

Rack PDU Site Health Check



Client:	XYZ Corporation
Facility:	123 Any Street Somewhere, USA 99999
Health Check Date:	1 January 2023
Health Check Rating (Overall):	4

Introduction

A properly installed and maintained enclosure level Rack PDU system is essential for the reliability of your data center. A key step to validating your data center's Rack PDU infrastructure is a Legrand Rack PDU - Site Health Check.

The Site Health Check is not intended to replace a more extensive professional evaluation but to provide a quick, but limited, site evaluation against industry best practice and to elicit conversation and opportunity for growth and enhancement. Each environment is unique and as such this document only reflects a limited and high-level review.

Health Check Objectives

The purpose of a Data Center Rack PDU Site Health Check is to provide a high-level overview of the current state of your data center's power infrastructure and to provide general recommendations for improvement based on industry standards and best practices. Areas checked include the installation, operation, and implementation of PDU's in racks and cabinets.

Next Steps

A Data Center Rack PDU Health Check is the **first step in the process** of improving the reliability and safety of your data center. Next steps may include the formal Legrand Professional Services including the Power Assessment and Maintenance Services. Please check with your Legrand Partner for further details on these high-level paid engagements.

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Rating & Recommendations

On the following pages are scorecards for each data center power area inspected. These scorecards provide a 1 to 5 (best) rating for each item surveyed and an overall rating for each Power sub-category. Each scorecard is followed by a review and discussion of specific issues, observed problem areas, and/or recommendations for specific improvements for your data center power (PDU) implementation. Grading scale generally follows (1 = nonexistent, 2 = limited effectiveness, 3= effective w/ gaps, 4 = highly effective, 5= industry standards in place) however you are encouraged to review the area overview and observations section for details and/or conversation with the delivery team.

Deployment Health Check Ratings

Assessment Area	Data Center Rating (1-5)
PDU Deployment (Overall)	3
Mounting: Same side or opposite	3
Proper pathing and bend radius of power whip	5
Proper pathing and bend radius of equipment power cables	2
What level of metering, outlet control is in place	4
Are "intelligent" PDUs connected to Network	5
Heat Load - Are PDUs temp rated to support environment	3

PDU Redundancy Health Check Ratings

Assessment Area	Data Center Rating (1-5)
PDU Redundancy Check (Overall)	4
Redundant PDU pair in place	5
PDU pair operational & connected to network	4
Redundant Power pathing	3
Are redundant pair visually highlighted	4
Equipment Power Cabling visually identifiable and different	4

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Operational Health Check ratings

Assessment Area	Data Center Rating (1-5)
Operational Check (Overall)	3
For 3 Phase are loads balanced across banks correctly	3
For redundant power, can each side handle full load in failover	3
Airflow Impact of power cabling	4
Age of PDUs / % approaching end of life or MTTF metrics	2

Intelligent PDU Health Check ratings

Assessment Area	Data Center Rating (1-5)
"Intelligent" PDU (Overall) <i>(Typically reviewed pre/post inspection)</i>	4
Are metrics collected for trend analysis, budgeting, fault tolerance	4
Are alerts properly set for power thresholds (traps, emails, etc.)	4

Environmental Sensor Implementation Health Check ratings

Assessment Area	Data Center Rating (1-5)
Environmental (Overall)	4
What, if any, environmental monitoring is done	4
Is Airflow Monitored	3
Monitoring? at front and/or back of cabinet? Zones? Upper, Lower	4
Water and/or Leak detection	1
In earthquake prone areas are vibration sensors being used	1
DCIM? which, and is system siloed or integrated into higher system	5

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Security Integration Health Check ratings

Assessment Area	Data Center Rating (1-5)
Security (Overall)	3
Are PDUs used to implement physical security?	3
Cabinet physical door and/or smart locks?	4
Are cabinet doors locked	5
Doors keyed same or different	3
Key access and issuing procedure in place with controlled access	4
Cameras (Still and/or Video)	1
Motion Sensors	1

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Additional best practices, power performance and implementation can be fully assessed with a complete **Legrand Professional Services Engagement**
[Inquire for further details](#)

*Insert "Assessment Area" reviewed here. This can be repeated as needed.
Sample input for PDU Deployment for reference here*

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Area Overview: The PDU deployment across the 10 cabinets visually observed appears to be proper and operationally functional. Best practices of having redundant PDU's, visual differences between A and B PDU's and equipment power cables, along with diverse power paths are in place and functional. Several key observations noted below however can expand further on potential improvement and benefits with changes to current infrastructure and/or updated solutions as described.

Key Observation: Though PDU's are properly installed, the equipment power cord deployment presents challenges for MAC work and is visually estimated to impact over 33% of airflow of active equipment. This estimation could be further validated and monitored by adding airflow, temperature and humidity sensors that are missing across all 10 cabinet. PDU's in place will support sensing.



Remediation: One possible resolution to equipment power cord deployment would be to go back and use proper cable management techniques and solutions to correct cable "bundling" and effect "tighter" grouping, along with removing any "tangled" pathing to allow easy Moves, Adds, or Changes (MAC) in the future. The above can be done with existing infrastructure. Alternatively moving to an AltPhase PDU solution from ServerTech as show would allow for standardization on shorter (18") cords and eliminate cable bundling and reduce all airflow impact to negligible impact. This may have operational cost benefit and reduced cooling needs. Also as noted adding in environmental sensors off the intelligent PDUs would add an additional layer of functionality and validation missing today



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