How do you design maximum data security?

Integrated infrastructure solutions for data centers

Answers for industry.
Siemens – a system integrator with universal expertise.

Data is the lifeblood of every modern company in our globally networked economy. Any temporary interruption of the data flow, any interference with data availability, or the loss of even a small amount of data can seriously harm the competitiveness of the affected company. And long-term protection of data involves more than only IT infrastructure – it concerns the availability of your entire data center. This is a complex challenge, and it is best handled with a partner who has extensive consulting, design, and engineering skills, and expertise in how individual security-related components work together (system integration). With a partner who represents experience, reliability, and trust around the world. With Siemens.
Data security – a key to your success, today and tomorrow

Data misuse or viruses are obvious dangers. But physical threats like power failures or fire in your data center also jeopardize the availability of your data and therefore the very survival of your company. Siemens has the concepts, products, and solutions to keep your data secure at all times.

Data security in your company comprises all possible technical and organizational measures to ensure data availability. The great significance of data security in the business world is evidenced by the strong interest that banks, insurance companies, suppliers, and even customers have in your company’s data security strategy. A professional approach and long-term measures to optimize data security will strengthen your position and reduce your liability risk. That is why the subject of data security should be far more than a marginal issue for the computer and network specialists in your company. Data security is a vital foundation of your company, and thus a strategic management responsibility.

The benefit of integrated concepts

Data security concerns the architecture and the protection of your IT infrastructure – servers, computers, software, firewalls, virus protection, and the organization of access and user rights. But it is also determined by the physical infrastructure of the data center.
center: power supply, air-conditioning and security technologies, the building services management system, as well as the passive network.

**System integration is the key to lasting success**

With its unique portfolio of products, solutions, and services for data center infrastructures, Siemens AG makes it possible to completely protect your databases. Setting up or migrating to an infrastructure with maximum availability includes the provision of a reliable power supply, state-of-the-art ventilation and air-conditioning technology, as well as comprehensive security systems. An inspection of the data infrastructure is always worthwhile – whether you are constructing a new building, modernizing an existing one, or moving. When designing a solution, Siemens can draw on its extensive expertise as a system integrator. The comprehensive service packages from Siemens not only help you optimize data security. Because they use system components designed for integrated and long-lasting benefits, they also reduce operating costs. They can help offset rising energy prices, for example, with innovative technologies. The energy efficiency and durability of all components used are taken into account beginning right from the design phase.

Thanks to this comprehensive expertise, Siemens has established itself globally as a professional partner for data security. With its products and solutions, Siemens plays a key role in optimizing your company’s data security and your data center’s efficient operation. Today – and far into the future.

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**Globally proven concepts, products, and solutions contribute to the protection of your data**

- Siemens provides a globally proven portfolio of products, solutions, and services for integrated infrastructure solutions
- Professional data security in your data center strengthens your position vis-a-vis banks, insurance companies, and suppliers
- Siemens infrastructure solutions reduce your operating costs and protect the environment
Service as a complete package or individual modules

Siemens supports you with a wide range of products and services whose process steps and activities have been well-proven in numerous projects around the world. You can access all services either individually or as complete packages. No matter which option you choose, you will be impressed with the results.

Siemens has divided its service packages into two areas within the overall planning process. The first area covers planning and design, while the second includes implementation, operation, and maintenance.

**Service package: design planning**

The process begins with an inventory. The next step consists of feasibility studies to analyze which solution will best support you in achieving the results you want under the given conditions. These studies help you avoid unsuitable investments, identify the optimal solutions and approaches, and understand and correctly assess the potential risks. They are followed by analyses of technology, load scenarios, future security needs, and the expected operating costs. The results are integrated into a preliminary design and, following consultation with the customer, the Siemens team develops the actual final design with detailed concepts and specifications.
**Service package: planning phase**

Once the design is approved, the actual planning phase begins. It encompasses approval and implementation planning, calling for bids for the various specialized tasks and evaluating the received bids. Comprehensive, audit-proof documentation makes all process steps transparent, even in retrospect.

**Service package: implementation, commissioning, and operation**

The second phase of overall planning – the execution – combines implementation and operation/maintenance. Siemens functions as the system integrator during the implementation phase. The project team guides and monitors installation, oversees technical functionality, and prepares the project documentation including commissioning and acceptance.

During system operations, Siemens handles maintenance and repairs, performs services, and can execute all expansions and changes to the data center over the medium to long term. During this phase of collaboration, the customer continually receives complete documentation.

**Complete package or individual systems**

You can choose whether you would like to acquire these services from a single source as a complete turnkey project – with Siemens as the general contractor – or only access selected, individual service packages. The Siemens portfolio for data center infrastructures is flexible enough to be actively implemented in the design of a project at any stage. The only things that count are your requirements, wishes, and goals.

Our objective is to integrate the individual components so that the end result is a complete system.

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**Siemens services throughout the entire lifecycle**

- **Consultation, planning, and design** determine the basic principles, initiate analyses, and provide the designs and concepts
- **Execution** includes the complete implementation of your building or renovation project, from mobilization to commissioning
- Siemens **guides and monitors** all work and creates the necessary documentation through professional project management
- **Maintenance and service** under Siemens’ direction ensure the stable operation of your data center over the long term
- Siemens works for you – either as the **general contractor** or as part of **individual service packages**
System integration from a single source

Siemens offers small and medium-sized data centers the largest integrated portfolio on the market. Siemens’ expertise as a system integrator, and with internationally recognized know-how in design and engineering, ensure a successful design for your data center infrastructure. For you, that means comprehensive, lasting security.

The range of Siemens services includes technical system integration of the following components: architecture and interior design, hardware/passive networks, electricity and the emergency power system, air-conditioning and ventilation systems, security systems, and building management systems. Each component provides maximum security in your data center.

When these products are implemented, a number of issues that play a role in the design of data centers must be taken into account. One of these issues is the classification of data centers according to the TIER system. This directly affects the degree of operational reliability, availability, and structure of the redundancy concept. When a data center is migrated or moved, the spatial conditions play a key role. They can necessitate increased structural fire protection (including fire compartments and fireproof doors) and increased protection against burglary. If the data
center is located near high-voltage lines, the EMC shielding must be increased. And as workflows in the data center are established, the safety and security concept must be considered, including emergency plans, crisis management measures, as well as business continuity management.

**Safety necessitates redundancies**

When the power supply is configured, the planning must include a redundant system. This involves the following items:

- feeds
- medium voltage
- transformers
- emergency standby system
- low voltage
- uninterruptible power supply and suitable EMC shielding

In addition, the design should incorporate the integration of specific cooling systems to reduce power loss from the servers. When it comes to fire protection and security technology, special fire alarm and extinguishing systems must be provided to protect the databases.

Siemens’ building services management system is used for building control technology. It ensures central coordination and control of all infrastructure systems.

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**Siemens – a system integrator with extensive experience and expertise**

- We assemble the optimal package of procedures and products for each customer and each project based on the most comprehensive portfolio of products, solutions, and services in the industry
- The experience, industry expertise, and technical skills of Siemens specialists ensure the seamless interaction of all system components
- Professional project management at every stage of cooperation guarantees successful commissioning
- Close proximity to customers and personal involvement of the Siemens specialists create a solid foundation for cooperation
Your data is secure – throughout the entire lifecycle

Data security is a strategic management issue that requires long-term planning and continual monitoring. The maintenance and servicing of your data center have just as high a priority as the construction and commissioning.

As a company that thinks and acts for the long term, Siemens always has the entire lifecycle of your data center in view. That is why for Siemens, the collaboration is far from over when the keys are handed over. On the contrary, that is the beginning of the cooperation phase, when farsighted planning that believes “preventing trouble is better than troubleshooting” and the use of top-quality products consistently pay off. The results are low maintenance costs as well as long intervals between maintenance and servicing. Siemens provides a wide variety of maintenance and service models, such as customized advance material procurement, service calls around the clock, and installation and configuration of additional components. Our numerous and successful service cooperation agreements throughout the world are proof of the direct correlation between excellent service quality and successful data center operation. Upon request, Siemens can also provide you with an “all-around carefree” service package for your data center.
Security, trust, and the future

With its comprehensive approach to topics like energy efficiency and resource conservation, Siemens is the right partner – both today and tomorrow – for companies that think and act for the long term. Optimized project development times and concepts rigorously designed for a quick return on investment also speak for themselves. Siemens stands for security, trust, and the future.

And that is exactly what your data require.

Why Siemens is your expert partner

- Siemens has decades of experience in planning, implementing, and supporting integrated infrastructure solutions over the long term for projects all over the world
- Experience and process expertise help optimize the project development times
- Siemens offers a wide variety of attractive maintenance and service models
- Siemens is a partner who thinks and acts in the long term and has a sound financial base
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