INSTALL. Indicates that a license request form for a temporary license is to be generated.

Architectural Modifications.

Lots of architectural modifications have been made to simplify in internals of Branches and prepare for the inclusion of ACSLS support for large StorageTek libraries. None of these affect the user interface, but the should make Branches even more robust and somewhat easier for us to maintain.

New Device Support

We are proud to announce support for the StorageTek 7430.

The device type is:

STK7430

And Acorn Software is the first vendor on any platform to announce support for this entry-level library from StorageTek.

Changes from 3.0 to 3.0-1

New Device Support

We are proud to announce support for the Kubik Magneto Optical and CDROM jukeboxes.

The device types are:

CDR240M
MO120

New licensing system.

A couple of bugs have been fixed in the licensing code. One was in the server, the other in the license DCL interface.

The bug in the server code would incorrectly install a final key automatically preventing the server from starting properly. This no longer occurs.

The other bug was an omission in the CLD for the BRANCHES/LICENSE command. This has been modified as follows:

Branches License

Produces a license and key request form for Branches. Please see the section, Branches Key Request and License Form, for an example of the output of this command.

The command, Branches License/Install, requires:

- SYSPRV privilege.

Each type of library connected to a system that runs a Branches server must be licensed separately. This means that a given system may have several licenses installed.

Format **BRANCHES LICENSE [libraryName]**

Note: **If the library name is omitted a license request form is generated for the default library.**

BRANCHES LICENSE/INSTALL licenseKey

Qualifiers	Notes
/OUTPUT[=SYS$OUTPUT:]	The file to contain the license request form. The license request form is written to SYS$OUTPUT by default.
/INSTALL	Cannot be used with /OUTPUT or /TEMPORARY. Installs a license. Branches must be licensed on each node on which it will run and for each data library on each node. Key parameter, provided by Acorn, must be entered. See also the /LIBRARY qualifier.
/LIBRARY[=DEFAULT]	Can only be used with the /INSTALL qualifier when installing a permanent key. To license your library permanently, you **must** use this qualifier and provide the name of your library. If omitted when using the /INSTALL qualifier a temporary key is assumed to be installed.

/TEMPORARY	Cannot be used with /INSTALL. Indicates that a license request form for a temporary license is to be generated.

Additional Information

To provide better service, the license request form contains the version of the operating system in use and the type of processor for our records.