

## **PVI Fast DDE Server**



# Contents (6.13.2005)

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# 1 PVI Fast DDE Server

## 1.1 General Information

The PVI INTOUCH fast DDE server is a PVI application that enables INTOUCH to access data from PVI variable objects via DDE. The server is based on the ToolKit Library from WonderWare and was developed especially for use with INTOUCH.

Only read/write services of the PVI variable objects can be carried out via the PVI INTOUCH Fast DDE server. Other services or services for other PVI objects cannot be carried out.

Unlike the standard PVI DDE server, no parent INFORMATION has to be entered when defining the items in the PVI INTOUCH Fast DDE server! The information on this topic is read from a configuration file, PviWwDDE.cfg.

The items can be set up with or without attributes (Syntax: "Variable{RF=1000 AT=rw}"). If the attribute is not entered for an item, the item uses the global topic refresh factor for reading and writing. Several declarations of one variable (E.g.: Temp\_L{AT=rw RF=100}, Temp\_L{AT=w RF=2000}, Temp\_L{AT=rw RF=5000}) is not possible! Exceptions are the multiple definitions of a variable for different topics.

Log functions can be activated for error searches via the menu.

## 1.2 Structure of the Topic Configuration File

The DDE communication with a PVI INTOUCH Fast DDE server is handled in two levels topic and item. PVI recognizes more than 2 levels (object hierarchies), therefore the topics are created in PVI INTOUCH Fast DDE Server using a configurations file.

The sections correspond to the topics in the client application. At least one line object, one device object and a station object must be defined. A station object must be entered!

The last object defined is interpreted as the topic. After this definition, a topic can be interpreted as a station, CPU, or task object. Only path type (@Pvi/...) is supported!

The configuration file must be located in the same directory as the dde.cfg file from INTOUCH! The path to this directory is entered in the server settings!

[TopicONE]

ItemRF= Refresh factor for all items that are defined in this topic

LineSN= Symbolic name for the line object (follows the rules of the path definition [@Pvi/...])

LineCD= Connection description for the line object

DeviceSN= Symbolic name for the device object (follows the rules of the path definition [@Pvi/...])

DeviceCD= Connection description for the device object

StationSN= Symbolic name for the station object (follows the rules of the path definition [@Pvi/...])

StationCD= Connection description for the station object

CpuSN= Symbolic name for the CPU object (follows the rules of the path definition [@Pvi/...])

CpuCD= Connection description for the CPU object

TaskSN= Symbolic name for the task object (follows the rules of the path definition [@Pvi/...])

TaskCD= Connection description for the task object

Example:

```
[TopicONE]
ItemRF=1000
LineSN=@Pvi/LnOne
LineCD=CD="lnina2"
DeviceSN=@Pvi/LnOne/DevONE
DeviceCD=CD="/IF=COM3 /BD=57600 /PA=2"
StationSN=@Pvi/LnOne/DevONE/StONE
StationCD=CD="plc"
CpuSN=@Pvi/LnOne/DevONE/StONE/CpuONE
```

```
CpuCD=CD=" /MP=C:\BR_MOD\"
TaskSN=@Pvi/LnOne/DevONE/StONE/CpuONE/TaskONE
TaskCD=CD="pvitest"
```

```
[TopicTHREE]
ItemRF=800
LineSN=@Pvi/LnOne
LineCD=CD="lnina2"
DeviceSN=@Pvi/LnOne/DevONE
DeviceCD=CD=" /IF=COM3 /BD=57600 /PA=2"
StationSN=@Pvi/LnOne/DevONE/StONE
StationCD=CD="plc"
CpuSN=@Pvi/LnOne/DevONE/StONE/CpuONE
CpuCD=CD=" /MP=C:\BR_MOD\"
TaskSN=@Pvi/LnOne/DevONE/StONE/CpuONE/VisuTask
TaskCD=CD="taskVIS"
```

```
[TopicCOM2]
ItemRF=3000
LineSN=@Pvi/LnOne
LineCD=CD="lnina2"
DeviceSN=@Pvi/LnOne/DevCom2
DeviceCD=CD=" /IF=COM2 /BD=57600 /PA=2"
StationSN=@Pvi/LnOne/DevCom2/StONE
StationCD=CD="plc"
CpuSN=@Pvi/LnOne/DevCom2/StONE/CpuONE
CpuCD=CD=" /MP=C:\BR_MOD\"
```

```
[TopicTWO]
ItemRF=500
LineSN=@Pvi/LnTWO
LineCD=CD="lnnet2"
DeviceSN=@Pvi/LnTWO/DevTWO
DeviceCD=CD=" /IF=COM3 /BD=115200 /RS=232"
StationSN=@Pvi/LnTWO/DevTWO/STTWO
StationCD=CD="127"
```

## 1.3 Operating the PVI INTOUCH Fast DDE Server

In the win.ini file, there are some settings that have been, or can be, entered in the section [PviWWdde]. It is necessary to change these settings for the tool kit. They are also of meaning to the server. If values are not set, the internal default values are used.

```
Example:
[PviWWdde]
DebugDDEMessages=0
PreventBlockedDDE=0
WinIconic=0
WinFullScreen=0
WinTop=279
WinLeft=764
WinWidth=226
WinHeight=156
ProtocolTimer=10
ValidDataTimeout=60
DDEWaitForInitTimeout=60000
TimerRequestEvents=32000
TimerEvents=0
bDisplayTopicAndItemCnt=1
LogTopicCrDeEvents=1
LogItemCrDeEvents=1
LogDeActivateEvents=0
LogTopicStatusEvents=1
LogItemErrorEvents=1
LogFormatEvents=0
LogWriteDataEvents=0
LogDataEvents=0
LogFnEntryEvents=0
ConfigurationFile=C:\Project\Config\
AutoConnectAllPviObjectsOnAppStart=0
WriteRetryIndefinitely=1
KeepTopicsOnProtFree=0
RetryTime=30
```

## 1.4 Global Server Settings

### ConfigurationFile:

Sets the path for the configuration file! The configuration files are dde.cfg (Export File from INTOUCH) and PviWwDDE.cfg (configuration file for the Pvi connection [topic description])

### AutoConnectAllPviObjectsOnAppStart:

To ensure that all scripts from INTOUCH can be used after starting the application, a switch is built into the server that allows all items to be logged on (based on the INTOUCH configuration file dde.cfg). The items are identified (if possible) and switched to inactive.

### WriteRetryIndefinitely:

An option of the INTOUCH ToolKit that enables write tasks to repeat until they are successful.

### KeepTopicsOnProtFree:

When changing from the Runtime System to the Development System, a function is called up by INTOUCH that normally instructs the server to log off all topics and respective items. To avoid this, the optional switch KeepTopicsOnProtFree can be set to "1" which stops topics from being logged off. When changing to Development mode or when ending the application, these items are switched to inactive. In large applications, this has the advantage that the application get data from the PLC immediately when switching from Development mode to Runtime mode.

## 1.5 Monitoring DDE Messages

If you set the two following variables to 1, all DDE Messages will be written in the Intouch log file.

PreventBlockedDDE must be set to 1 for the recording process to function. Blocking DDE messages is also deactivated by the ToolKit when setting this flag. The server then functions like a standard PVI DDE server.

PreventBlockedDDE=0

### Note:

must always be set to 0 in an INTOUCH application so that the advantage of blocking can be used by the ToolKit.

DebugDDEMessages=0

PreventBlockedDDE=0

## 1.6 Server Program Views

The following switches can be used to influence or change the appearance and position of the server program. The changes are only valid after restarting the server!

WinIconic=1

WinFullScreen=0

WinTop=0

WinLeft=0

WinWidth=200

WinHeight=100

## 1.7 Times and TimeOuts

ProtocolTimer 0... Defines the interval for recording of the WWLogger

DDEWaitForInitTimeout 0... Timeout for the first return message from the server to the client application.

TimerRequestEvents 0...32000 Defines the interval in which the INTOUCH application is scanned for errors.

TimerEvents 0...32000 Defines the interval in which the ToolKit in the server triggers a timer event. Currently only used to display status information.

RetryTime Defines the timeout (sec) for life sign monitoring of the application as well as the PVI manager. The communication timeout is also defined.

Specification: 1 – 3600, 0 -> default (30 sec).

ResponseTimeout=30 Time (sec) in which a user message is repeated if the corresponding response data is not read (response-function is not called).

Specification: 1 – 3600, 0 -> default (10 sec), <0

(INFINITE) -> no repeat (Function switched off).

## 1.8 Logger Settings

Recording of various events can be activated via the menu <Log Settings>:

"Log create and delete events for topics"

LogTopicCrDeEvents 0 or 1 Records all Create and Delete Events for Topics

"Log create and delete events for items"

LogItemCrDeEvents 0 or 1 Records all Create and Delete Events for Items (PVs)

"Log activate and deactivate events for items"

LogDeActivateEvents 0 or 1 Records all Create and Delete Events for Items (PVs)

"Log status change events for topics"

LogTopicStatusEvents 0 or 1 Records all status changes for topics (PVs)

"Log error events for items"

LogItemErrorEvents 0 or 1 Records all error changes for items (PVs)

"Log format change events for items"

LogFormatEvents 0 or 1 Records all format changes for items (PVs)

"Log data events for items"

LogDataEvents 0 or 1 Records all data changes for items (PVs)

"Log write commands for items"

LogWriteDataEvents 0 or 1 Records all write tasks for items (PVs)

"Log every function entry"

LogFnEntryEvents 0 or 1 Records all function jumps

## 1.9 Global Status Information Display

Using the <Log Settings> menu, the display of status information can be activated for active and faulty topics and items. The option "Display status information in the main window" must be activated.