The complimentary S32 Design Studio IDE (S32DS) is a comprehensive enablement environment for automotive and industrial applications with no code-size limitations.

OVERVIEW
The S32DS enables editing, compiling and debugging of designs. Based on open-source software, including Eclipse IDE, GNU Compiler Collection (GCC) and GNU Debugger (GDB), the S32 Design Studio IDE offers software developers a straightforward development tool.

NXP software included along with the S32 Design Studio IDE completes the comprehensive enablement environment and reduces development time.

S32DS FEATURES
- Configuration tool for pin functions, clocks, peripheral drivers and FreeRTOS
- DCD, IVT, QuadSPI and DDR tools
- S32 Debugger for S32 Platform and S32 Debug Probe support
- New project wizard to create bare metal or software development kit (SDK) projects
- Integrated runtime software: Real-Time Drivers, S32 SDK, Vision SDK, and Radar SDK
- Advanced FreeRTOS kernel-aware debug support
- Peripherals register view
- Assembly language supported, together with C and C++
- Supports Eclipse plug-ins from the Eclipse ecosystem or from partners
- Supported host operating systems:
  - Microsoft® Windows® 7/8/10 with 32-bit binaries running on 32-bit and 64-bit OS
  - Ubuntu 16.04 (64-bit), 18.04 (64-bit)
  - Debian 8 (64-bit)
  - CentOS 7 (64-bit)
# S32DS Supported Devices

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<th>SUPPORTED PRODUCTS</th>
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<th>S32DS for Arm®</th>
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<td>S32G2</td>
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<td>S32K3</td>
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<td>S32S</td>
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<td></td>
<td>S32 platform devices</td>
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</tbody>
</table>

## Integrated NXP Tools

- **S32 Configuration**
- **S32 Flash Tool**
- **Pins Wizard**
- **Clocks configuration**
- **Peripheral/Drivers configuration**
- **DCD configuration**
- **IVT configuration**
- **QuadSPI configuration**
- **DDR configuration**
- Processor Expert®
- Pins Wizard
- Peripheral/Driver configuration
- Integrated NXP tools:
  - FreeMASTER

### Integrated NXP Software

- S32 RTD
- S32 SDK
- FreeRTOS
- AMMCLib
- Vision SDK
- Linux® BSP
- S32K1 SDK
- FreeRTOS
- AMMCLib for KEA and S32K
- KEA SDK
- MQX OS/MQX drivers for MAC57D54H
- S32 SDK for MPC57xx and S32R
- FreeRTOS
- AMMCLib for MCP5xxx
- Radar SDK

### Compilers

- NXP GCC 10.2*
- NXP GCC 9.2*
- NXP GCC 6.3.1*
- Green Hills
- IAR
- NXP GCC 6.3.1*
- Green Hills
- IAR
- NXP GCC 4.9*
- Green Hills
- Diab

### Debuggers

- Built-in GDB interface:
  - S32 Debugger
  - S32 Debug Probe
  - P&E Multilink/Cyclone/ Open SDA
  - Segger J-Link
  - Lauterbach, iSystem, and IAR supported
- Built-in GDB interface:
  - P&E Multilink/Cyclone/ Open SDA
  - Segger J-Link
  - Lauterbach, iSystem, and IAR supported
- Built-in GDB interface:
  - P&E Multilink/Cyclone/ Open SDA
  - Segger J-Link
  - Lauterbach, iSystem, and PLS supported

### Dedicated Tools

- Vision:
  - NXP APU Compiler
  - ISP Assembler
  - ISP and APEX graph tools
- Radar:
  - SPT assembler
  - SPT explorer
  - SPT graph tool

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**GET STARTED WITH S32 DESIGN STUDIO IDE:**
Download it now: [www.nxp.com/S32DS](http://www.nxp.com/S32DS)
**S32 DEBUGGER**

The S32 Debugger provides all the standard debugging features critical for testing and locating bugs in your application. It is dedicated to NXP microprocessors and accelerators and is available at the first customer silicon samples.

The S32 Debugger, as an essential part of the S32 Design Studio, is designed to work in conjunction with the S32 Debug Probe and NXP Automotive processors to accelerate all phases of project development.

**S32 DEBUGGER FEATURES**

- Full integration within S32 Design Studio IDE using GDB interface in Eclipse supporting all standard debug features
- Support for all Arm cores and accelerator cores
- Support for concurrent multicore debugging
- Integrated Flash programmer for Flash over JTAG
- Access to core and peripheral registers through IDE views
- Low level command line interface, GDB python scripting
- Secured device debugging
- Trace Support on Arm Cores with Trace/Profiling Views
- OS aware debugging for FreeRTOS and
- AUTOSAR/OSEK OS
- Supported host operating systems:
  - Microsoft Windows® 7/8/10 with 32-bit binaries running on 32- and 64-bit systems
  - Ubuntu 16.04 (64 bit), 18.04 (64 bit)
  - Debian 8 (64-bit)
  - CentOS 7 (64-bit) JTAG

**S32 DEBUGGER SUPPORTED DEVICES**

<table>
<thead>
<tr>
<th>CORES</th>
<th>FLASH</th>
<th>DEBUG HW</th>
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<tr>
<td><strong>S32 PLATFORM DEVICES</strong></td>
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<tr>
<td>Arm cores</td>
<td>External Flash Supported</td>
<td>S32 Debug Probe</td>
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<tr>
<td>Arm Cortex-A53</td>
<td>Arm Cortex-M7</td>
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</tr>
<tr>
<td>Accelerator cores: LLCE Trace: Cortex-A53 cores</td>
<td>QSPI Flash: MX25UW12A45G</td>
<td>S32 Debug Probe</td>
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<tr>
<td><strong>S32G2</strong></td>
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<tr>
<td>Arm Cortex-A53</td>
<td>Arm Cortex-M4 Accelerator cores: APEX, ISP Trace: Cortex-A53 cores</td>
<td>QSPI Flash: S26KL512S</td>
</tr>
<tr>
<td><strong>S32V23X</strong></td>
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<tr>
<td>Arm Cortex-R52 Embedded Flash: C55_AE QSPI Flash: MX25UW12A45G</td>
<td>S32 Debug Probe GreenBox II on-board CMSISDAP</td>
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<td><strong>S32S247</strong></td>
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</table>

**S32 DEBUG PROBE**

S32 Debug Probe (S32DBGPROBE) enables NXP target system debugging via a standard debug port while connected to a developer’s workstation via Ethernet or USB.

S32DBGPROBE may also be referred to by industry-standard terms such as a probe, JTAG probe, JTAG emulator or target probe.

S32 Debug Probe can be ordered at nxp.com or from an authorized NXP distributor.

Visit [www.nxp.com/S32DebugProbe](http://www.nxp.com/S32DebugProbe) for more information