



**TANGO
Device
Server**

ImagePro Plus device server for Windows User's Guide

ImagePro Class

**Revision: keyword substitution - Author: andy_gotz
Implemented in C++ - CVS repository: tango-ds**

Introduction:

A device class to control the ImagePro image acquisition and analysis program via a device server. ImagePro is a sophisticated program for image analysis which has drivers for a number of cameras. All the ImagePro functions (known as Auto-Pro functions) can be called via the mouse, from a macros or from Visual C++. The device server provides remote client access to ImagePro using the visual C++ interface. Thereby enabling clients like SPEC to control the beamline motors and send remote commands to ImagePro.

Class Inheritance:

- Tango::DeviceImpl
 - Ccd
 - ImagePro

Properties:

There is no Class properties.
There is no Device Properties.

States:

States	
Names	Descriptions
ON	camera is exposing
OFF	camera is ready to start a new exposure
FAULT	camera is in fault

Attributes:

Scalar Attributes			
Attribute name	Data Type	R/W Type	Expert
Exposure: the exposure time for the image	DEV_DOUBLE	READ_WRITE	No
Trigger: trigger mode of camera (0=internal, 1=external)	DEV_SHORT	READ_WRITE	No
Width: width of image in pixels	DEV_LONG	READ	No
Height: height of image in pixels	DEV_LONG	READ	No
Frames: number of images to take	DEV_LONG	READ_WRITE	No
Depth: number of bits per pixel	DEV_SHORT	READ	No
FileFormat: file format for saving images to disk	DEV_STRING	READ_WRITE	No

Spectrum Attributes			
Attribute name	Data Type	X Data Length	Expert
Roi: coordinates of the region of interest	DEV_SHORT	4	No
Binning: binning factor of image	DEV_SHORT	2	No
FileParams: the file parameters for generating file names (directory, prefix, suffix, number)	DEV_STRING	4	No

Image Attributes				
Attribute name	Data Type	X Data Length	Y Data Length	Expert
Image: image data	DEV_USHORT	4096	4096	No

Commands:

More Details on commands....

Device Commands for Operator Level		
Command name	Argument In	Argument Out
Init	DEV_VOID	DEV_VOID
State	DEV_VOID	DEV_STATE
Status	DEV_VOID	CONST_DEV_STRING
Start	DEV_VOID	DEV_VOID
Stop	DEV_VOID	DEV_VOID
Reset	DEV_VOID	DEV_VOID
WriteFile	DEV_VOID	DEV_VOID

1 - Init

- **Description:** This commands re-initialise a device keeping the same network connection.
After an Init command executed on a device, it is not necessary for client to re-connect to the device.
This command first calls the device *delete_device()* method and then execute its *init_device()* method.
For C++ device server, all the memory allocated in the *nit_device()* method must be freed in the *delete_device()* method.
The language device desctructor automatically calls the *delete_device()* method.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_VOID : none.
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::FAULT

2 - State

- **Description:** This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
DEV_STATE : State Code
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::FAULT

3 - Status

- **Description:** This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
- **Argin:**
DEV_VOID : none.
- **Argout:**
CONST_DEV_STRING : Status description
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::FAULT

4 - Start

- **Description:** start camera exposing
- **Argin:**
DEV_VOID :
- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::FAULT

5 - Stop

- **Description:** stop camera exposing

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::FAULT

6 - Reset

- **Description:** reset camera

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :

- **Command allowed for:**

- Tango::ON
- Tango::OFF
- Tango::FAULT

7 - WriteFile

- **Description:** write image to file in the selected format, use the file parameters to generate file name

- **Argin:**
DEV_VOID :

- **Argout:**
DEV_VOID :
- **Command allowed for:**
 - Tango::ON
 - Tango::OFF
 - Tango::FAULT

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