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SERIES L: ENVIRONMENT AND ICTS, CLIMATE
CHANGE, E-WASTE, ENERGY EFFICIENCY;
CONSTRUCTION, INSTALLATION AND PROTECTION
OF CABLES AND OTHER ELEMENTS OF OUTSIDE
PLANT

Functional requirements and framework of green data centre energy-saving management system

Recommendation ITU-T L.1303

ITU-T L-SERIES RECOMMENDATIONS

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Recommendation ITU-T L.1303

Functional requirements and framework of green data centre energy-saving management system

Summary

Recommendation ITU-T L.1303 describes the functional requirements and framework of an energy-saving management system for green data centres. Functional requirements of energy-saving management include requirements for measuring energy consumption and environmental conditions data, collecting and storing data, reporting data and conducting energy-saving. The energy-saving management system consists of the following functional blocks: data collecting block; data storing block; data process and analysis block; external system interfacing block; user interface block; control block. The operational flow of the energy-saving management system is also included.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
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Keywords

Energy efficiency, energy-saving management system, green data centre.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

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Recommendation ITU-T L.1303

Functional requirements and framework of green data centre energy-saving management system

1 Scope

This Recommendation describes the functional requirements and framework of a green data centres energy-saving management system. The energy-saving will be achieved by increasing the energy efficiency of data centres.

The scope of this Recommendation includes:

- Characteristics and operation flow of a green data centre energy-saving management system
- Functionality requirements of a green data centre energy-saving management system (e.g., energy consumption data acquisition; energy consumption data analysis and chart show; energy consumption data query; energy consumption monitoring and early warning.)
- Framework of a green data centre energy-saving management system including functional blocks such as data collecting, data storing, data process and analysis, external system interface, user interface and control block.

Sensor definition, interface and protocol are not included in the scope of this Recommendation.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T L.1300] Recommendation ITU-T L.1300 (2014), *Best practices for green data centres*.
- [ITU-T L.1301] Recommendation ITU-T L.1301 (2015), *Minimum data set and communication interface requirements for data centre energy management*.
- [ITU-T L.1302] Recommendation ITU-T L.1302 (2015), *Assessment of energy efficiency on infrastructure in data centres and telecom centres*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following term defined elsewhere:

3.1.1 energy efficiency (EE): [b-ITU-T L.1330] The relation between the useful output and energy/power consumption.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 collecting gateway: A system, which periodically collects the measured data from the measurement devices and relays them to the energy-saving management system (ESMS). The