

# HJ

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

### HJ 719-2014

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#### **Specification for database access interface of environment information system**

环境信息系统数据库访问接口规范

**(English Translation)**

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## Foreword

In order to carry out the "Environmental Protection Law of the People's Republic of China", to promote environmental information work, clear relationship database access Interface, to promote the construction of environmental information resources, the development of this standard.

This standard specifies the access interface of the relational database in the environment information system, and determines the basic of the database access interface Architecture and database access interface, database access workflow.

Appendix A, Appendix B, Appendix C, Appendix D, Appendix E of this standard is an informative appendix.

This standard is the first release.

This standard is organized by the Ministry of Environmental Protection Science and Technology Standards Division.

The main drafting of this standard. the Ministry of Environmental Protection Information Center, Shenzhen Environmental Protection Education and Education Information Center.

This standard is approved by the Ministry of Environmental Protection on December 25,

2014.

This standard is implemented on March 1, 2015.

This standard is explained by the Ministry of Environmental Protection.

Environmental Information System Database Access Interface Specification

## **1 Scope of application**

This standard specifies the access interface of the relational database in the environment information system, and determines the basic of the database access interface Architecture and database access interface, database access workflow.

This standard applies to the same local area network within the database access, and environmental information system relational database access interface of the building.

## **2 Terms and definitions**

The following terms and definitions apply to this standard.

### **2.1 Environmental information environment information**

Environmental management, environmental science, environmental technology, environmental protection industry and other environmental protection-related data, instructions and signals Etc., as well as related dynamic change information; including text, numbers, symbols, graphics, images, and sound and other tables Up to form.

### **2.2 Database**

According to the concept of the structure of the organization of the data collection, which describes the characteristics of these data and data corresponding to the relationship between the entities, and support one or more applications.

### **2.3 Database adapter database adapter**

According to the specified requirements and standard specifications for database access to the functional components, through the configuration file analysis and processing, finished Into a database access, to achieve data collection and exchange.

### **2.4 Database access interface database access interface**

Embedded in the environmental business database, specifically for external application access to the configuration. Database Access Interface and Adaptation Adapt to the external application of environmental protection services to the contents of the database access.

## 2.5 Stored procedure stored procedure

A set of SQL (Structured Query Language) statements to complete a particular function is compiled and compiled in the database.

## 2.6 Trigger

Special stored procedures, its implementation is only triggered by the event, such as a database table to insert, delete, update the operation (Insert, delete, update) when it is activated.

## 2.7 Timestamp

Specify the time relative to the general time scale, accurate to the second time of a point in the data item.

# 3 Database access interface framework

In the environment information system data management, the database access interface is used to obtain the database of each business application in the same domain content. On the various business systems to provide a unified database access interface, to facilitate other business applications for data transmission Input or data integration purposes for database access.

The environment information system database access interface framework is shown in Fig.

Figure 1 environment information system database access interface framework

The environmental information system database visitor accesses the different environmental information system databases through the database access interface. data the database visitor interacts with the database access interface embedded in the environmental information system database to obtain the number of environmental service applications the contents of the library.

## 4.1 Database view mode

In the actual business, access to the environmental information system database, the need to customize the data related to its access needs Content, and to ensure the security of the original business data being accessed.

A database view is a virtual table that is made from one or several basic tables based on user needs and can provide data for one the logical content of the logic, the data content can be updated with the base table update. At the same time, the user can not change the view and delete, you can guarantee the security of the data.

Therefore, the environment information system database for the whole library access, you

can use the database view of the access interface.

#### **4.1.1 Interface description**

According to the visitor's access needs, in the environmental information system database, respectively, create a database view, and the view given Corresponding access.

#### **4.1.2 Interface Configuration Mode**

Create a view statement using the Environmental Information System database standard.

#### **4.1.3 Workflow**

The database view works as shown in Figure 2.

Figure 2 How the database view works

A) the data content of the environmental information system data sheet according to the needs of the visitors, through the database view to create a command to create a phase should be the database view;

B) Visitors access the database view as needed to obtain the required environmental information system data.

#### **4.2.1 Description of interface mode**

Trigger refers to the source database in the business application data table to add a trigger to monitor the data table to add, modify, Delete operation. When the operation is successful, trigger the corresponding trigger to record the primary key and other information into the specified access interface and then the database visitor obtains the change of the business data content from the access interface middle table so as to reach the real when the database is incrementally accessed.

#### **4.2.2 Interface Configuration**

A) establish an access interface intermediate table in the accessed environmental information system database for storing related triggers and temporary exchange records. The temporary exchange records of different environmental information systems adopt a unified middle table format, including.

B) create a stored procedure for accessing the interface intermediate table for performing the associated triggering operations, including.

C) for the real-time access to the data table to create new and modify, delete the trigger for triggering operations, including.

As the trigger mode is only on the business application data table for operation monitoring,