Press Release

Recently, the RTP3000 TAS N+ system has received SIL-1 to SIL-3 certification per IEC 61508-2010. This system is by far the best that RTP has developed. A domain architecture has been added to the configuration options along with increased diagnostics and performance. A domain system is where you take the standard configuration of a node processor (4 per node) and chassis processors (32 per node) and one application and divide it up into 14 sub nodes, each with as many as 8 node processors across 4 chassis. Each domain can have up to 14 nodes configured as single, dual redundant, triple redundant, and quad redundant. The application is sub divided into 14 parts and down loaded into the 14 sub nodes instead of running as one application running in one node. The result is that each node can run a 1 millisecond scan rate, faster throughput, and tighter diagnostics.

So, what can you expect from this generation of RTP system?

1 millisecond scan rate/5 millisecond screw to screw rate - Due to the domain architecture option of the N+ system, each time you add an I/O chassis in a node (maximum of 4 chassis per node), you add a Node Processor.

Each node processor has multiple microprocessors (CPUs) performing a specific task and working together to solve logic and perform communications.

Extensive Diagnostics - The processing power of the N+ system enables extensive diagnostics to be performed during the start-up process and on each scan resulting in many I/O modules being rated as SIL-3 in a simplex configuration.

Highest Availability - Based on the failure rates defined in IEC61508:2010, the N+ system has a MTTFS of greater than 60,000 years.

Distributed Architecture - An application which previously was downloaded into a node containing up to 16 chassis gets separated into smaller control task applications and downloaded into its own Node configured as a single, dual redundant, triple redundant, or quad redundant processor system within a domain. Each domain can have up to fourteen nodes, each node with up to 4 chassis which equates to up to 56 chassis per domain.

Design Flexibility - You have the ability to configure the system according to the level of availability and cost required. The system can have one, two, three, or four Node Processors residing in one chassis or separate chassis. I/O redundancy can be accomplished on one card or across multiple cards. The redundant I/O cards can be placed in a common chassis or across multiple chassis.

Unlimited On-line Updates - There is no limit to the number of times you can make changes to the application. You can add or remove logic, add or remove I/O cards, add or remove module pages, etc. with no restrictions to the number of times you make changes. Changes are not stored in a buffer that grows each time a download is performed.

Hot Swappable - The configuration of your system can be changed while remaining online. I/O channels, I/O cards, chassis, etc. can be added to or deleted from the system without taking the system offline. Changing an I/O card can be performed in a matter of minutes and only requires a simple mouse click within the NetArrays software to disable or enable the card.

According to RTP's President, Sal Provanzano, "Add our 10-year warranty to the features above and you will see why the RTP3000 N+ system is our most robust system to date."

Below is a listing of the standards and their definitions that RTP's products are tested in accordance to. If you have any questions or would like to discuss an upcoming project, feel free to contact Bill Grimm at 954-597-5333 ext 7216 or bill.grimm@rtpcorp.com.

RTP Corp. has tested their product in accordance to:

Standard	**Description**
IEC/EN 61000-3-2	Current harmonic emissions 2^{nd} – 40^{th} harmonics
IEC/EN 61000-3-3	Voltage fluctuations and flicker in low voltage supply systems
IEC/EN 61000-4-2	Electrostatic discharge immunity ±6 kV contact
IEC/EN 61000-4-3	Radiated, radio-frequency, electromagnetic field immunity 10 V/m: 80 MHz – 800 MHz 20 V/m: 800 MHz – 1 GHz 10 V/m: 1 GHz – 2.1 GHz 5 V/m : 2.1 GHz – 2.5 GHz 1 V/m : 2.5 GHz – 2.7 GHz
IEC/EN 61000-4-4	Electrical fast transient / burst immunity 2 kV 5 kHz frequency 300 s
IEC/EN 61000-4-5	Surge immunity 2 kV 60 s
IEC/EN 61000-4-6	Immunity to conducted disturbances included by radio-frequency fields 50 Hz – 10 kHz Sweep rate: 1 kHz per minute
IEC/EN 61000-4-9	Pulsed magnetic field 300 A/m Repetition rate: 10 s
IEC/EN 61000-4-11	Voltage dips, variations and short interruptions Reduction: >95% for ½ cycle >60% for 100 ms >30% for 500 ms

Standard	Description
	20 trials, 5 s between each trial
IEC/EN 61000-4-29	Voltage dips, variations and short interruptions on DC power ports Reduction >95% for 10 ms 20 trials, 5 s between each trial
IEC 60068-2-1 Test Ab, Ad	Low temperature storage Temperature: -40 °C Humidity: uncontrolled Duration: 16 hours
IEC 60068-2-2 Test Bb, Bd	High temperature storage Temperature: 85 °C Humidity: uncontrolled Duration: 16 hours
IEC 60068-2-6 Test Fc	Immunity to vibration 4 - 8.4 Hz at 3.5 mm peak 8.8 - 150 Hz at 1.0 g peak Sweep rate: 1 octave/minute Sweep totals: 20 (10 cycles) 3 Perpendicular Planes
IEC 60068-2-14 Test Na	Temperature shock - Non-operating Temperature: 85 °C and -40 °C Humidity: uncontrolled Duration: 5 hours each 3 cycles total
IEC 60068-2-14 Test Nb	Temperature shock – Operating Temperature: 60 °C to -20 °C Humidity: uncontrolled Duration: 3 hours each 2 cycles total
IEC 60068-2-27 Test Ea	Immunity to shock 15 g's, 11 ms, half-sine 3 pulses positive, 3 pulses negative 3 axes, 18 pulses total
IEC 60068-2-30 Test Db	Humidity Temperature: 60 °C and 25 °C Humidity: 95% Duration: 12 hours including ramps 2 cycle at each temperature
IEC 60068-2-32 Procedure I	Free fall drop Height: 20 inches Drops: 5 drops total • 2x flat on bottom • 2x angle bottom long side • 1x angle bottom short side
CISPR 16-1-2 16-2-1	Conducted emissions (Interference Voltage) 10 kHz – 30 MHz

Standard	Description
CISPR 16-2-3	Radiated emissions (Magnetic field) 10 kHz – 30 MHz at 3 m
CISPR 16-2-3	Radiated emissions (Electric field) 30 MHz – 1 GHz at 10 m 1 GHz – 2 GHz at 3 m
IEC 61131-2 7	General Information Provided by Manufacturer
IEC 61131-2 10	EMC Information Provided by Manufacturer
IEC 61131-2 11.2.2	Dielectric strength
IEC 61131-2 11.2.4	Protection in normal condition - Basic insulation and cabinet installation.
IEC 61131-2 11.2.5	Protection in single fault condition becoming hazardous
IEC 61131-2 11.2.6.3	Limited voltage circuit SELV circuit
IEC 61131-2 11.4.1	Clearances relating to overvoltage category II
IEC 61131-2 11.4.3	Creepage distances - Basic / supplementary insulation
IEC 61131-2 11.4.4	Creepage distances - Double / reinforced insulation
IEC 61131-2 11.5.2	Non-metallic parts supporting live parts have suitable properties to prevent or minimize the spread of flame
IEC 61131-2 11.5.3	Non-metallic parts Flammability classification of V-2 or better
IEC 61131-2 11.5.4	Labeling material
IEC 61131-2 11.5.5	Internal wiring and interconnection cables in unlimited circuits have flammability classification of V-1 or better
IEC 61131-2 11.6	Temperature limits
IEC 61131-2 11.9.2	Provisions for protective earthing
IEC 61131-2 11.10	Wiring
IEC 61131-2 11.11	Switching devices are used within ratings and are subject to overload and endurance tests
IEC 61131-2 11.12	Components comply with applicable safety requirements of the relevant IEC product standard(s)
IEC 61131-2 11.13	Battery
IEC 61131-2 11.14	Maximum and minimum voltage limits
IEC 61131-2 11.15	Markings and identification
IEC 61131-2 12.1.5	Temperature
IEC 61131-2 12.1.8	Clearance and Creepage
IEC 61131-2 12.1.9	Field wiring terminal construction

Standard	Description
IEC 61131-2 12.2.1	Dielectric withstand
IEC 61131-2 12.2.3	Stored energy risk
IEC 61131-2 12.3.2	Breakdown of components
IEC 61131-2 13	Safety routine tests
IEC 61131-2 14	Safety information provided
IEC 61508-1	Safety Lifecycle Process
IEC 61508-2	Provides Objectives for the safety development of the system
IEC 61508-3	Provides Objectives for the safety development of the system
IEC 61508-4	Defines definitions , abbreviations, and terminology used in safety process
IEC 61511-1	Functional Safety: Safety Instrumented Systems for the process industry sector
IEC 61131-6	Functional Safety
NFPA 72	National Fire Alarm and Signaling Code
NFPA 85	Boiler and Combustion Systems Hazards Code
EN 54-2	Fire Detection and Fire Alarm Systems - Part 2: Control and indicating equipment
EN 50121-4:2016	Railway applications - Electromagnetic compatibility Emission and immunity of fixed power supply installation and apparatus
ISA SECURE EDSA-300 LEVEL II	Assesses communication robustness and ability to withstand known weaknesses in Ethernet communications
ABS SVR 4-9-8:2017 Table 1, Item 11 - 18	American Bureaus of Shipping rules for Emission and Immunity