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**Police digital trunking communication system - Technical
specifications for network management
(English Translation)**

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1 Scope

This standard specifies the system composition, functions and technical requirements of the police digital trunking communication system network management, as well as the ministry-province interface and the province-city interface.

This standard applies to the planning, design, construction of the police digital trunking communication system network management.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document;

for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB 18030 Information technology - Chinese coded character set

GA/T 1056 Police digital trunking communication system - General technical specifications

GA/T 1059 Police digital trunking communication system - Security technical specifications

GA/T 1364 Police digital trunking communication system - Technical specifications for interconnection

IETF RFC2616 Hypertext transfer protocol

IETF RFC2818 Hypertext transfer protocol over transport layer security protocol

IETF RFC4627 Json media type for JavaScript object notation

W3C Recommendation. SOAP1.2 version - Part 1.Messaging framework

W3C Recommendation. Web services description language 2.0 version - Part 1.

Core language

WS-I Profile. Basic profile 1.2 version

3.1 Terms and definitions

The following terms and definitions apply to this document.

3.2 Abbreviations

The abbreviations as defined in GA/T 1056, as well as the following abbreviations, apply to this document. For ease of use, some abbreviations in GA/T 1056 are repeated below.

4.1 Architecture

The network management system of the police digital trunking adopts a three-level network management structure, as shown in Figure 1.

4.2 Classification of network management centers

Network management centers are divided into the following three types.

5.1.1 User management

User management shall include the following contents of management and configuration of user rights to use system resources.

5.1.2 Device management

Device management shall include the following contents of information statistics, parameter configuration, data maintenance of the device in the system.

5.1.3 Performance management

The network management center shall provide a basis for system optimization, through statistics and analysis of the following performance data.

5.1.4 Alarm management

Alarm management shall include the following contents. monitoring operation status, collecting alarm information, assisting in fault location, ensuring the normal operation of the system.

5.1.5 Security management

To ensure the security of the network management system, the following measures shall be taken for security management.

a) Database backup.

5.2 Functional requirements

The network management functions of network management centers at all levels shall comply with the provisions of Table 1.

6.1 Interface description

The network management interface is used for data transmission between two-level network management centers, including reporting various types of data from the lower-level network management center to the upper-level network management center, as well as sending configuration or query instructions from the upper-level network management center to the lower-level network management center.

6.2.2.1 Namespace

The namespace shall be "http://[domain name]/[service name]", or "https://[domain name]/[service name]" where there are security requirements.

6.2.2.2 Calling method

When calling the interface service, the URL shall be "[namespace]/[interface operation name]".

6.2.2.3 Custom parameter requirements

The custom parameter settings of the interface service shall meet the following requirements.

6.2.3.1 Call process description

The parameter setting requirements during the interface service call process are shown in Appendix C.

6.2.3.2 Call test operation process

Before using the service provided by the server system, the client system can determine whether the server system service has been deployed, by calling the test operation (isAlive) to determine whether the other methods called are currently working properly, see Figure 2.

6.2.3.3 Task customization operation flow

The upper-level network management center customizes tasks to the lower-level network management center, through the taskDistribute operation, including the creation, modification, synchronization, deletion of fault tasks, performance indicator tasks, topology tasks, as shown in Figure 3.

6.2.3.5 Task synchronization operation flow

The lower-level network management center can initiate a task synchronization request, through the taskSync operation, as shown in Figure 5.

6.2.3.7 Topology data reporting operation flow

The upper-level network management center pre-customizes the topology task to the lower-level network management center, through the task customization operation.

When the conditions for topology reporting are met, the lower-level network management center calls the topReport operation of the upper-level network management's ReportTopService, to report the topology data to the upper-level network management, as shown in Figure 7.

6.2.3.8 Performance data reporting operation flow

The upper-level network management center pre-customizes the performance task to the lower-level network management center, through the task customization operation.

When the conditions for performance reporting are met, the lower-level network management center calls the pefReport operation of the upper-level network management's ReportPefService, to report the performance data to the upper-level network management, as shown in Figure 8.

6.2.3.10 Customized task data reporting operation flow

The customized task data reporting process is shown in Figure 10. The upper network management center customizes the data reporting task to the lower network management center.