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## 1.0 Executive Summary

The Schneider Electric Critical Power & Cooling Services (CPCS) EnergySTEP1 Data Center Assessment is an easy to order, entry level on-site assessment ideally suited for a raised floor data center with a centralized UPS and perimeter cooling units. The focus of this service is to uncover the most significant deficiencies in the power, cooling and physical infrastructure of the IT space.

The Schneider Electric certified service professional will come to your facility and perform an assessment of your data center that will:

- Analyze the data center IT space power, cooling, physical layout and operations.
- Identify components, layout and operational settings that reduce electrical efficiency increase energy consumption and compromise availability.
- Identify threats to the uptime of power and cooling components.
- Create a customized report with recommendations for improvement.
- Provide a general rating of data center subsystems.
- Present a review of report findings.

The entry level assessment is the perfect solution for customers who want to identify the most significant issues affecting energy use and availability in their data center IT space. Schneider Electric will provide you with the information you need to make an immediate impact on the health of the data center.

## 2.0 Features & Benefits

Features	Benefits
Customized Assessment Report	Provides the customer with an over-view of the data center IT space power, cooling, rack/row layout, and operation, along with general recommendations to optimize performance, reduce power consumption and improve efficiency.
Data Center Performance Recommendations	Provides ways to improve the data center performance such as: <ul style="list-style-type: none"> <li>• Optimize Power and Cooling Systems</li> <li>• Reduce Energy Consumption</li> <li>• Improve Efficiency</li> <li>• Identify Hot Spots</li> <li>• Optimize rack/row configurations</li> </ul>
On-Site Certified Service Professionals	Provides a onetime on-site visit by a certified Schneider Electric Professional, trained to safely audit your datacenter without interrupting your critical operations.
Data Center Rating	Provides the customer with a general rating of the data center subsystem's performance.

### 3.0 Details of Service

The Schneider Electric Entry Level EnergySTEP1 Data Center Assessment Service provides an entry level on-site assessment of the existing data center IT space infrastructure systems and components. The specific activities of the on-site data collection and analysis are listed below.

Data Collection and Analysis	
Activities	Description
Visual Inspection	<ul style="list-style-type: none"> <li>Perform a visual inspection of the data center and note any deviations from industry best practices that compromise the operation of the data center.</li> </ul>
Power Supply Analysis	<ul style="list-style-type: none"> <li>Document manufacturer and nameplate data of each UPS.</li> <li>Assess condition and note availability deficiencies.</li> <li>For UPS units with display data, or data that can be queried through a communications port, the following will be performed:               <ol style="list-style-type: none"> <li>Compare UPS rating against actual kW and kVA loading on each UPS.</li> <li>Record and analyze phase loading on input and output. Identify parameters outside of industry best practices. Provide recommendations for improvement.</li> <li>Identify and benchmark the efficiency of the UPS at its current operating point.</li> </ol> </li> </ul>
Air Conditioning Analysis	<ul style="list-style-type: none"> <li>Identify issues that compromise air conditioning effectiveness or threaten availability in the IT space.</li> <li>For each CRAC unit in the IT space with display data, the following data collection and analysis will be performed:               <ol style="list-style-type: none"> <li>Record the Computer Room Air Conditioning (CRAC) settings from the display panel.</li> <li>Record supply and return set points.</li> <li>Identify demand fighting and/or set points that increase energy consumption or decrease efficiency.</li> <li>Provide CRAC optimization recommendations.</li> </ol> </li> </ul>
Air Distribution Analysis	<ul style="list-style-type: none"> <li>Identify the air distribution topology, provide air distribution analysis and make recommendations to optimize the air distribution topology relative to the computer heat load.</li> <li>Identify supply air leakage and bypass air paths in the air distribution system. Provide recommendations to mitigate.</li> <li>For data centers with a raised floor supply system:               <ol style="list-style-type: none"> <li>Identify the air tile quantity and visually assess the air tile placement within the data center.</li> <li>Identify where air tiles are incorrectly placed or ineffective.</li> </ol> </li> </ul>
Rack Analysis	<ul style="list-style-type: none"> <li>Measure rack inlet temperatures using an IR thermometer. Identify rack inlet temperature exceeding industry guidelines.</li> <li>Examine each rack enclosures for airflow suitability. Identify where air mixing is likely to occur and where blanking panels and side panels should be installed.</li> </ul>
Row Review	<ul style="list-style-type: none"> <li>For data centers with a defined equipment row configuration:               <ol style="list-style-type: none"> <li>Examine rows for air flow suitability.</li> <li>Identify where air mixing is likely to occur and make recommendations for improvements.</li> </ol> </li> </ul>

## 4.0 Deliverables

Schneider Electric will provide the following documentation and support within 10-15 working days after the conclusion of the on-site data collection.

- A customized assessment report with general recommendations to improve power, cooling, utilization and availability as specified in Section 3.
- Identification of inefficient systems, equipment and operations within the data center.
- Identification of maintenance practices that compromise the uptime of the equipment.
- A follow-up conference call with an Energy Management Specialist to review the report findings and recommendations, and address any customer questions and concerns.

## 5.0 Exclusions

The following items are not included in the scope of this service but are available as part of the Schneider Electric comprehensive suite of data center assessment services.

- Assessment of infrastructure components outside of the IT space like the main power distribution system, mechanical plant cooling system, generators, etc.
- Detailed component level assessment of the infrastructure equipment within the IT space.
- Power Usage Effectiveness (PUE) measurement of data center electrical efficiency.
- Safety and reliability of the power infrastructure system.

## 6.0 Scope of Responsibility

The items stated here are responsibilities of both Schneider Electric and the customer.

### 6.1 SCHNEIDER ELECTRIC RESPONSIBILITIES

- Schedule and coordinate the site visit.
- Assign a qualified service engineer for the assessment.
- Service engineer will meet with the customer designated contact to review the assessment process and deliverables.
- The Schneider Electric service engineer will bring all the equipment and tools necessary to perform the on-site data collection.
- Perform all of the service activities in Section 3 of this Statement of Work.
- Schedule and coordinate follow up meeting to present the report.

### 6.2 CUSTOMER RESPONSIBILITIES

- Inform Schneider Electric of any special site conditions that could prohibit the successful execution of this standardized service, i.e., safety training, security clearance, site access requirements, etc.
- Provide qualified personnel to escort the service engineer in the data center, if required.
- Inform Schneider Electric if photography is prohibited in the data center.
- Provide a single point of contact for the Schneider Electric service engineer.

## 7.0 Customer Order Information

- SKU: **WES1-EM-01** EnergySTEP1 Data Center Assessment
- Pricing: Call for Quote

## 8.0 Project Work Details

The project work details listed below are provided by Schneider Electric for the customer with regard to service date, location and completion criteria.

### 8.1 SCHEDULE

1. The Schneider Electric service engineer will coordinate the time and date of the assessment at the customer site.
2. All on-site services performed by Schneider Electric are executed during the normal business hours. Exceptions are national or provincial holidays. Services performed outside of normal working hours may incur additional charges.

### 8.2 COMPLETION CRITERIA

Schneider Electric is expected to have finished its written duties when any of the following occurs:

1. Schneider Electric completes all the tasks described in Section 3.0 of this SOW.
2. This service and SOW are terminated for other reasons within the Schneider Electric Customer Agreement. Termination fees may apply.

## 9.0 Terms and Conditions

Schneider Electric standard Terms and Conditions apply, and will be provided at customer request.

The information provided in this SOW cannot be used or duplicated, in full or in part. Other uses for this document are prohibited without written consent from APC by Schneider Electric.

All documentation, photographs, thermal imaging or other information provided by the customer, or gathered at the customer site, will be for internal use only and used solely for the purpose of report generation, analysis and recommendations.

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