Verix Developer Training

Development Kit

Verix V Development Kit

§ **IDE of your choice**

- Typically Microsoft Visual Studio & nmake.

§ **Software**

- Verix V Operating System QA0004A0
- Verix V Software Development Suite 5.0
- ARM Toolkit
- Porting Utilities

Verix V Software Dev. Suite 5.0

§ **SDK**
  - **Core Development libraries & tools**

§ **ACT2000**
  - **Printing, Terminal and Utility Libraries**

§ **Cardslot**
  - **ICC Smart Card Library**

§ **TCPIP**
  - **TCP/UDP & SSL Libraries**

§ **UCL**
  - **Universal Communication Libraries**

§ **VMAC**
  - **Verix Multi Application Conductor**

VeriFone.

Verix V Software Dev. Suite 5.0

§ **VeriFind**

- **Automated Testing Tool and file retriever.**

§ **VeriPrint**

- **Printer Simulator**

§ **FontGeneration**

- **Tool for creating screen and printer fonts**

§ **Tools**

- **Ancillary tools**

§ **VeriShield**

- **Application & script signing tool.**

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ARM Toolkit - RVDS 2.1

§ **RVCT 2.0.1**

§ **RVD 1.7**

§ **RVIce 1.0.1 – need to install separately**

Requires license for activation!!!

ARM Toolkit - License

§ Two flavors

- Node locked
- Floating

§ Steps:

- Install the Compiler tool kit
- Follow the instruction in license_request_form. Txt to find the host-id
  - Lmutil lmhostid
- Pass on the host-id to VeriFone to get your License

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§ VeriFone will send you the following files:

- License.dat
- Default
- Notes on Licensing - .pdf file

§ The .pdf file contains the license installation procedure

Setup and Environment

§ The following SDK related environment variables are required for the normal functionality
- VACT2000=C:\VerixVAps\ACT2000
- VCARDSLOT=C:\VerixVAps\CardSlot
- VERIFIND=C:\Verixvaps\VeriFind
- VERIPRINT=C:\verixvaps\veriprint
- VMSNGER=C:\VerixVAps\Messenger
- VRXSDK=C:\VerixVAps\VFSDK
- VSFSTOOL=C:\Program Files\VeriShield File Signing Tool
- VTCPIP=C:\VerixVAps\TCPIP
- VUCL=C:\VerixVAps\UCL
- VVMAC=C:\VerixVAps\VMAC
- VVTMA=C:\VerixVAps\VTMA

Setup and Environment

The following Compiler related environment variables need to be set

RVCTBIN (*Note: This variable is not set automatically*)

RVCT20INC

RVCT20LIB

HLPPATH

DTEXT_PATH

ARMROOT

RVDEBUG_INSTALL

ARMLMD_LICENSE_FILE

ARMHOME (*Note: This variable is not set automatically*)

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Main Constituents of the Verix V SDK

- § vrxcc.exe

- § vrxhdr.exe

- § vrxlib.exe

- § ddl.exe

- § vlr.exe

- § findsrc.exe

- § dbmon.out

- § vrxdb.exe

- § vssconv.exe

- § verix.lib

- § ACT2000.a

vrxcc.exe

- § Verix/ARM build tool – compiles and links
- § In-turn invokes ARM tools – wrapper driver
- § vrxcc in-file.c – generates the corresponding .out
- § -c – compiles only
- § -o – specify the out file name
- § -k – keep temp files
- § -n – don't run tools but just show

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vrxcc.exe

§ Can pass options meant for the compiler "armcc".

§ Default options passed are

- --cpu ARM920T
- --bigend
- -J<VRXSDK>\include
- --apcs/shclient

NOTE: vrxcc does not differenciate C and C++ code

vrxhdr.exe

§ List or Modify Executable File Header

§ Replacement for outhdr.exe utility

§ Usage: VRXHDR [-U] [-d|-n] [-v n.m] [-s n] [-h n] [-f n] [-q] file

§ D/N decides if the out file can be debugged or not

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vrxlib.exe

§ Generates the downloadable .lib file
§ Generates the .o interface file that needs to be linked

Note:

§ Follow special instructions to create the library archive and description file.
§ Check the documentation sharlib.pdf under docs folder of sdk install directory

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ddl.exe

§ supports -r option to remove the file

§ supports -z option to coalesce the flash

§ supports specifying destination file name
sourcename@destinationname

§ supports abbreviation for setgroup and setdrive
commands

§   - DDL @F @2 AA.OUT

§ several bug fixes

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Main Constituents of the Verix V SDK

vrxdb.exe

§ This will be the main debugger the user will be launching

§ Mediates between RVD and DBMon

§ Talks with RVD via TCP/IP

§ Provides command line interface and implements some Verix specific commands

§ Vrxdb is a console application that can be run from DOS prompt

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ACT2000.a

- Main system library that supports all SDK APIs
- Replacement for libsys.a in Verix platform
- All application should link with this library.
- Change the make file to use this version of library

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LAB Exercise

Lab2: New Application using the packaged wizard and VC++

Creation of a new application, using the Verix wizard.
Build the application and execute on the terminal.