



1.0 Executive Summary

Comtec utilises the Schneider Electric Critical Power & Cooling Services (CPCS) EnergySTEP1 Datacentre Assessment. An easy-to-order, entry level onsite assessment of the datacentre IT white space.

The focus of this service is to uncover the most significant deficiencies in the power, cooling and physical infrastructure of the IT space in small to medium tier1/tier2 datacentres. The Comtec certified service professional will come to your facility and perform an assessment of your datacentre that will:

- Analyse the datacentre IT white space power, cooling, physical layout and operations.
- Identify components, layout and operational settings that reduce electrical efficiency, increase energy consumption and compromise availability.
- Review maintenance records and identify threats to the uptime of power and cooling components.
- Create a customized report with recommendations for improvement.
- Provide a general rating of datacentre subsystems.
- Present a review of report findings, either in person or via a web meeting.

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 datacentre IT space. Comtec will provide you with the information you need to make an immediate impact on the health of the datacentre.

2.0 Features & Benefits

Customised Assessment Report

An in-depth review of the datacentre IT space power, cooling, rack/row layout, and operation, along with general recommendations to optimize performance, reduce power consumption and improve efficiency.

Datacentre Performance Recommendations

- Optimise Power and Cooling Systems
- Reduce Energy Consumption
- Improve Efficiency
- Identify Hot Spots
- Optimise Rack/Row Configurations

On-Site Certified Service Professionals

A one-time, on-site visit by a certified Comtec Professional, trained to safely audit your datacentre without interrupting your critical operations.

Report Review

An on-site, or web-based, review of the entry-level assessment report with an Energy Management Specialist; to discuss recommendations and answer questions.

Datacentre Rating

A general rating of the datacentre subsystem's performance.



3.0 Details of Service

The Schneider Electric Entry Level EnergySTEP1 Datacentre Assessment Service provides an onsite assessment of the existing datacentre IT space infrastructure systems and components. The specific activities of the onsite data collection and analysis are listed below.

Data Collection and Analysis

Visual Inspection

Perform a visual inspection of the datacentre and note any issues related to water leakage, conformance to cleanliness standards, physical damage or other conditions that compromise the operation of the datacentre.

UPS and Battery Analysis

- Document nameplate data, manufacturer and configuration of the UPS system.
- Assess overall physical condition and note any deficiencies. Compare UPS rating against actual kW and kVA loading on each UPS.
- Record and analyse phase loading on input and output.
- Identify parameters outside of industry best practices. Provide recommendations for improvement.
- Identify and benchmark the efficiency of the UPS at its current operating point.
- Review maintenance/service records of the UPS. Identify issues that compromise equipment uptime.
- Review maintenance/service records for the UPS batteries and analyse overall health. Provide recommendations to correct deficiencies.

Computer Room Air Conditioner (CRAC) Analysis

- Record the Computer Room Air Conditioning (CRAC) settings from the display panel.
- Record supply and return set points.
- Identify demand fighting and/or set points that increase energy consumption or decrease efficiency.
- Capture CRAC unit ratings and thermal outputs.
- Provide recommendations to optimize the existing CRAC operations.

Air Distribution Analysis

- Identify the air tile quantity and visually assess the air tile placement within the datacentre.
- Make recommendations to optimize the air distribution topology relative to the computer heat load.
- Identify where air tiles are incorrectly placed or ineffective. Provide recommendations for improvement
- Identify supply air leakage and bypass air paths in the air distribution system. Provide recommendations to mitigate.

Rack Review

- Scan the rack inlet temperatures using an IR thermometer. Identify and document any rack inlet temperature exceeding industry guidelines.
- 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.

Row Review

- Examine rows for air flow suitability. Identify where air mixing is likely to occur and make recommendations for improvements.



4.0 Deliverables

Comtec 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 datacentre.
- High level benchmarking of the datacentre and the subsystems against datacentres of similar types.
- Identification of maintenance practices that compromise the uptime of the equipment.
- A follow-up meeting or 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 Comtec comprehensive suite of datacentre assessment services:

- The EnergySTEP1 Datacentre Assessment is ideal for traditional raised floor, Tier 1/Tier 2, Datacentres up to 5,000sqft (500sqm) featuring a centralized UPS system. Datacentres not meeting these criteria may still be eligible, consult with Comtec Sales.
- 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 datacentre electrical efficiency.
- Safety and reliability of the power infrastructure system.
- Power quality analysis.

6.0 Scope of Responsibility

The items stated here are responsibilities of both Comtec 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 onsite 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

- Prior to order, inform Comtec of any special site conditions that could prohibit the successful execution of this standardised service (EG. safety training, security clearance, site access etc.)
- Provide dates and times when the scheduled work can be performed.
- Provide qualified personnel to escort the service engineer in the datacentre and with interfacing with infrastructure equipment to be surveyed.
- Where permissible, approve the service engineer to take photographs.
- Provide a single point of contact for the Schneider service engineer.

7.0 Customer Order Information

<http://www.comtec.com/solutions/energy-efficiency-assessment/>

For pricing, please contact Comtec directly on 01737 336102 or email sales@comtec.com

8.0 Project Work Details

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

8.1 SCHEDULE

- The Comtec service engineer will coordinate the time and date of the service professional's arrival at the customer site. Actual dates will be discussed and approved between Comtec and the customer.
- All onsite 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 LOCATION

The location of this service will be onsite and will be agreed to by Comtec and the customer prior to the service delivery.

8.3 COMPLETION CRITERIA

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

- Comtec completes all the tasks described in Section 3.0 of this SOW.
- This service and SOW are terminated for other reasons within the Customer Agreement.

9.0 Terms and Conditions

- Comtec standard terms and conditions apply
- 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 Comtec or 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.

All Schneider trademarks are property of Schneider Electric and its subsidiaries and affiliates. Other trademarks are property of their respective owners. Specifications are subject to change without notice.

Disclaimer: This information is reliable at the point of creation and may be subject to change.