

TestEngine RPC Protocols

Revision History

Version	Date	Author	Comment
1.0	11/16/15	Wei Wang	Initial Draft
1.1	11/20/15	Wei Wang	Started session for application layer
1.2	11/21/15	Wei Wang	Added the timeout field in request Added special makers for the result field in response.
1.3	11/25/15	IvanGan	Add function list of Engine for Application layer
1.4	12/1/15	IvanGan	Add unit for params Add callback function: start_test, end_test
1.5	12/1/15	Wei Wang	The result of end_test now returns a list of logs
1.6	12/14/15	IvanGan	Add get_version and amplitude and frequency

1. Protocol Layer

Request

These are the valid fields in a request:

Field Names	Content of the Field
jsonrpc	Version of the protocol
id	A unique id that identifies this request
function	The name of the function
params	This is a positional arguments list for the function
timeout	timeout value in milliseconds. This is an optional field. Default is 3000

The request will be serialized into json format before being sent over the socket.

Response

These are the valid fields in a response:

Field Names	Content of the Field
jsonrpc	Version of the protocol
id	The id from the request.
error	<p>This field only exists if there is an error. This field and the result field can not exist at the same time. There are two sub fields of this field: code and message. (in other words, this field should be a dictionary data type before it's serialized into json strings).</p> <p><u>code</u>: A negative integer number unique to the types of error.</p> <p><u>message</u>: description of the error</p>
result	<ul style="list-style-type: none"> The returned value of the function call. If the function call does not returned a value, the result field should be an empty string. The fact the result field exists and the error field does not exist means the function executes successfully. There are a couple of special markers in the result field: '—PASS—' and '—FAIL—'. This is for test functions that returns the pass/fail results directly, instead of sending the values back to the sequencer. They apply to functions that know if they have passed without having to have limits, like the <i>detect</i> function.
fail_message	optional fail message

The response will be serialized into json format before being sent over the socket.

2. Application Layer

Request			Response
function	params	effect	Result
parse	param1 : key name from template file, {{xxx}}	parse response from DUT with template file which named latest diags command	string
diags	param1 : diags command [param2] : detect string	send diags command and wait :-). if there is "sleep", will not wait :-)	—PASS— or param2
detect	param1 : detect string, default :-)	detect param1 from response of DUT. default timeout is 30000ms	—PASS—
calculate	param1 : string which need to replace {} with testing result	calculate formulate from param1	number
smokey	param1 : string [param2] : detect string	combine param1 with "smokeyshell -f nandfs:\AppleInternal\Diags\Scripts\X527" and then send to diags	—PASS— or param2

Request			Response
function	params	effect	Result
datalogger	param1 : count, which define how many count need to get from datalogget unit : mA	measure instantaneous current with defined param1. param1 default is 300 and timeout is 1000ms	number
thdn		measure THDN,it will measure frequency and amplitude at the same time	number
frequency		get frequency	number
amplitude		get amplitude	number
dmm	param1 : Net name from HWIO.MeasureTable unit : v, mV, A, mA, uA	dmm measure current/Voltage.	number
supply	param1 : Net name from HWIO.SupplyTable param2 : voltage unit : V	supply voltage	number
eload	param1 : Net name from HWIO.EloadTable param2 : eload current unit : mA	supply eload.	number
iload		measure ELOAD_CURRENT	number
delay	param1 : delay time unit : ms	time delay	—PASS—
measure	param1 : Net name from HWIO.MeasureTable unit : V, mV, Hz, MHz	measure voltage and Frequency, amplitude	number
relay	param1 : Net name from HWIO.RelayTable param2 : Net name from HWIO.RelayTable.param1 . default “connect”	connect or disconnect IO	—PASS—
disconnect	param1 : Net name from HWIO.RelayTable	disconnect IO	—PASS—
button		double click BUTTON1_L	—PASS—
tbat	param1 : Net name from HWIO.RelayTable.PMU_T BAT, or the value of resistor, 3000, 13000,...	connect PMU_TBAT	—PASS—

Request			Response
function	params	effect	Result
reset		fixture HW reset	—PASS—
station		get test station name	string
fixturetype		get the type of fixture	
channel		get slot	number
getboottime		get longest boot time	number
getbootcount		get boot times	number
FetalError	TBD	check fetal error	TBD
start_test		call back function when test start	—PASS—
end_test		call back function when test finished	A list of log file paths. These are the instrument logs