

0.1 Make System Files

0.1.1 Introduction

These release notes refer to version 3.0.19 of make subsystem.

0.1.2 Implementation

The make directory contains a number of files used during the building of STAPI drivers and applications.

The make system is now a separately released component from the include files. The files have been removed from the include directory (where they previously resided) and moved into a make directory.

The make system requires GNU make version 3.80 or later.

Please refer to the make system documentation for more information.

0.1.3 Changes from release 3.0.18 to 3.0.19 (Release Date: 19 May 2011)

- Changes in supermodule generation to remove EXTRA_CFLAGS
- Support added for STiH205(Lille) and presilicon flags H205_PS1 & H205_PS2 on STiH205
- DVD_BACKEND_SOCNAME support added to be included in CFLAGS if defined.
- Support for ST40R5.1.0 toolset added.
- CQ Resolution -
 - Defect RnDhV00035493 STi7108 sip_make Unnecessary delay in module initialization in unify_stapi mode

0.1.4 Changes from release 3.0.17 to 3.0.18 (Release Date: 8 Mar 2011)

- Support for USERSPACE FLAGS added.

0.1.5 Changes from release 3.0.16 to 3.0.17 (Release Date: 16 Dec 2010)

- DDTs / CQ Resolution : Defect RnDhV00032081 Unknown sip_make defrules.mak not compatible with make v3.82

0.1.6 Changes from release 3.0.15 to 3.0.16 (Release Date: 24 Sept 2010)

- DirectFB support.
- Merged changes from refactoring team
- DDTs / CQ Resolution :
 - GNBvd80757 - STAPI SDK A22 does not build for uClibc
 - RnDhV00030802 - All make Support required to use two variants of same driver with same name
 - RnDhV00030475 - sti7105 sip_make toolset.mak rules *_SO does not check for LINUX_\$(LIB)_NOLIB
 - RnDhV00030984 - All sip_make Missing security support for Linux environment

- RnDhV00029933 - STi7105 sip_make Not able to compile st2fx testharness with ST40R5.0.0
- RnDhV00030622 - STi7108 make MAKE component should support linux unified module for STx7108
- RnDhV00030491 - All make Add verbose trace option to Linux makefile templates
- RnDhV00030926 - All sip_make SDK27 make apilib fails with "Failed to find library libmulticom.a on path"

0.1.7 Changes from release 3.0.14 to 3.0.15 (Release Date: 7 July 2010)

- Unified module support for 7108.
- Generic LN command extended for all DVD_HOST.

0.1.8 Changes from release 3.0.13 to 3.0.14 (Release Date: 7 May 2010)

- UCLibC support incorporated in make\linux\sdk_supermod_generation
- Removal of project directory
- Support for ST40R5.0.0
- Introduced -fgnu89-inline in CFLAGS :
 - Reason - GCC 4.2 will warn about any use of non-static inline functions in gnu99 or c99 mode. This new warning can be disabled with the new -fgnu89-inline command-line option.
- Refactoring Updates
- Resolved DDTS : GNBvd80757 - STAPI SDK A22 does not build for uClibc

0.1.9 Changes from release 3.0.12 to 3.0.13 (Release Date: 25 February 2010)

- For 7108 cut1.1 : No need to set EXTRA_RUN_PARAMS, it will be internally handled by make subsystem
- For 7108 cut1.0 : Applications should provide appropriate setting based upon functional LMI as mentioned:
 - Connecting to "HOST" (bypass) with LMI0 only working (SW1[1]=ON):
host,se=1,lmi_only=0

SET EXTRA_RUN_PARAMS=host,lmi_only=0 [Refer whatsnew_mb837.txt in BOARD for details]

- Connecting to "HOST"(bypass) with LMI1 only working
(SW1[1]=ON):host,se=1,lmi_only=1

SET EXTRA_RUN_PARAMS=host,lmi_only=1 [Refer whatsnew_mb837.txt in BOARD for details]

0.1.10 Changes from release 3.0.11 to 3.0.12 (Release Date: 09 November 2009)

- Enhancement for .so lib generation { .so lib } generation will be activated by setting below three environment variables: SOLIB=1, SOLIB_VERSION=x, SOLIB_SUBVERSION=y. [x & y will be used by SDK for version identification].

0.1.11 Changes from release 3.0.11A0 to release 3.0.11 (Release Date: 25 August 2009)

- Make build & execute support extended for below platforms:
 - STx5206/mb796
 - STx7108/mb837
 - STx7106/mb680
- Completion of all agreed STAPIREF patches resolution.
- Introduced new environment variable "DVD_VERBOSE" to enable make command traces information. By default this option is disabled to respect STAPIREF patches.
- Updated support for existing flag "DVD_FULL_CLEAN".
- Integration of NATIVE-TLM build support for validation.
- Support for new board specification to link BSP libs based upon runtime toolset identification.
- sh4g++ to be used for .so libs generation..
- Support for Tango/stpti5.
- Dynamic detection for toolset extended to ST40R4.4.0.
- Upgraded make to build & execute unit test harnesses with stapp\platform configuration when STAPIREF_COMPAT is not set.
- DOTS Resolved:
 - GNBvd77301 : STPOWER_SUPPORTED should be defined only if it is set equal to 1 in env
 - GNBvd76973 : Problem with the DVD_BACKEND variable
 - GNBvd75988 : stapi unit tests do not build in non-compat mode
 - GNBvd75438 : "make DEBUG" does not work properly in vid_test environnement
 - GNBvd74458 : Exclusion of certain libraries while creating a single library.
 - GNBvd74158 : export directory does not include CPU name
 - GNBvd73276 : Usage of DEBUG flag in toolset.mak
 - GNBvd72571 : Correction in DVD_BUILD_ONLY_CORE rule

0.1.12 Changes from release 3.0.10A0 to release 3.0.11A0 (Release Date: 17 October 2008)*

- Added support for STx5197 on mb704.

- Forced STNoc workaround parameters removed for STx7111, STx7105, STx7141. Targetpack takes care of enabling the workaround automatically according to device cut from Board release 3.0.2
- Stfae/STSDK 7111/7105 M2 patches integrated.
- Resolved DDTS GNBvd70949 - Make overrides the CROSS_COMPILE env variable.

* Version delivered from UCM has changes required to transition from CMP to UCM directory structure.

0.1.13 Changes from release 3.0.9A0 to release 3.0.10A0 (Release Date: 08 July 2008)

- Added support for STx7200 cut2 on mb671.
- Fixed incorrect object directory naming when DVD_FRONTEND is not set for SOCs other than STx7141.

0.1.14 Changes from release 3.0.8A0 to release 3.0.9A0 (Release Date: 23 June 2008)

- Addition of new environment variable DVD_CPU in line with 7141 software uArchitecture. Added check on DVD_CPU to pass ST_\$(DVD_CPU) in CFLAGS. For STx7141: set DVD_CPU=ESTB or set DVD_CPU=ECM. ST_ESTB or ST_ECM will be passed in CFLAGS appropriately. If DVD_CPU is undefined, it will be set as ESTB by default for STx7141. Simultaneous builds for both cores are supported and all object/library files and executables coexist in separate directories for each of the cores after build.

0.1.15 Changes from release 3.0.7A0 to release 3.0.8A0 (Release Date: 17 June 2008)

- Added support for STx7105 on mb680.
- Added support for STx7141 on mb628.
- Options added by default to set LMI clock at 660MHz and enable STNoc workaround for STx7111.
- Ignored "ISO C90 does not support 'long long'" warning by default under GCC_CHECK.
- Added support for STx7200 to be used with STMicroconnect 2 and targetpacks.
- Added SDK Supermodule Generator tool. It is aimed to generate a 'Super Module' from lots of separated modules, to make it much easier for STAPI users to have only one or two modules instead of lots of modules to insert, which takes a long time, at least when debugging.
- Resolved DDTs:
 - GNBvd61129 - RUN_OBJECT and DEBUG_RUN_OBJECT to be changed for 7200.
 - GNBvd69597 - Option to remove compilation of ioctl (Enhancement req). set DVD_BUILD_ONLY_CORE=1 to build only the core driver (and not the ioctl) under Linux.

0.1.16 Changes from release 3.0.6A0 to release 3.0.7A0 (Release Date: 16 April 2008)

- STFAE changes integrated. Therefore, set STAPIREF_COMPAT=1 if using stapioref code.
- Power management support with STPOWER_SUPPORTED environment flag for STPOWER.
- Added 7111 32bit addressing support.
- 32 bit addressing STEP 5 compliant.

- Resolved DDTs:
 - GNBvd65475 - LINK_EXECUTABLE to be modified for LINUX for interdependent linking.
 - GNBvd67611 - Debug is not advised with -O0 by default (Linux).
 - GNBvd67931 - Enhancement for the new SDK structure

0.1.17 Changes from release 3.0.5A0 to release 3.0.6A0 (Release Date: 13 February 2008)

- Added support for STx7111 on mb618.
- Added support for enabling 32 bit addressing on ST40 devices. Set DVD_ADDRESSMODE=32 in the build environment for enabling 32 bit support. Set DVD_ADDRESSMODE=29 or leave it unset to be in 29 bit addressing mode.
- Resolved DDTs:
 - GNBvd60427 - Switch to ISO C99 standards. Set GCC_C99 alongwith GCC_CHECK in the build environment to enable C99 standards based GCC error checking.
 - GNBvd63933 - mboard option should be configurable. To change the default linktime procedure in use, set the name of the required linktime procedure in the environment variable MAPPED_MBOARD

0.1.18 Changes from release 3.0.4A0 to release 3.0.5A0 (Release Date: 08 October 2007)

- Added support for STx5162 on mb634.
- Resolved DDTs:
 - GNBvd59877 - kbuild.mak overwrites flags being passed from other makefiles
 - GNBvd61160 - Flag defined in the platform.mak file is not being handled correctly
 - GNBvd62662 - Unable to find \$(PLATFORM).mak in kbuild.mak

0.1.19 Changes from release 3.0.3A0 to release 3.0.4A0 (Release Date: 21 May 2007)

- Added -Wall option as default during compilation to generate all warnings for OS21-ST40 and ST200, Linux-ST40.
- Resolved DDTs:
 - GNBvd56016 - make does not allow user-defined rules to be added to makefiles.
 - GNBvd59257 - "gmake debug" command does not pass TARGET to debugger.

0.1.20 Changes from release 3.0.2A0 to release 3.0.3A0 (Release Date: 22 February 2007)

- Added support for STx7200 on mb519.
- Change for 5300/5301 for use with ST200 toolset R5.1 which has changed the -msoc linktime option.
- Resolved DDTs:
 - GNBvd56018 - make for STAPI creates 3 copies of the .ko in every driver (not a bug)

- GNBvd56571 - Inclusion order in kbuild.mak
- GNBvd57236 - Wrong redirection command used in RUN_OBJECT

0.1.21 Changes from release 3.0.1A0 to release 3.0.2A0 (Release Date: 07 September 2006)

- Added support for STx5107 on CAB5107 and SAT5107 Refboard.
- Resolved DDTs:
 - GNBvd51671 - LINT_COMMAND does not include DVD_CFLAGS
 - GNBvd53446 - BUILD_LIBRARY macro doesnot ignore lib defined as LINUX_\$(LIB)_NOLINK

0.1.22 Changes from release 3.0.0A0 to release 3.0.1A0 (Release Date: 21 April 2006)

- Added support for STx5107 on DTT5107 Refboard.

Note: Linux support and documentation is unchanged from previous release and hence this is still an Alpha release.

0.1.23 Changes from release 2.8.0A1 to release 3.0.0A0 (Release Date: 18 April 2006)

- Added support for STx5107 on mb436.
- Makesystem restructured for Linux builds (NOT backwards compatible).
- Fixed BUILD_LIBRARY macro for ST200/OS21 builds.
- Resolved DDTs GNBvd49615 - clean_all target breaks for LINUX if not using LINUX_TARGETS.

Note: Linux builds now require makefiles simliar to those currently in use for OS20/OS21. The STAPI Makesystem also invokes the Linux kernel (kbuild) makesystem for building kernel objects. The OS20/OS21 build mechanism remains unchanged.

0.1.24 Changes from release 2.8.0A0 to release 2.8.0A1 (Release Date: 23 February 2006)

- Corrected -mboard linktime option generated for 7109 on mb411.
- Resolved DDTs GNBvd47771 - gmake run should call mb411bypass macro not mb411 (Not a Bug). There is a provision to set SPECIAL_CONFIG_FILE in the build environment to specify the runtime config file. eg:

set SPECIAL_CONFIG_FILE=mb411bypass

or

set SPECIAL_CONFIG_FILE=mb411stmmx

This when set, will correctly call mb411bypass/mb411stmmx when using gmake run.

Note: Linux support is unchanged from previous release and hence this is still an Alpha release.

0.1.25 Changes from release 2.7.1 to release 2.8.0A0 (Release Date: 25 January 2006)

- First Alpha release supporting Linux builds.

Note: The STAPI Linux Makesystem is expected to evolve further and may undergo major changes.

0.1.26 Changes from release 2.7.0 to release 2.7.1 (Release Date: 20 January 2006)

- Added support for mb457 and STx5188 platforms.
- Added support for mb428 and STx5525 platforms.

0.1.27 Changes from release 2.6.2 to release 2.7.0 (Release Date: 17 November 2005)

- Added support for mb421, mb426 platforms and STm8010.
- Added support for maly3s and mb395 platforms.
- Added support for "demux" as DVD_TRANSPORT.
- Added support for "pc-cygwin" as DVD_HOST.
- Lint support added for OS21 on ST40 & ST200.
- (g)make run & (g)make debug changed to use sh4gdb (ST40) and st200gdb (ST200).
- Support added for Mapfile generation for ST40 & ST200 with the macro GENERATE_MAP.
- Support for creating a different subdirectory for use as the object directory.
- Resolved DDTs:
 - GNBvd37191 - Lint supported only for OS20 builds
 - GNBvd39978 - Problem linking libs on vpath
 - GNBvd40674 - gmake run & gmake debug need updating for ST40
 - GNBvd41889 - Update of make for native compilation (Virtual SoC platform)
 - GNBvd42541 - GCC_CHECK compile flag generates fatal error for 7710 and 7100
 - GNBvd43204 - compilation error of some stapi drivers under PC-DOS environment

0.1.28 Changes from release 2.6.1

- Support for 5301 and mb390.

0.1.29 Changes from release 2.6.0

- Support for mb411, walkiry boards and 7100 platform.
- Fix for OS21 BUILD_LIBRARY macro failure - inclusion of libraries within libraries was not correctly handled. Any files of the same name were lost in the build.
- For OS21 builds, it is now possible to override the default board support package name. By default the name would be the DVD_PLATFORM setting, but now you can define SPECIAL_CONFIG_FILE in the environment to specify a different name.

0.1.30 Changes from release 2.5.1

- Support for mb400 and 5105.

- Fix for **GNBvd35579**: "Enhancement : -finl-timeslice needed for 7710 for timeslicing."
- Fix for **GNBvd35699**: "USE_DEBUG_KERNEL doesn't use OS21 debug kernel"

0.1.31 Changes from release 2.5.0

- Defined a CFLAG -DST_OS20 or -DST_OS21 depending on the setting of the DVD_OS, DVD_OS defaults to OS20 for ARCHITECTURE=ST20 and OS21 for ARCHITECTURE=ST40.
- Defined a CFLAG -DOS21_RUNTIME for OS21 builds.

0.1.32 Changes from release 2.4.2

- Note that fix for GNBvd32304 **changes the behaviour** of the make system. When using object directories, the make system will forcibly remove the architecture object directory (e.g. objs/ST20) even if there are files not cleaned by the makefile. Define PRESERVE_FILES in the environment to disable this functionality.
- Fixed **GNBvd32303**: Fix ST40/OS21 support and circular references
- Fixed **GNBvd32304**: "make clean" doesn't clean all files
- Fixed **GNBvd32643**: 7710 build requires os20intc2.lib rather than os20intc1.lib

0.1.33 Changes from release 2.4.1

- Added support for mb391 and 7710
- Added support for C1 cores (see GNBvd31941 below)
- Added a new CFLAG for distinguishing between C1 and C2 cores at compile-time:
 - DPROCESSOR_C1 will be defined for C1 cores
 - DPROCESSOR_C2 will be defined for C2 cores
- -DSTSYS_NO_PRAGMA is defined on CFLAGS for C1 cores
- Added support for using the 2.0 toolset debugger for PC (st20dev) instead of st20run
- Fixed **GNBvd27942**: Allow the user to switch between debug and production OS20 kernels
- Fixed **GNBvd31941**: 'PROCESSOR' doesn't depend on environment

0.1.34 Changes from release 2.4.0

- Added support for stpti4 in DVD_TRANSPORT. This is to be used for pti4 devices in order to remove the need to include logic based on DVD_FRONTEND to adjust test import statements. So tests can include:

```
IMPORT += $(DVD_TRANSPORT)
```

rather than:

```
ifeq "$(DVD_FRONTEND)" "5528"
    IMPORT += stpti4
else
    IMPORT += stpti
endif
```

DVD_TRANSPORT can now be set to pti/link/stpti/stpti4

- Fixed **GNBvd25839**: mb376 platform is wrongly tied to GX1, not 5528
- Fixed **GNBvd25841**: 'make debug' uses the wrong command for OS21
- Fixed **GNBvd25856**: It would be nice to be able to use the 'debug' version of OS21
- Fixed **GNBvd26285**: RUNARGS not available for ST40
- Resolved **GNBvd12239**: Ability to set compilation flags for components in tree env.

This last DDTs has been resolved with "no fix".

0.1.35 Changes from release 2.3.0

- Added support for STi5100 and MB390 (STi5100 evaluation platform)
- Fixed **GNBvd21578**: DVD_INCLUDE_EXPORTS does not work in a tree environment
- Fixed **GNBvd23726**: Error not reported correctly
- Fixed **GNBvd24526**: Need to suppress lint warning #526

0.1.36 Changes from release 2.2.0

- Note: there is a change in behaviour in this version of make for ST40 builds. Since the OS40 operating system is now defunct and replaced by OS21, OS40 is no longer supported and OS21 is supported.
- Added support for STi5528, MB376 and Espresso.
- Update of documents after review.
- Fixed **GNBvd18159**: XTV test tree not compatible for ST and NDS use without modification
- Fixed **GNBvd18312**: Windows 95/98/ME compatibility
- Fixed **GNBvd19456**: Cannot export two libraries in ST20_EXPORT list
- Fixed **GNBvd20270**: lint seems to be confused by __inline

0.1.37 Changes from release 2.1.0

- Added support for STi5517 and MB382.
- Added support for STi5517 plugged in to MB361 via `OPTIONAL_CONFIG_FILE` variable. When the `DVD_PLATFORM` is mb361 and `DVD_FRONTEND` is 5517, the `OPTIONAL_CONFIG_FILE` will be mb361_5517.cfg (or mb361_5517_um.cfg). This file will be used if it exists or mb361.cfg (or mb361_um.cfg) will be used.
- Added support for flexi-lint analysis on unix and windows (windows support not yet tested).
- Added support for variant name object directory using `DVD_BUILD_VARIANT`. When this variable is set (to something like `stpti-dvb`), this will be used as the object directory name rather than ST20 or ST40 (the object directory path will be `objs/stpti-dvb` rather than `objs/ST20`).
- Added support for overriding the compiler optimization level via the `OPTLEVEL` variable.
- Some updates to the SPARC architecture build.
- Fixed **GNBvd17015**: SUBDIRS are added to `INCLUDE_PATH` but not `vpath`

0.1.38 Changes from release 2.0.12

- Removed “cmd /c” from PC del command as this just caused problems in cleaning the tree.
- Added support for SPARC architecture build and explorer4010 and explorer8010 platforms.

0.1.39 Changes from release 2.0.11

- Fixed **GNBvd15509**: lib directory not cleared by make clean operation
- Fixed **GNBvd14101**: Build of hex file fails when building from clean in object directory

0.1.40 Changes from release 2.0.10

- Fixed **GNBvd13714**: os20ilc2.lib doesn't work on STi5518

0.1.41 Changes from release 2.0.9

- Added support for mb361 platform.
- Provided a mechanism for a makefile to suppress the default `clean_all` target.
- Prepend “cmd /c” to the front of some PC build commands (`copy`, `echo` and `del`). This is to fix an intermittent clean failure.
- Fixed **GNBvd11359**: Cannot specify which ilc lib to use (ST20).
- Fixed **GNBvd12937**: Request support for map file generation.

0.1.42 Changes from release 2.0.8

- Added support for mediaref platform.
- Removed support for mb314um platform (see next point).
- Support for unified memory build. Invoke make with `UNIFIED_MEMORY=1`. This will pass a `-DUNIFIED_MEMORY` to C compile command-line. Standard configuration file will have `_um` appended (e.g. `mb314_um.cfg`).
- Support to specify an alternate main config file (using `SPECIAL_CONFIG_FILE` make system variable).

0.1.43 Changes from release 2.0.7

- Fixed **GNBvd08638**: Non-standard filename extension for book file.
- Fixed **GNBvd08660**: Need support for DVD_OS
- Fixed **GNBvd08947**: Request arguments to be able to be passed to st20 (st40run)
- Fixed **GNBvd09016**: Request Format Change in Release Notes: MAKE.REL
- Made change to `toolset.mak` for ST40 compatibility with 1.8 toolset (additional library in link).
- Changes to rules to find default values for `DVD_FRONTEND`.
- Added new lookup table to support special config file rules.

0.1.44 Changes from release 2.0.6

- Added default settings for mb314 platform.
- Added INTC and ILC link-time options for STi5514 target device.
- Added new DVD_LINK_INIT option for allowing the toolset linker procedure to be set globally.

0.1.45 Changes from release 2.0.5

- Fixed **GNBvd08275**: Problems building debug version of STTBX
- Added support for ST40_MKFLAGS and <exe_target>_ST40_MKFLAGS as os40mkarch parameters. This was required to support inclusion of extra OS40 actors.
- Added support for building user actors for OS40.
- Updated makesystem document to reflect new os40mkarch parameters.

0.1.46 Changes from release 2.0.4

- Fixed **GNBvd08181**: Failure to find imported ST40 library.
- Fixed **GNBvd08189**: Include path needs extending to support ST40 tree build
- Fixed **GNBvd07180**: Integration of Codetest into Make system
- Fixed **GNBvd08251**: Intermediate object files are not removed from ST40 build
- Resolved **GNBvd06303**: Issues with objs/ST20 dirs
- Added support for PTI header file and library location to be in the root of the PTI component.
- Added support for three new makesystem build options (GCC_CHECK=1, GCC_CHECK_SA=1 and GCC_DEP=1). These use gcc to provide extra warning checks and generate header file dependencies.
- Updated makesystem document to reflect recent changes to the make system.

0.1.47 Changes from release 2.0.3

- Fixed **GNBvd07297**: rmdir fails on PC build.
- toolset.mak now determines the platform bootloader to be used by os40mkarch from DVD_FRONTEND.
- Modified toolset.mak so that the platform-specific include path is appended to the compile command-line. This is required for compatibility with ST40 v1.8 toolset.

0.1.48 Changes from release 2.0.2

- Fixed an issue with ST40 build, where rules to create an executable were incorrect.
- Fixed **GNBvd06341**: "Make clean_all does not clean DVD_EXPORTS directory fully." ST20 config files are also removed from this directory.
- Fixed **GNBvd06386**: "Compatibility issues with DVD_FRONTEND/DVD_BACKEND/CHIP_LIST". CHIP_LIST defaults to include DVD_FRONTEND and DVD_BACKEND chips.
- Fixed **GNBvd06519**: "clean_all does not remove object directory"

- Fixed **GNBvd06709**: “No interrupts with `os20ilc2.lib`”. Toolset documentation states that the `os20ilc2.lib` should be used for the 5518, but this requires a change to the driver API calls. The make system has reverted to using `os20ilc1.lib` until all effected drivers can be changed.

0.1.49 Changes from release 2.0.1

- `DVD_TRANSPORT` is forced to lower-case, allowing it to be used directly for defining the `IMPORTS` list.
- Fixed **GNBvd06304**; object subdirectories are now created with permissions allowing non-owners to perform a make clean - this was a problem when using a build view.
- Corrected an issue arising from the fix to **GNBvd06300** where the cleaning of object subdirectories was inadvertently re-creating the directories.
- Corrected a further issue arising from the fix to **GNBvd06300** where a forward-slash was used instead of `$(SLASH)` causing problems for DOS builds.

0.1.50 Changes from release 2.0.0

- Fixed **GNBvd06300** - the object subdirectories are now removed as part of the make clean process.
- Fixed a problem with include path that is generated when `DVD_INCLUDE_EXPORTS` is specified for a non in-placed build.
- The include and library paths generated for the legacy PTI driver are translated for an in-place build. This is necessary as the PTI driver does not export its header or library files to the driver's root directory.
- Added toolset support for the ST40 to allow the librarian to generate a library comprising of other library files.

0.1.51 Known Problems

- None.

0.1.52 Outstanding Defects

- None.

0.1.53 Testing level

There are no formal tests for the correctness of the make system files, but are used by all released STAPI components and their test directories.

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