IT Asset Management

Database Project
Fall 2023

Background Information

IT asset management refers to a computer system that uses a centralized repository to track an organization's assets.

The purpose of an IT asset management solution is to:

- Effectively help manage the assets.
- Have a single point of reference to identify the assets.
- Improve visibility of assets.
- Ensure optimum utilization of assets.
- Reduce IT and software costs.
- Ensure compliance with regulatory requirements.
- Understand the risks involved due to changes to the IT environment.
- Improve business decision making.
- Track changes to IT portfolio and determine the impact of such changes throughout the business.

The information on IT assets can be used to make detailed decisions about purchase and other aspects of the assets' lifecycle.

Software Asset Management: This application is used to manage purchase, use, upgrade, license renewal, detailed information on hardware deployed on, application type, current state (e.g., being updated, retired, superseded, etc.), the environment (Production, Development) deployed on, dependencies on other software components, and other aspects of the software applications within a company.

Physical Asset Management: This application is used to manage all kinds of physical assets owned by a company. These include computer equipment, light fixtures, tables, cabinets, and other physical assets. It tracks detailed information on the physical assets locations, classification, usage, etc.

Problem Description

The purpose of this project is to create an asset management database to track computer hardware and software of a large bank called, Bank Global (BG).

There are numerous branches of the bank across the country. A manager oversees the operation of each branch. There are a number of client computers in each branch. The client computers in each branch are connected to a server. The close-by branches share the same server. All the branches are connected to an Enterprise Server, which is connected to internet.

The information on each branch consists of its name, branch number, address, telephone number, and manager name.

BG has either purchased or licensed a number of software systems. A given software can be installed on different server and client computers.

BG tracks the following information on each software system: software name, version number, name of the company who has sold the software, software unique identification number, date purchased, license expiration date and price.

BG tracks the following information on each hardware system and component: Type (e.g., server, desktop, printer, monitor, etc.), model, serial number, purchase date, warrantee duration in years, price.

Following are some example uses of this database system:

1. Determining the total price of all the assets in the organization.
2. Determining the expiring software systems and the impacted branches.
3. Computing the cost of renewing the expiring software systems.
4. Identifying, for replacement, the hardware systems whose warrantee periods are about to end.
5. Updating software systems with their newer versions.
6. Etc.

Figure 1 depicts the IT infrastructure of BG.

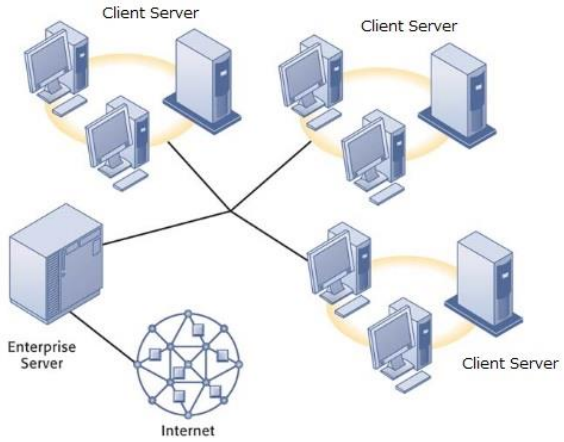

Figure 1 The IT Infrastructure of Bank Global

Project Deliverables

Tool to use

Use the free ERDPlus tool, erdplus.com, to create the deliverables of this project, as appropriate. There is a few short tutorials online for this tool. You may use the search phrase “ERDPlus tutorials” to locate the training material.

You are to develop the following deliverables in sequence. That is, first you are to develop the Conceptual Design and receive approval before going forward with development of the 2nd set of deliverables, i.e., Logical Design, etc.

Conceptual Design

Use ER diagrams to document the conceptual design of this project. While you are working on the design, you may come across unclear, missing or conflicting information in the requirements. Your team must clearly articulate the questions and, through the team lead, communicate them with your instructor (i.e., the client!) for answers.

Logical Design

After you receive the approval of your conceptual design from your instructor, use the tool to produce the equivalent logical design consisting of the relational schemas and tables.

Test your design using your own data until you receive a common dataset, which all the teams are to use.

Use MySQL, mysql.com, as a database management system to create and populate your database and perform appropriate queries.

Database Queries

You will receive a set of questions to answer based on the needs of the bank and the data residing in the database.

Project Evaluation

The final project score will depend on (1) the quality of the complete set of deliverables, which must be clearly documented; and (2) anonymous peer review. The instructor may also evaluate each student's project knowledge and involvement, as appropriate.

The respective intermediate deliverables, discussed above, will be considered as assignments.

The due date for each set of deliverables will be on D2L under assignments.

References:

- https://www.softwaretestinghelp.com/it-asset-management-software/
- https://sampathblog82538928.wordpress.com/2018/12/25/enterprise-it-infrastructure-support/