Using This Guide

Use this guide to improve your understanding of how to license Microsoft Dynamics AX 2012 R2 for Public Sector scenarios. It is not intended to guide you in choosing Microsoft Dynamics products and services. The examples presented in this guide are illustrative. Microsoft Corporation reserves the right to review and/or update the existing version without previous notice.

For help determining the right technology solution for any given organization, including the license requirements for a specific product or scenario, consult with your Microsoft Dynamics Certified Partner or your Microsoft account team.

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Introduction

This brief presents some common usage scenarios specific to Public Sector organizations using Microsoft Dynamics AX 2012 R2 and explains how to license the associated users and devices. This brief does not describe how to license servers for running the Microsoft Dynamics AX 2012 R2 solution. The information here is intended to supplement the information and resources about how to license your Microsoft Dynamics AX 2012 R2 solution. Refer to the Microsoft Dynamics AX website for those related resources and information.

Reading the Diagrams

Included with the scenarios in this guide are diagrams that provide a visual representation of the scenario and associated license requirements. Here is a primer on the information provided in the diagrams:

Licensed Users

Figure 1 shows how licensed users are represented in the diagrams.

![Diagram of Licensed Users]

- **The Security Role to which the licensed user is assigned in Dynamics AX**
- **The licensed user**
- **The Client Access License (CAL) required for the user**
- **The devices from which the licensed user may connect to the Dynamics AX solution**
- **Remember: A licensed user may use any number of devices.**

- **Office Manager**

- **Budget Manager**

- **Enterprise User CAL**
Licensed Devices

Figure 2 shows how licensed devices are represented in the diagrams.

![Diagram of Licensed Devices]

**Note:** You can only assign Security Roles to users in Microsoft Dynamics AX, not devices. However, instead of licensing the user(s) of a device with the required User CAL, you have the option to license the device with the equivalent Device CAL.

**Dynamics AX 2012 R2 Solution Functionality**

Figure 3 shows how the Microsoft Dynamics AX 2012 R2 solution functionality to which users and/or devices are connecting is represented in the diagrams.

![Diagram of Dynamics AX 2012 R2 Solution Functionality]

Public Sector Scenarios

The following scenarios help describe how to license users and devices in Public Sector scenarios.

**Scenario 1: Budgeting for a School**

In this scenario, a school has been given a grant by their local foundation designated specifically for purchasing of supplies that support unique hands-on learning experiences. The school Principal is given the discretion to decide what items are funded by the grant. Prior to the school year, while formulating the annual budget, the Principal alerts teachers to the opportunity to request supplies that meet the criteria. A fifth-grade teacher with a biology background wants to do a science unit that includes hands on use of microscopes in her classroom, so she submits a budget request to purchase five microscopes using the special budget. This request is then routed to the Principal for review and approval.
Counting CALs

In this example, the school has 22 teachers and one Principal. Each of these individuals has one or more devices from which they access the Microsoft Dynamics AX solution.

Each person or device is assigned a Security Role in Microsoft Dynamics AX that corresponds to what they do within the Dynamics AX system. This determines which CAL level (Enterprise, Functional, Task, or Self Serve) that individual or device needs.

In addition to the required Server License(s), the school would need the following CALs:

<table>
<thead>
<tr>
<th>Title</th>
<th>AX Security Role</th>
<th># of Users</th>
<th># of Devices</th>
<th># of User CALs</th>
<th># of Device CALs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Custom Role</td>
<td>22</td>
<td>≥ 22</td>
<td>22 Self Serve</td>
<td></td>
</tr>
<tr>
<td>Principal</td>
<td>Budget Manager</td>
<td>1</td>
<td>≥ 1</td>
<td>1 Enterprise</td>
<td></td>
</tr>
</tbody>
</table>

As you can see, to license access to the Microsoft Dynamics AX solution for this budgeting process, the school would need 22 Self Serve User CALs and 1 Enterprise User CAL.
**Scenario 2: Procurement for a Hospital**

Among the many uses of Microsoft Dynamics AX in a hospital is the ordering of approved work apparel by employees. Employees order their own apparel from the approved vendor’s selections, the cost of which is then deducted from the employee’s paycheck. A Procurement Manager reviews and approves staff apparel orders, submits the order to the vendor, and approves monthly invoices from the vendor based on what apparel was delivered that month. Many of the hospital employees, such as nurses, share a PC workstation, so it makes sense to license those workstations with Device CALs as opposed to licensing each nurse with a User CAL. Employees who do not have an assigned PC or shared workstation, such as maintenance and custodial workers, have access to client terminals from which they can place their apparel orders. Again, because there are multiple people using a single terminal, it makes sense to license the terminal with a Device CAL.

Several employees, including administrative staff, have their own PC workstations. In these cases, many organizations would choose to license those people with User CALs. However, in this case the hospital’s CIO favors simplicity of licensing, so the hospital chooses to license all devices with Device CALs. This provides the simplicity of having to only count devices, and by licenses each device, there is no limit to the number of users who can use those devices to access the Microsoft Dynamics AX solution functionality.

**Figure 5**

Process Overview

- **Nurses order apparel using shared workstation**
- **Staff without workstations order apparel from shared terminal**
- **Procurement Manager approves POs, submits vendor orders and approves vendor invoices**

**Counting CALs**

In this example, the hospital has more than 100 nurses sharing 28 workstations, three Procurement Managers with their own workstations, and more than 100 other staff members sharing 10 workstations. They also want the simplicity of counting only devices.

Each person or device is assigned a Security Role in Microsoft Dynamics AX that corresponds to what they do within the Dynamics AX system. This determines which CAL level (Enterprise, Functional, Task, or Self Serve) that individual or device needs.

In addition to the required Server License(s), the hospital would need the following CALs:
As you can see, to license access to the Microsoft Dynamics AX solution for this procurement process, the hospital would need 38 Self Serve Device CALs and 3 Enterprise Device CALs.

**Scenario 3: Procurement for a Police Department**

In this scenario, a Police Department uses Microsoft Dynamics AX for managing the procurement process. Each Police Officer (1) is given an allotment of six uniforms. Officers choose from among the available styles (e.g. short or long sleeved shirt) and sizes and place their order through the Microsoft Dynamics AX procurement system, which tracks whether the officer has used his/her allotment of uniforms. Officers have access to a shared PC from which they place their uniform orders. Because it has multiple users, the department licenses the PC with a Device CAL. The Procurement Manager (2), who manages the procurement process end-to-end, is also the approver of Purchase Orders generated by the system for uniform orders.

The Fleet Manager (3) is responsible for managing the maintenance of existing vehicles. When a vehicle is in need of service, the Fleet Manager enters the service order into the Microsoft Dynamics AX system, which is routed to the Procurement Manager who generates a Purchase Order to send to the vehicle service vendor.

The Fleet Manager is also responsible for identifying the need for new vehicles. When a request for a new vehicle is submitted through the Microsoft Dynamics AX system, it is routed to the Procurement Manager to generate the Purchase Order, which is then routed to the Fleet Department Head (4) for interim approval. Any purchase that is above certain amount is automatically routed to the Chief (5) of Police for approval. New vehicles exceed that limit, so the Chief of Police must approve all new vehicle Purchase Orders.
Counting CALs

In this example, the police department has 23 Police Officers who share eight computer terminals, one Procurement Manager who connects to the Microsoft Dynamics AX solution from one or more devices, one Fleet Manager who connects to the solution from one or more devices, one Fleet Department Head who connects to the solution from one or more devices, and one Chief of Police who connects to the solution from one or more devices.

Each person or device is assigned a Security Role in Microsoft Dynamics AX that corresponds to what they do within the Dynamics AX system. This determines which CAL level (Enterprise, Functional, Task, or Self Serve) that individual or device needs.

In addition to the required Server License(s), the Police Department would need the following CALs:
As you can see, to license access to the Microsoft Dynamics AX solution for this process, the Police Department would need 1 Functional User CAL, 3 Enterprise User CALs, and 8 Self Serve Device CALs.

**Scenario 4: Budgeting for State Department of Motor Vehicles**

The State Department of Motor Vehicles is responsible for all vehicle licensing. There are several physical locations where citizens can go to license their vehicles. As depicted in Figure 5, each of these locations has an Office Manager (1) who is responsible for creating and overseeing the budget for a specific location and an Assistant Office Manager (2) who is responsible for the ongoing budget management for that specific location. The Office Manager reports to the Vehicle Licensing Department Manager (3), who oversees all physical vehicle licensing locations. The Department Manager works with Office Managers to collect their annual budget proposals and create an overall budget that encompasses all physical locations. The Department Manager then passes the comprehensive budget proposal on to the Head of the Department of Motor Vehicles (4) for final review and approval. This entire process is facilitated through Microsoft Dynamics AX and managed end-to-end by the Finance Budget Manager (5).
Figure 7

Process Overview

1. Office Manager
2. Assistant Office Manager
3. Department Manager
4. Chief Financial Officer
5. Finance Budget Manager

Counting CALs

In this example, the state has 18 physical vehicle licensing locations. Each location has one Office Manager and one Assistant Office Manager. At the state level, there is one Vehicle Licensing Department Manager, and one Head of the Department of Motor Vehicles. Two Finance Budget Managers manage the process. Each of these individuals has one or more devices from which they access the Microsoft Dynamics AX solution.

Each person or device is assigned a Security Role in Microsoft Dynamics AX that corresponds to what they do within the Dynamics AX system. This determines which CAL level (Enterprise, Functional, Task, or Self Serve) that individual or device needs.

In addition to the required Server License(s), the state would need the following CALs:
As you can see, to license access to the Microsoft Dynamics AX solution for this budgeting process, the state would need 40 Enterprise User CALs.

**Scenario 5: 311 Citizen Services Portal and Project Management for Department of Transportation**

With its 311 Citizen Services Portal, the city makes it easy for citizens to search for information, submit service requests, monitor the progress of active cases and more. And whether a citizen initiates contact by phone or submits a request over the web, an end-to-end service request engine powered by Microsoft Dynamics AX handles all the required routing and workflow—from the creation of a service request all the way through resolution—keeping stakeholders informed throughout the process with status notifications.

As depicted in Figure 8, one way that citizens (1) use the 311 services is for reporting road maintenance and safety issues, including potholes. The back-end functionality is supported by Microsoft Dynamics AX and citizens connect to that functionality through a front end server (2) for the city’s website. Because it is connecting to Microsoft Dynamics AX, the front end server requires an Enterprise Device CAL. Citizens, however, do not require CALs. Access to Dynamics AX functionality by citizens (or customers) is included with the Microsoft Dynamics AX Server License.

The pothole repair requests are automatically routed to the Department of Transportation, which uses Microsoft Dynamics AX to manage road construction and repair projects. The Project Supervisor (3) is responsible for approving projects and budgets—including for pothole repair requests submitted by citizens. The Project Manager (4) drives the day-to-day operations of one or more specific projects, including tracking progress and budget. The Project Manager must submit requests for specific work crews and equipment to be at the project site, which he/she does using Microsoft Dynamics AX. The request for personnel and equipment are routed to the Dispatch desk (5). The Dispatch desk is staffed by multiple Dispatchers working in shifts. The Dispatchers are responsible for making sure the right people and equipment are at the right site at the right time. Because they share a PC terminal, that PC is licensed with a Device CAL.
Suppliers also connect to the Microsoft Dynamics AX system. For example, the asphalt supplier (6) receives orders for asphalt delivery to a site. After delivery, the supplier inputs the volume of asphalt delivered into the Dynamics AX system, which in turn generates a weekly invoice to the Project Manager for the total volume of asphalt delivered that week.

Figure 8

Process Overview

Citizen submits repair request → Project Supervisor approves request → Project Manager routes project requirements to Dispatch desk → Dispatcher on duty sends crew to repair pot hole

Asphalt supplier enters volume delivered to site; invoice is sent to Project Manager for approval → Project Manager approves asphalt supplier invoice

Counting CALs

In this example, the city’s Department of Transportation has two Project Supervisors, five Project Managers, and four Asphalt Suppliers—each of whom access the solution from one or more devices. Additionally they have six Dispatchers sharing two workstations, one website Front End Server accessing the solution, and an unknown number of citizens accessing the solution via the website Front End Server.

Each person or device is assigned a Security Role in Microsoft Dynamics AX that corresponds to what they do within the Dynamics AX system. This determines which CAL level (Enterprise, Functional, Task, or Self Serve) that individual or device needs.

In addition to the required Server License(s), the city would need the following CALs:
As you can see, to license access to the Microsoft Dynamics AX solution for this process, the city would need 4 Task User CALs, 5 Functional User CALs, 2 Enterprise User CALs, two Functional Device CALs, and 1 Enterprise Device CAL.