

ICS 35.240.99  
CCS B 20

**LS**

**INDUSTRY STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**LS/T 1806-2017**

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**Network specification for grain information system  
(English Translation)**

**Issued on: March 10, 2017**

**Implemented on: June 1, 2017**

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**Issued by: National Grain Administration**

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the National Grain Administration.

This standard is under the jurisdiction of the National Grain and Oil Standardization Technical Committee (SAC/TC270).

This standard was drafted. National Information Center, National Grain and Oil Information Center, International Trade Engineering Design Institute, Henan University of Technology, Jiangsu Province Food Bureau, Aerospace Information Co., Ltd.

## 1 Scope

This standard stipulates the exchange of information between the administrative departments of the grain industry, the food administrative department and the grain enterprises.

The basic design requirements of the information system transmission network involved, including network structure, topology, device requirements, domain name and IP management Requirements, computer room construction requirements, service quality requirements, network security requirements, and information security requirements.

This standard applies to the overall planning, design, development, application, training and operation and maintenance of the food industry information system network, as well as the food line.

Industry information exchange and sharing, support the food industry information system interconnection.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2887-2011 General specification for computer sites GB/T 5271.1-2000 Information technology vocabulary Part 1. Basic terms GB/T 5271.9-2001 Information technology -- Part 9. Data communication GB/T 7260.1-2008 Uninterruptible power supply equipment - Part 1-1. General requirements for UPS Safety requirements GB/T 7260.2-2009 Uninterruptible power supply equipment (UPS) Part 2. Electromagnetic compatibility (EMC) requirements GB/T 7260.3-2003 Uninterruptible power supply equipment (UPS) Part 3. Methods and test requirements for determining performance GB/T 7260.4-2008 Uninterruptible power supply equipment - Part 1-2. General requirements and safety of UPS for restricted access areas Claim GB/T 18018-2007 Information security technology router security technical requirements GB/T 18903-2002 Information Technology Service Quality. Framework GB/T 20270-2006 Information security technology network basic security technical requirements GB/T 20281-2015 Information security technology firewall security technical requirements and test evaluation methods GB/T 21050-2007 Information security technology network switch security technical requirements (assessment assurance level 3) GB/T 21061-2007 National e-government network technology and operational management

practices GB/T 22239-2008 Information security technology information system security level protection basic requirements GB 50174-2008 Electronic Information System Room Design Specification LS/T 1807-2017 Food Information Security Technical Specification YD/T 1190-2002 Network-based Virtual IP Private Network (IP-VPN) Framework YD/T 5227-2015 Cloud computing resource pool system equipment installation engineering design specification

### 3 Terms and definitions

The following terms and definitions apply to this document.

**National e-government extranet** A specialized network that meets the needs of social services such as social management and public services at all levels of government.

**National e-government extranet** the central government external network and the local government external network are composed of logic isolation from the Internet.

**National e-government intranet** it mainly meets the needs of internal office, management, coordination, supervision and decision-making of government departments at all levels, and meets the administrative departments of sub-provincial and above.

A special network for special office needs is formed by the interconnection of business networks of party committees, people's congresses, governments, CPPCC, courts, and procuratorates, and the Internet.

**Physical isolation.**

**Internet**

Wide area network, local area network and stand-alone international computer network composed of certain communication protocols.

**LAN localareanetwork (LAN)** A computer network within a user's home in a limited geographic area.

**Note:** Communication within a LAN does not obey external rules; however, communications across domain boundaries may be subject to some form of rules.

[GB/T 5271.1-2000, definition 01.01.46] **3.5 Virtual private network virtual private network (VPN)** in a shared network, the ability to implement the original private network through various technologies (such as tunneling, encryption, etc.), and to ensure the security of the network, Reliability and manageability provide greater scalability and flexibility.

[YD/T 1190-2002, definition 3.1.12] **3.6 Metropolitan area metrotropintannetwork** A network that connects several local area networks within the same city area.

[GB/T 5271.9-2001, definition 09.07.10] **3.7 WAN wideareanetwork (WAN)** A network that provides a variety of communication services to a larger geographic area than a LAN or metropolitan area network.

[GB/T 5271.9-2001, definition 09.07.11] 3.8 Network switch A device that connects each node or other network device in the network provides a logical path of the second layer of the open system interconnection model, based on the number According to the link layer information, the data packet can be filtered based on the destination address.

[GB/T 21050-2007, definition 3.1.5] 3.9 Node node A device in a computer network system that can store or forward information.

[GB/T 21050-2007, definition 3.1.6] 3.10 Router the main network node device works at the network layer, determines the storage and forwarding of data flowing through the routing algorithm, and has access control.

System and security extensions.

[GB/T 18018-2007, definition 3.1.1]

## 4 Abbreviations

The following abbreviations apply to this document.

IP. Internet Protocol (InternetProtocol) QoS. Quality of Service (QualityofService) UPS. Uninterruptible Power System/Uninterruptible PowerSupply

## 5 Network structure

The food information system network includes the Internet, the national e-government extranet, the national e-government intranet, and the business private network. Among them, the national electricity the sub-government external network is isolated from the Internet logic, and the national e-government intranet, business private network and the Internet are physically isolated.

Food industry information system exchange and sharing network interconnection, including business systems at all levels of food administrative departments, food administration Information exchange and sharing between the business system of the management department and the business system of the food enterprise, including but not limited to.

- a) National Food Bureau Business Information System;
- b) the business information system of the provincial grain administrative department;
- c) Business information system of municipal food administrative department;
- d) Business information system of county-level food administrative departments;
- e) Food Business Information System.