

# Topaz Release Notes

---

*For the Windows Embedded CE 6.0 R3 and Windows Embedded Compact 7 Image and BSP*

*CE 6.0 R3 Release 506*

*WEC 7.0 Release 507*

*Monday, 12 September 2011*

## Table Contents

Release Contents .....	1
Topaz Release Notes r506-r507.pdf.....	1
Getting Started with the Topaz.pdf .....	1
Topaz Binary BSP Users Guide.pdf.....	1
Topaz CE6R3 SDK r506.msi .....	1
Topaz CE6R3 Image Binaries r506.zip .....	1
Topaz CE6R3 Binary BSP r506.zip.....	1
Topaz WEC7 SDK r507.msi.....	1
Topaz WEC7 Image Binaries r507.zip.....	2
Topaz WEC7 Binary BSP r507.zip .....	2
WEC7 on Topaz .....	2
Changelist.....	2
WEC 7.0 Release 507.....	2
CE 6.0 R3 Release 506.....	2
Release 432.....	2
Release 366.....	3
Release 298.....	3
Release 280.....	3
Release 272.....	3
Release 256.....	3
Known Issues and Limitations.....	4
Support .....	6

## Release Contents

The contents of the release packages are described below. The release packages can be downloaded at this permanent link: <http://guruce.com/topaz/release/r506>

The release packages:

- 1) Topaz Release Notes r506-r507.pdf
- 2) Getting Started with the Topaz.pdf
- 3) Topaz Binary BSP Users Guide.pdf
- 4) Topaz CE6R3 SDK r506.msi
- 5) Topaz CE6R3 Image Binaries r506.zip
- 6) Topaz CE6R3 Binary BSP r506.zip
- 7) Topaz WEC7 SDK r507.msi
- 8) Topaz WEC7 Image Binaries r507.zip
- 9) Topaz WEC7 Binary BSP r507.zip

### Topaz Release Notes r506-r507.pdf

This document.

### Getting Started with the Topaz.pdf

This document is a step-by-step guide to getting started with the Topaz Windows CE 6.0 R3/Windows Embedded Compact 7 Image Binaries and describes how to develop software for the Topaz using Visual Studio 2008.

### Topaz Binary BSP Users Guide.pdf

This document is a step-by-step guide to getting started with the Topaz Windows CE 6.0 R3/Windows Embedded Compact 7 Binary BSP and describes how to develop custom image binaries using Visual Studio 2005 with Platform Builder for Windows CE 6.0 and Visual Studio 2008 with Platform Builder for Windows Embedded Compact 7.

### Topaz CE6R3 SDK r506.msi

This installer contains the Topaz Software Development Kit (SDK) needed to be able to develop applications for the Topaz running Windows CE 6.0 R3 using Visual Studio 2008.

### Topaz CE6R3 Image Binaries r506.zip

This zip package contains the Windows CE 6.0 R3 image binaries in bin format. The bin files can be flashed to the Topaz using the Topaz Flasher (<http://guruce.com/topaz-flasher>).

### Topaz CE6R3 Binary BSP r506.zip

This zip package contains the Topaz BSP in binary form and the standard Topaz OS Design. These can be used to create custom Windows CE 6.0 R3 images using Visual Studio 2005 with Platform Builder for Windows CE 6.0.

### Topaz WEC7 SDK r507.msi

This installer contains the Topaz Software Development Kit (SDK) needed to be able to develop applications for the Topaz running Windows Embedded Compact 7 using Visual Studio 2008.

## Topaz WEC7 Image Binaries r507.zip

This zip package contains the Windows Embedded Compact 7 image binaries in bin format. The bin files can be flashed to the Topaz using the Topaz Flasher (<http://guruce.com/topaz-flasher>).

## Topaz WEC7 Binary BSP r507.zip

This zip package contains the Topaz BSP in binary form and the standard Topaz OS Design. These can be used to create custom Windows Embedded Compact 7 images using Visual Studio 2008 with Platform Builder for Windows Embedded Compact 7.

## WEC7 on Topaz

Windows Embedded Compact 7 generates huge kernels in comparison to Windows CE 6.0 R3. The increase is x2 in all cases and x3 or even x4 in some other cases (depending on the selection of OS Components). The result is that you need massive amounts of flash (to store the image) and even more RAM (to run the image). The Topaz is a low-cost device with limited resources (Topaz standard configuration hosts 128 MB of Flash and 64 MB of RAM). Until Microsoft fixes the dependency checker of Platform Builder for WEC7 (so it generates normal size kernels) WEC7 is not suited for low-cost limited resources devices. At this moment we do not recommend WEC7 on a Topaz configuration with less than 128 MB of RAM.

The WEC7 image binaries we supply contain very little features (much less than the CE 6 binaries) but do run on the Topaz with 64 MB of memory, but only just. You won't be able to build a debug kernel with display support that you can download and debug on the Topaz (simply because you will run out of RAM when executing it).

## Changelist

### WEC 7.0 Release 507

- Synched CE 6.0 R3 Release 506 branch with WEC7 branch (see "CE 6.0 R3 Release 506" for the list of changes)

### CE 6.0 R3 Release 506

- Added support for USB keyboard mappings
- Fixed backlight build error when building headless image
- Fixed minor issue in GPIO driver
- Removed flood of BLOCK\_STATUS\_ messaged in bootloader output
- Added FlexCAN driver
- Fixed several bugs in common\_macros.h
- Added bootlogging and fixed some text in nand and sd code
- Added "Waiting for link" to the fec boot driver
- Removed old Freescale CAN driver (didn't work)
- Now setting PAD settings for all UART pins
- Added mouse cursor (fixes mouse cursor issue in r432) and kbdus components

### Release 432

- Default LCD panel now set to 4.3" 480x272 with new backlight enable signals (GPIO 3.18 instead of GPIO 4.9)
- Fixed set wallpaper bug in LCD autodetection routines
- Added GPT SDK headers

- Added interrupt capability to the GPIO driver and SDK library
- Mouse cursor now appears/disappears when USB mouse is attached/detached
- Added SD 4-bit capability in SDHC driver (massive speed increase)
- SD 2nd interface now configured correctly
- UART1 now DTE (instead of DCE; not connected on Topaz)
- Removed Camera driver (as it was very specific and hard to configure)
- Added SIM2 driver (smartcard)
- Serial Debug Port now selectable in bootloader
- Added UART1 driver to kernel (so UART1 is available for applications)
- Added support for CSPI2 and CSPI3
- Catalog selection now notifies user of possible IOMUX conflicts when selecting drivers
- ActiveSync USB Serial connection now always COM6 (prevents collisions with physical UART drivers)
- Bootloader now defaults to boot from NAND, KITL disabled and Serial Debug Port disabled
- Added OAL\_IOMUX\_SELECT\_INPUT macro and fixed some serial debug bugs
- Moved CANBUS registry entries to separate file (consistent with all other drivers)
- All drivers now adhere to BSP\_NO environment variables
- Removed LCD\_D0 and LCD\_D12 from LCD IOMUX setup (not used on Topaz so free to use as GPIO)

## Release 366

- Improved LCD autodetection routines
- Added support for LCD autodetection in 24LC32+ EEPROMs
- Added support for backlight configuration in LCD structures
- Added support for LCD enable configuration in LCD structures
- LCD autodetection is now an optional component
- Fixed PWM2 and PWM4 pad settings
- Added SDK headers and library for PWM
- Added automatic prescaler selection for PWM
- Fixed UART4 pad settings
- Added UART5 DMA support
- Fixed I2C pad and ALT settings
- Fixed I2C and USB OTG duplicated pin use
- Changed driver selection to match DevKit EXP headers
- Fixed flash in IE

## Release 298

- Added missing CAN SDK function declarations
- Added some more GPIO functions and fixed some bugs in the GPIO & DDK MUX code
- Added GPIO driver and SDK
- Improved LCD autodetection
- Added GPIO SDK description to documentation

## Release 280

- Added SPI, CAN and GPT drivers to the image (bus access through SDK)

## Release 272

- Removed Jscript from kernel (was causing problems with pictures on guruce.com)
- Removed IE and related components from Topaz OS Design in Binary BSP package (debug build got too big for available memory on Topaz)
- Fixed SDK so it installs the documentation correctly on systems with VS2008 installed

## Release 256

- Fixed GPT SDK code
- Added revision information to copyrights tab of system control panel applet

## Known Issues and Limitations

Issue ID	Category	Description	Workaround
0000101	BSP	OTG port not working in host mode	Hardware problem. New LCD design fixes this.
0000097	BSP	Ethernet LEDs not setup correctly after wakeup from suspend	No workaround available
0000078	BSP	ActiveSync not recognized on all PC's	Try other USB port or other machine.
0000176	BSP	WEC7 USB Keyboard does not work	No workaround available
0000177	BSP	Unable to create debug connection from Visual Studio to WEC7 image	No workaround available
0000178	BSP	WEC7 Suspend Resume does not work	No workaround available
	MS	WEC7 Copyrights Tab in System control panel applet doesn't show kernel revision.	MS to release QFE soon (fixes signed/unsigned comparison bug in copyr.cpp)

GuruCE is working hard to resolve these issues as soon as possible. If you find any other bugs or components not working correctly, please send a bug report to [topazbugs@guruce.com](mailto:topazbugs@guruce.com) using the template on the next page.

---

*Revision: [rXXX]*

*Component: [USB/I2C/Active Sync/etc.]*

*Description of current behaviour:*

---

---

---

---

*Description of expected behaviour:*

---

---

---

---

*Steps to reproduce:*

---

---

---

---

*Additional information:*

---

---

---

---

## Support

GuruCE offers various support options:

- **Custom OS Design**  
If you don't have Platform Builder or don't have the time or expertise to generate an image using the Topaz Binary BSP we can do it for you. We'll create a Windows CE kernel for you according to your specific needs. We can even sort out the correct Microsoft CE licenses for you.  
Cost: 600 USD / 450 EUR
- **Source BSP**  
If you need to change or modify existing drivers or OAL code you can buy the complete source code of the BSP including all drivers. This package comes with 8 hours of dedicated support.  
Cost: 2400 USD / 1800 EUR
- **Extra support**  
16 hours of extra support, development services or consultancy for your project.  
Cost: 2400 USD / 1800 EUR
- **Ad-hoc support**  
Small support tasks, charged per half hour.  
Cost: 160 USD / 120 EUR per hour

Please contact us directly for more support options and more detailed information on how we can help you:

### GuruCE APAC/NZ

Contact: Michel Verhagen  
Email : michel@guruce.com  
Phone :  
Mobile : +64 (0)21 104 6208

PO Box 831  
Whakatane, 3158  
New Zealand

### GuruCE EMEA/NL

Contact: Erwin Zwart  
Email : erwin@guruce.com  
Phone : +31 (0)728 503 119  
Mobile : +31 (0)629 512 116

Tuin van Halo 19  
Heerhugowaard, 1705 TD  
The Netherlands