Starter Tango Cpp Class

Contents :

Starter Class Identification :

Contact	: at esrf.fr - verdier
Class Family	: System
Platform	: All Platforms
Bus	: Not Applicable
Manufacturer	: none
Manufacturer ref. :	

Starter Class Inheritance :

- Tango::DeviceImpl
  - Starter

Starter Class Description :

This device server is able to control **Tango** components (database, device servers, clients...).
It is able to start or stop and to report the status of these components.

This device server is able to control Tango device servers.
It is able to start or stop and to report the status of these components.
It gets a list of processes (device servers) from database to start/stop/control on the host .
To change the type of control by Starter for a server, use the tango administrator Astor .

WARNING :
- To be recognized by Astor the starter device must have a specific name.
This name must be **tango/admin/{hostname}** (e.g. *tango/admin/hal*).
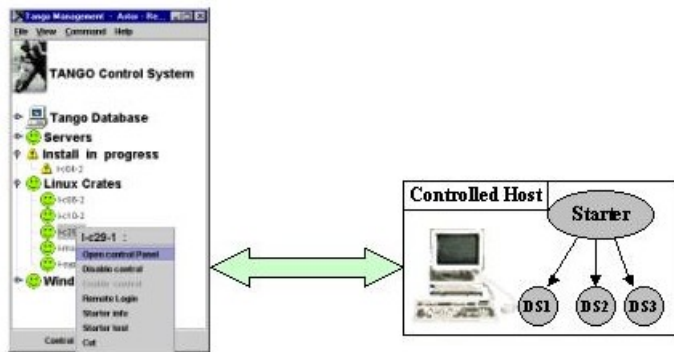
The **Starter** device server ping the controlled servers during the **State** polled command.
In case of answer or not, the host state is calculated, and could be read and displayed by Astor.

Astor - Starter - Database Principle
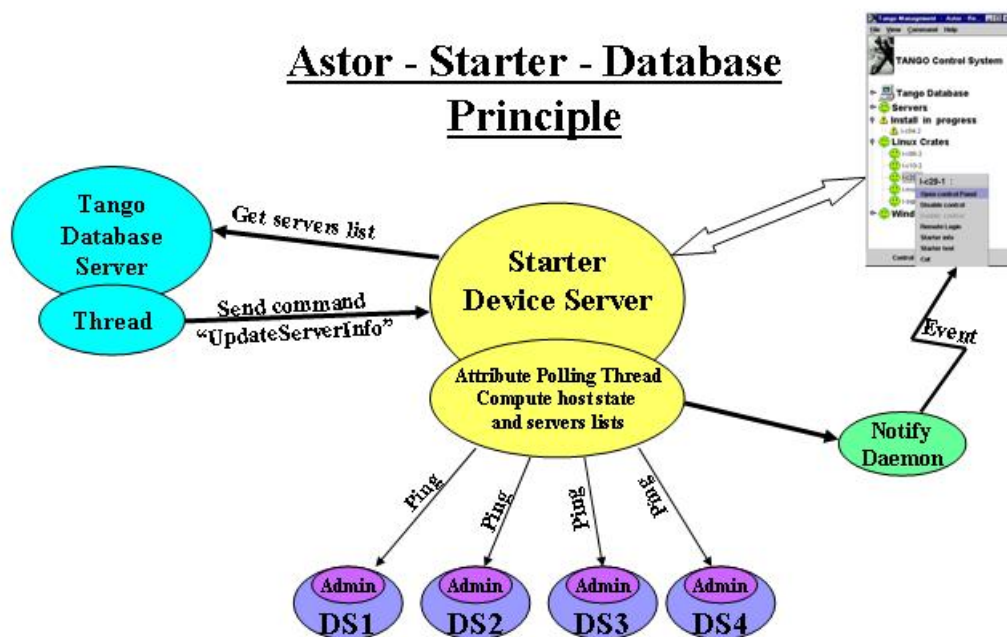
Starter Properties :

Class Properties			
Name	**Description**	**Type**	**Default Value**
AutoRestartDuration	If this property is greater than 0, if a server has been running more than the specified value (in minutes), and has failed, it will be restart automaticly.	int	0
LogFileHome	The home directory to log servers traces. For Linux the default value is /var/tmp For Win32 it is c:\temp	String	none
NbStartupLevels	Number of startup levels managed by starter.	short	5

ReadInfoDbPeriod	Period to read database for new info if not fired from Database server.		short	none
ServerStartupTimeout	Timeout on device server startup in seconds.		int	1
StartServersAtStartup	Skip starting servers at startup if false. It a way to do not have a big re-start of many servers after a power cut.		boolean	true
UseEvents	Use events if not null.		short	0

Device Properties				
Name	**Description**		**Type**	**Default Value**
AutoRestartDuration	If this property is greater than 0, if a server has been running more than the specified value (in minutes), and has failed, it will be restart automaticly.		int	0
InterStartupLevelWait	Time to wait before two startup levels in seconds.		int	1
KeepLogFiles	Number of log file kept.		int	3
LogFileHome	The home directory to log servers traces. For Linux the default value is /var/tmp For Win32 it is c:\temp		String	none
ServerStartupTimeout	Timeout on device server startup in seconds.		int	5
StartDsPath	Path to find executable files to start device servers		String[]	none
StartServersAtStartup	Skip starting servers at startup if false.		boolean	true
UseEvents	Use events if not null.		short	0
WaitForDriverStartup	The Starter will wait a bit before starting servers, to be sure than the drivers are started.This time is in seconds.		short	0

Starter Class Commands				
Name	**Input type**	**Output type**	**Level**	**Description**
State	DEV_VOID	DEV_STATE	OPERATOR	This command gets the device state (stored in its *device_state* data member) and returns it to the caller.
Status	DEV_VOID	CONST_DEV_STRING	OPERATOR	This command gets the device status (stored in its *device_status* data member) and returns it to the caller.
DevStart	DEV_STRING	DEV_VOID	OPERATOR	Start the specified server.
DevStop	DEV_STRING	DEV_VOID	OPERATOR	Stop the specified server.
DevStartAll	DEV_SHORT	DEV_VOID	OPERATOR	Start all device servers controled on the host for the argin level.
DevStopAll	DEV_SHORT	DEV_VOID	OPERATOR	Stop all device servers controled on the host for the argin level.
DevGetRunningServers	DEV_BOOLEAN	DEVVAR_STRINGARRAY	OPERATOR	Control the running process from property list. And return the list of the processes which are really running.
DevGetStopServers	DEV_BOOLEAN	DEVVAR_STRINGARRAY	OPERATOR	Control the running process from property list. And return the list of the processes which are not running.
DevReadLog	DEV_STRING	CONST_DEV_STRING	OPERATOR	At server startup, its standard error is redirected to a log file. This command will read this file and return the read string from the file.
HardKillServer	DEV_STRING	DEV_VOID	OPERATOR	Hard kill a server (kill -9)

NotifyDaemonState	DEV_VOID	DEV_STATE	OPERATOR	Returns the Notify Daemon state.
ResetStatistics	DEV_VOID	DEV_VOID	EXPERT	Reset statistics file.
UpdateServersInfo	DEV_VOID	DEV_VOID	OPERATOR	Indicate to the device server than the information about servers to be controlled has been modified. The device server must read the database to update the servers info list. If the default case, this command is sent by Database server itself.

Command State :

This command gets the device state (stored in its *device_state* data member) and returns it to the caller.

State Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::DEV_STATE	State Code
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	false	..
Polling Period	1000	..
Command allowed for	All states	..

Command Status :

This command gets the device status (stored in its *device_status* data member) and returns it to the caller.

Status Definition		
Input Argument	Tango::DEV_VOID	none.
Output Argument	Tango::CONST_DEV_STRING	Status description
DisplayLevel	OPERATOR	..
Inherited	true	..
Abstract	true	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevStart :

Start the specified server.

DevStart Definition		
Input Argument	Tango::DEV_STRING	Server to be started.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevStop :

Stop the specified server.

DevStop Definition		
Input Argument	Tango::DEV_STRING	Servero be stopped.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevStartAll :

Start all device servers controled on the host for the argin level.

DevStartAll Definition		
Input Argument	Tango::DEV_SHORT	Startup level.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevStopAll :

Stop all device servers controled on the host for the argin level.

DevStopAll Definition		
Input Argument	Tango::DEV_SHORT	Startup Level.
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevGetRunningServers :

Control the running process from property list.
And return the list of the processes which are really running.

DevGetRunningServers Definition		
Input Argument	Tango::DEV_BOOLEAN	True for all servers. False for controled servers only.
Output Argument	Tango::DEVVAR_STRINGARRAY	List of the processes which are running.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevGetStopServers :

Control the running process from property list.
And return the list of the processes which are not running.

DevGetStopServers Definition		
Input Argument	Tango::DEV_BOOLEAN	True for all servers. False for controled servers only.
Output Argument	Tango::DEVVAR_STRINGARRAY	List of the processes which are not running.
DisplayLevel	OPERATOR	..
Inherited	false	..

Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command DevReadLog :

At server startup, its standard error is redirected to a log file.
This command will read this file and return the read string from the file.

DevReadLog Definition		
Input Argument	Tango::DEV_STRING	server name and domain (e.g. Starter/corvus) If argin ==``Starter`` -> return Starter logg file content. If argin ==``Statistics`` -> return Starter statistics file content.
Output Argument	Tango::CONST_DEV_STRING	String found in log file.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command HardKillServer :

Hard kill a server (kill -9)

HardKillServer Definition		
Input Argument	Tango::DEV_STRING	Server name
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command NotifyDaemonState :

Returns the Notify Daemon state.

NotifyDaemonState Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_STATE	Tango::ON if Notify daemon is running else Tango::FAULT.
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command ResetStatistics :

Reset statistics file.

ResetStatistics Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	EXPERT	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Command UpdateServersInfo :

Indicate to the device server than the information about servers to be controlled has been modified.
The device server must read the database to update the servers info list.
If the default case, this command is sent by Database server itself.

UpdateServersInfo Definition		
Input Argument	Tango::DEV_VOID	
Output Argument	Tango::DEV_VOID	
DisplayLevel	OPERATOR	..
Inherited	false	..
Abstract	false	..
Polling Period	Not polled	..
Command allowed for	All states	..

Starter Class Attributes							
Name	**Inherited**	**Abstract**	**Attr. type**	**R/W type**	**Data type**	**Level**	**Description**
NotifdState	false	false	Scalar	READ	Tango::DEV_STATE	OPERATOR	return ON or FAULT if notify daemon is running or not.
HostState	false	false	Scalar	READ	Tango::DEV_SHORT	OPERATOR	
RunningServers	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	
StoppedServers	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	Return all the Stopped servers.\n
Servers	false	false	Spectrum	READ	Tango::DEV_STRING	OPERATOR	Return all registred servers for this host.\nServer names are followed by their states and controls

There is no dynamic attribute defined.

Attribute NotifdState :

return ON or FAULT if notify daemon is running or not.

Attribute Definition	
Attribute Type	Scalar
R/W Type	READ
Data Type	Tango::DEV_STATE
Display Level	OPERATOR
Inherited	false
Abstract	false
Polling Period	1000
Memorized	Not set
Read allowed for	All states

Attribute Properties	
label	Notifd State
unit	
standard unit	
display unit	
format	
max_value	
min_value	
max_alarm	
min_alarm	
max_warning	
min_warning	
delta_time	
delta_val	

Attribute Event Criteria	
Periodic	Not set
Relative Change	Not set
Absolute Change	Not set
Archive Periodic	Not set
Archive Relative Change	Not set
Archive Absolute Change	Not set
Push Change event by user code	false
Push Archive event by user code	false
Push DataReady event by user code	Not set

Attribute HostState :

Attribute Definition			Attribute Properties		Attribute Event Criteria	
Attribute Type	Scalar		label		Periodic	Not set
R/W Type	READ		unit		Relative Change	Not set
Data Type	Tango::DEV_SHORT		standard unit		Absolute Change	Not set
Display Level	OPERATOR		display unit			
Inherited	false		format		Archive Periodic	Not set
Abstract	false		max_value		Archive Relative Change	Not set
Polling Period	1000		min_value		Archive Absolute Change	Not set
Memorized	Not set		max_alarm			
			min_alarm		Push Change event by user code	false
Read allowed for	All states		max_warning		Push Archive event by user code	false
			min_warning		Push DataReady event by user code	false
			delta_time			
			delta_val			

Attribute RunningServers :

Attribute Definition			Attribute Properties		Attribute Event Criteria	
Attribute Type	Spectrum (200)		label		Periodic	Not set
R/W Type	READ		unit		Relative Change	Not set
Data Type	Tango::DEV_STRING		standard unit		Absolute Change	Not set
Display Level	OPERATOR		display unit			
Inherited	false		format		Archive Periodic	Not set
Abstract	false		max_value		Archive Relative Change	Not set
Polling Period	1000		min_value		Archive Absolute Change	Not set
Memorized	Not set		max_alarm			
			min_alarm		Push Change event by user code	false
Read allowed for	All states		max_warning		Push Archive event by user code	false
			min_warning		Push DataReady event by user code	Not set
			delta_time			
			delta_val			

Attribute StoppedServers :

Return all the Stopped servers.\n

Attribute Definition			Attribute Properties			Attribute Event Criteria	
Attribute Type	Spectrum (200)		label	All Stopped Servers		Periodic	Not set
R/W Type	READ		unit			Relative Change	Not set
Data Type	Tango::DEV_STRING		standard unit			Absolute Change	Not set
Display Level	OPERATOR		display unit				
Inherited	false		format			Archive Periodic	Not set
Abstract	false		max_value			Archive Relative Change	Not set
Polling Period	1000		min_value			Archive Absolute Change	Not set
Memorized	Not set		max_alarm				
			min_alarm			Push Change event by user code	false
Read allowed for	All states		max_warning			Push Archive event by user code	false
			min_warning			Push DataReady event by user code	Not set
			delta_time				
			delta_val				

Attribute Servers :

Return all registred servers for this host.\nServer names are followed by their states and controls

Attribute Definition			Attribute Properties			Attribute Event Criteria	
Attribute Type	Spectrum (1024)		label	Servers		Periodic	Not set
R/W Type	READ		unit			Relative Change	Not set
Data Type	Tango::DEV_STRING		standard unit			Absolute Change	Not set
Display Level	OPERATOR		display unit				
Inherited	false		format			Archive Periodic	Not set
Abstract	false		max_value			Archive Relative Change	Not set
Polling Period	1000		min_value			Archive Absolute Change	Not set
Memorized	Not set		max_alarm				
			min_alarm			Push Change event by user code	false
Read allowed for	All states		max_warning			Push Archive event by user code	false
			min_warning			Push DataReady event by user code	Not set
			delta_time				
			delta_val				

Starter Class States	
Name	**Description**
UNKNOWN	This device server has NOT been correctly initialised.
ON	All controlled servers are running.
ALARM	At least one controled device server is not running.
MOVING	The Sarter is starting servers.