

Providing a scalable rack solution prepared for growth and change within a data center



IBM IT Facilities Assessment, Design and Construction Services – integrated rack solution for high density computing



Highlights

- ***Provides a scalable and resilient IT infrastructure solution for data centers***
- ***Helps lower the total cost of ownership with more efficient space utilization***
- ***Optimizes airflow inside racks and improves cooling***
- ***Helps minimize implementation risks to protect your investment***
- ***Supports rapid installation and deployment***

Confronting the complexities in data centers and facilities

To remain scalable and efficient into the future, you must carefully architect, plan and build cabinet and server farm environments.

Underfloor cabling, space utilization and power requirements must all be designed with future expansion in mind. Cooling and airflow structures must be able to withstand the heat generated by a high concentration of servers. The maintenance and management of traditional data

centers can be cumbersome and costly because of the sheer number of cables and machines. Network and power cabling can become disorderly, causing a maintenance issue for your IT operations. The overall layout of the infrastructure, together with the associated services, must be implemented with optimum levels of manageability and minimum maintenance costs in mind.

IBM IT Facilities Assessment, Design and Construction Services – integrated rack solution for high density computing helps you plan, design and implement a scalable, flexible and robust cabinet system. Not only does IBM rapidly install and deploy a standard 19-inch rack, but we can also enhance enclosures with a mixture of rack-mountable and free-standing servers.

Integrated rack solution for high density computing offers a range of additional features to enhance your data center environment. Layer-one network and power cabling is integrated inside the rack enclosures, reducing or even eliminating the need

for underfloor cabling and the associated tray work. This also removes the need for expensive underfloor fire-suppression systems. An integrated keyboard-video-mouse (KVM) switch enables local and remote access, simplifying management by saving time. Color-coded network connections and power outlets further simplify the cabling of individual servers, allowing for easy maintenance. Faulty systems can be exchanged quickly, and individual systems can be relocated effortlessly. The integrated cabling enables shorter connection distances, and color coding helps reduce the risk of human error.

Ensuring that data center racking solutions are scalable

In order to keep up with normal business growth, your server setup must be able to scale to accommodate new servers and different server technology. And floor space can become scarce with an existing and inefficient data center. When you engage with IBM Global Services specialists, we'll assess your existing server environment as well as take into consideration the future growth requirements of your architecture. We plan and design your

implementation based on your company's individual needs. Then the IBM implementation team will provide project management for the duration of the data center rollout, ensuring a smooth transition to the new server farm. And our flexible racking solution allows for easy future modifications. The integration of services inside the racks gives the IBM solution a higher degree of extensibility when you add enclosures later. Because you have the space already allocated and prepared, this reduces the costs that would be incurred when scaling up an existing installation.

Decreasing costs with more efficient space utilization

When you engage IBM to help you implement integrated rack solution for high density computing, we install a standard 19-inch rack system, which can help improve space utilization inside the racks by 15 to 25 percent over that of conventional solutions. The rack enclosures can house a mixture of rack-mountable and free-standing servers. The unique rack design provides network and power connectivity for servers in a vertical-mounted, space-saving distribution for optimal space utilization. Enclosing all network and power cabling inside the rack allows for more efficient space utilization and

provides a full 45U of cabinet space; you lose no space to patch panels. As a result of this efficiency, you can house more servers within the same space, allowing you to consolidate your IT system and reduce operational and ongoing maintenance costs.

Optimizing airflow inside racks for improved cooling

When you consolidate a large number of servers in a small space, as in many data centers, the production of heat can cause system failures and interruptions in system availability. When installing several servers in one location, you need to plan for adequate airflow and cooling to keep them running smoothly. Inefficient cooling can cause your air-conditioning costs to significantly increase. Whether you use blade server technology or a rack-mounted cluster server, integrated rack solution for high density computing includes cabling that not only improves airflow and cooling inside the rack but frees underfloor space as well. With an improved cool-air supply and the raised floor, you'll be able to take full advantage of your IT infrastructure's increased availability. And you can keep energy bills for cooling your system to a minimum.

Helping to provide investment protection for your data center environment

If you are considering an in-house server rack installation, there are several risks you need to weigh. Members of the planning and implementation team may be pulled onto other assignments mid-stream, resulting in a stalled or poorly governed project. Problems with system interdependencies can complicate or delay the project. Planning and designing a server farm can be complex and costly. When you engage IBM for integrated rack solution for high density computing, we help minimize the risk of a new rack installation by consolidating the planning, design and building services with one solution provider. We know how to undertake and finish the project right the first time and can help you avoid pitfalls by keeping the project on track. When you purchase integrated rack solution for high density computing, you can minimize the risks associated with new server farm implementations and help reduce costs you might incur with in-house modifications to your existing installations. By helping to reduce operating costs and providing a flexible architecture, integrated rack solution for high density computing can help you reduce the total cost of ownership and maximize your return on investment.

Speeding rack solution deployment and installation

If you are considering starting to plan and deploy a new server farm from the bottom up, time can be your enemy. It might take more time than necessary to get up-to-speed on the requirements, available technologies and even the steps required to build out the space. Because you may not have experience with this type of installation, your team can take too much time planning, designing and building. You can incur unnecessary costs associated with system downtime, redundancies and decreases in staff utilization elsewhere. Because our integrated rack solution for high density computing is tailored for your individual requirements, yet based on a standard solution, we can customize the solution quickly for rapid deployment. A prompt implementation can minimize those risks associated with an in-house installation.

Why IBM?

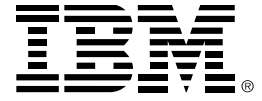
IBM can provide an end-to-end rack solution from requirements definition through design, construction and final commissioning. Alternatively, we can provide those individual capabilities that best complement your strengths. We

offer proven methodology and design experience in planning, designing and building—all from a single source. And we have access to thousands of experts worldwide who have built and run our own IBM data centers. We have the experience of a company that has designed and built more than 30 million square feet of raised-floor data centers from Boulder to Brussels to Bangalore. IBM has access to experienced product engineers as well as to deep research and development in the site and facilities arena. We also work with and can put you in touch with a well-established set of preferred partners in your location. We have been helping companies with site and facilities installations for more than 20 years.

For more information

To learn more about IBM IT Facilities Assessment, Design and Construction Services – integrated rack solution for high density computing and how we can help you determine your requirements, contact your IBM representative or visit:

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