



# Simplifying IT Deployments at the Edge for Healthcare

[se.com](https://se.com)

Life Is On

**Schneider**  
Electric

# Healthcare Market Trends Demand New Solutions

The mission-critical nature of hospitals, rural and suburban clinics, and research and testing facilities requires IT infrastructure that enables patient safety and comfort, ease of access to realtime data, and high availability of services in order to accommodate new trends. The recent growth of outpatient facilities, telemedicine, and digital access control systems has further bolstered demand for IT systems that are not only increasingly powerful and connected but flexible in configuration and more compact in size.

These local “edge” computing systems store and manage the information generated from many connected Internet of Things (IoT) devices such as sensors, security cameras, medical equipment modalities, and intelligent room environmental controllers.

## Four key trends are impacting the healthcare segment



With the 60+ population **expected to double by 2050**, the patient population will also surge.<sup>1</sup>



More than **50%** of healthcare executives, say patient satisfaction is a “top 5” concern.<sup>2</sup>



**33%** of hospitals lack HIPAA-compliant EHR contingency plans.<sup>3</sup>



By 2022, the healthcare IoT is forecasted to reach a valuation close to **\$500B.**<sup>4</sup>

## Edge deployments benefit healthcare organizations in three important ways:

- By placing compute power and analysis closer to where source data is being generated, information access is more reliable and less expensive.
- By avoiding data latency issues, real-time decision-making is now possible.
- By preventing downtime at locations with unstable network connections.

Edge computing solutions help healthcare stakeholders meet new and growing market challenges by increasing systems’ reliability and enabling real-time decision making with the flexibility of working with a hybrid environment, where both cloud and edge can be leveraged.

<sup>1</sup> [World Population Prospects, The 2012 Revision, Economic and Social Affairs, United Nations, 2013.](#)

<sup>2</sup> [Top Issues Confronting Hospitals in 2015, American College of Healthcare Executives.](#)

<sup>3</sup> [Third of Hospitals Lack HIPAA-compliant EHR Contingency Plans. \(2016\). HIPAA Journal](#)

<sup>4</sup> [Kirk, Claire. \(2019\). Healthcare IoT Adoption in the HIPAA Compliance Landscape.](#)

# Patient-Centered Healthcare is Driven by IoT and Edge Computing

Healthcare providers are striving to deliver high quality and affordable healthcare in the most convenient locations for their patients. Edge computing makes these technologies highly responsive, reliable and resilient.

**665 TB** of data  
is generated by a hospital per year, globally<sup>1</sup>

**OVER 80%** of healthcare executives made **customer centricity, data and analytics** their top priority in 2019.<sup>1</sup>

Three key pillars for successful edge computing deployments to deliver resiliency and reliability.

## 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.



<sup>1</sup> 2019: North Highland, Beacon Industry Trend Report

# Simplicity at the Edge

How can any organization run and secure dozens, hundreds or even thousands of edge sites? Not even large multinational enterprises have IT departments large enough to staff every location.

With EcoStruxure™ Micro Data Centers from Schneider Electric, you don't need to.

Micro data centers are preassembled, pre-tested, enclosed rack systems with all the components needed to run an edge site, including power distribution units, uninterruptible power supplies (UPS), cooling (when needed), security as well as management software and services. Micro data centers create resilience at the edge with:



## Standardization

Pre-integrated standard designs can be replicated across highly distributed areas.



## Physical security

Security cameras, environmental sensors, and access controls issue alerts to prevent malfunctions and provide visibility to potential security breaches.







## Management

Open, vendor-agnostic software & services provide the visibility, insights and on/offsite support to make it easy to operate sites around the world.



# Edge Solutions that Meet Key Deployment Needs

## Deployment Standardization and Redundancy

Prefabricated	Pre-configured	Pre-Configured	Custom Racks
<b>EcoStruxure Modular and Micro Data Centers</b> Prefabricated physical infrastructure which ships to you fully tested and assembled.	<b>Reference Designs</b> Created in conjunction with the leading converged and hyperconverged vendors.	<b>EcoStruxure Row Data Centers</b> Configured custom solutions specific to your edge computing space and specifications.	<b>NetShelter™ Racks and Rack Mount PDU</b> Racks and power distribution designed to fit your exact specification.
			

## Remote Multi-site Operations

### EcoStruxure IT Software and Services


EcoStruxure IT™ Software & Services enables IT users to **mitigate and anticipate risk of failure** of their critical infrastructure **while reducing operational expenses** through an open, vendor-agnostic platform. Our global footprint and domain expertise in IT infrastructure enable you to gain the right visibility, insights, 24/7 expert remote monitoring, and on-site support.

## 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.



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

# Micro Data Center for Healthcare IT Environments

## S-SERIES

Made for server rooms or network closets, our S-Series is highly customizable and easy to configure with hardware, software, and services, including validation of third party IT equipment with all the largest vendors. For a full catalog, contact your local Schneider Electric sales representative.



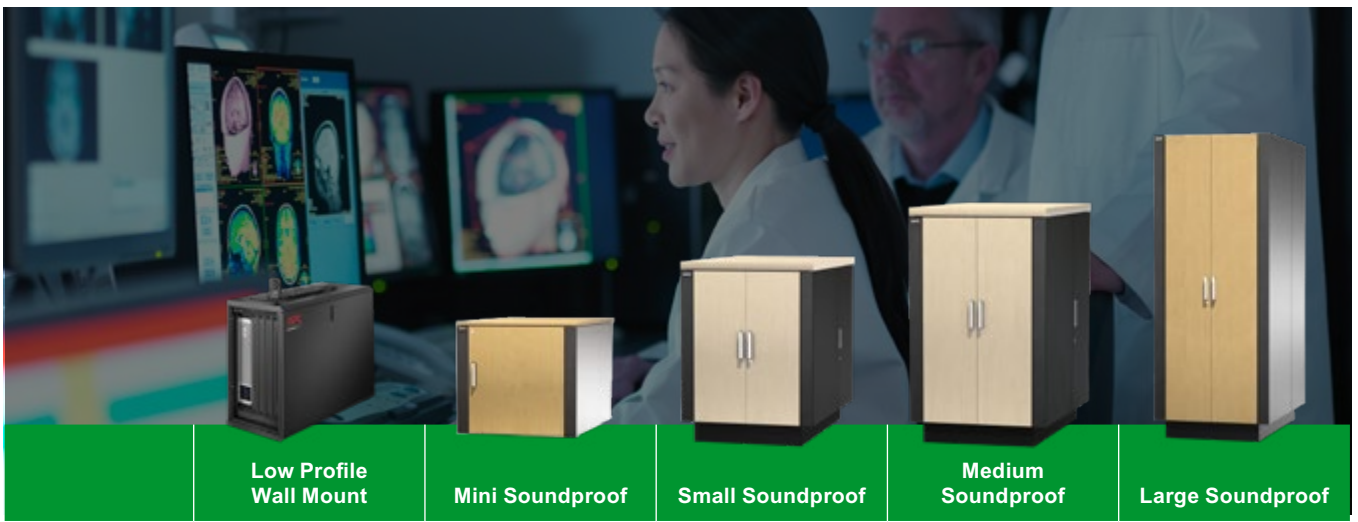
	Wall Mounted Enclosures	Standard Enclosures	Self-Contained System w/ Cooling
<b>Enclosure</b>			
<b>Enclosure Size H x W x D (mm)</b>	355-620 x 600 x 400 or 600	1200-2258 x 600/750/800 x 1070-1200	2000 x 900/1050 x 1500 2000 x 600 x 1200
<b>Enclosure Size H x W x D (in)</b>	14-24 x 24 x 16 or 24	48-90 x 24/30/32 x 42-48	80 x 36/42 x 60
<b>Total Rack Space</b>	6U, 9U, 12U	12U, 18U, 24U, 42U, 45U, 48U	42U
<b>Available Rack U Space</b>	Configuration Dependent	Configuration Dependent	37U 32U (with InRack Cooling)
<b>Power</b>			
<b>Maximum IT Load</b>	Configuration Dependent	Configuration Dependent	4.6kW 3.5kW (with InRack Cooling)
<b>UPS Capacity</b>	500VA-1.5kW	1 – 20kVA	5kVA
<b>UPS Runtime*</b>	Configuration Dependent	Configuration Dependent	3.5min
<b>Power Input</b>	120V, 230V	120V, 208V, 230V	208V, 230V
<b>Cooling</b>			
<b>Cooling Capacity</b>	N/A	N/A	5kW (InRow SC) 3.5kW (InRack Cooling)
<b>Cooling Type</b>	Vented Enclosure	Perforated Doors	InRow SC (Self-Contained, DX) Uniflair RM (Split DX, InRack)
<b>Security</b>			
<b>Security Options</b>	Standard Lock, Keycard Access, Camera Monitoring	Standard Lock, Keycard Access, Camera Monitoring	Standard Lock, Keycard Access, Camera Monitoring
<b>Environmental Sensing Options</b>	Temp/Humid, Spot Water, Rope Leak, Intrusion Detection, Smoke, Vibration		
<b>Remote Monitoring</b>	EcoStruxure IT Remote Monitoring (Phone App, Web)		
<b>Ship Load-able?</b>	No	Yes (Shock Pkg)	Yes (Shock Pkg – Rack Only)

\* Battery Packs available for additional runtime

# Micro Data Center for Healthcare Office Environments

## C-SERIES

Made for commercial environments, like offices, retail, education, or healthcare facilities, our C-Series includes the same capabilities as S-Series with additional features such as fan ventilation, air filtration, and soundproofing. For a full catalog, contact your local Schneider Electric sales representative.




	Low Profile Wall Mount	Mini Soundproof	Small Soundproof	Medium Soundproof	Large Soundproof
<b>Enclosure</b>					
<b>Enclosure Size H x W x D (mm)</b>	650 x 331 x 969	719 x 688 x 962	1015 x 750 x 1130	1275 x 750 x 1130	1950 x 750 x 1130
<b>Enclosure Size H x W x D (in)</b>	26 x 14 x 39	29 x 28 x 38	40 x 30 x 45	51 x 30 x 45	77 x 30 x 45
<b>Total Rack U Space</b>	6U	12U	18U	24U	38U
<b>Available Rack U Space</b>	4U	8U	14U	19U	34U
<b>Power</b>					
<b>Maximum IT Load</b>	1.5kW	600W	1kW	2.2kW	3.6kW
<b>UPS Capacity</b>	1.5kVA	1kVA	1.5kVA	3kVA	5kVA
<b>UPS Runtime*</b>	5min	8min	6min	7min	5.5min
<b>Power Input</b>	120V, 230V	120V, 230V	120V, 230V	120V, 230V	208V, 230V
<b>Cooling</b>					
<b>Cooling Capacity</b>	1.5kW	800W	1.2kW	2.4kW	3.6kW
<b>Cooling Type</b>	Integrated Fans	Integrated Fans	Integrated Fans	Integrated Fans	Integrated Fans
<b>Security</b>					
<b>Security Options</b>	Standard Lock, Camera Monitoring	Standard Lock, Camera Monitoring	Standard Lock, Keycard Access, Camera Monitoring		
<b>Environmental Sensing Options</b>	Temp/Humid, Spot Water, Rope Leak, Intrusion Detection, Smoke, Vibration				
<b>Remote Monitoring</b>	EcoStruxure IT Remote Monitoring (Phone App, Web)				
<b>Ship Load-able?</b>	Yes	No	Yes (Shock Pkg)	Yes (Shock Pkg)	No

\* Battery Packs available for additional runtime

# Micro Data Center for Harsh Healthcare Environments

## R-SERIES

Made for harsh environments, like temporary healthcare annexes where higher than average dust, moisture and/or heat may be present, the R-Series includes sealed enclosures and additional features like active cooling, enhanced filtration and security. For a full catalog, contact your local Schneider Electric sales representative.



Enclosure		
<b>Enclosure Size H x W x D (mm)</b>	2432 x 1070 x 1580 (w/ casters)	2432 x 1370 x 1580 (w/ casters)
<b>Enclosure Size H x W x D (in)</b>	96 x 43 x 63 (w/ casters)	96 x 54 x 63 (w/ casters)
<b>Total Rack U Space</b>	42U	42U
<b>Available Rack U Space</b>	Configuration Dependent	Configuration Dependent
Power		
<b>Maximum IT Load</b>	4.8kW / 8kW	4.8kW / 8kW (x2)
<b>UPS Capacity</b>	5kVA / 8kVA	5kVA / 8kVA (x2)
<b>UPS Runtime*</b>	3.5min / 5min	3.5min / 5min
<b>Power Input</b>	208V, 230V	208V, 230V
Cooling		
<b>Cooling Capacity</b>	5kW (InRow SC) / 10kW (InRow DX)	5kW (InRow SC) / 10kW (InRow DX) (x2)
<b>Cooling Type</b>	InRow SC (Self-Contained) / InRow Direct Expansion (Split)	InRow SC (Self-Contained) / InRow Direct Expansion (Split)
Security		
<b>Security Options</b>	Standard Lock, Keycard Access, Camera Monitoring	Standard Lock, Keycard Access, Camera Monitoring
<b>Environmental Sensing Options</b>	Temp/Humid, Spot Water, Rope Leak, Intrusion Detection, Smoke, Vibration	
<b>Remote Monitoring</b>	EcoStruxure IT Remote Monitoring (Phone App, Web)	
<b>Ship Load-able?</b>	Yes	Yes

\* Battery Packs available for additional runtime



# Ready to get started on an IT solution for your healthcare Edge IT application?

## How to order?

- Contact your trusted partner OR
- Find a partner at [apc.com/howtobuy](https://apc.com/howtobuy)

Learn about our healthcare solutions.

[Discover more >](#)

## Resources:



Edge Computing Site  
(Resource Page)

[Read more >](#)



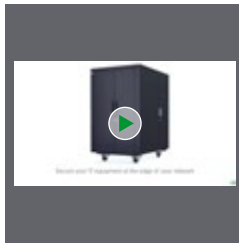
Micro Data Centers  
Evolve to Fit New  
Business Requirements  
of Edge Computing  
(Blog)

[Read more >](#)



Practical Guide to  
Ensuring Availability  
at Edge Computing  
Sites (White Paper)

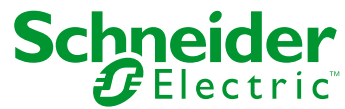
[Read more >](#)



Micro Data Centers  
– Configurable,  
Self-Contained  
Enclosure (Video)

[View video >](#)

Life Is On



Explore more on  
[schneider-electric.com](https://www.schneider-electric.com)

**Schneider Electric USA**

800 Federal Street  
Andover, MA 01810  
Phone: 978-794-0800