





## The Need for Speed

How Pre-Integrated Racks Accelerate Solution Deployment

Gain speed and performance for the business with pre-integrated data center rack solutions that are plug and play.

Customer expectations are changing fast. With Amazon providing next-day delivery, and mobile apps and games available with the click of a button, there is now an "instant gratification" mindset that extends to enterprises and lines of business. For IT, this translates to frequent, urgent requests for deployment of services.

In addition, competitive pressures incentivize organizations to roll out new services faster so they can start seeing a revenue boost as quickly as possible. To meet this challenge, the industry is accelerating digital infrastructure advancements.

Organizations need to quickly deploy new services that are designed for efficient, effective management. Yet IT teams, even large ones that aim to deploy new on-premises solutions on their own, face some serious obstacles to meeting these goals.

## Deployment and management challenges

An internal IT team needs a long lead time to deploy a new solution, because integrating equipment into a rack is extremely complex. Some of the considerations include:

- Power: Different types of equipment have differing power profiles. To maximize efficiency, it is important to account for them when designing integrated rack solutions. For instance, in a three-phase design, failure to balance demand effectively across the phases presents significant risk of breaker trip or overload causing production outage. Improper power balancing may also create "hot spots" within the rack, which can complicate cooling and escalate costs. Even distribution among the different phases on a rack power distribution unit (PDU) requires designers to account for the total power of each device, and then architect overall distribution for optimal rack balancing.
- Performance: Different applications have differing performance requirements. Firmware configuration and basic input/output settings (BIOS) directly affect system performance and operation. Also, consistent configuration simplifies deployment, ongoing maintenance and troubleshooting efforts.
  Well-executed designs should tailor firmware and BIOS to meet performance and operational demands and consistently apply them for every deployment.

**Thermal:** The more power, the more heat. Unfortunately, not all equipment vents heat in the same direction. Equipment must be efficiently vented and kept separate from cold air to enable peak efficiency. Scalability: As demand for a product or service grows, so must the underlying IT infrastructure that makes it possible. In addition to architecting the rack for proper power, performance and thermal aspects, IT must also build for scalability without requiring a complete redesign. Ideally, open spots may be prewired so that expansion is essentially plug and play.

Designing and building a rack that balances all these complex, interacting elements requires a great deal of skill and experience, both of which are in short supply for enterprise IT. According to the <u>Robert Half 2021 Technology Salary Guide</u>, "The pre-pandemic tech talent shortage ... prevented many firms from pursuing digital transformation at the desired pace. The organizations are now playing catch-up."

Ongoing management is also a challenge. For example, IT often ends up with multiple, disconnected tools that don't provide a holistic view. Without an integrated view, it can be tricky to determine whether an element or something on which it depends is the source of an issue, and this can make troubleshooting and regular maintenance difficult. In addition, lack of integrated tools makes enabling predictive failure alerts almost impossible, leading to costly downtime.

Disconnected tools also make the management of firmware and resource updates so complex that many organizations neglect to do it, which leaves their systems vulnerable and potentially unsupported by their vendor.

## **Packlive**

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## Factory integration for rack-level deployments

Enterprises can reduce the amount of time it takes to deploy new solutions from weeks to hours and simplify ongoing management — all without tying up scarce IT resources — by turning to factory integration. Professionals with years of specific experience in designing and building pre-integrated racks for large enterprises can apply their expertise to ensure they are built efficiently and accurately.

For example, factory integration ensures that each rack arrives pre-integrated with optimized firmware and BIOS, efficiently balanced power, and tailored airflow to optimize rack and individual system performance. Plus, such pre-integrated racks are designed with potential future expansion in mind. All enterprise IT needs to do is roll the rack into the data center, connect it to power, and energize it with network connectivity. Custom-built for each customer, these pre-integrated racks provide the agility and flexibility required to expand and pivot, as future needs require.

Racklive, a division of <u>ASA Computers</u>, has been providing turnkey data center solutions to large enterprises for more than three decades. Its solutions are standardized on Dell EMC OpenManage Systems Management, which provides embedded, unified management of the entire solution through the Integrated Dell Remote Access Controller (iDRAC) and the OpenManage Enterprise Console. Plus, Racklive enables deep integrations across server, storage, networking and services offerings from Dell Technologies and other vendors.

The ability to deploy new solutions quickly and efficiently is a competitive differentiator. Efficient, effective management can be attained by turning to factory integration. Racklive can reduce deployment of complex systems to hours and enable unified, ongoing lifecycle management.



For more information on Dell EMC OpenManage systems management, <u>click here</u>. And to learn about Racklive integration services, <u>click here</u>.