GDK7 快速上手指南

欢迎加入 GDC 大家庭,在您收到 GDK7 硬件后,一定迫不及待地想试用一下,这个文档的目的就是为您提供上手的基本步骤。下面是以 DCI 调试会话为例,介绍基本的操作过程。因为 第一次使用,"百废待兴",所以整个过程可能需要几个小时时间,希望你不要着急。有任 何问题都可以通过 Nano Bell 寻找答案或者提问。

准备材料:

- 1, 调试目标机,即 GDK7
- 2, USB3 专用电缆
- 3, 调试主机,建议使用 Windows 10(64位)的 PC 或者工作站。
- 1. 首先安装 Windbg 调试器,通过如下链接:

https://docs.microsoft.com/en-us/windows-hardware/drivers/debugger/debugger-download-to ols

2. 安装 Intel System Studi,通过如下链接,到 Intel System Studio 软件的官方页面:

https://dynamicinstaller.intel.com/system-studio/

(intel) Developer Software Zone		
	INTEL® SYSTEM STUDIO INNOVATE SYSTEM & IOT APPLICATIONS Get the Full System Studio Package	Selected Tools
	CUSTOMIZE YOUR PACKAGE Select only the tools you need	
Filter Packages by:	Q Search within these results	
Category@	Add All Tools	
Compiler and Performance Libraries CPU/GPU programming	Energy Analysis Analyze and optimize Energy & Thermal behavior Add	
Profiling and Analysis System bring-up	Use Intel System Studio's Energy Analysis capabilities to analyze thermal, power and energy consumption and identify system behaviors More Info that waste energy / battery life.	
Host OS®	Intel® Advisor Optimize Vectorization and Prototype Threading	
Uindows*	Use breakthrough vectorization and threading design with Intel [®] Advisor for C and C++ IoT or embedded software applications. More Info	
Linux*		
macOS*	Intel® C++ Compiler Standards-based C & C++ compiler tools Add	
Transit OF @	Standards-based C & C++ compiler tools to boost application performance through optimized and vectorized code, integration with	

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Compiler and Performance Librarier		Intel® Integrated Perfo
CPU/GPU programming	Energy Analysis Analyze and optimize Energy & Thermal behavior	ove
Profiling and Analysis	Use Intel System Studio's Energy Analysis capabilities to analyze thermal, power and energy consumption and identify system behaviors that waste energy / battery life. 23	MB
System bring-up		Library
Host OS [®]	Intel® Advisor Optimize Vectorization and Prototype Threading	ove

3. 然后进入下载界面

e Zone				Sign I
Γ	Y	DUR TOOLS ARE REA	ADY FOR DOWNLOAD	
< Edit Package	Windows* Host Windows* Target (Plugin for Visual Studio*)	Windows* Host Linux* Target (Eclipse-based tools)	Linux* Host Linux* Target	macOS* Host Linux* Target
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Intel® C++ Compiler	~	~	~	
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> System Requirements				

下载到本地以后,解压直接安装即可,System Studio 比较庞大,下载和安装时间可能比较长。 安装好 System Studio 之后,请重启一次系统。

4. 现在可以使用 GDK7 附带的专用通信线把 GDK7 连接到主机了,注意主机端必须使用 USB3 接口,位置可以任意选择,对于目标端,请选择 GDK7 的如下两个 USB 接口之一



5. 现在可以考虑为 GDK7 上电开机了,请连接好显示器和键盘等设备,查好电源,然后按下电源按钮。GDK7 启动时,默认会选择 Windows 系统,请保持不变。GDK7 进入桌面后,打开主机端的设备管理器,如果出现下图所示的 DCI 设备,那么表示主机端已经成安装 DCI 驱动。

↓ 设备管理器
文件(F) 操作(A) 查看(V) 帮助(H)
V 🐣 LAPTOP-S686C46G
> 🖵 Intel DCI Transports(USB-Based)
> 🗖 处理器
→ 磁盘驱动器
> Sa 存储控制器
> 🖻 打印队列
> 🖻 打印机
> 🥪 电池
> 🎽 固件
> 📮 计算机
> 🔤 监视器
> 🔤 键盘
、 <u>6</u>

如果没有找到 DCI 设备,那么请展开 USB 控制器的子设备,如果发现类似下图所示的 Unknown USB Device,那么右键点击这个设备,先选 Disable,再选 Enable

- V 🖣 Universal Serial Bus controllers
 - Intel(R) USB 3.0 eXtensible Host Controller 1.0 (Microsoft)
 - 🐁 Unknown USB Device (Link in Compliance Mode)
 - USB Composite Device
 - USB Mass Storage Device
 - USB Root Hub (USB 3.0)
- 6. 在主机端下载 Nano Code,下载链接为 https://www.nanocode.cn/#/download

下载成功以后进行安装,安装向导类似下图所示:

、安装程序 - Nano Code (User) ー	×
许可协议 请在继续操作前阅读以下重要信息。	1
请阅读以下许可协议。必须接受此协议条款才可继续安装。	
Nano Code最终用户使用协议	^
Nano Code是格蠹信息科技(上海)有限公司(以下简称"格蠹科 技")开发的集成开发环境(IDE),不仅集成了传统IDE所具有 的代码编辑、软件构建和开发期调试等基础功能,还具有阅读、	v
 ● 我接受协议(A) ○ 我不接受协议(D) 	
下一步(N) > 取	2消

7. 安装成功以后,请使用 GDC 会员邮箱进行注册,如下图所示:

1 我的师	代号		
		_	
	计吅改当	\times	
	江川豆永		
	录注册		
-	Please enter your login name	_	
â	Please enter your password		
		-	
Ô	Please re-enter your password		
	Please enter your email	_	
Ŧ	2月月春并阅读《田户协议》		
	● 注册		

8. 注册成功以后,请登录 Nano Code。

	土加		- 1
L Pleas en	ter your login name or er	nail	
Please fill in the	ame		
Please en	ter your password		
✓ 自动保存登号	寻代太		
	3477/104	 登录 	. 1
		 	
	\$KVVD	9 登录	

9. 登录 Nano Code 成功以后,就可以开始调试目标机了。选择步骤如下图所示:



Serial Port Pipe USB3		
O DCI Exdi		
🔵 DCI Open		
○ ND(Nano Debugger KD Protocol)		
NT(Windows NT KD Protocol)		
Enter NT TargeNname		
Reconnect Linux Kernel	Proxy	
type=usb3,proto=dcid,ipc=exdi,opt=r		
type=usb3,proto=dcid,ipc=open,opt=r		

10. 点击确定以后, Nano Code 会调用 Intel 的 EXDI 服务,后者会弹出一个 Console 窗口。在 第一次调试时, Nano Code 需要下载调试符号,可能需要几分钟的时间,请耐心等待。如果 一切顺利的话,那么会看到下图这样的界面,证明目标机成功被中断,DCI 调试会话已经成 功建立,之后便可以输入更多调试命令,进行调试了。

NANO DEBUGGER 🕼	🖾 Welcome 🗱 Nano Home 📓 Nano Debugger X 🗟 Untitled-1	Registers ×	
Open Executable	Filev Viewy + > ~ + C = G	Reg	Value 🗹 hex
Attach to a process	Searching for nt!KdVersionBlock	Tax	0x220000f59f0
Open Crash Dump	Overriding symbol path for nt:KdVersionBlock location to	rcx	0x220000f58e8
	SRV*c:\aymbols*http://msdl.microsoft.com/download/aymbols	rdx	0x0
	The following symbol path will be used to find nt kernel symbols:	xha	0x22000101588
	SRV*c:\symbols*http://msdl.microsoft.com/download/symbols	NAME -	014406257488
	Found KdVersionBlock at 0xfffff8057e42a3d8	rap	
	Found target VersionBlock at UxififitUb/e52a3d8	rbp	OX84064EDEB0
	Connected to Windows 10 10302 Xow target at (FI1 May 20 11:14:17.333 2020 (0.5 - 0.0077, point another	rsi	0x22000e0020
	Desconse Cime (ms) Location	rdi	0x220000f58e8
	Deferred SRU*c:\aumhola*http://madl.microsoft.com/download/symbols	28	0x220000e0020
	Symbol search path is: SRV*c:\symbols*http://msdl.microsoft.com/download/symbols	r9	0x9
	Executable search path is:	r10	0x220000e0020
		rii	0x220000f58e8
	Unable to read debugger data block header	r12	0x84062fc460
		*13	0x84062fc600
	Loading symbols for fffff805'7e000000 ntkrnlmp.exe -> ntkrnlmp.exe		0v220000#55a8
	ModLoad: fffff805'7e000000 fffff805'7eab7000 ntkrnlmp.exe	F14	042000000000
		r15	UKU
	Unable to read debugger data block header	rip	0x7ff97a683111
		efl	0x10202
	Windows 10 Kernel Version 18362 MP (4 procs) Free x64	cs	0x33
	Product: WinNt, suite: TerminalServer SingleUserTS	ds	0x2b
	Machine Name:	es	0x2b
	Kernel base = 0xfffff805 7e000000 PsLoadedModuleList = 0xffff805 7e448170	(s	0x53
	Debug session time: Fri May 29 03:14:06.329 2020 (UTC + 8:00)	gs	0x2b
	0: kd> Input command	35	0x2b
	VI KOS Input commins TERMINAL DEBUG CONSOLE DUTFUT PROBLEMS	55	0x2b Nano Code v 📼 🛆 🖺
	<pre>11141001#001#001#001 CHERGE VER INCLUSION: getCON(ball), sal00es 11141001#V01#V01#sal0#datadates: CEE_EXCUTSION(ball), sal00es 1114101#V01#V01#Sal0#datadates: CEE_EXCUTSION(ball), sal0 111401#V01#V01#Sal0#datadates: CEE_EXCUTSION(ball), sal 111401#V01#V01#Sal0#datadates: CEE_EXCUTSION(ball), sal0#datadates: CEE_EXCUTSION(ball),</pre>		

如果上述过程中,出现故障,那么请不要着急,可以点击 Nano Code 的菜单 Nano > Bell 计 入 Nano Bell 问答系统。