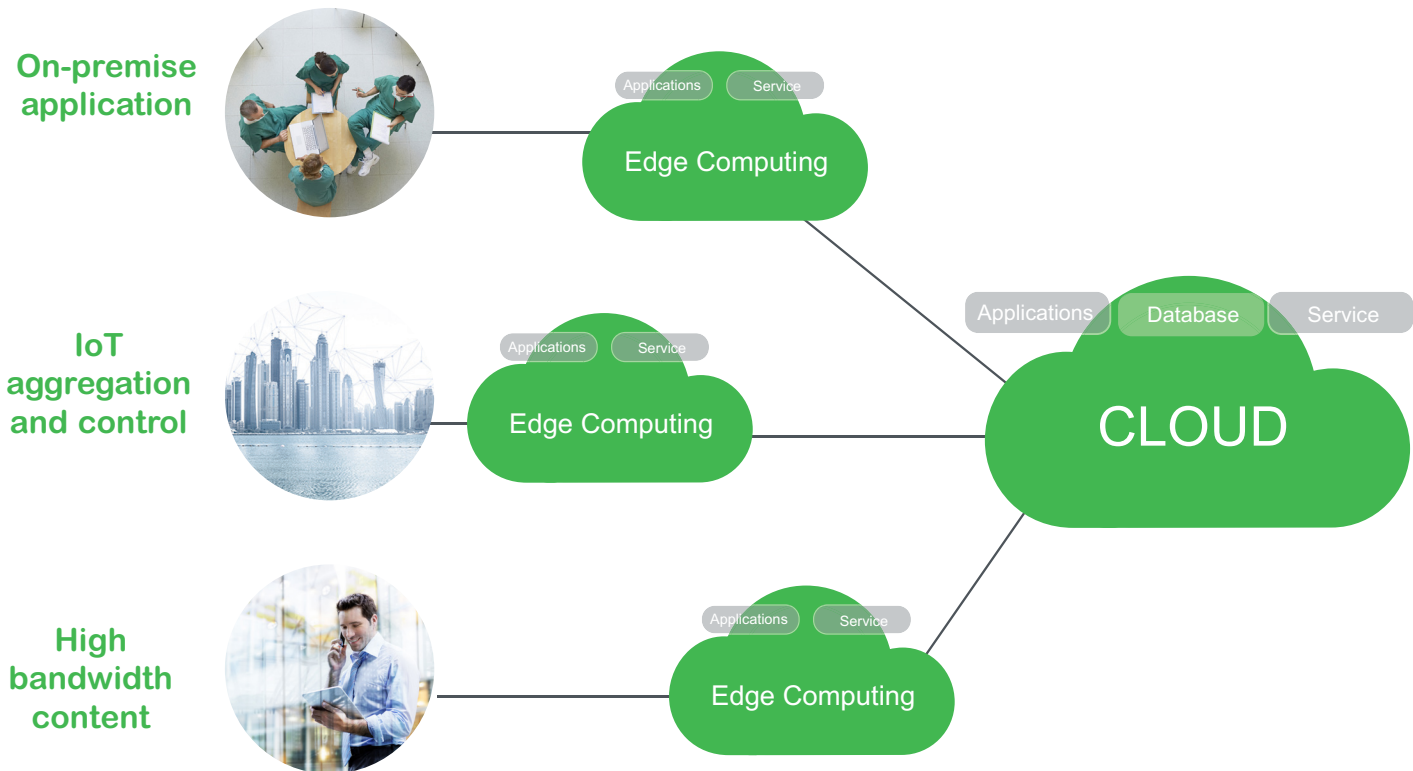# Edge IT in Healthcare

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by Schneider Electric

What is the Edge?

The Edge is a high-performance bridge to the cloud aimed at reducing latency and transmission issues. It's the concept that computing and storage have applications outside of the data center. Those applications have been growing across many segments and are expected to continue to grow due to several market and technology trends.

On-premise application

Applications   Service
Edge Computing

IoT aggregation and control

Applications   Service
Edge Computing

Applications   Database   Service
CLOUD

High bandwidth content

Applications   Service
Edge Computing

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Patient-centered healthcare is driven by IoT and Edge Computing

Healthcare providers are striving to deliver high quality & affordable healthcare in the most convenient locations for their patients. To deliver on these promises, IoT technologies such as digital health records, digital imaging and telemedicine will be required. Edge Computing makes these technologies highly reliable and available.

We offer you a complete, easy way to deploy Edge environments.

Deployment Standardization and Redundancy

Design and deploy distributed IT infrastructure in a quick, easy, and repeatable way with configuration solutions and selector tools to assist with configurations across all deployment types.

Remote Site Management

Optimize your Edge Computing sites and prevent the most common causes of downtime by simplifying the monitoring and servicing of your physical infrastructure from the Edge to the enterprise.
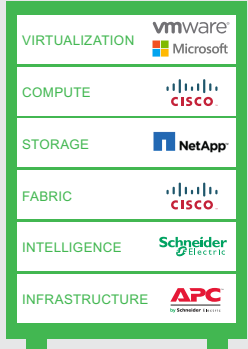
Secure Environment

Cybersecurity starts with physical security. Protect critical Edge Computing deployments with monitoring, controlling and supervising Edge Computing sites from physical threats.

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Deployment Standardization and Redundancy

Pre-integrated

Prefabricated and Micro Data Centers

Pre-integrated physical infrastructure which ships to you fully assembled.

Pre-configured

Reference Designs

Created in conjunction with the leading converged and hyperconverged vendors.

VIRTUALIZATION	vmware / Microsoft
COMPUTE	CISCO
STORAGE	NetApp
FABRIC	CISCO
INTELLIGENCE	Schneider Electric
INFRASTRUCTURE	APC by Schneider Electric

Configure-to-order

InfraStruXure

Utilize APC's standard product to create the Edge Computing solution which meets your exact specifications.

Custom solutions

Custom-designed Racks and PDUs

Unique racks and power distribution designed to fit your exact specifications.
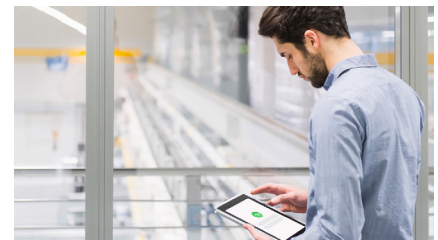

Local Edge Configurator

However you decide to deploy your physical infrastructure, the Local Edge Configurator can help layout your entire deployment quickly and accurately.

Remote Site Management

EcoStruxure IT & Smart-UPS with APC SmartConnect

Utilizing our cloud managed management systems, we allow you the visibility into these remote sites by providing the management application, control, analytics and services that will allow you to prevent downtime from occurring by stopping a problem before it starts.

Secure Environment

NetBotz

Security and environmental appliances, sensors and cameras that help you monitor the physical space for environmental hazards, control who can access the rooms and racks via badge access, and supervise the environment through audio and video oversight.

Competitive Differences

Standardized Deployment

Breadth of Offer

Choose from the largest offer portfolio, which covers commercial, industrial, and remote/branch office edge applications.

Turn-key Solution and Support

Provide a full, factory tested and validated, physical infrastructure solution with power, cooling, monitoring and security, backed up with global service and technical support.

Remote Site Management

Constant Visibility

Get visibility into the health of your entire physical infrastructure from anywhere you have an Internet connection.

Awareness

Become aware of infrastructure issues before they occur through data driven insights, analytics, and domain expertise.

Physical Security

VM Migration

Automatically migrate VMs to a safe location and shut down physical servers based on customer-determined critical alerts, such as forced entry, high temperature, smoke, or water leaks.

Environmental and Security Coordination

Easily coordinate the security of the rack-level Edge Computing environment by managing it with one NetBotz and one IP address.

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Things to think about when meeting with a healthcare customer/client:

Trends and their challenges & implications:

- The number of people 60 years or older will double by 2050

  - **Implication** = Patient size will drastically increase.

  - **Risk** = Unplanned power outages currently cost healthcare facilities an average of $1M per day. How will this cost be impacted as patient populations continue to rise?

- Diagnostic techniques continue to become more sophisticated with high performance digital imaging, machine learning, etc.

  - **Implication** = These sophisticated machines are latency intolerant and require local (on-premises) processing/compute power.

  - **Risk** = The IT supporting these applications is being deployed in non-traditional IT spaces, sharing space with non-IT personnel – posing physical security & system availability risks.

- Branch consolidation & changes in ownership…

  - **Implication** = A lot of standardization efforts around HIPAA compliance, policies, and procedures, as well as finding efficiencies in the consolidation – including IT equipment.

  - **Risk** = Lack of real-time visibility to IT that is highly distributed, impacting ability to respond to immediate threats, as well as determine longer term efficiency goals.

Did you know trends in the industry today include:

- Telemedicine
- Remote health clinics
- Digital imaging/diagnostics
- Digital health records
- Mobile, connected work stations, etc.

Is your customer prepared?

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Questions for your customer:

- What is your digital transformation strategy?

- What trends (future or current) within the healthcare industry are you preparing for? (telemedicine, remote health clinics, digital imaging, digital health records, robotic operations etc.)

- What are you doing around smart buildings? (patient monitoring and tracking)

- Once these transformations take place, have you considered how much downtime these sites can tolerate?

- Are there governmental data regulations you need to consider?

- What is your strategy around securing these remote locations?

- What is your strategy around monitoring & optimizing these remote locations?

Who to talk to?

IT Manager, Consulting Engineer, Data Center Manager, C-Suite, APC Representative, Contractor

Benefits

Reduced interruptions by resolving bandwidth and latency issues, enhanced customer experience, improved customer data security, optimized operating models

665TB	$949K	20-40%
Average amount of data that each hospital will generate[1]	Average revenue per hospital bed in the U.S.[2]	Growth rate of medical imaging archives[3]

[1]NetApp P-7169 Delivering Excellence in Patient Care with Ready Access to Clinical Data

[2]American Hospital Association's 2013 edition of AHA Hospital Statistics

[3]datasciencesseries.com/blog/The_Age_of_Data-Driven_Medicine.pdf (page 9)

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