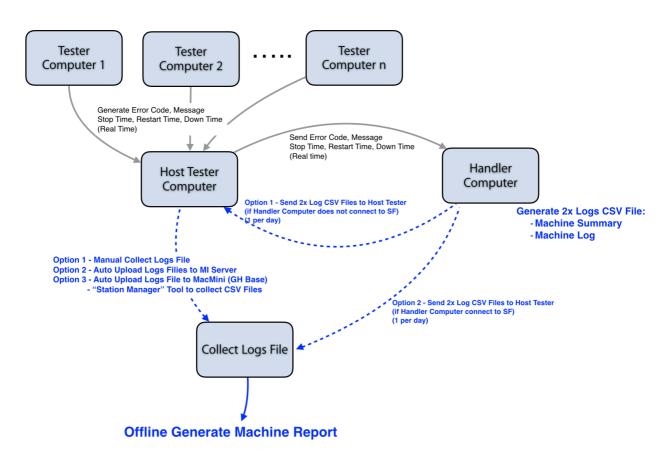
overview

The Overall procedure as state as below:



THREE SCENARIOS TO COLLECT DATA:

Scenario 1: If Tester is Non-GH Base & Hander PC NOT connect to MI Server, then Handler PC need send CSV File to Host Tester in order to upload data to MI Server by daily.

Scenario 2: If Tester is GH Base then Hander PC CANNOT connect to MI Server, then Handler PC need send CSV File to Host Tester to upload data to MacMini, then using Station Manager (One of Tool) to collect CSV Files

TESTER/HOST COMPUTER (WINDOW BASE)

Generate Alarm Error code, Message, Stop Time, Restart Time & Down Time then send to Host Computer or send to Handler Computer directly if Tester Computer connect to Handler Computer Directly

HANDLER COMPUTER (WINDOWS BASE)

Responsible to record Machine Performance including *Tester/Handler Alarm Details, DUT Input/Pass/Fail Record, Login Mode, SiteID/ProductID/TesterID/Lot Number.* Also, Generate 2x type of CSV Logs to monitor Machine Performance:

- Machine Summary Log (per min base)
- Machine Log

Offline generate Machine Reports (Tester Healthiness, Throughput, Alarm Rate, Alarm) through Program (Windows Base)

MACHINE SUMMARY

Machine Summary is recording **every single minute** Input#, Pass#, Fail#, Error# & Socket Use

	LOT NA	ME based on	User key in LOTN	IAME LO	GIN MODE based	on Machine Lo	gin Mode				
SiteID	ProjectCode	TesterID	LOT NAME	LOGIN MODE	DATE	TIME	INPUT	PASS	FAIL	Error#	Socket Usage
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:00:00	3	3	0	0	1111111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:01:00	3	3	0	0	1111111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:02:00	3	3	0	0	1111111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:03:00	3	3	0	0	1111111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:04:00	3	3	0	0	1111111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:05:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:06:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:07:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:08:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:09:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:10:00	3	3	0	0	1111111
SiteID##	Product##	Tester##		ENG_MI	29/11/2017	0:11:00	3	1	2	0	1111111
SiteID##	Product##	Tester##		PM	29/11/2017	0:12:00	0	0	0	0	1111111
SiteID##	Product##	Tester##		PM	29/11/2017	0:13:00	0	0	0	1	1110111
SiteID##	Product##	Tester##		PM	29/11/2017	0:14:00	1	1	0	0	1110111
SiteID##	Product##	Tester##		PM	29/11/2017	0:15:00	3	2	0	0	1110111
SiteID##	Product##	Tester##		PM	29/11/2017	0:16:00	2	2	0	0	1110111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:17:00	3	3	0	0	1110111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:18:00	2	3	0	0	1110111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:19:00	3	3	0	0	1110111
SiteID##	Product##	Tester##	LOT12345	OPERATOR	29/11/2017	0:20:00	2	3	0	0	1110111

	Description	Note
SiteID	MI Site ID	Preferable GH/PDCA Format, example: FXLH (Foxconn LongHua), JACD (Jabil ChengDu).
		Define Own Site ID if does not have GH/PDCA, example: Sharp,LGIT
ProjectID	Project Code	Preferable GH/PDCA Format, example: X602, A125, B234, X1211
		Define Own Project ID if does not have GH/PDCA, example: CG, Rosaline, Romeo, Potassium
TesterID	Tester ID/Tester Number	Preferable GH/PDCA Format, example: JACD_D02-2FT-22_1_GRAPE-TEST
		Define Own Project ID if does not have GH/PDCA, example: FTC001, COMP001
LOT NAME	Lot Number	Add LotName happened within the min (Based on User Input).
LOGIN MODE	- ADMIN - ENG_VENDOR - ENG_MI - OPERATOR - AUDIT - PM	Login Mode is required for every single minutes.
DATE	DD/MM/YYYY	Example: 20/01/2018
TIME	HH:MM:SS (24 hours)	Example: 19:01:34
INPUT	Number of Input per minutes	Number of DUT as input to Tester from Handler within a minute
PASS	Number of Passed Unit	Number of Passed DUT move from Tester to unloader within a minute
FAIL	Number of Failed Unit	Number of Failed DUT move from Tester to unloader within a minute
Error#	Number of Error Message	Number of Error is generated within a minute
Socket Usage	Socket Condition	Number of Socket is used within a minute. Example. 1: Total 4 sockets per tester & Socket 1 is not USE then 0111 Example 2: Total 4 sockets per tester & Socket 3 is not USE then 1101 Example 3: Total 8 sockets per tester & Socket 3 & 6 are not USE then 11011011

MACHINE LOG

Machine log is recording Machine Single Event per day (per shift) including Alarm Message, Login Mode, Lot Start/End, Up/Down/Idel Time, Input/Output, Individual Socket condition and so on

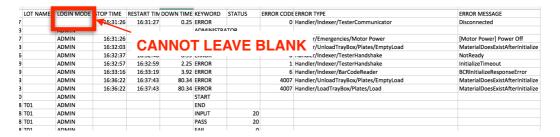
SiteID	▼ ProjectCo ▼	Test	MY DA	F V	TIME	LOT NAME	LOGIN MO	STOP THE	RESTART THE	DOWN TIE	KEYWORD -T	STATE	FRROR COL	FRROR TVP	ERROR MESSAGE	MESSAGE
SiteID##						LE7Y24A00032T		0:00:30	0:01:37	67.392		JIMIN .	37049			LEFT PICKER - STEP(1000) CODE(37049) : error_code PP LEFT PICKET 2 NOT EXIST MODULE
SiteID##						LE7Y24A00032T		0:03:19	0:04:00				37051			RIGHT PICKER - STEP(3003) CODE(37051): error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##						LE7Y24A00032T		0:24:17	0:25:03				37051			RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	0:27:39	LE7Y24A00032T	OPERATOR	0:26:53	0:27:39	46.067	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	unnunu	LE7Y24A00032T	ENGINEER				ENGINEER					ENGINEER LOGIN
SiteID##	Product##	Test	er## 29/	1/2017	0:29:44	LE7Y24A00032T	ENGINEER	0:27:59	0:29:44	104.926	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	0:39:31	LE7Y24A00032T	ENGINEER	0:38:56	0:39:31	34.679	ERROR		37048	Picker	PP LEFT PICKET 1 NOT EXIST MODULE	LEFT PICKER - STEP(3003) CODE(37048) : error_code PP LEFT PICKET 1 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	0:40:18	LE7Y24A00032T	ENGINEER	0:39:36	0:40:18	42.12	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/:	1/2017	0:43:44	LE7Y24A00032T	ENGINEER	0:43:17	0:43:44	26.848	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	0:45:24	LE7Y24A00032T	ENGINEER	0:44:42	0:45:24	42.12	ERROR		37048	Picker	PP LEFT PICKET 1 NOT EXIST MODULE	LEFT PICKER - STEP(3003) CODE(37048) : error_code PP LEFT PICKET 1 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/	1/2017	1:12:19	LE7Y24A00032T	ENGINEER	1:11:50	1:12:19	29.266	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:11	LE7Y24A00032T	ENGINEER	1:15:37	1:16:11	33.836	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				END					LOT END WORKDONE
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				INPUT	819				INPUT:819 - PASS:807 - FAIL:12 - RATE:98.5 %
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				PASS	807				INPUT:819 - PASS:807 - FAIL:12 - RATE:98.5 %
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				FAIL	12				INPUT:819 - PASS:807 - FAIL:12 - RATE:98.5 %
SiteID##						LE7Y24A00032T					RATE	98.50%				INPUT:819 - PASS:807 - FAIL:12 - RATE:98.5 %
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				IDLE TIME	0:17:12				IDLE TIME: 00:17:12
SiteID##	Product##	Test	er## 29/:	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				PRODUCTION TIME	2:12:55				PRODUCTION TIME: 02:12:55
SiteID##	Product##	Test	er## 29/	1/2017	1:16:23	LE7Y24A00032T	ENGINEER				DOWN TIME	1:34:56				DOWN TIME : 01:34:56
SiteID##	Product##	Test	er## 29/:	1/2017	1:32:58	LE7Y23A00248T	OPERATOR				START					LOGIN = UserName : D05649 - LOT NAME : LE7Y23A00248T - MODEL NAME : ROMEO
SiteID##	Product##	Test	er## 29/:	1/2017	1:33:48	LE7Y23A00248T	OPERATOR				SOCKET 1 LEFT	USE				LEFT 1SOCKET : USE
SiteID##	Product##	Test	er## 29/:	1/2017	1:33:48	LE7Y23A00248T	OPERATOR				SOCKET 2 LEFT	USE				LEFT 2SOCKET : USE
SiteID##	Product##					LE7Y23A00248T					SOCKET 1 RIGHT	NO USE				RIGHT 1SOCKET : NO USE
SiteID##	Product##	Test	er## 29/:	1/2017	1:33:48	LE7Y23A00248T	OPERATOR				SOCKET 2 RIGHT	USE				RIGHT 2SOCKET : USE
SiteID##						LE7Y23A00248T					PRODUCTION					PRODUCTION MODE STARTED
SiteID##	Product##	Test	er## 29/3	1/2017	1:36:43	LE7Y23A00248T	OPERATOR	1:35:43	1:36:43	59.951	ERROR		37051	Picker	PP RIGHT PICKET 2 NOT EXIST MODULE	RIGHT PICKER - STEP(3003) CODE(37051) : error_code PP RIGHT PICKET 2 NOT EXIST MODULE

	Description	Note
SiteID	MI Site ID	Preferable GH/PDCA Format, example: FXLH (Foxconn LongHua), JACD (Jabil ChengDu).
		Define Own Site ID if does not have GH/PDCA, example: Sharp,LGIT
ProjectID	Project Code	Preferable GH/PDCA Format, example: X602, A125, B234, X1211
		Define Own Project ID if does not have GH/PDCA, example: CG, Rosaline, Romeo, Potassium
TesterID	Tester ID/Tester Number	Preferable GH/PDCA Format, example: JACD_D02-2FT-22_1_GRAPE-TEST
		Define Own Project ID if does not have GH/PDCA, example: FTC001, COMP001
DATE	DD/MM/YYYY	Example: 20/01/2018
TIME	HH:MM:SS (24 hours)	Example: 19:01:34
LOT NAME	Lot Number	Add Product LotName. Leave Blank if no Lot Name require (need approved by OpsTE
LOGIN MODE	- ADMIN - ENG_VENDOR - ENG_MI - OPERATOR - AUDIT - PM	ADMIN - Highest level for Machine Troubleshooting ENG_VENDOR - Engineering Level for Machine Troubleshooting ENG_MI - Engineering Level for Machine Troubleshooting OPERATOR - Operator for Mass Production AUDIT - Periodic Audit for Mass Production PM - Preventive Maintenance —> Planned Down Time
STOP TIME	Machine Down Time	Format - HH:MM:SS (24 hours) Time record when Alarm Occurred to cause machine down or Operator Press Stop button
RESTART TIME	Machine back to Production mode	Format - HH:MM:SS (24 hours) Time record when Machine resume to production mode
DOWN TIME	RESTART TIME - STOP TIME	Format - HH:MM:SS (24 hours) Down Time recorded based on Latest Restart Time - Latest Stop Time

	Description	Note
KEYWORD	KEYWORD (FIXTURE VENDOR REQUIRE FOLLOW) - INITIALIZE START - INITIALIZE END - START - END - RETEST INITIALIZE START - RETEST INITIALIZE END - RETEST START - RETEST END - RETEST END - RETEST END - FAIL - RARNING - INPUT - PASS - FAIL - RATE - IDLE TIME - PRODUCTION TIME - DOWN TIME - SOCKET #	- INITIALIZE START - User press "button" to do "HOMING" - INITIALIZE END - Machine completed "HOMING" and ready to test - START - User press/trigger "START button" or Machine Start lot - END - User press/trigger "STOP button" or Machine End Lot - RETEST INITIALIZE START - Machine Enter Retest Mode for Initialization - RETEST INITIALIZE END - MACHINE complete retest initialization - RETEST START - Machine Start Retest - RETEST END - Machine End Retest - ERROR - Machine down when Alarm occurred - WARNING - Machine is running which impact TesterEfficiency INPUT/PASS/FAIL/RATE - Machine Publish information every hour - Machine calculate after user press "End Lot" - Machine Publish information (total) end of the day - IDLE TIME/PRODUCTION TIME/DOWN TIME - Machine Publish information every hour - Machine Calculate after user press "End Lot" - Machine Publish information (total) end of the day - SOCKET - Log filed when user press "Start"
STATUS	Record Machine Current Status	Publish information - SOCKET USEAGE Status - "USE/NO USE" - INPUT/PASS/FAIL/RATE - Number - IDLE TIME/PRODUCTION TIME/DOWN TIME - HH:MM:SS
ERROR CODE	Machine Error Code	Defined by Fixture Vendor
ERROR TYPE	Machine Error Type	Defined by Fixture Vendor, Example - Vacuum Error, Picker Error
ERROR MESSAGE	Machine Error Message	Defined by Fixture Vendor
MESSAGE	Log Message generated by Machine	Machine Log with certain restriction: - No "," in the message - Restrict to English word message only

Machine Log & Summary Rule & Regulation

1. LOGIN NAME is alway fill in is required for every single log for Machine Log & Machine Summary:



2. LOT NAME MUST key in when hit Keyword "START", "END", "RETEST START", "RETEST END"



3. Record Log-In & Log-Out when change Login Mode as Example below:



4. Accumulate Production Time (regardless end lot, record every hour & record end of day). Production Time Calculation is includes First Test Time + Retest Time & it is not include when Login other than "OPERATOR" mode, Error time,

SiteID	ProjectCode	TesterID	DATE	TIME L	T NAME	LOGIN MODE	STOP TIME	RESTART TIME	DOWN TIME	KEYWORD	STATUS	RROR CODE	ERROR TYPE	ERROR MESSAGE
HTPG	X1295	IF14	24/05/2018	0:09:15 N	SBXMATESTINGG	OPERATOR				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	1:00:00		ADMIN				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	2:00:00		ADMIN				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	3:00:00		ADMIN				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	4:00:00		ADMIN				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	5:00:00		ADMIN				PRODUCTION TIME	0:04:48			
HTPG	X1295	IF14	24/05/2018	6:00:00 N	SBXMA12332123	OPERATOR				PRODUCTION TIME	0:21:34			
HTPG	X1295	IF14	24/05/2018	6:04:13 N	SBXMA12332123	OPERATOR				PRODUCTION TIME	0:25:47			
HTPG	X1295	IF14	24/05/2018	7:00:00		ENG_MI				PRODUCTION TIME	0:25:47			
HTPG	X1295	IF14	24/05/2018	8:00:00		ENG_MI				PRODUCTION TIME	0:25:47			
HTPG	X1295	IF14	24/05/2018	9:00:00		ENG_MI				PRODUCTION TIME	0:25:47			
HTPG	X1295	IF14	24/05/2018	10:00:00		OPERATOR				PRODUCTION TIME	0:25:47			
HTPG	X1295	IF14	24/05/2018	10:14:49 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	0:31:20			
HTPG	X1295	IF14	24/05/2018	11:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	0:31:20			
HTPG	X1295	IF14	24/05/2018	12:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:01:05			
HTPG	X1295	IF14	24/05/2018	12:52:02 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:21:06			
LITEC	V1 20E	IE1 /	24/05/2010	13:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:21:06			
Dub	lich E	ioni	Llaur	14:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:21:06			
านม	lish E	very	noui	15:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:58:50			
HIPG	X1295	IF14	24/05/2018	16:00:00 N	SBXMB18500008	ENG_MI				PRODUCTION TIME	1:58:50			
HTPG	X1295	IF14	24/05/2018	17:00:00 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	1:58:50			
HTPG	X1295	IF14	24/05/2018	17:14:51 N	SBXMB18500008	OPERATOR				PRODUCTION TIME	2:08:45			
HTPG	X1295	IF14	24/05/2018	18:00:00		ENG_MI				PRODUCTION TIME	2:08:45			
HTPG	X1295	IF14	24/05/2018	19:00:00		ENG_MI				PRODUCTION TIME	2:08:45			
HTPG	X1295	IF14	24/05/2018	20:00:00		ADMIN				PRODUCTION TIME	2:08:45			
HTPG	X1295	IF14	24/05/2018	21:00:00		ADMIN				PRODUCTION TIME	2:08:45			
HTPG	X1295	IF14	24/05/2018	22:00:00		ADMIN				PRODUCTION TIME	2:08:45			
				23:00:00		ADMIN				PRODUCTION TIME	2:08:45			
Juh	lish E	nd of	Day	23:59:59		ADMIN				PRODUCTION TIME	2:08:45			

Q&A

- 5. Alarm log file should cutoff by lot based or exactly 24hours based?
 - I. For time based, what is the timing that we need exactly?

[Answer] - 24 hours base is preferable. It also can be per shift

II. Will the dll be able to support lot based alarm log?

[Answer] - DLL is post processing tool which generate alarm report based on defined CSV format

6. Can the filename be set to flexible convention, as long as the info are there? Different factories have different naming convention for MES/SFC/GCM system for file management & upload.

[Answer] - Yes, it is possible. However, Please MI ensure File Name does not have " ", "-", "/", "\", ".", "," special characters.

7. Vendor need exact definition on the timing to generate alarm record. Example. During end lot, should the "end lot" signal be generated when the machine finish testing & ready for operator to end lot? Or the actual time when operator press the end-lot-button?

[Answer] - Depends on Machine Design:

Scenario 1 - If Machine require Operator Press "End Lot" then it is actual time is count when operator press "End Lot" button.

Scenario 2 - If Machine does not require Operator Press "End Lot" button & Machine able to generate "end lot" signal by itself then "End Lot" is count

Scenario 3 - If Machine does not have "Start Lot" or "End Lot", then Machine is responsible to do "Input Unit", "Pass unit", "Fail Unit", "Up time", "down time" & "Idle Time" record, and generator at the end of CSV Files

- 8. From the example log, the alarm record seems to be only generated after the alarm event is nullify.
 - I. Vendor feedback it is better to have full logging of alarm & event & generate at the start of alarm event.

[Answer] - Fixture Vendor can generate their own format but separate file (CSV, TXT & so on)

II. Concern when multiple alarm went off at the same time, which alarm to be logged & there will be some missing alarm logging if it is only logging after machine restart (only one alarm is logged).

[Answer] - It can generate multiple Alarms logging in separate rows after machine restart.

9. How to judge the test is up or down? Depend the error messages?

[Answer] - Here is definition for Tester Up Time, Down Time & Idle Time

"Up Time" - When Tester running production with Operator Mode.

"Down Time" - It seem split few scenario:

"Alarm/Error Message" - Unplanned Downtime is calculated since tester down for troubleshooting

"Admin/Engineering Mode" - Unplanned Downtime when Technician/Engineer login as Admin or Engineering Mode to perform tester troubleshooting

"PM Mode" - Planned Downtime when Technician/Operator login when perform Tester Audit (Daily, Weekly)

10. What is the definition to generate error message? if All Errors or Alarm must to follow as start/end sequence.

[Answer] - Error Message is generated when trigger Tester stop and require Operator/Technician to press stop perform first level troubleshooting then press restart button to resume tester.