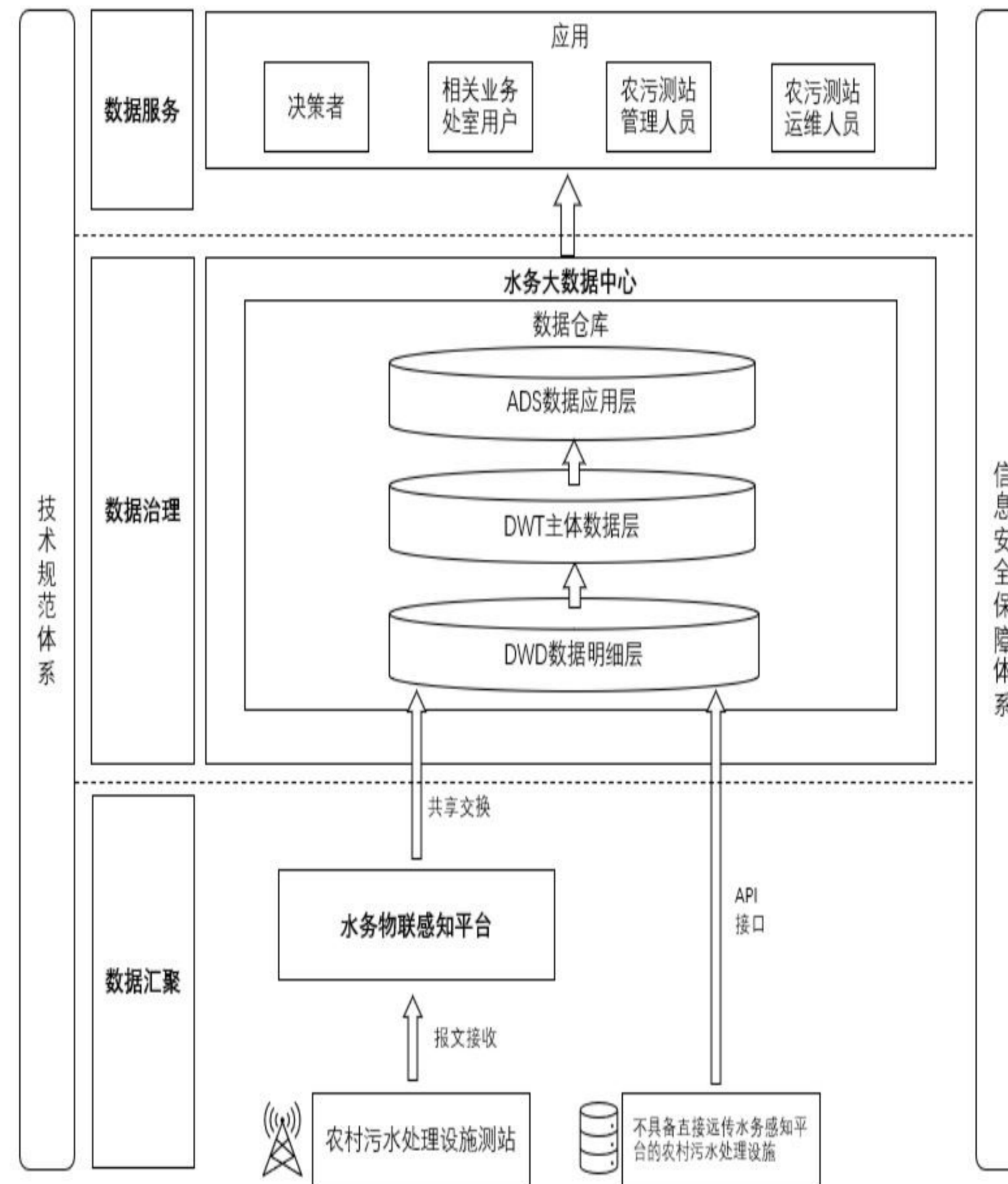


Data aggregation and governance of rural sewage treatment facilities based on Big data technology

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Objectives

By the beginning of 2023, a total of 1199 rural sewage treatment facilities have been built in Beijing. As an important part of the city's sewage treatment facilities, the construction of rural sewage treatment facilities is fast and large-scale. To achieve effective supervision of agricultural sewage facilities, it is essential to master effective data. This paper will explore how to combine big data technology to effectively collect and manage rural sewage facilities data.



农村污水处理站日水量电表	
步骤1: 按小时统计水量	口径: 昨日23:45~今日23:45;
步骤2: 按日进行汇总, 计算当日累计水量	口径: 取上一步骤计算出来的结果, 按日期进行汇总;
步骤3: 计算当日累计电量	口径: 昨日23:45~今日23:45;
步骤4: 保存指标	将上述步骤计算好的指标按地点编码, 组织成一条记录, 进行新增、更新操作, 保存到结果表;
农村污水处理站状态监测信息表	
步骤1: 统计在线站点	口径: 在(当前时间-24小时)时间内, 有正常的污水处理量;
步骤2: 指标(在线站点编码、最新监测时间、pH、浊度)	口径: 上一步骤计算出来的站点的最新监测时间、pH、浊度;
步骤3: 当日累计水量	口径: 昨日23:45~今日23:45;
步骤4: 当日累计电量	口径: 昨日23:45~今日23:45;
步骤5: 昨日水量最高、最低、平均值	口径: 将昨日水量按小时求和, 统计其中的最大、最小、平均值;
农村污水处理站极值监测信息表	
步骤1: 年累计水量	口径: 当年1月1日开始到现在的污水处理量, 按日进行汇总;
步骤2: 处理水量最高、最低、平均值	口径: 取上一步骤计算出来的站点的最高、最低、平均值;
步骤3: 处理水量最高日期	口径: 取上一步骤计算出来的站点的最高值对应的日期; 若数值有多个, 取日期最大的;
步骤4: 处理水量最低日期	口径: 取步骤二计算出来的站点的最低值对应的日期; 若数值有多个, 取日期最大的;
步骤5: 构建指标体系	将上述步骤计算好的指标按地点编码, 组织成一条记录;
步骤6: 保存指标	将上一步骤组织好的指标进行新增、更新操作, 保存到结果表;

Methods

How to effectively collect and collect the rural sewage treatment facility data on the basis of ensuring the accuracy and timeliness of the data, and how to manage the collected raw data of the rural sewage treatment facility in line with the water business data to form meaningful results data.

Conclusions

Utilize Internet of Things technology, data analysis, data calculation and other big data technologies to realize the data aggregation and data governance of Beijing's rural sewage treatment facilities, reorganize the results data that are relevant to the water-related business, and make the results data into data interfaces to provide external data services. This research has promoted the deep integration of information technology and water business, provided strong support for the supervision of rural sewage treatment capacity, improved the scientific decision-making of relevant management departments, and improved the overall level of rural domestic sewage treatment.

Results

The Internet of Things technology is used for data aggregation, and then the collected data is analyzed, and the data is calculated according to the business needs. Finally, the data after governance is summarized to form the result data.

