



Palestinian Water
Authority



Data Bank Enhancement Project Funded Bu UNICEF

Toward the National Water Information System
PWA-EMWIS Workshop

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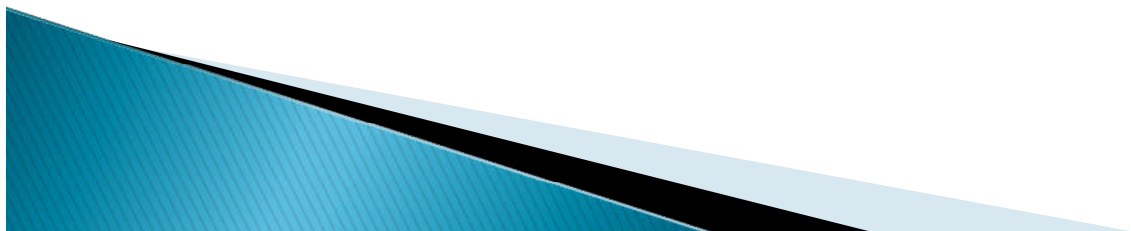
General Objective

- ▶ The project aims to establish a new integrated water information system (IWIS) covering all water-related data, supported by an upgraded geographical information system (GIS), which will help in setting and collecting the different water data needed for water planning and management issues



Why IWIS?

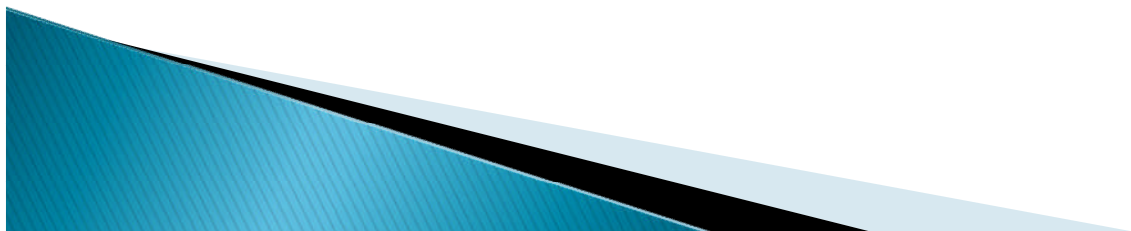
- ▶ Establish a platform for gathering data from all water parties ;
- ▶ Improve the quality of the collected data by unifying the format from all water bodies ;
- ▶ Store and provide data and information for the protection, sustainable use and management of water resources;
- ▶ Provide information for the development and implementation of the national water projects;
- ▶ Provide information to water management institutions, water users and the public – for research and development; for planning, and environment impact assessments and on the status of water resources; and
- ▶ Establish new procedures for data exchange between the different water parties.



Available Desktop Applications

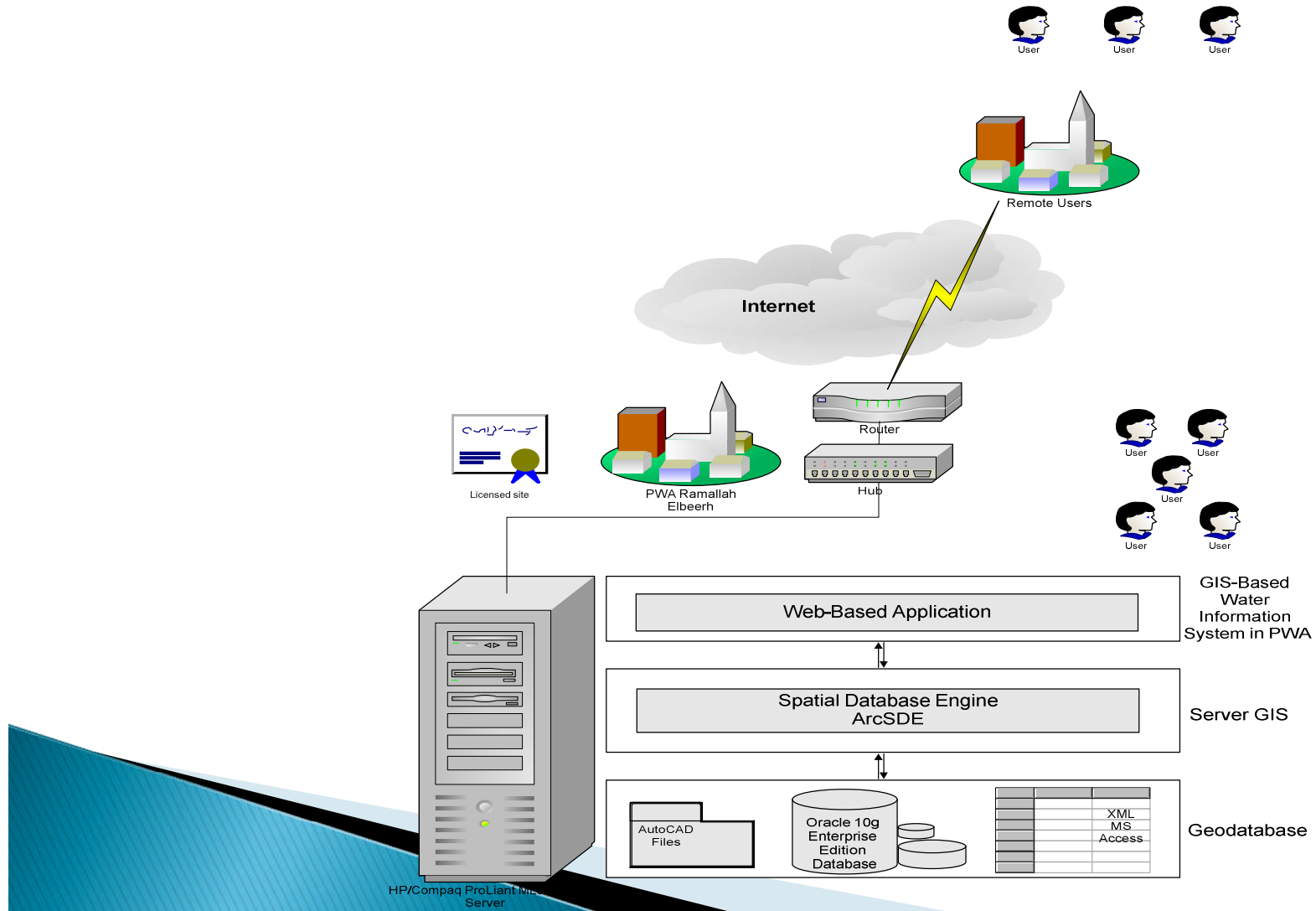
The following Access Databases Are Available:

- ▶ Hydrological Database
- ▶ Water Supply Database
- ▶ Rainfall / Meteorological Database
- ▶ Socio-Economic Database
- ▶ Wastewater Database
- ▶ Projects Database
- ▶ Licensing Database
- ▶ Library / Resource Center
- ▶ Infrastructure database.

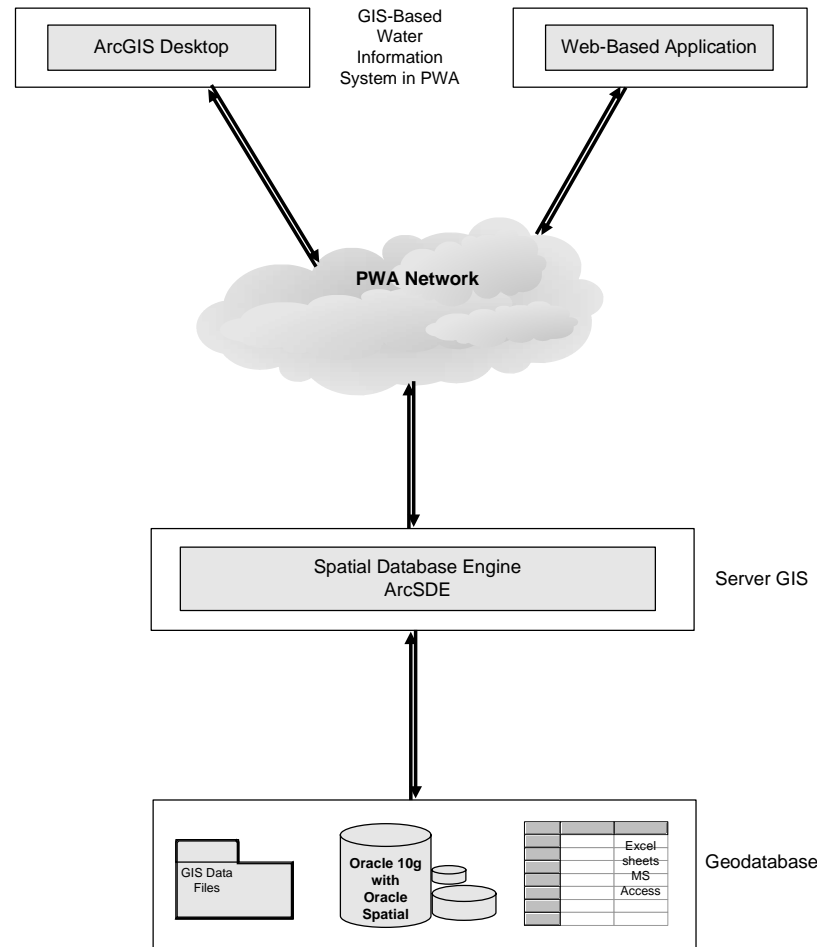


Proposed System Architecture :

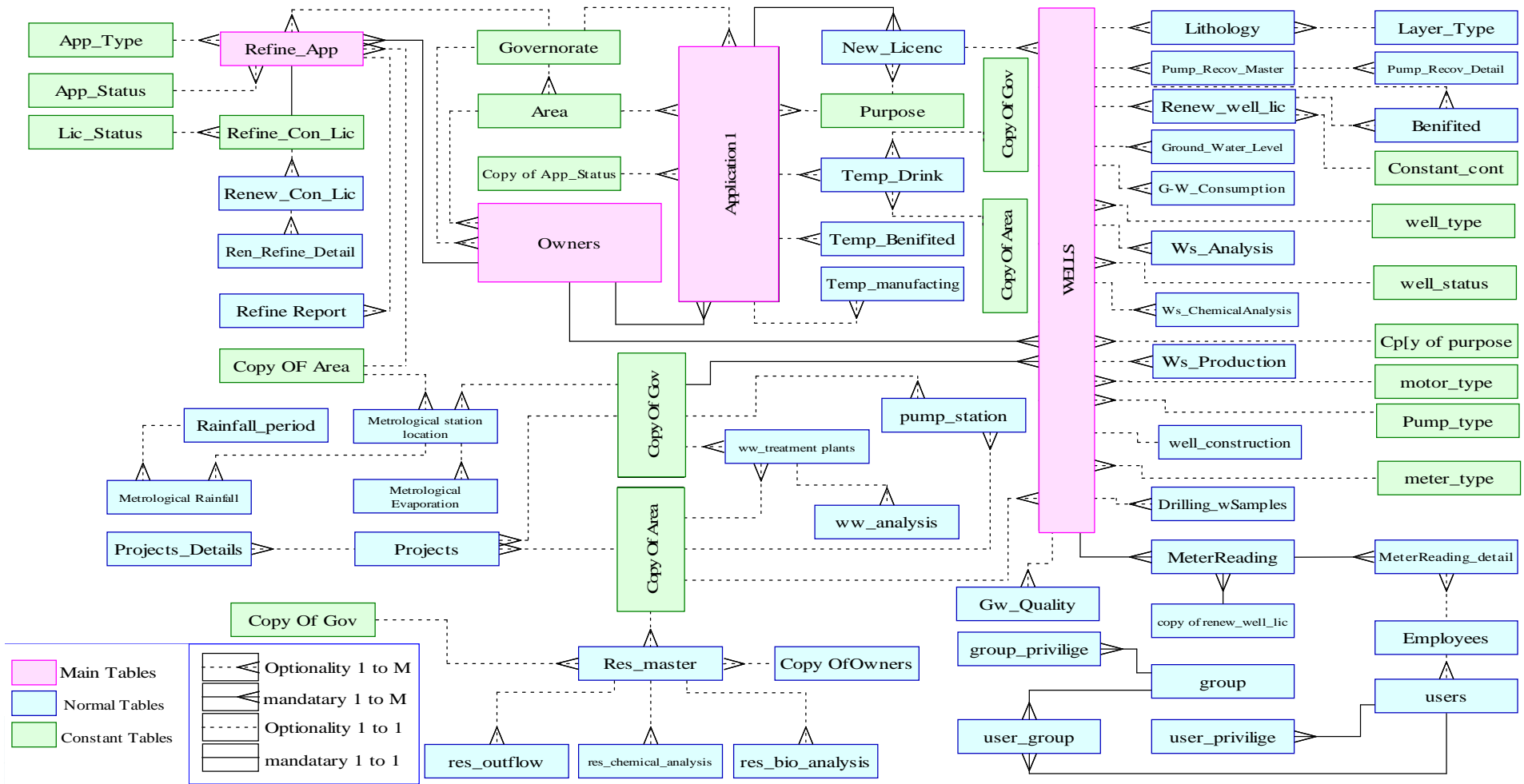
Upgrading GIS-Based Water Information System in
Palestinian Water Authority



System Engines:



IWSIS Schema:



Oracle Core Database OCD Specifications

- ▶ Reliable and dependable: use database structure in Gaza Strip and upgrade it and should be designed in a way that it serves all needs of PWA information system in West Bank and Gaza Strip in the short and the long run.
- ▶ Upgradeable database: database should have enough flexibility to add new modules in the future without affecting the performance of the whole system
- ▶ No probability of losing data: database should not show any sign of data corruption. A backup strategy should be designed so that data will never be lost or offline, or using archive system.
- ▶ Data types, ranges, and formats: All fields should be designed such that all formats and data types and formats are compatible with other software applications PWA staff uses. Values in some fields should be bounded by certain limits, thus some transformation and customization operations on existing data may be required.
- ▶



Oracle Core Database OCD Specifications –Cont.

- ▶ Compatible: some tables may contain text in Arabic or other languages. This should not create any problems or affect the performance of the database or the whole system.
- ▶ Comprehensive and complete documentations on:
 - User manual (Arabic and English)
 - Technical documentation including database structure and source code, data types, and database issues must be turned in to PWA at both Gaza and West Bank upon completion – and before implementation – of the core database design in both paper and digital formats, and prepare System Requirement Specifications (SRS) and Entity Relation (ER) diagram in addition to FAQ.
- ▶ Easy integration of spatial data with OCD. ArcSDE is the software that allows using the ArcGIS to store, using and managing all GIS data including feature geometry in OCD.

