

# SiteManager Application Note

## Setting up an Agent for a custom USB device



This document describes the basic setup of device agent for a USB device, for which the SiteManager does not list a vendor specific agent.

This Application note may be subject for more usage descriptions and solution scenarios in the future.

**Version: 1.0, April 2013**



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## Introduction

The USB port of the SiteManager has for purpose to emulate a direct plug-in of a device to the USB port of the PC on which the corresponding USB program is installed. The LinkManager on the PC takes care of redirecting the USB communication to the SiteManager.

Note that there may be equipment that does not conform to the USB standard (such as Rockwell, for which special tweaks has been made to get it working)

Also web cams will typically run in so called "isochronous mode", which has high demands for low latency. It is assumed the speed is fixed 12 Mps, and this mode is reserved for Monitors, Speakers and Webcams. The mode "asynchronous mode" supports data transfer down to 1.5Mbps.

A USB device should in fact be able to run all USB mode, but WebCams will typically reject all other modes than "isochronous mode" since the picture quality is assumed to be too low. In "isochronous mode" it is not taken into consideration to retransmit packages if they are corrupt (since retry will delay the transmission of the next package). Therefore "isochronous mode" is typically used for equipment where "timeliness" is more important than accuracy, and subsequently you can be reasonably certain that "asynchronous mode" is used for industrial equipment.

# 1. Configure a Custom USB agent

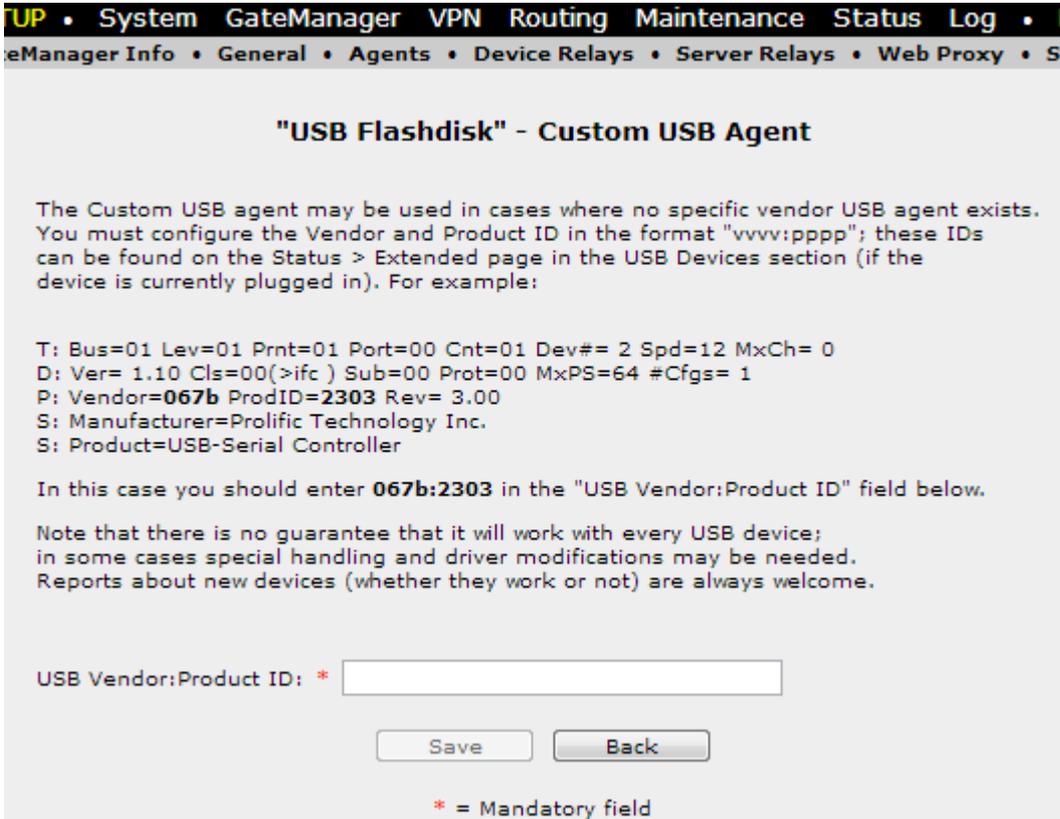
If you cannot identify your USB device among the available vendor specific agents, you can try creating a custom USB agent.

**NOTE:** The following procedure is applicable to the SiteManager firmware release 5.2. The procedure for identifying and applying Vendor ID and Product ID for the USB device into the agent is expected to be optimized in a future SiteManager release.

1. Plug the USB device into the SiteManager and restart the SiteManager.
2. Enter the agents menu in the SiteManager and select new, and select type **Custom / USB**. Then click **Parameter details**



3. Here you find a description on how to determine the USB product ID, which the SiteManager needs to make the agent work.



- As described go to menu **Status > Extended** and locate the device you have plugged in. In this example it is an ordinary USB flash disk that is plugged in.

```

SiteManager
secomea

SETUP • System GateMan
Status Info • System • Tu

===== Expansion Slots =====

Slot 0 []:
Slot 1 []:

===== USB Devices =====

T: Bus=01 Lev=00 Prnt=00 Port=00 Cnt=00 Dev#= 1 Spd=12 MxCh= 2
B: Alloc= 0/900 us ( 0%), #Int= 0, #Iso= 0
D: Ver= 1.10 Cls=09(hub ) Sub=00 Prot=00 MxPS=64 #Cfgs= 1
P: Vendor=1d6b ProdID=0001 Rev= 3.02
S: Manufacturer=Linux 3.2.13 ohci_hcd
S: Product=AT91 OHCI
S: SerialNumber=at91
C:* #Ifs= 1 Cfg#= 1 Atr=e0 MxPwr= 0mA
I:* If#= 0 Alt= 0 #EPs= 1 Cls=09(hub ) Sub=00 Prot=00 Driver=hub
E: Ad=81(I) Atr=03(Int.) MxPS= 2 Iv1=255ms

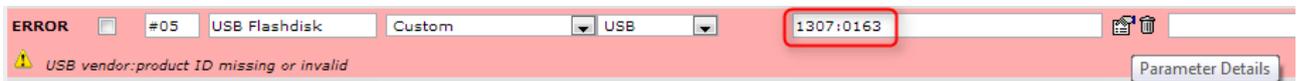
T: Bus=01 Lev=01 Prnt=01 Port=01 Cnt=01 Dev#= 2 Spd=12 MxCh= 0
D: Ver= 2.00 Cls=00(>ifc ) Sub=00 Prot=00 MxPS=64 #Cfgs= 1
P: Vendor=1307 ProdID=0163 Rev= 1.00
S: Manufacturer=P Technology
S: Product=USB Mass Storage Device
S: SerialNumber=000000000007CD
C:* #Ifs= 1 Cfg#= 1 Atr=80 MxPwr= 80mA
I:* If#= 0 Alt= 0 #EPs= 3 Cls=08(stor.) Sub=06 Prot=50 Driver=(none)
E: Ad=01(O) Atr=02(Bulk) MxPS= 64 Iv1=0ms
E: Ad=82(I) Atr=02(Bulk) MxPS= 64 Iv1=0ms
E: Ad=83(I) Atr=03(Int.) MxPS= 64 Iv1=8ms

===== Memory Usage =====

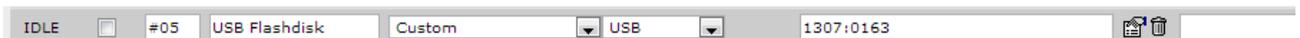
```

**Note:** you may have other USB devices, such as the integrated 3G modem of the SiteManager model xx39, or a USB broadband modem inserted into a xx29, so take your time identifying the right device

- Return to the agent configuration and insert the Vendor and ProdID

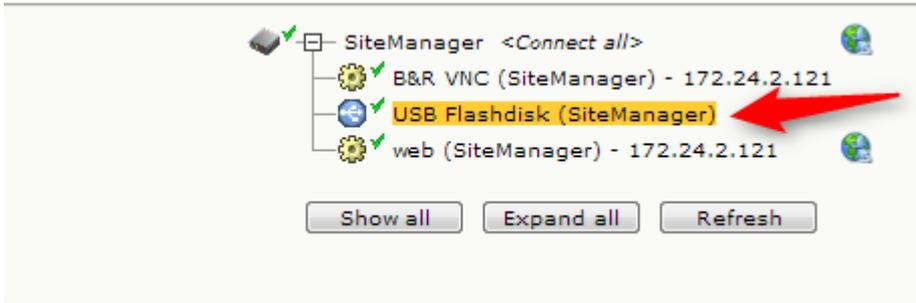


- Press **Save** and the agent should go **IDLE**:

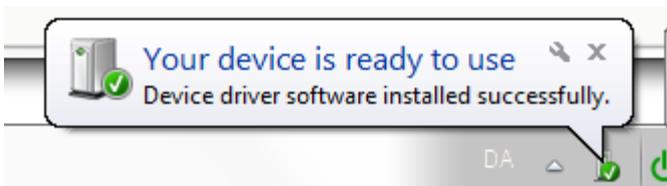


## 2. Connect with LinkManager

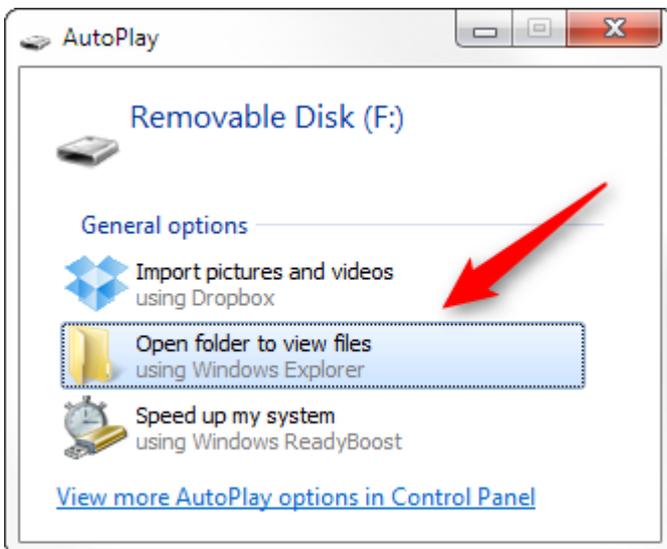
7. Start your LinkManager and connect to the agent



8. In this case it is a USB disk, and Windows will automatically install a device driver for it.



9. If this was another type of device, such as a PLC, Windows may not be able to find a driver manually, and you may have to install the USB driver manually.
10. Now the device is available to you as any other directly connected USB device. In this case Windows has mounted the USB flash drive.





11. In LinkManager you can observe traffic on the agent:

Agent	Address	Status	Connects		Packets		Bytes	
			ok	fail	tx	rx	tx	rx
USB Flashdisk	172.24.2.20:3240 --> 127.0.0.1	UP:1	2	0	1,119	1,369	66,064	1,079,922

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