

Updating Windows CE run-time-image using EBOOT

Application note

Target Setup:

- Connect RS-232 Female-Female cable to debug port (came with EVB)
- Connect other end to PC COM-port
- Connect BaseBoard power plug
- Connect Ethernet cable to Ethernet port

PC Setup:

- Install TFTP server
- Run TFTP server, listen on port 69
- Install hyper terminal, choose appropriate COM-Port.
 - Com-Port settings
 - Baud rate : 38400
 - Data: 8 bit
 - Parity : none
 - Stop bits: 1
 - Flow control: none

Update procedure:

- Power up system
- In PC HyperTerminal, Press 'Space' many times to stop system from loading run-time-image. See fig' below:

```
Tera Term Web 3.1 - COM1 VT
File Edit Setup Web Control Window Help
MOBM Alive
DDR in 32-bit mode

*****
Variscite LTD
VAR320 SBC v2.0 Module

Processor : Marvell Monahans-P PXA320 624MHz
Nand Flash: Samsung K9F1G08U0B 128MB
RAM       : 128MB 266MHz DDR SDRAM

Windows Embedded CE 5.0
Bootloader Ver 2.32
*****

128kb blocks
Copy Block 0x00020000 to DDR at 0x80000000 - OK!
Copy Block 0x00040000 to DDR at 0x80020000
Eboot Alive

Microsoft Windows CE Ethernet Bootloader Common Library Version 1.1 Built Jul 15 2008 14:23:19
Reset Cause (0x1): Hardware reset
MAC address: 02-00-5E-94-4C-83
pic init!

Press [ENTER] to launch image stored in flash or [SPACE] to cancel.

Initiating image launch in 5 seconds.
[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
[I] IP address of TFTP server is <by USNP server>
[N] Name of file to download is <Default>
[B] BSP configuration menu
[T] Test menu
----
[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: █
```

- Choose option 'I' to choose IP address of TFTP server, and type IP address of server. See example below:

```

Tera Term Web 3.1 - COM1 VT
File Edit Setup Web Control Window Help
Bootloader Ver 2.32
*****

128kb blocks
Copy Block 0x00020000 to DDR at 0x80000000 - OK!
Copy Block 0x00040000 to DDR at 0x80020000
Eboot Alive

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MAC address: 02-00-5E-94-4C-83
pic init!

Press [ENTER] to launch image stored in flash or [SPACE] to cancel.

Initiating image launch in 5 seconds.
[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
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[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: i

Enter new IP address: 192.168.1.100

[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
[I] IP address of TFTP server is <192.168.1.100>
[N] Name of file to download is <Default>
[B] BSP configuration menu
[T] Test menu
-----
[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: █
  
```

- Choose option 'N' to define requested file form TFTP server, for updating OS run-time-image, choose 'XIP.bin', see example below:

```

Tera Term Web 3.1 - COM1 VT
File Edit Setup Web Control Window Help
[B] BSP configuration menu
[T] Test menu
----
[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: i

Enter new IP address: 192.168.1.100

[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
[I] IP address of TFTP server is <192.168.1.100>
[N] Name of file to download is <Default>
[B] BSP configuration menu
[T] Test menu
----
[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: n

Enter name of file to download: XIP.bin

[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
[I] IP address of TFTP server is <192.168.1.100>
[N] Name of file to download is <XIP.bin>
[B] BSP configuration menu
[T] Test menu
----
[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: █
  
```

- Choose option 'U' to request OS image from TFTP server, and wait for download to start, after DHCP IP was received from DHCP server. See below:

```

Tera Term Web 3.1 - COM1 VT
File Edit Setup Web Control Window Help
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: n

Enter name of file to download: XIP.bin

[0] IP address is <192.168.1.126>
[1] Subnet mask is <255.0.0.0>
[2] Boot Delay is <5 seconds>
[3] DHCP <Enabled>
[5] <Launch existing flash resident> OS image at startup is set
[I] IP address of TFTP server is <192.168.1.100>
[N] Name of file to download is <XIP.bin>
[B] BSP configuration menu
[T] Test menu

-----

[L] Launch existing flash resident OS image now
[F] Format NAND flash
[W] NAND flash update of OS image is <Enabled>
[D] Download OS image with Platform Builder
[U] Update OS image with TFTP server
[E] Download Eboot image with TFTP server and update it in NAND flash
[S] Download Splash Screen image with TFTP server and update it in NAND flash
[C] Download Custom Config file with TFTP server and update Args in NAND flash

Enter your selection: u
pKITLArgs->MAC: 0002:945E:834C
cdadrcfg2:32C80B
(+)Dm9isaInit()
=====
EBOOT - Ethernet Debug Driver
-----
Driver Version : 1.11.071218.01
Release Date : 2007-12-18
=====
IO Address : 0xB9C00000
Data Port : 0xB9C00004
INFO::46
INFO::A46
INFO::0
INFO::9000
INFO::Probe: DM9000 is detected.
MAC Address : 02-00-5E-94-4C-83
IO Mode : WORD
Link is OK
(-)Dm9isaInit()
INFO: Davicom dm9000a Ethernet controller initialized.
InitEthernet: MAC address = 02-00-5E-94-4C-83
System ready!
Preparing for download...
OEMPreDownload: Using file name <XIP.bin>
InitDHCP(): Calling ProcessDHCP()
DHCPACK:: IP=192.168.1.126, NetMask=255.255.255.0, LeaseTime=86400 sec.
EbootCheckIP: No ARP response in 2 seconds, assuming ownership of IP address 192.168.1.126
EbootResolveIP: 192.168.1.100 is at 00-19-B9-79-E1-37
Start=0x800B0000, Length=0x02191644
DownloadImage: .bin type file
.....

```

Wait until download is finished and OS is burnt to flash.