Supporting FIWARE-based City Management and Industry Creation

Data Utilization Platform Service

This service meets the requirements of data-driven smart cities by providing ways to easily utilize various data across different domains, helping solve urban issues with the participation of diverse stakeholders from industry, academia, government, and private sectors supporting the creation of new values.

Overview

FIWARE is an open source platform developed to accelerate cross-sectional data distribution and has been used in many cities in Europe and other regions. NEC has been engaged in the development of FIWARE since 2011. Using FIWARE as a bedrock, NEC built the Data Utilization Platform Service while duly verifying quality to improve robustness. NEC offers this service as an information platform that can be used effectively for city management and business creation.

Examples of use (for city management)

- **Area Visualization**
  - Identify issues and values of the area based on collected data
  - Area data collection
  - Current situation awareness

- **Administrative service optimization**
  - Optimize administrative services and costs using analysis technology
  - New administrative service planning

- **Knowledge sharing and use in the private sector**
  - Analyze accumulated data, share knowledge, and create new values
  - New service creation
This service provides a data publication site that lists collected data, geographical information necessary for area visualization, and a variety of functions needed to utilize data for city management and service creation.

**Provided functions**

<table>
<thead>
<tr>
<th>Name</th>
<th>Overviews</th>
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<tbody>
<tr>
<td>Data publication site</td>
<td>A portal site that lists up the types of data collected and accumulated in the platform and publicizes the access methods to the data for data users</td>
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<td>Geographical information system</td>
<td>A function that provides geographical information to applications</td>
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<td>Real-time analysis</td>
<td>A function that analyzes the collected data in real time and outputs the results</td>
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<tr>
<td>Context information management</td>
<td>A function that controls things and information that exist in cities as data (context information) in an integrated manner and provides open API to data providers and data users</td>
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<td>Historical data storage</td>
<td>A function that accumulates and refers to the history of context information</td>
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<tr>
<td>Binary data storage</td>
<td>A storage function that controls binary data from images and videos</td>
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<tr>
<td>API management</td>
<td>A management function for administrators to support the handling of Web API and secure proxy settings</td>
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<tr>
<td>Identity management</td>
<td>A management function for administrators to support the handling of user life-cycle functions</td>
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■ **Creation of new services by accumulating and linking data from across different domains and areas**

To enable interoperability for various types of data, we have defined a "standard data model" and are preparing global standard open APIs. This ensures smooth integration, accumulation, and processing of data collected from across different domains and areas, allowing new services to be created for each individual area according to its issues.

■ **Provision of robust security and one-stop support essential for data utilization**

This service runs on NEC's cloud platform service, "NEC Cloud IaaS." When combined with AI, security, and other services in which NEC excels, it enables more advanced data utilization and offers a safe and secure environment. Moreover, by leveraging our knowledge of open source software (OSS), we verify many combinations of OSS programs while maintaining openness. This allows us to provide one-stop support for the OSS adopted by this service.

**Use cases**

■ **Takamatsu City**

To address various regional issues, including large-scale disaster management, and tourism and MICE promotion, Takamatsu City has deployed this service as a common IoT platform for data collection, visualization, analysis, etc.

■ **Kakogawa City**

In an effort to attract the child-rearing generation, Kakogawa City has deployed this service as a platform for collecting and analyzing data from multiple domains such as safety and security.