PESA
RCP Panel Server Main Application
Version 2.0

Product Functional Definition and Validation

Written By:	Richard Hunter
Revisions By:	
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1.0 Introduction

The purpose of the document is to perform validation of version 2.0 of the RCP Panel Port Server main software application.

2.0 Functional Description

Version 2.0 of the RCP Panel Port Server main software application corrects the issues listed below.

1. Add checks in the p2 library routines to verify the IDs are valid (ID greater than zero).
2. Changed the blocked send for clients (gui) to have a timeout to prevent the thread from stopping.
3. Modified the send notification routine in the client (gui) code to shut down a TCP connection if the send fails.
4. Added diagnostics messages for errors.
5. Added code to disable and enable panel data (key presses). When the download of a configuration starts, the panel data is disabled. When the download of a configuration ends, the panel data is enabled. NOTE: The disabled panel data is actually thrown away.
6. Modified the logon of the RCP Panel Server to use the extended logon process, which includes the configuration CRC. This allows the system controller (PERC 3000) to determine if the configuration needs to be sent to the RCP Panel Server.
7. Removed the configuration change notification; the system controller (PERC 3000) will send the configuration to the RCP Panel Server if the configuration has changed.
8. Added a call to remove expansion panels from a map when the configuration is to be deleted.
9. Changed the handling of the transmission of the configuration data so that memory is allocated to hold the configuration data.
10. Modified the transmission of the configuration data so that if three consecutive configuration CRC errors occur, then the panel is reset by the software. This prevents a RCP Panel Server from being stuck in the bad configuration CRC loop.
11. Cleaned up the code so that all configuration maps are deleted before being re-built when the RCP Panel Server receives the configuration.
12. Corrected the LED routines and modified the routines that call the LED routines to prevent a memory leak.
13. Corrected the take switch routines to check for a reentry destination and reentry sources.

2.1 System Diagram

NA

2.2 Functional Diagrams

NA

2.3 Control interfaces and protocols

P2 protocol

2.4 Electrical Interfaces

Ethernet

2.5 System power

NA

3.0 Controls

There are no controls for the Panel Port Server

3.1 GUI Controls

Cattrax.

3.2 System Controls

Interface port and detailed list of commands

3.3 Switches and Jumper settings

NA

4.0 Validation

4.1 System configuration

Complete listing of all hardware and documentation used for validation

Hardware under validation

Hardware	Part Number	Agile Revision	Agile Description
RCP Panel Server	RCP-PANEL-SERVER	C	RCP-PANEL-SERVER ADAPTS RCP PANELS TO PERC3000 CONTROLLER SUPPORTS 32 PANEL

Software / FPGA code

Hardware	Part Number	Agile Revision	Agile Description
RCP-PANEL-SERVER	81905608230	2.0	RCP PANEL PORT SERVER FPGA SOURCE CODE

Supporting hardware

Hardware	Part Number	Agile Revision	Agile Description
PERC3000	PERC3000	D	PERC3000 SYSTEM CONTROLLER SINGLE 1RU SERVER INTERNAL P/S
Touch 72 panel	TOUCH72LCD	C	TOUCH72LCD 72 LCD SWITCHES WITH TOUCHSCREEN W P/S 2RU NETWORK REMOTE PANEL

4.2 System Power

NA

4.3 Control Verification

4.3.1 GUI Controls

Test results for all listed GUI controls.

Settings Page	Function	Status
Panels	Address/ID	Verified OK
Panels	Name	Verified OK
Panels	Type	Verified OK
Panels	IP Address	Verified OK
Panels	Description	Verified OK

Controllers used

Controller type	Serial Number	MAC Address	Main App	SW Boot	CPLD
PERC3000	LAB P3K Server 1	D0-67-E5-EA-6E-9A	1.2	6.0.7	
PERC3000	LAB PERC3000	D4-A3-52-C2-40-F5	1.2	6.0.8	
PMFC	652397A12441391	00-0B-3A-00-09-E9	5.5	1.4	1.2
PMFC	652397N12441371	00-0B-3A-00-09-EF	5.5	1.4	1.2
RCP-PANEL-SERVER	653343C14030085	00-0B-3A-00-14-77	2.0	0.1	1.1
RCP-PANEL-SERVER	653343C14030084	00-0B-3A-00-14-19	2.0	0.1	1.1

Control panels used

Panel type	Status
RCP-128X	Verified OK
RCP-241	Not available at testing
RCP-48X	Not available at testing
RCP-64X	Verified OK
RCP-CSD	Verified OK
RCP-EXP128	Verified OK
RCP-EXP64	Verified OK
RCP-GPI	Verified OK
RCP-JS	Verified OK
RCP-LCXY	Verified OK
RCP-MB2	Verified OK
RCP-MLDT	Verified OK
RCP-MLTP	Verified OK
RCP-MP32	Verified OK
RCP-MP32D	Verified OK
RCP-PVPG	Not available at testing
RCP-STAT1	Verified OK
RCP-STAT2	Verified OK
RCP-XY	Verified OK

4.3.2 System Controls

Notes:

1. All operations confirmed using Cattrax 3.4.1 rev5066.

4.3.3 Switches and Jumper settings

NA

4.4 Electrical verification

NA

4.5 Mechanical verification

NA

4.6 Thermal verification

NA

4.7 Agency verification

NA