
# MILESTONE 9 – APPLICATION ARCHITECTURE

## Synopsis

Just as we modeled business requirements during systems analysis, we should model technology architecture and requirements during systems design. The models serve as blueprints for system design, prototyping and construction.

In this milestone you will prepare a *Physical Data Flow Diagram*. Physical data flow diagrams model the technical and human design decisions to be implemented as part of an information system. They communicate technical and other design constraints to those who will actually implement the system—in other words, they serve as a technical blueprint for the implementation.

## Objectives

After completing this milestone, you should be able to:

⇒ Draw physical data flow diagrams for an information system's architecture and processes.

## Prerequisites

Before starting this milestone the following topics should be covered:

1. Systems design - Chapter 12
2. Application architecture and physical DFDs – Chapter 13

## Assignment

In this milestone we will construct a physical Data Flow Diagram for a process.

## Activities

1. Prepare the physical DFD based on the narrative provided in Exhibit 9.1. Make assumptions where necessary.

Deliverable format and software to be used are according to your instructor's specifications. Deliverables should be neatly packaged in a binder, separated with a tab divider labeled "Milestone 9" and accompanied with a Milestone Evaluation Sheet.

**References:**

**Export Production Information Narrative**

Exhibit 9.1

**Milestone 4**

Exhibit 4.2

Exhibit 4.4

**Templates**

See on-line learning center website for the textbook.

**Deliverables:**

**Physical Data Flow Diagram:** **Due: __/__/__**
**Time: _____**

**Milestone's Point Value:** **_____**

**Exhibit 9.1**

The selected architecture for the ESSS will employ an Oracle back-end database and a front-end Java web application. The portions of the web application that must be available to employees at home will run over the Internet. The rest will be an intranet application running over the corporate WAN.

Use the following narrative to construct a Physical Data Flow Diagram for the Enter New Employee Profile process.

> The first day an employee begins work, the employee will manually fill out an Employee Profile form (see Exhibit 4.2 in Milestone 4), a Miscellaneous Payroll Deduction form (see Exhibit 4.4 in Milestone 4). These paper forms are then routed to the Staffing Department who add it to a paper file that has been started with the employee's job offer and salary/wage information.
>
> A member of the Staffing Department then launches the ESSS intranet application. The application will prompt for a user name and password, which must be verified. Menu options will then be displayed according to that user's permissions.
>
> The user will click the Enter New Employee Profile link. A series of text boxes will prompt for the general employee information, pay rate information, and all possible miscellaneous payroll deductions. A dropdown box will allow the user to select the new employee's department from a list. When the web page is submitted, the data will be inserted to the various database tables. The EmpID is assigned sequentially, incrementing the current highest number in the Employee table.
>
> The user will then be redirected to a page for entering emergency contact information. This page will display identifying information for the employee at the top, list all previously entered emergency contacts, and provide text boxes for entering a new emergency contact. The user can enter a new emergency contact and click the submit button to have the new contact inserted. The list will then be redisplayed with the updated information. The user will stay on this screen until the Exit button is clicked.