Delivering rapid deployment of a complete, turn-key modular data center to support your unique business objectives

IBM Portable Modular Data Centers enable quick deployments of data processing capabilities for many unique applications, including:

- Local data center expansions
- Temporary data processing solutions
- Mobile data center capabilities
- Remote applications
- Disaster recovery
- Co-location
- Turn-key private cloud installations

Rapidly respond to ever-changing data processing demands

In a global marketplace, organizations are seeking high-density, cost and energy-efficient data centers that can be rapidly and easily installed in various locations around the world to more effectively support both local and remote operations. Or they may simply require quick, local deployment of additional data center space environments to more effectively meet increasing data-processing needs or to address power and cooling issues due to higher density computing.

To help position companies for future growth and provide greater flexibility and cost-efficiency, these data centers need to be built on open IT platforms, support high-density computing, and be scalable and adaptable to evolving technology. IBM IT Facilities Assessment, Design and Construction Services – portable modular data center uses a flexible, highly deployable plug and play design that provides an environmentally isolated and physically protected, fully functional data center—in virtually any location.

The portable modular data center is a compact, IT vendor-neutral, high-density data center solution that enables you to easily create or expand your existing data center floor space without major construction or building retrofit. And by implementing an energy-efficient, compact data center, you can potentially reduce your operating costs—and carbon footprint—while making better use of unused, outdoor space and equipment.
More compute-processing power onsite or in remote locations
To thrive, organizations need more compute-processing power, without downtime or business disruption. Because the portable modular data center is highly configurable, IBM professionals can help design and implement a solution to quickly and smoothly deploy significant data processing or telecommunications power, either in a remote location or as a local, compact and complete data center. This highly flexible portable solution is delivered in modular containers that can be quickly transported and deployed—helping you to make better use of your real estate and delivering extra compute-processing power with little to no building construction or retrofit.

Design features
- **Complete data center infrastructure** creating a complete, turn-key data center in a portable and modular format
- **Open IT architecture** enabling the installation and support of any rack-mounted IT equipment, not only IBM equipment, for a true data center
- **Physically secure, insulated containers** for peace of mind in any location and any environment
- **Energy efficient designs** with industry leading cooling technologies ensuring the proper operating environment for your IT equipment in an energy efficient enclosure
- **Complete IT service capabilities from within a closed container** maintaining a physically secure, environmentally stable environment while maintaining or servicing your IT equipment
- **Flexible design containers** designed and built to meet your specific needs based on IBM standard design architectures so you get exactly what you need in a containerized data center.

Complete data center infrastructure
A complete data center consists of more than just IT equipment in racks. To be a fully functioning data center, the total solution needs to include a support infrastructure as well. When IBM delivers a portable modular data center, we design, build and test the total solution as one complete integrated system. This standard solution consists of the total infrastructure including the chiller unit, UPS system, and fire detection and suppression systems. If you do not need a complete infrastructure, we can adjust the solution to meet your specific needs.

Open IT architecture
Most every data center has a mix of IT equipment from a variety of manufacturers. IBM provides a containerized data center solution to meet the requirements of a variety of manufacturers. IBM does not prescribe to the single manufacturers equipment in the container; we use standard, full sized IT equipment racks to enable installation of any rack-mounted IT equipment, as well as unique format racks such as IBM’s iDataPlex™. The portable modular data center is pretested and can support any mix of rack-mounted IT equipment, as well as some non-rack mounted equipment, offering you a true data center environment and complete configuration flexibility.

Physically secure, insulated containers
The portable modular data center provides physically secure containers that are environmentally insulated to provide a container solution suitable for installation and operation in almost any location and environment. Each container has triple sealed doors with security access controls, as well as closed-circuit television (CCTV) cameras installed inside the containers fixed on the access doors. External CCTV cameras are also available to monitor the access doors and surrounding area. The CCTV cameras and other security system points can be monitored remotely and programmed to alarm for any number of conditions.

Each container is also fully insulated and sealed against outside weather conditions providing a secure environment in any weather conditions. The container insulation protects from external temperatures, humidity, smoke, dust, fire, as well as radio frequency interference (RFI) and electromagnetic interference (EMI). The insulation makes the portable modular data center suitable for installation in any environment from the dry, hot deserts to moist cold regions and everything in-between.
Flexible designs

IBM understands—from many years of data center design and build experience—that no two data centers are exactly the same. Every company has some unique needs in their data center and we understand that this is also the case in a containerized data center. IBM has designed a few base designs that incorporate all the key data center design features, but has done so in a way to allow the flexibility for you to alter the container designs to meet your specific needs. If you need a larger uninterruptable power supply (UPS), a smaller chiller unit or no chiller unit at all, we can do that. Do you need less IT racks or a different power density? We have the flexibility to meet those needs as well. Let us work with you to assess your needs and then we will create a solution specifically for you.

Energy efficient designs with industry leading cooling technologies

The innovative cooling technologies built into our portable modular data center include chilled water systems, remote monitoring systems and physical security systems, and can help you significantly reduce your energy costs and reduce your carbon footprint. This data center solution uses the most energy efficient infrastructure equipment to ensure energy savings including industry leading cooling systems, such as IBM Rear Door Heat Exchanger, in-row cooling and overhead fan coil units. We also have free-cooling designs for use in certain environments. IBM’s design team will recommend the best infrastructure designs to meet your needs.

Complete IT service capabilities in a closed container

The portable modular data center is designed to allow complete IT service and maintenance from within a closed, secure container. This ensures a physically secure environment and an isolated space unaffected by outside weather conditions or uncontrolled temperature and humidity levels.

Comprehensive solutions for your data center design needs

With IBM’s depth of experience in designing, installing and building customized and standardized data centers, we can help design a data center tailored to meet your specific needs—in sizes ranging from small and compact, to as large as you need to grow. IBM IT Facilities Assessment, Design and Construction Services – portable modular data center is part of the IBM Data Center Family™ of solutions and provides comprehensive design and build services combined with a standardized, modular approach to enable faster time to deployment that includes:

- **Portable modular data center**
  This compact, fully functional high-density data center enables you to more easily deploy a complete, remote or temporary data center solution at virtually any location around the world.

- **Enterprise modular data center**
  Using energy-efficient technology in 5,000 square foot increments up to 20,000 square feet or greater, this robust solution aligns your IT investment with the growth of your business, allowing you to invest in data center capability as you grow—helping you reduce your total operating expenses.

- **Scalable modular data center**
  Deploying within 8 to 12 weeks, this complete data center of 500 to 2,500 square feet uses standard components to help you achieve dramatic improvement in energy efficiency for significantly less cost than traditional data centers.

- **High density zone**
  Using a nondisruptive implementation to support high-density devices in existing data centers, this high density solution provides up to 35 percent less cost than a site retrofit.
Why IBM?
With experience in building more than 30 million square feet of raised-floor data centers for organizations worldwide, IBM is a leading provider of data center design, construction, relocation and optimization services. Through services that encompass every aspect of establishing and running data centers—from assessment and strategy to design and construction—IBM currently manages more than 8 million square feet in 400 IBM global data centers. Our structured methodology, intellectual capital and global reach enable us to deliver robust and comprehensive data center solutions to your organization.

Combined with our strong ecosystem of data center technology partners, including strategic relationships with industry-leading power and cooling equipment vendors, IBM offers exceptional insight into industry trends and evolving data center energy and technology needs—helping us to deliver a comprehensive, robust data center solution that aligns with, and empowers you to achieve your business objectives.

Portable modular data center specifications

<table>
<thead>
<tr>
<th>Container sizes</th>
<th>20' (6.1m) L x 8' (2.4m) W x 9.5' (2.9m) H</th>
</tr>
</thead>
<tbody>
<tr>
<td>40' (12.2m) L x 8' (2.4m) W x 9.5' (2.9m) H</td>
<td></td>
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<tr>
<td>Container insulation</td>
<td>Fully insulated and sealed containers providing protection from external temperature, humidity, smoke, dust, fire, water, RFI and EMI</td>
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<tr>
<td>Container security</td>
<td>Access control security systems (magnetic stripe reader, biometric scanner or numeric keypad)</td>
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<tr>
<td></td>
<td>CCTV cameras internal (standard) and external (optional)</td>
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<tr>
<td>Container power density</td>
<td>Up to 510kW per container or up to 30kW per rack</td>
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<tr>
<td>Power protection</td>
<td>UPS System: up to 2,200kVA (N+1 or 2N)</td>
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<tr>
<td>Chilled water unit</td>
<td>Up to 200kW</td>
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<tr>
<td>Cooling options (chilled water)</td>
<td>• IBM rear door heat exchanger</td>
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<tr>
<td></td>
<td>• In-row cooling</td>
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<tr>
<td></td>
<td>• Overhead fan coil units</td>
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<tr>
<td>Cooling options – direct expansion (DX)</td>
<td>• In-row cooling</td>
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<tr>
<td></td>
<td>• Overhead fan coil units</td>
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<tr>
<td>Power usage effectiveness (PUE)</td>
<td>1.30 (typical including infrastructure)</td>
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</tbody>
</table>

For more information
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