Start Stop Periodic Transmission with IL

Version 1.3
2007-08-14

Application Note AN-ISC-2-1035

Author(s)	Gunnar Meiss
Restrictions	Restricted membership
Abstract	Start and stop a periodical transmission of the Interaction Layer.

Table of Contents

1.0 How to start and stop periodic transmission

1.1 Manufacturer, Hardware platform, derivative

There are no dependencies between manufacturer, hardware platform and derivative according to this problem.

1.2 Problem Description

After the transmission path of the IL was started (IlTxStart()) the transmission of cyclic message takes place. Nothing further is needed to be done to keep the transmission running. The cycle time must be pre-configured in the network database at compile time. Some applications need to stop and restart the periodic transmission for individual messages.

1.3 Problem Solution

The periodical transmission can be stopped and restarted by the application optionally. Therefore the Interaction Layer provides some additional service functions. The function IlStopCycle(<IlMessageHandle>) stops the periodic transmission of a message, the function IlStartCycle(<IlMessageHandle>) restarts the periodic transmission.

Each call of the function IlTxStart() starts the cyclic transmission. In some cases it might be necessary to avoid the cyclic transmission after IlTxStart(). Therefore it is possible to call the function IlStopCycle(<IlMessageHandle>) within the callback function AppIlTxStart(). This disables the cyclic transmission of a message immediately after IlTxStart(). In this case the cyclic transmission will not be started for this message.

Caution

This API shall **never** be performed on Messages containing multiplexed signals.

Contact Information: www.vector-informatik.com or ++49-711-80 670-0

1.3.1 Additional Configuration of the Interaction Layer in CANgen

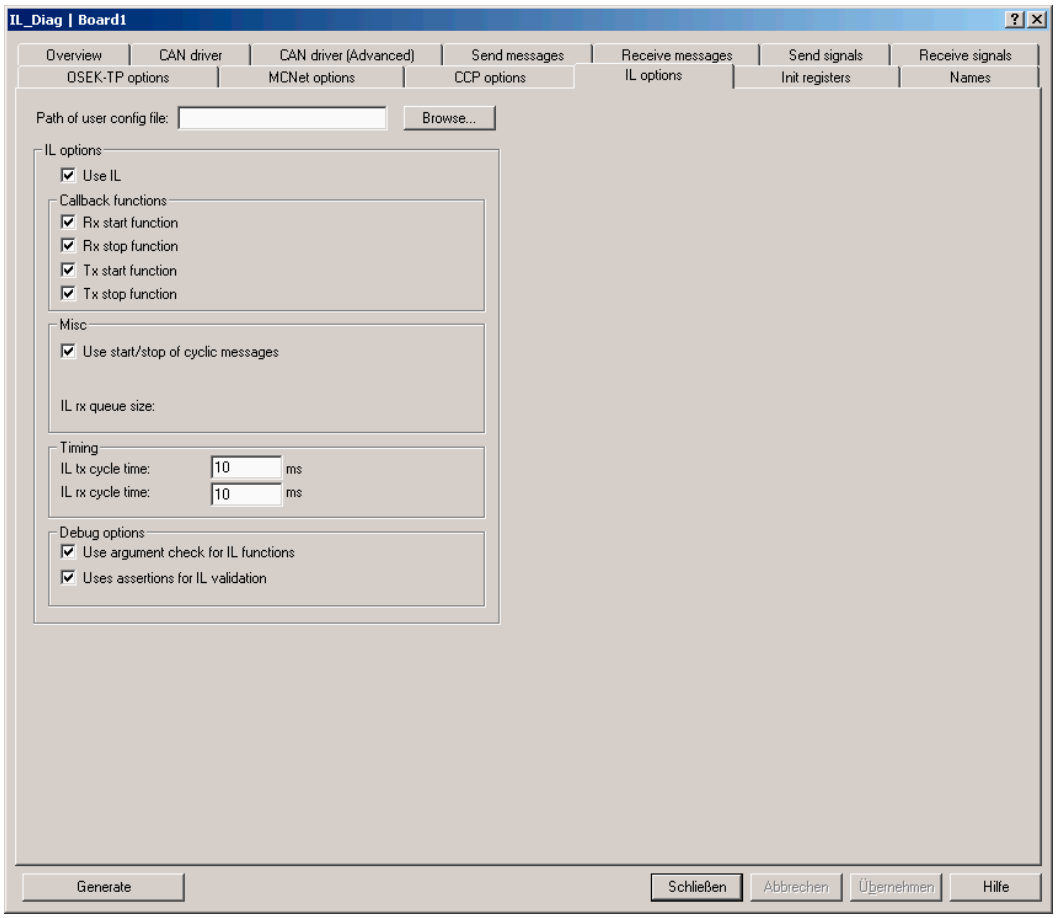

Figure 1 - Configuration of the Interaction Layer in the Generation Tool

Figure 1 shows a screen shot of the configuration tool CANgen. Within the tab IL options the Interaction Layer could be configured. The relevant option on this tab is shown in the table below.

Parameter	Value	Meaning	Reference
Use start/stop of periodic messages	On/Off	This option is necessary if periodic transmission should be stopped and restarted during runtime.	

Table 1 – Il options tab

1.3.2 Configuration of the Interaction Layer in GENy

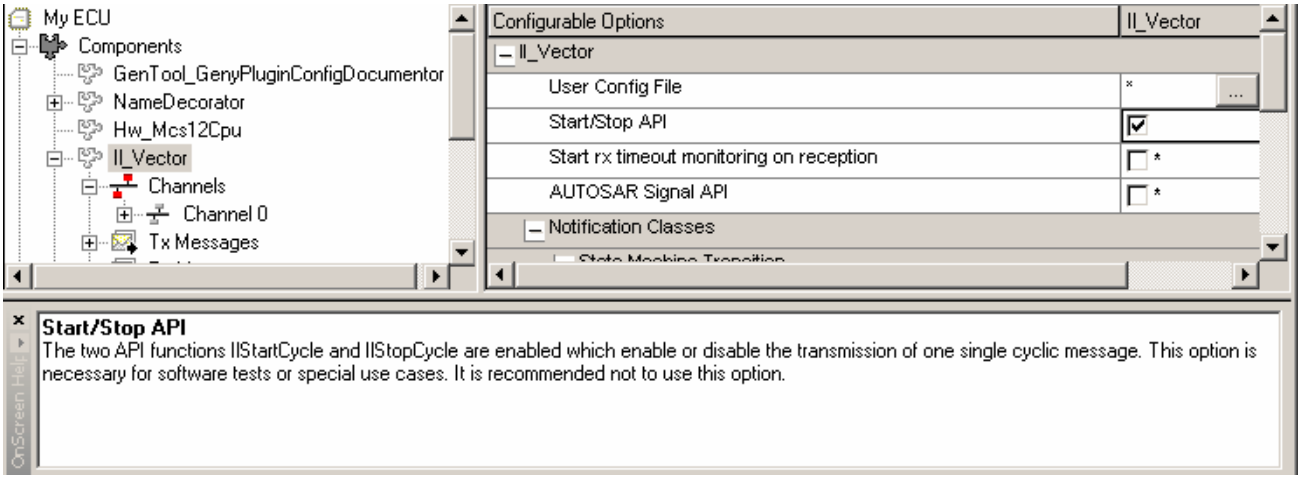

Figure 2 – Start/Stop API in GENy

Figure 2 shows a screen shot of the configuration tool GENy. On the configuration view of **Il Vector** the Interaction Layer could be configured. The Start/Stop API is the relevant option you have to activate if periodic transmission should be stopped and restarted during runtime.

1.3.3 Additional Functions Provided by the Interaction Layer Kernel

Name:	**IlStartCycle**
Standard Prototype:	void IlStartCycle (IlTransmitHandle ilTxHnd);
Multi Channel Prototype:	void IlStartCycle_**X**(IlTransmitHandle ilTxHnd); with X = 0... Number of CAN channel
Indexed Prototype:	void IlStartCycle (IlTransmitHandle ilTxHnd);

Argument(s):	ilTxHandle IL Handle of the messages for with the cyclic transmitted should be restarted
	The generated <*IlMessageHandle*> shall be used:
	In CANgen (ilpar.h):
	`_ILTx<MessageName>`
	In GENy (il_par.h):
	`IlTxMsgHnd<MessageName>`

Return:	None
Description:	This function restarts the periodical transmission of a message and shall be called on task level. Due to this that all timing counters are set in the state transition tx start the callback function ApplIlTxStart may be used to implement the changed cycle time behavior.

Table 2 – Description of IlStartCycle

Name:	**IlStopCycle**
Standard Prototype:	void IlStopCycle (IlTransmitHandle ilTxHnd);

Multi Channel Prototype:	void IlStopCycle_**X(**IlTransmitHandle ilTxHnd); with X = 0... Number of CAN channel
Indexed Prototype:	void IlStopCycle (IlTransmitHandle ilTxHnd);

Argument(s):	ilTxHandle IL Handle of the messages for with the cyclic transmitted should be stopped
	The generated <*IlMessageHandle*> shall used:
	In CANgen (ilpar.h):
	`_ILTx<MessageName>`
	In GENy (il_par.h):
	`IlTxMsgHnd<MessageName>`

Return:	None
Description:	This function stops the periodical transmission of a message and shall be called on task level.

Table 3 – Description of IlStopCycle

2.0 Contacts

Vector Informatik GmbH
Ingersheimer Straße 24
70499 Stuttgart
Germany
Tel.: +49 711-80670-0
Fax: +49 711-80670-111
Email: info@vector-informatik.de

Vector France SAS
168 Boulevard Camélinat
92240 Malakoff
France
Tel: +33 (0)1 42 31 40 00
Fax: +33 (0)1 42 31 40 09
Email: information@vector-france.fr

Vector CANtech, Inc.
39500 Orchard Hill Pl., Ste 550
Novi, MI 48375
USA
Tel: +1-248-449-9290
Fax: +1-248-449-9704
Email: info@vector-cantech.com

Vector Japan Co. Ltd.
Seafort Square Center Bld. 18F
2-3-12, Higashi-shinagawa,
Shinagawa-ku
J-140-0002 Tokyo
Tel.: +81 3 5769 6970
Fax: +81 3 5769 6975
Email: info@vector-japan.co.jp

VecScan AB
Lindholmspiren 5
402 78 Göteborg
Sweden
Tel: +46 (0)31 764 76 00
Fax: +46 (0)31 764 76 19
Email: info@vecscan.com