Plug and Play Test Results

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Test Prefix	Description	Expected Result	Result
Configuration1	Run the DGI using a negative session port.	Exception caught in main during start up: factory-port=-53000: invalid port number: -53000	PASS
Configuration2	Run the DGI using a reserved session port.	Exception caught in main during start up: factory-port=0: reserved port number: 0	PASS
Configuration3	Run the DGI using a session port greater than 65535.	Exception caught in main during start up: factory-port=68000: invalid port number: 68000	PASS
Configuration4	Run the DGI using a non-numeric session port.	Exception caught in main during start up: factory-port=53000wq: invalid port number: 53000wq	PASS
Configuration5	Run the DGI without the session port specified.	Plug and Play devices disabled.	PASS
BasicOperation1	Detect a single plug and play device.	SST (0) → 0.0 SST (1) → 5.0	PASS
BasicOperation2	Remove a plug and play device that has gone off-line.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	PASS

Test Prefix	Description	Expected Result	Result
BasicOperation3	Change the value of a plug and play device at run time.	SST (0) → 0.0 SST (1) → 5.0 SST (1) → 10.0	PASS
BasicOperation4	Detect two devices of the same type with the correct → value.	SST (0) → 0.0 SST (2) → 12.0	PASS
BasicOperation5	Detect two devices of different types with the correct values.	LOAD (0) → 0.0 ; SST (0) → 0.0 LOAD (1) → 42.0 ; SST (1) → 5.0	PASS
BasicOperation6	Remove the first of two SST devices.	SST (0) → 0.0 SST (2) → 12.0 SST (1) → 7.0	PASS
BasicOperation7	Remove the second of two SST devices.	SST (0) → 0.0 SST (2) → 12.0 SST (1) → 5.0	PASS
BasicOperation8	Remove a device other than the SST.	LOAD (0) → 0.0 ; SST (0) → 0.0 LOAD (1) → 42.0 ; SST (1) → 5.0 LOAD (0) → 0.0 ; SST (1) → 5.0	PASS
BasicOperation9	Change the value of one of several SST devices.	SST (0) → 0.0 SST (2) → 12.0 SST (2) → 17.0	PASS
BasicOperation10	Change the value of a non-SST device.	LOAD (0) → 0.0 ; SST (0) → 0.0 LOAD (1) → 42.0 ; SST (1) → 5.0 LOAD (1) → 24.0 ; SST (1) → 5.0	PASS
BasicOperation11	Handle a large number of devices at once.	DRER (0) → 0.0 ; DESD (0) → 0.0 ; LOAD (0) → 0.0 ; SST (0) → 0.0 DRER (3) → 111.0 ; DESD (1) → 10.0 ; LOAD (1) → 42.0 ; SST (2) → 12.0	PASS

Test Prefix	Description	Expected Result	Result
BasicOperation12	Change the value of a large number of devices.	DRER (0) → 0.0 ; DESD (0) → 0.0 ; LOAD (0) → 0.0 ; SST (0) → 0.0 DRER (2) → 39.0 ; DESD (1) → 10.0 ; LOAD (1) → 42.0 ; SST (1) → 5.0 DRER (2) → 49.0 ; DESD (1) → 10.0; LOAD (1) → 42.0 ; SST (1) → 10.0	PASS
Failure1	Fail before sending the DGI device states.	Removing an adapter due to timeout	
Failure2	Fail after sending the DGI device states.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	PASS
Failure3	Sleep after sending the device states and quickly continue.	SST (0) → 0.0 SST (1) → 5.0	PASS
Failure4	Sleep after sending the device states and continue after a delay.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0 SST (1) → 5.0	PASS
Failure5A	DGI loses Wi-Fi before receiving device states.	Removing an adapter due to timeout	
Failure5B	Controller loses Wi-Fi before sending the DGI device states.	Removing an adapter due to timeout	
Failure6A	DGI loses Wi-Fi before receiving device states and then regains it.	SST (0) → 0.0 SST (1) → 5.0	
Failure6B	Controller loses Wi-Fi before sending states and then regains it.	SST (0) → 0.0 SST (1) → 5.0	

Test Prefix	Description	Expected Result	Result
Failure7A	DGI loses Wi-Fi after receiving device states.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	
Failure7B	Controller loses Wi-Fi after sending the DGI device states.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	
Failure8A	DGI loses Wi-Fi after receiving device states and regains it after a delay.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0 SST (1) → 5.0	
Failure8B	Controller loses Wi-Fi after sending device states and regains it after a delay.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0 SST (1) → 5.0	
Failure9A	DGI leaves range of Wi-Fi after receiving device states.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	
Failure9B	Controller leaves range of Wi-Fi after sending device states.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0	
Failure10A	DGI leaves range of Wi-Fi after receiving device states, then returns within range after a delay.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0 SST (1) → 5.0	
Failure10B	Controller leaves range of Wi-Fi after sending device states, then returns within range after a delay.	SST (0) → 0.0 SST (1) → 5.0 SST (0) → 0.0 SST (1) → 5.0	

Test Prefix	Description	Expected Result	Result
UnexpectedError1	Send an unrecognized device type to the DGI.	Rejected client: Unknown device type: SST	PASS
UnexpectedError2	Send an unrecognized signal type to the DGI.	Unknown device signal: TestController:SST1 gateawy	PASS
UnexpectedError3	Send a corrupt state value to the DGI.	Corrupt state: received non-numeric value	PASS
UnexpectedError4	Have the same controller specify the same device twice.	Duplicate device ID: VeryUnfortunateController:Sst1 or The device signal (VeryUnfortunateController:Sst1,gateway) is already registered as state information.	PASS
UnexpectedError5	Have the same controller start two simultaneous sessions.	Rejected client: Duplicate session for TestController	PASS
UnexpectedError6	The DGI adapter factory receives a packet with a header it does not recognize	Expected 'Hello' message: BadPacket	PASS
UnexpectedError7	The DGI adapter receives a packet with a header it does not recognize	Unknown header: BadPacket	PASS
UnexpectedError8	The DGI adapter factory receives a packet containing a lone Hello command with the wrong delimiter	Connection closed due to timeout.	PASS
UnexpectedError9	The DGI adapter factory receives a packet containing a lone Hello command followed by nonsense data	Connection closed due to timeout.	PASS

Test Prefix	Description	Expected Result	Result
UnexpectedError10	The DGI adapter factory receives a packet containing nonsense data	Connection closed due to timeout.	PASS
UnexpectedError11	The DGI adapter receives a packet containing a lone command with the wrong delimiter	Connection closed due to timeout.	PASS
UnexpectedError12	The DGI adapter receives a packet containing a lone command with the wrong delimiter follwed by nonsense data	Connection closed due to timeout.	PASS
UnexpectedError13	The DGI adapter receives a packet containing a series of commands with the wrong delimiters	Connection closed due to timeout.	PASS
UnexpectedError14	The DGI adapter receives a packet containing nonsense data	Connection closed due to timeout.	PASS
MultipleControllers1	Have two controllers use the same device type with different names.	SST (0) $\rightarrow$ 0.0 ... SST (2) $\rightarrow$ 12.0	PASS
MultipleControllers2	Have two controllers use the same device type with identical names.	SST (0) $\rightarrow$ 0.0 ... SST (2) $\rightarrow$ 12.0	PASS
MultipleControllers3	Have two controllers use different device types.	LOAD (0) $\rightarrow$ 0.0 ; SST (0) $\rightarrow$ 0.0 ... LOAD (1) $\rightarrow$ 42.0 ; SST (1) $\rightarrow$ 5.0	PASS

Test Prefix	Description	Expected Result	Result
MultipleControllers4	Remove the first of two controllers connected to the DGI.	LOAD (0) → 0.0 ; SST (0) → 0.0 ... LOAD (1) → 42.0 ; SST (1) → 5.0 LOAD (1) → 42.0 ; SST (0) → 0.0	PASS
MultipleControllers5	Remove the second of two controllers connected to the DGI.	LOAD (0) ; SST (0) → 0.0 → 0.0 ... LOAD (1) → 42.0 ; SST (1) → 5.0 LOAD (0) → 0.0 ; SST (1) → 5.0	PASS
MultipleControllers6	Change the device value of a controller connected to the DGI.	SST (0) → 0.0 ... SST (2) → 12.0 SST (2) → 17.0	PASS
MultipleControllers7	Use a large number of controllers to connect at once.	DRER (0) → 0.0 ; DESD (0) → 0.0 ; LOAD (0) → 0.0 ; SST (0) → 0.0 ... DRER (3) → 111.0 ; DESD (1) → 10.0 ; LOAD (1) → 42.0 ; SST (2) → 12.0 ... DRER (3) → 121.0 ; DESD (1) → 10.0 ; LOAD (1) → 42.0 ; SST (2) → 17.0	PASS
MultipleDGI1	Have two DGI converge to a positive normal value.	SST (0) → 0.0 ... SST (1) → 20.0 SST (0) → 0.0 ... SST (1) → 20.0	PASS
MultipleDGI2	Have two DGI converge to a negative normal value.	SST (0) → 0.0 ... SST (1) → -5.0 SST (0) → 0.0 ... SST (1) → -5.0	PASS
MultipleDGI3	Have the normal value change during convergence.	SST (0) → 0.0 ... SST (1) → -3.0 ... SST (1) → -6.0 SST (0) → 0.0 ... SST (1) → -3.0 ... SST (1) → -6.0	FAIL[1]

[1] Change is normal is not detected, then modified device state is overwritten with original state

Test Prefix	Description	Expected Result		Result
MultipleDGI4	Have one DGI lose its devices during convergence.	SST (0) $\rightarrow$ 0.0 ... SST (1) $<$ 250.0	SST (0) $\rightarrow$ 0.0 ... SST (0) $\rightarrow$ 0.0	PASS
MultipleDGI5	Have one DGI lose one device during convergence.	SST (0) $\rightarrow$ 0.0 ... SST (1) $\rightarrow$ 0 ... SST (1) $>$ 1	SST (0) $\rightarrow$ 0.0 ... SST (2) $\rightarrow$ 9250.1 ... SST (1) $<$ 250.0	FAIL[2]
MultipleDGI6	Have one DGI with no attached devices.	SST (0) $\rightarrow$ 0.0 ... SST (1) $\rightarrow$ 10.0	SST (0) $\rightarrow$ 0.0	PASS

[2]The gateway of the second SST is corrupted.