



The logo for NIDays Engineer Next is centered on a blue gradient background. It features the text "NIDays" in white, enclosed within a white rectangular border. To the right of this, the words "ENGINEER" and "NEXT" are stacked vertically in a large, bold, white sans-serif font. A yellow graphic element, consisting of three parallel lines forming a stylized arrow or chevron shape, is positioned between the two words. The background is decorated with several diagonal stripes: a wide green stripe, an orange stripe, and a red stripe on the left side; and several blue stripes of varying shades on the right side.

NIDays **ENGINEER**
NEXT

Introducing NI ATE Core Configurations

Bill Driver

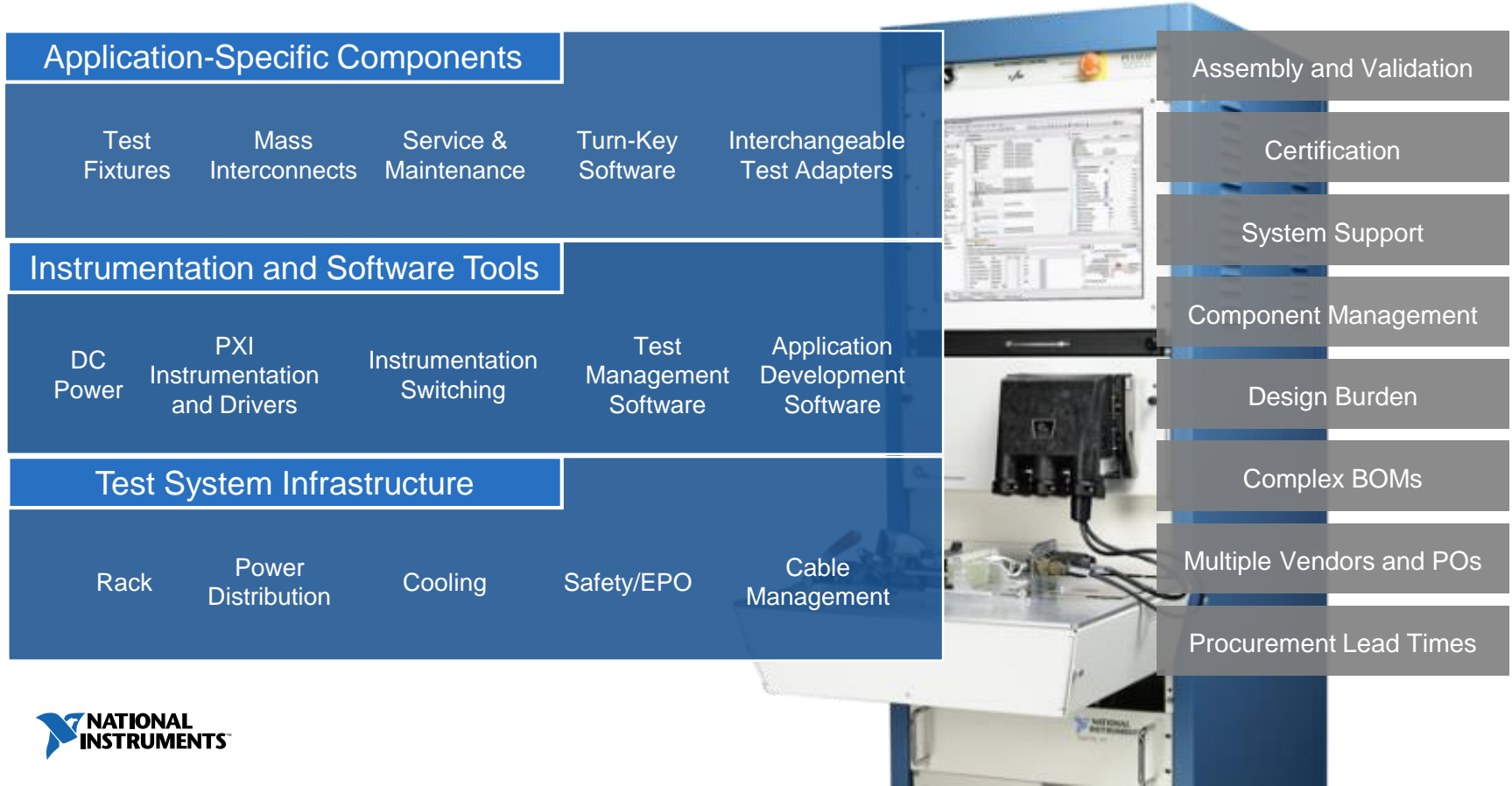
Senior Product Manager, National Instruments

Agenda

- ATE System Development: Then and Now
- Anatomy of an ATE Core Configuration
- Customizing Your ATE System
- System Completion and Deployment

ATE System Development: Then and Now

ATE Systems Require More Than Instrumentation



NI ATE Core Configurations

Standardized Starting Point for ATE Systems

Mechanical Infrastructure

19" Rack, Removable Doors, 3 Sets of Mounting Rails

Power Infrastructure

Power Entry Panel, Power Distribution, Integrated Fans

Safety Infrastructure

Emergency Power Off, Temperature Monitors



Anatomy of an ATE Core Configuration

Mechanical Infrastructure

- Rear Locking Door
- Removable Side Walls
- Top Fan Kit
- Three Sets of Mounting Rails
- Cable Management Tracks
- Brushed Cable Inlet
- Filtered Air Inlet Panel
- Full-Rotation Industrial Casters



Mechanical Infrastructure

Exterior Dimensions and Specifications

Model	Height (including casters)	Width	Depth	Max. Static Load	Caster Support ²
24U	53.26 in. (1,353 mm)	23.0 in. (584.2 mm)	31.5 in. (800 mm)	1,500 lb. (680 kg) ¹	<ul style="list-style-type: none">■ (4) Swivel■ 3.0 in. diameter■ 1,000 lb/caster■ Floor mounts (optional)
40U	81.55 in. (2,071 mm)	23.0 in. (584.2 mm)	31.5 in. (800 mm)	1,500 lb. (680 kg) ¹	<ul style="list-style-type: none">■ (4) Swivel■ 3.0 in. diameter■ 1,000 lb/caster■ Floor mounts (optional)

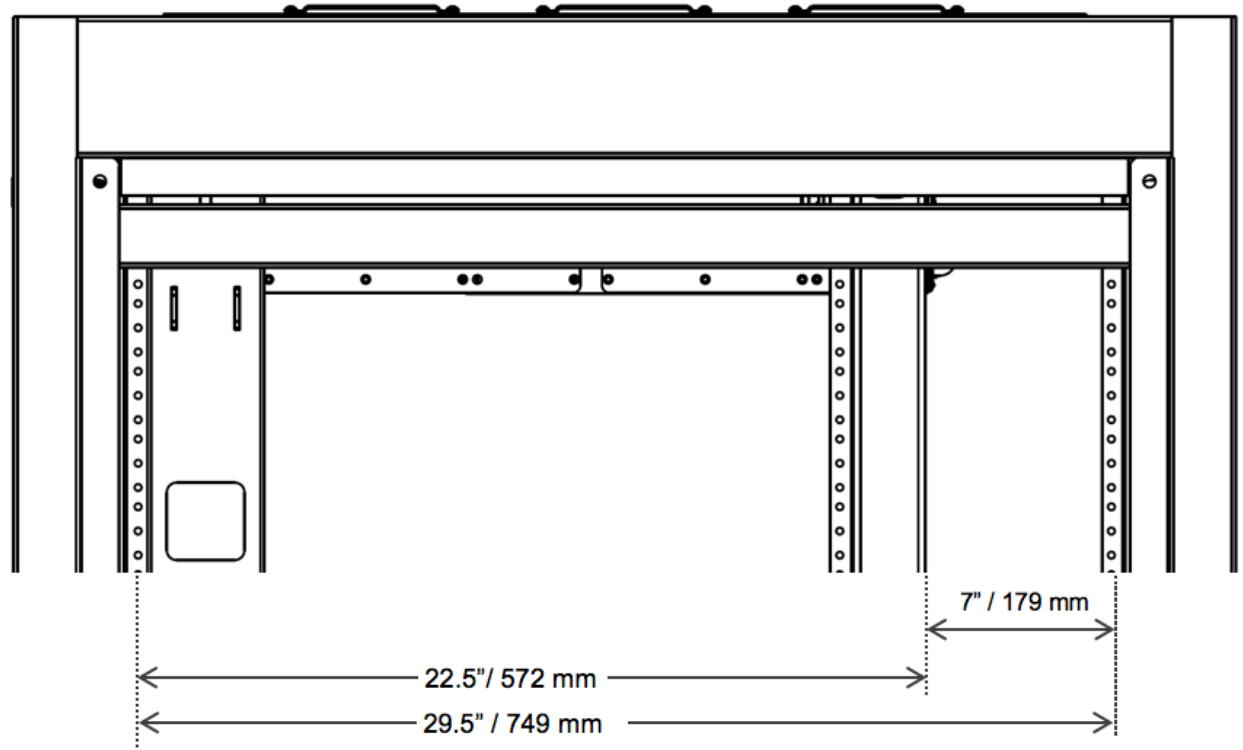
¹Tested to 2x for safety

²Further caster details are in the ATE Core Configurations data sheet

Mechanical Infrastructure

Three Sets of Mounting Rails

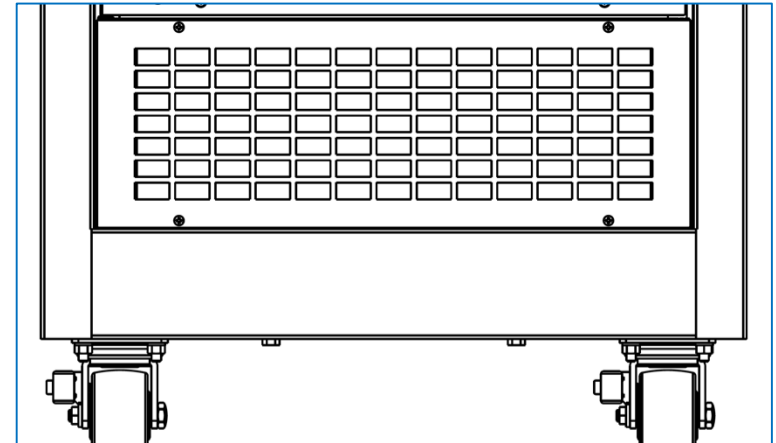
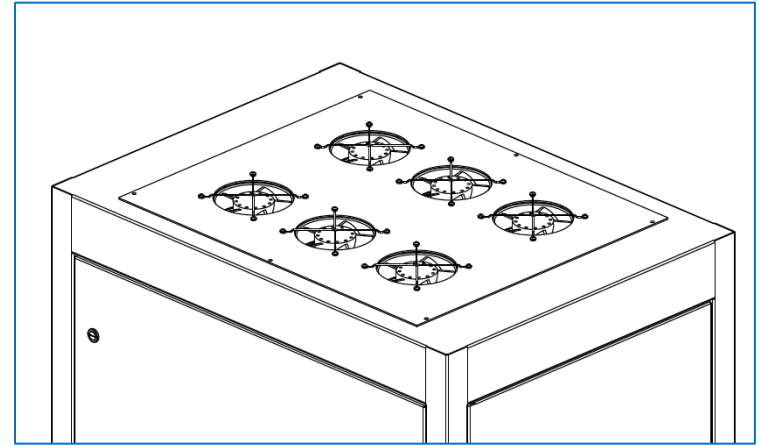
- Support for a range of mounting depths and configurations
- Integrated cable management tracks
- 10-32 threading



Mechanical Infrastructure

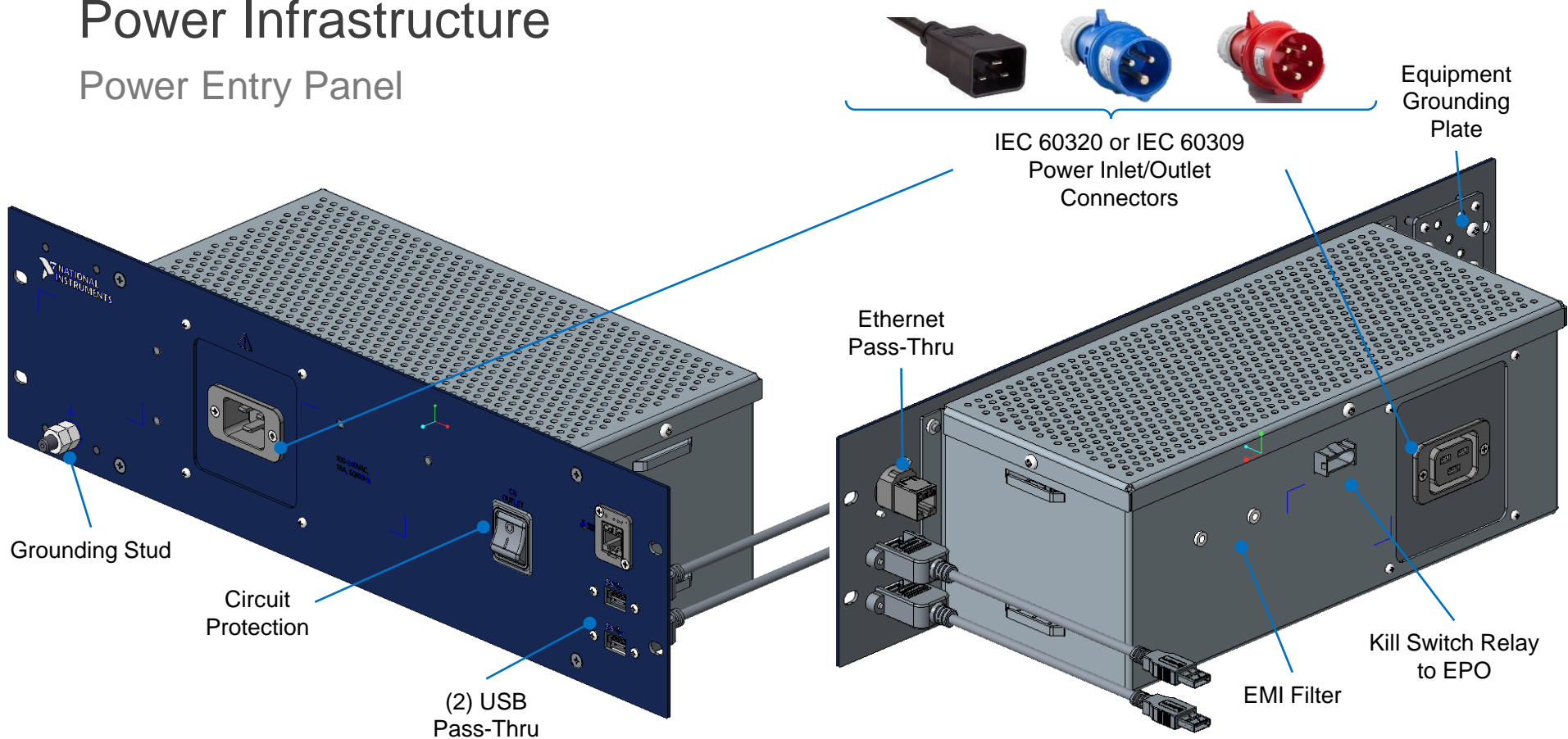
Air Flow

- Highly serviceable, integrated top-fan kits
- Options available for varying thermal loads
- Additional 1U fan kits available for targeted air flow
- DC power to fans provided by integrated PDU
- Integrated inlet panel to facilitate air flow
- Panel filters for harsh environments



Power Infrastructure

Power Entry Panel



Power Infrastructure

Power Distribution Units

- Power distribution units allocate AC and DC power to instrumentation and rack components
- Co-developed with Marway to meet the needs of ATE systems
- Available for both single-phase and three-phase power systems
- Features include power sequencing, remote inhibit, and EPO connections

RMX-10050 Single-Phase PDU



RMX-10051 Three-Phase PDU



Safety Infrastructure

Emergency Power-Off and Thermal Shutdown

On/Off Switch

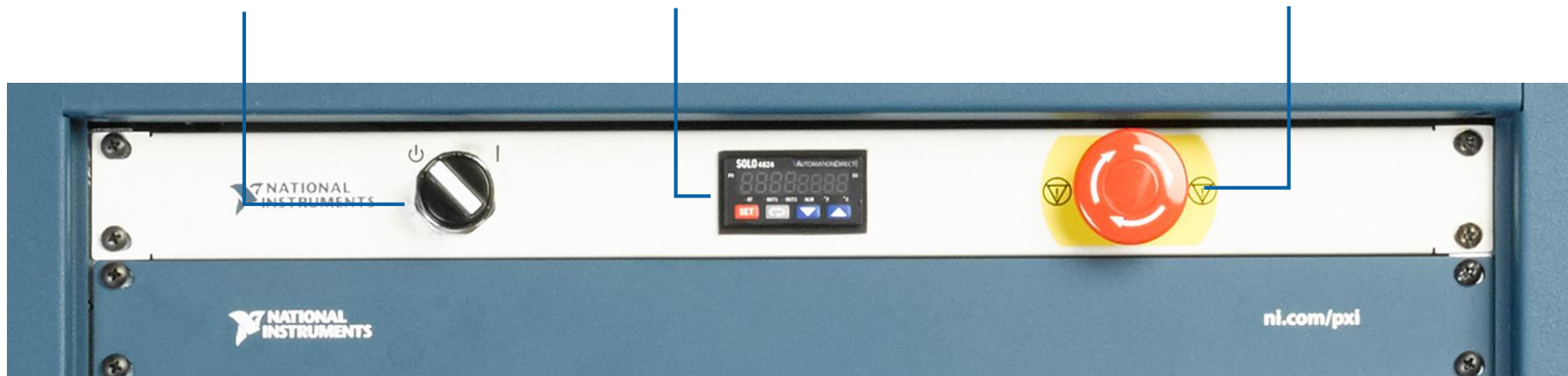
Enables/disables AC and DC power from PDU

Thermal Shutdown Switch

Kills facility power to system at user-defined temperature

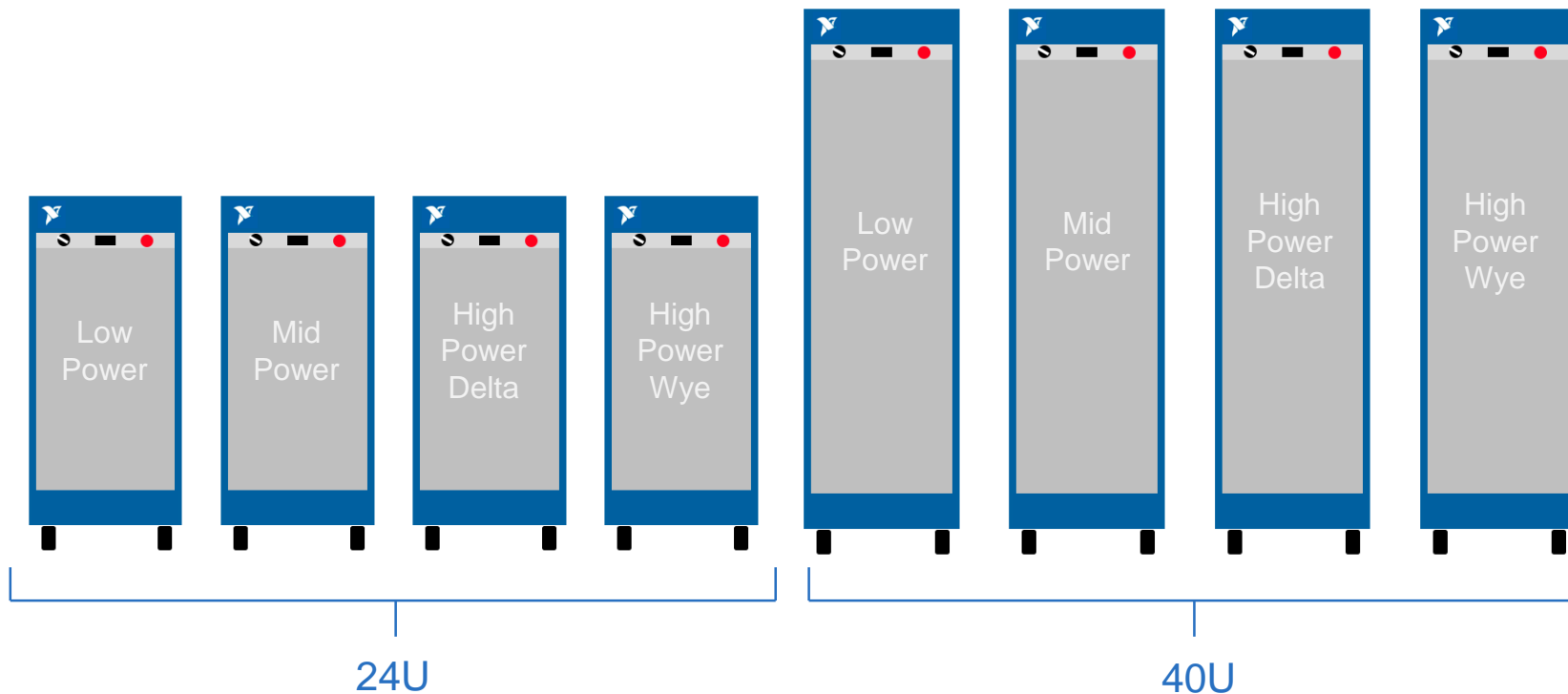
Emergency Power-Off

Kills facility power to the system when pressed



The Eight ATE Core Configurations

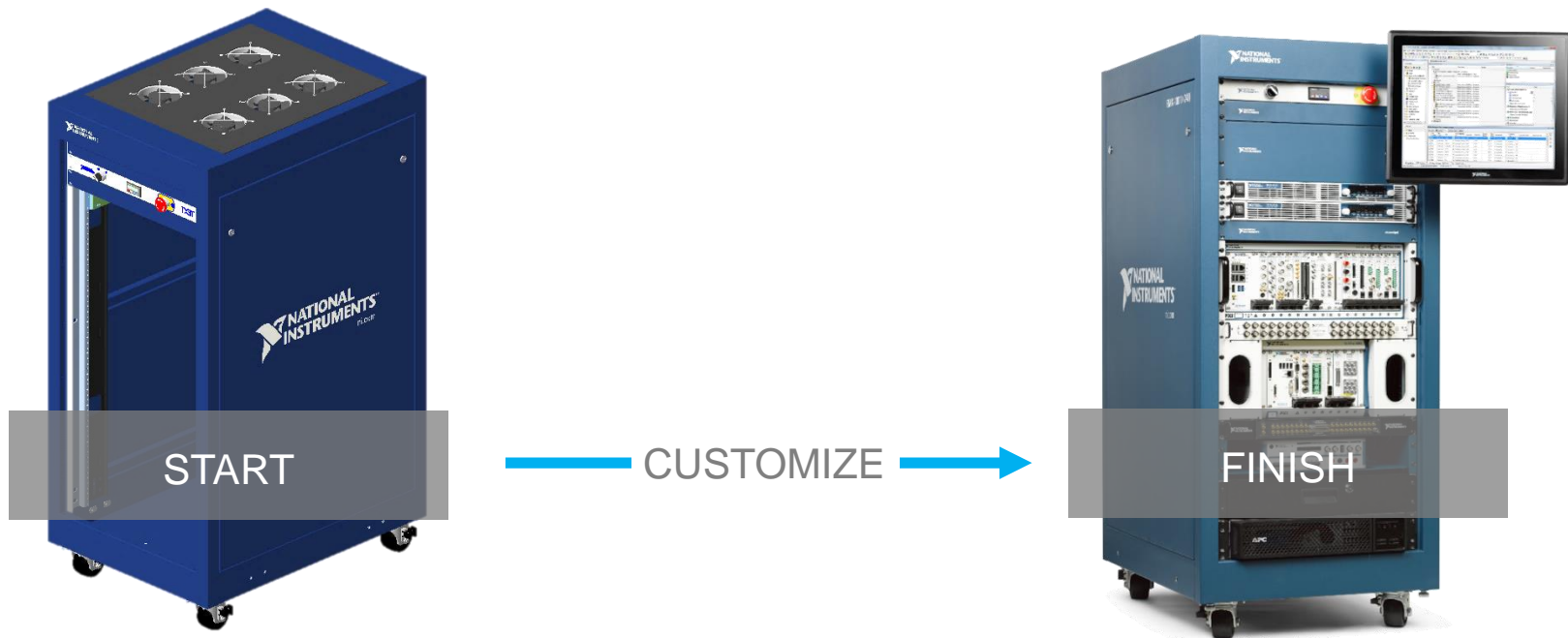
2 Height Options, 4 Power Profiles



Customizing Your ATE System

Standardized Core, Customized System

Outfit an ATE Core Configuration with Instrumentation and Accessories



Customize with Instrumentation, Accessories, and Software

INSTRUMENTATION



PXI



Switch Load and Signal Conditioning



CompactRIO

APPLICATION HARDWARE



RAID Arrays



Programmable Power Supplies



Rackmount Controllers

SYSTEM ACCESSORIES



MKD Units



Displays/HMIs



UPS

Flexible Display Options



1U Flip-Up Drawer

MKD-1117

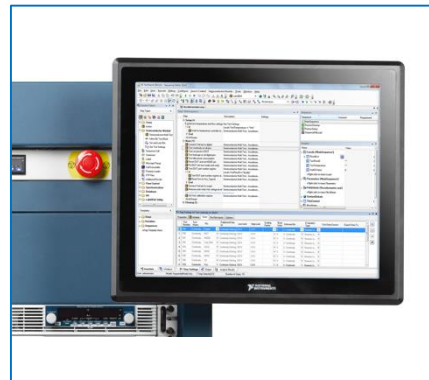
- 17" 1280 x 1024 LCD
- 105-key English keyboard and touchpad
- VGA, USB, PS/2 conn.



Flush-Mounted Touch Screen

TSM-1017

- 17" touch screen LCD
- 1280 x 1024 resolution
- Flush 10U footprint



Side-Mounted Screen

TSM-1017 or 22" Monitor

- 3U plate with mounting arm
- Options for 17" touch screen or 22" standard monitor

Accelerated Configuration

- The NI PXI Advisor expedites the configuration of ATE systems
- Add optional accessories such as uninterruptible power supplies, displays, filler panels, and spare components
- Position and orient your instrumentation and hardware accessories
- Add ballasts for a balanced system
- Get a system report providing the weight, size, power, and thermal details of your configuration

Currently NI internal – public release in development



The screenshot displays the NI PXI Advisor configuration interface. At the top, a navigation bar includes tabs for 'Controller', 'Modules', 'Chassis', 'ATE Core Configuration' (selected), 'Software', 'Services', and 'Summary'. Below this, a sub-navigation bar shows '1. ATE Core Configuration' and '2. Customize Rack Layout' (selected). A message states: 'You can change the selections based on your requirements. Click 'Next' to proceed.' Navigation buttons for 'Back' and 'Next' are present.

The main configuration area is titled 'ATE Rack Accessories and Options'. It is divided into several sections, each with a 'Price Per Unit' column:

- Chassis Placement:** Includes checkboxes for 'Rack Location' (12U), 'Mounting Direction' (Front Rail), and 'Alignment' (Flush).
- HMI Display:** Includes a checkbox for 'HMI Display Type' (22" Flat Panel Monitor (3U, Adjustable Mounting Arm)) and a 'Rack Location' dropdown (21U). The price per unit is \$ 465.
- Mains Voltage:** Includes a checkbox for 'Mains Voltage Option' (100-120V, 50/60Hz).
- Rack Accessories:** A list of slots from RU24 to RU8. RU24, RU23, RU18, and RU8 are checked and set to 'Empty Slot'. RU22, RU21, RU20, RU19, RU17, RU16, RU15, RU14, RU13, RU12, RU11, RU10, and RU9 are unchecked and set to 'Occupied'. RU13 has a dropdown menu open showing options: 'Empty Slot', '1U Vented Shelf', '1U Fan Kit', 'Filler Panel', '1U Keyboard Drawer', '2U Locking Drawer', 'Equipment Support "L" Brackets', and 'Empty Slot'.

Hardware Services

- Rack/ Accessories
- Rack Fan Kit
- Cables

Redundancy

Spares

*Customer
managed
spares*

NI Managed
Spares

*Partner with NI on a
tiered sparing model
at a location of your
choice*

Option in **Premium Plus
Service Program**

Advanced
Replacement

*Express shipment of a
replacement product
within one business
day of the request*

Included in the **Premium
Service Program** for HW

Standard
Repair

10 days for repair
plus standard
return shipping*

Included in the **Standard
Service Program** for HW

minutes

hours

1 day

3-5 days

2-3 weeks

System Completion and Deployment

Streamlined Deployment

- Minimized lead times through standardization
- Free, expedited global shipping
- Reusable shipping crates for multiple shipments
- Serviceability with certified subassemblies and field-replaceable components



NI Alliance Partner Network

1000+ Alliance Partners

NI Offices
NI Alliance Partners

Source: ni.com/findapartner



—Roy Walker, Business Unit Manager, Bloomy, Inc.
ni.com/innovations

NI ATE Core Configurations



Faster Development

Standardized starting point for test system design



Simplified Procurement

Simplified BOM and vendor management



Flexible Configuration

Customized instrumentation and hardware



Streamlined Deployment

Expedited delivery and global certification



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