M3: v13x Introducing the Technology Training Workbook
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About this workbook

Welcome to this Infor Education course! We hope you will find this learning experience enjoyable and instructive. This Training Workbook is designed to support the following forms of learning:

- Classroom instructor-led training
- Virtual instructor-led training
- Self-directed learning

This Training Workbook is not intended for use as a product user guide.

Self-directed learning (SDL)

If this course is eligible for self-directed learning, demos and exercises throughout this Training Workbook will be hyperlinked to Demonstration/Let Me Try simulations that allow you to view and practice the execution of the demo or exercise in a simulated training environment.

Activity data

You will be asked to complete some practice exercises during this course. Step-by-step instructions are provided in this guide to assist you with completing the exercises. Where necessary, data columns are included for your reference.

Your instructor will provide more information on systems used in class, including server addresses, login IDs, and passwords.

Symbols used in this workbook

- Hands-on exercise ("Exercise")
- For your reference
- Instructor demonstration ("Demo")
- Your notes
- Can be used for either "Scenario" or "Discussion"
- Question
- Note
- Answer
Course overview

Reference materials
Infor M3 reference materials are available from the following locations:

- Infor Infocenter
- Infor Xtreme®

Course duration
8 hours

Learning objectives
Upon completion of this course, you will be able to:

- Describe the technical framework of Infor M3.
- Identify the advantages of the Infor M3 product architecture.
- Identify the main components of Infor M3 System Foundation.
- Identify the main components of the Infor M3 Business Process Management (BPM) suite.
- Identify the main components of the Infor M3 User Productivity Platform (UPP) suite.

Audience
- Business Consultant
- Pre-Sales Consultant
- Support
- System Administrator
- Technical Consultant

System requirements
- Infor M3 Training Environment
Course description and agenda

This course provides participants with a basic understanding of the Infor M3 technical framework and of the product offered. The course is designed to demonstrate the technical architecture of the different components, as well as explain what they are used for. The course also includes discussion of common terminology used in the area of Java® Foundation and Tools.

This training is for version 13.3 and all previous versions. Previous course name/code: Infor M3: Introducing the Technology/01_0111310_IEN0364_LSU.

Prerequisite knowledge

To optimize your learning experience, Infor recommends that you have the following knowledge prior to attending this course:

- General technical knowledge of networks and system architectures

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|        |                    | • Identify the tools and applications that make up the Business Process Platform (BPP) within Infor M3.  
|        |                    | • Identify the tools and applications that make up the User Productivity Platform (UPP) within Infor M3.  
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|        |                    | • Explain the Infor M3 architecture in terms of purpose of the users, access, web server, application server and database server tiers.  
<p>|        |                    | • Discuss the advantages of the Infor Intelligent Open Network (ION) Grid including scalability and unified application management. |</p>
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Lesson 1: Technology overview

Estimated time
45 minutes

Learning objectives
After completing this lesson, you will be able to:

- Describe Infor M3 technology in terms of its Business Process and User Productivity platforms.
- Identify the tools and applications that make up the Business Process Platform within Infor M3.
- Identify the tools and applications that make up the User Productivity Platform within Infor M3.
- Define key terminology related to Infor M3 technology.

Topics
- How Infor technology fits
- History of Infor M3
- Infor M3 technology
- BPP
- UPP
- Key terminology
How Infor technology fits

The following chart shows an example of the way Infor tools and technology described in this course fit into a business process – in this case, a customer order process.

Example of how Infor tools and technology fits with a customer order process
History of Infor M3

To understand Infor M3 tools and technology, let’s briefly review the history and evolution of the company and product line.

The M3 name came from a tagline originally used by Lawson Software: *Make, Move and Maintain.*
There are two key Infor M3 technology product platforms:

- User Productivity Platform (UPP)
- Business Process Platform (BPP)

For the rest of this course, we will look at the individual tools within each of these platforms.
The BPP refers to two suites of Infor programs:

- Business Process Management suite
- System Foundation suite

**Business Process Management suite**

The Business Process Management suite provides companies the means to connect, configure, and customize their Infor M3 solution. This suite includes a number of tools and technical solutions to help customers tailor role-based portals and user interaction, develop application-to-application integration, and configure business-to-business communication. The Business Process Management suite provides everything the customer needs to ensure that its business model and business processes are fully supported.

By adhering to open standards and the major building blocks of a service-oriented architecture (SOA), the Business Process Management suite provides advanced tools to quickly develop or customize and deploy web applications, portals, web services, application interfaces, and automated electronic business messages with the critical benefit of tracking all of the changes that have been made. With the tools and technical solutions in the Business Process Management suite, organizations can personalize their Infor solution to drive efficiency and productivity to new levels.

The Business Process Management suite includes the following tools:

- Infor M3 Adaptation Kit (MAK)
- Infor M3 Application Programming Interface (API)
- Infor M3 Enterprise Collaborator (MEC)
- Infor M3 Smart Applications
- Infor M3 Metadata Publisher (MDP)
- Infor M3 Web Services (WS)
- Infor Process Automation (IPA)
- Smart Data Tool (SDT)
System Foundation suite

System Foundation ensures and manages the essential applications and functions necessary to run, operate, and secure the Enterprise Management System (EMS). It combines an industry-standard, open run-time environment with tools for managing deployment, security, and performance for all applications.

System Foundation includes the following applications:

- Infor M3 Grid
- Infor LifeCycle Manager (LCM)
- Infor M3 Business Engine (Infor M3 BE)
- Infor M3 Foundation
- StreamServe®
- Infor M3 Platform
- Infor Document Management (IDM)
The UPP provides the user interface to Infor M3 programs. It is powered by Microsoft® .NET technology.

The UPP contains two product suites:

- User Interface (UI) suite
- Enterprise Performance Management (EPM) suite

**UI suite**

The UI suite includes the following:

- Infor Smart Office (ISO)
- M3 H5
- Infor Ming.le™

**EPM suite**

The EPM suite includes the following solutions:

- Business Intelligence (BI)
- Infor Business Vault – Data Warehouse Designer (BV-DWD) with M3 Analytics
- Ad Hoc Report Designer
Key terminology

This section details important terminology related to Infor M3 technology.

**Java, Extensible Markup Language (XML), and component-based architecture**

The Infor M3 technological cornerstones are Java, XML, and component-based architecture. Each provides characteristics that enable us to develop Infor M3 into the most robust enterprise application available. Usability, flexibility, reliability, and cost of ownership are a part of the core design patterns.

- **Java**
  - The Infor M3 server is coded in pure Java, making it object-oriented and platform-neutral. Using only American National Standard Institute Structured Query Language (ANSI SQL), the Infor M3 Java application server is also database-neutral.
  - This means there are no direct dependencies on a specific operating system or database. Also, the business components are abstracted from underlying technologies.

- **XML**
  - XML is a markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. It is defined by the W3C’s XML 1.0 specifications and by several other related specifications, all of which are free open standards.
  - XML is called an extensible language because it does not use a fixed format like HTML, which is a single, predefined markup language; however XML does handle HTML information.
It is also labelled a metalanguage because it is a language that describes other languages. It lets you design customized markup languages for limitless different types of documents.

XML has no platform, format, or application dependencies whatsoever. It allows sharing of data across applications and platforms.

In addition to the data itself, an XML file includes a specification layer where formats and contents of data to be handled are described. It was developed by independent groups following a set of simple rules that describe structure and semantics, rather than formatting.

**Cloud computing**

Cloud computing is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

Infor offers a variety of cloud computing solutions through Infor CloudSuite, using servers provided by Amazon Web Services (AWS).

**Lightweight Directory Access Protocol (LDAP)**

LDAP is a software protocol for enabling anyone to locate organizations, individuals, and other resources, such as files and devices, in a network, whether on the public Internet or on a corporate intranet.

**Active Directory Federated Services (AD FS)**

AD FS is a software component developed by Microsoft. Running on Windows® Server operation systems, it provides users with single sign-on access to systems and applications located across organizational boundaries.

**Infor Federated Services (IFS)**

IFS is an application that extends Infor user details to allow for single sign-on access to various Infor products.
.NET Framework
The .NET Framework is a code programming model for Microsoft Windows used to build applications that have:

- Visual user experiences
- Seamless communication across technology boundaries
- The ability to support a wide range of business processes
- An easier way to manage your personal information online

Windows Communication Foundation (WCF)
WCF features the following:

- A set of .NET technologies for building and running connected systems
- A communications infrastructure built around the web services architecture
- Advanced Web Services support in WCF providing secure, reliable, and transacted messaging along with interoperability

Service-Oriented Architecture (SOA)
SOA is a pattern in computer software design that allows application components to provide services to other components via a communications protocol, typically over a network.

J2EE®
J2EE is a Java platform designed for mainframe-scale computing typical of large enterprises.

Eclipse
Eclipse™ is an open source community of tools, collaborative working groups, and projects including Eclipse Platform™. The platform defines a set of frameworks and common services used for creating and running software development tools and other rich client applications.

Grid
The Grid is a distributed runtime environment for Infor M3 applications. The Grid may span multiple server machines, and some installed applications may be scaled-out. Also the Grid replaces the IBM® WebSphere® application server in Infor M3 installations.

Extensible Application Markup Language (XAML)
As applied to the .NET Framework programming model, XAML simplifies the creation of a UI for a .NET Framework application. You can create visible UI elements in the declarative XAML markup, and then separate the UI definition from the run-time logic by using code-behind files, joined to the markup through partial class definitions.

When represented as text, XAML files are XML files that generally have the .xaml extension. The files can be encoded by any XML encoding, but encoding as Universal Coded Character Set Transformation Format – 8 bit (UTF-8) is typical.

Structured Query Language (SQL)
SQL is a standard interactive and programming language for getting information from and updating a database.
Infor M3 Smart Applications

Infor M3 Smart Applications are used to build composite and web-based applications and expose them in a portal environment. By reusing and combining functionality from the Infor M3 EMS and other sources, it extends the product lifespan of existing applications and improves the user experience.

Application Programming Interface (API)

An API is a program for transferring data between programs and presentation layers. It is often applied between homepages and the underlying business logic.

Web Services (WS)

WS are software systems designed to support interoperable, machine-to-machine interaction over a network. WS are frequently web APIs that can be accessed over a network, such as the Internet, and executed on a remote system hosting the requested services. The two major standards are Java and Microsoft .NET.

Java Virtual Machine (JVM)

Java applications, like Infor M3, issue instructions to Java Virtual Machines (JVMs), which can be thought of as “software pretending to be hardware.” The Java application has no knowledge of the actual operating system or hardware on which it is running. It sees only the JVM.

JVMs exist for a number of different operating systems. Each JVM “understands” only one operating system. The JVM receives processing instructions from the application and in turn issues instructions to the operating system. The operating system can then use its own hardware, memory, disks, etc. and lower-level machine code to manipulate memory, buffers, etc. in order to actually execute the application.

JavaServer Pages™ (JSP)

JSP controls the content or appearance of web pages.

Active Server Page (ASP)

ASPs are the .NET equivalent of JSPs.
Check your understanding

Which of the following platforms are part of the Infor M3 technology? Select all that apply.

a) Business Process Platform (BPP)
b) Campus Knowledge Zone Platform (CKZ)
c) Rhythm Technology Platform (RTP)
d) User Productivity Platform (UPP)

Which of the following are considered a part of the Business Process Platform (BPP) within Infor M3? Select all that apply.

a) Business Process Management suite
b) Enterprise Performance Management suite
c) ISO
d) System Foundation suite

Which Infor M3 technology corresponds to each of the descriptions below?

A program for transferring data between programs and presentation layers

Language used to code the Infor M3 server, making it object-oriented and platform-neutral

Acts as software pretending to be hardware

A code programming model for Microsoft Windows used to build applications

Language that defines a set of rules for encoding documents in a format that is both human- and machine-readable
Lesson 2: Architecture

Estimated time
45 minutes

Learning objectives
After completing this lesson, you will be able to:

- Discuss the advantages of Infor M3 n-tier architecture.
- Explain the purpose of the presentation, application, Infor M3 database and database tiers in an example of Infor M3 n-tier architecture.
- Explain the Infor M3 architecture in terms of purpose of the users, access, web server, application server and database server tiers.
- Discuss the advantages of the Infor ION Grid including scalability and unified application management.

Topics
- Overview
- N-tier architecture
- Configuration scenarios
- Infor M3 architecture
- ION Grid
Overview

Infor M3 uses n-tier architecture, which primarily addresses the notion of scalability. Infor M3 n-tier architecture provides flexibility in the configuration of scalable topologies, such as multiple applications, databases, and web servers. Other advantages include the following:

- **Focus on industry standards** – Infor M3 meets industry standards such as using Java and using LDAP to secure the application.
- **Robust scalability** – Infor M3 is scalable to handle millions of transactions per hour and to support 24/7, high availability and recovery scenarios.
- **Security** – The Infor M3 BE supports full, role-based security, audit trails for data and software, and document archiving.
- **Adaptability and interoperability** – You have full system access via APIs, WS, XML documents and electronic data interchange (EDI). You also have advanced tool support.
- **Maintainability** – Infor M3 is grid-enabled. LCM allows runtime overview, alerts, ability to add and remove patches, etc.

The n-tier architecture also constitutes the well-defined borders between tiers, enabling flexibility to add new types of user interfaces (clients) or alternative databases.

In addition to scalability, the layered architecture of Infor M3 offers customers component reusability and portability. This constitutes the framework for how groups of components relate to each other and where in the dependency chain they belong. Not only is layered architecture the key to achieving a high degree of reuse for Infor M3, it also provides increased portability by totally isolating the platform-dependent components.
N-tier architecture

The following diagram illustrates an example of the Infor M3 n-tier architecture. Each tier is responsible for some part of the installation.

The physical database appears on the right side of the diagram. The presentation, application, and Infor M3 database (DB) tiers illustrate programs that enable you to access data from the database.

The presentation tier

The presentation tier handles any kind of presentation service to the application tier.

Presentation logic is separated from business logic.

Separation of presentation and business logic means that new kinds of user interfaces can be added to the system affecting only the presentation tier classes and not the business logic. The separation of concerns used in a true n-tier architecture is key in order to achieve transparent isolation between the different tiers.
The application tier

Business logic in Infor M3 consists of the business components and the foundation classes (object model) separated from DB logic.

Business components at the highest level in the application tier represent the artifacts that constitute Infor M3 business logic. These components are subjects for configuration to suit the specific requirements of a customer by using the Infor M3 configuration series of products.

The foundation super classes represent the environmental parts needed to run a business application. Tasks like thread handling and queuing are carried out by those classes.

The database tiers

With Infor, there are three different database types that can be used for the database tier: IBM DB2®, Microsoft SQL Server®, and Oracle® server. For direct access to the database, you need a different program to access each of the three types.

In Infor M3, however, database access is split between the database server tier and the database tier to enable Infor M3 to access different types of databases without making changes to the existing database logic.

The separation-of-concerns approach likewise applies to the Infor M3 DB server tier and the database tier. By the inclusion of a middle-tier DB server tier, different relational databases can be used without affecting the actual business logic.

One of the key benefits of the DB server tier is data storage independence. Data storage independence means that applications are not only uncoupled from the storage technique used, but they are also not aware of the physical location of the data store being used.

Thus, implementers of Infor M3 applications are free to switch to the latest data storage technology, support multiple storage techniques in the same application, and apply their applications on a variety of system configurations without recompiling their code. Data is encapsulated within business data objects.
Configuration scenarios

Two-tier configuration

The diagram below represents a typical eSeries/IBM installation. It shows a simple view of the main servers involved in typical Infor M3 installations.

Although the installation is assumed to be in a grid, the grid is not shown in the diagram. Its main purpose is to identify the main components in an Infor M3 installation.

Three-tier configuration

In the previous diagram, the configuration showed a single application and database server. This diagram shows the server split into separate database and application servers.

The three-tier configuration is typical for standard Windows installations, as well as for Solaris or Advanced Interactive eXectutive (AIX) installations.
**N-tier configuration**

The difference between this diagram below and the previous diagram is that the single application server is now split into two (or more) servers, illustrating how a Windows installation might use multiple servers for multi-machine, load balanced processing. Remember that the grid manages load balancing.

The n-tier configuration is typically done for complex Windows installations.
The following diagram provides a model of the architecture for Infor M3 at work.

**Users and access tier**

In the diagram above, there is a variety of end users. A sales user, for example, would connect to the Infor M3 UI using M3 H5, ISO, Infor Ming.le, or a mobile device, with access occurring through HTML, Java, and XML.

**Web server tier**

Infor Workplace and Infor M3 WS are the middleware between ISO and Infor M3 BE and other application servers. The web server allows Infor M3 to create customizations of the interface. It also handles single sign-on with LDAP. The Infor M3 UI adapter code is written in HTML5.

The web server uses HTML5 too and runs in the Infor Grid. It also enables, role-based functionality, programmable portal views, customization of the interface using .Net, and single sign-on (SSO) with LDAP.

**Application server tier**

Infor M3 BE, built with Java and XML, is customized using MAK. The Infor M3 application and the Infor M3 widgets that run inside the ISO framework all communicate with either Infor Workplace or Infor M3 WS. The communication is done over HTTP/HTTPS, which makes it possible to run ISO over the Internet.

Infor M3 BE uses the following:

- Open standards of Java and XML
- Patented Java Database Connectivity (JDBC) drivers
- Single sign-on option when combined with Microsoft Windows domain/Activity Directory (AD) or LDAP servers
ION Grid

Infor ION Grid (usually referred to as the Grid) is a distributed application server spread across multiple physical hosts. It provides a distributed runtime environment for other Infor M3 applications.

Applications are installed and configured in the Grid. Some applications may be distributed (scaled-out) across multiple physical servers. Those applications may, at any time, be added (i.e., deployed) or removed from the Grid.

Installing and configuring one application may be done while other applications are executing and being used.

Scaling out is not the only reason to use the Grid:

- All applications installed in the Grid may be managed as a unit.
- Applications in the Grid may communicate with each other without any complex configuration.
- Grid replaces the IBM® WebSphere® application server in many Infor M3 installations.

Example

The common approach is to deploy different instances (production [PRD], test [TST], and development [DEV]) of Infor M3 applications across the same hosts.

![Hosts example](image)

Scalability

The Grid makes it easy to scale out applications that are running in the Grid by starting several instances of each application. The instances may be started on different machines or on one machine, depending on what makes sense for each individual application.

Connected clients are unaffected by run-time changes.

- New application instances may be started or old instances may be stopped.
- Existing clients are unaffected as long as there is at least one application instance present in the Grid.
- New hardware (new machines) may be added (or removed) in runtime.
- Existing clients are automatically able to use the new hardware and grid application instances when they are scaled-out.

The main reasons for starting more than one instance of an application are as follows:

- **Failover**: Several instances may provide failover if one of the instances fails.
- **Throughput**: Several instances may provide better throughput (performance).
- **Load balancing**: Loads may be balanced between all application instances.
Infor M3 BE can only be scaled out across multiple servers in Windows installations. iSeries, AIX, and Solaris installations cannot be scaled out, although they can be installed in the Grid.

Unified application management

In the same way LCM unifies installations and upgrades, the Grid unifies the management of all Grid applications.

- **Unified configuration**: Application properties are configured in the same way for all Grid applications. Configuration of a host for running Grid applications is done in the same way for all applications.
- **Unified management**: All Grid applications are started and stopped in the same way. Things like log levels are changed in the same way for all Grid applications.
- **Unified monitoring**: Warnings and errors are displayed in the same way for all applications. Log files are retrieved and displayed in the same way for all applications. All management tasks may be done from within LCM.

Uses

Today, the Grid is used with the following applications:

- Infor M3 BE
- Landmark applications
- Infor WS
- Infor MEC
- Infor Enterprise Search (IES)
- IPA
- ISO
- Event Hub and Analytics

Demo: Viewing the Grid

Your instructor will demonstrate how to view the Grid, including hosts, applications, and relevant information.

Demo steps

1. Double-click the **Grid** shortcut on your desktop. **Internet Explorer** launches to display the **Grid Information**.
2. Review the information and options available.
3. Click the **third Web Application link** in the **SYSTEM** section. The **Grid Home** displays.
4. Review the information and options available, including the **Status, Errors & Warnings, CPU Usage**, and **Heap Usage** areas.
5. Click **Topology View**. The **Topology View** displays.
6. Review the information and options available, including the **Type, Status, Up Time, CPU%**, and **Heap Usage** columns.
7. Click **Close**.
Check your understanding

Advantages of Infor M3 n-tier architecture include which of the following? Select all that apply.

a) Ability to handle millions of transactions per hour
b) Flexibility in the configuration of scalable topologies
c) Full, role-based security, audit trails, and document archiving
d) Use of ISO for runtime overview, alerts; the ability to add and remove patches

Indicate the tier in an n-tier architecture that corresponds with each description below.

Includes the business components and foundation classes (object model); these are separate from the DB logic

Includes the separate database server, allowing for data storage independence

Acts as middle-tier database server, allowing use of different relational databases without affecting business logic

Handles any kind of presentation service to the application tier; its logic is separate from business logic

What are the advantages of using the Infor ION Grid?

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Lesson 3: System Foundation suite

Estimated time
1.5 hours

Learning objectives
After completing this lesson, you will be able to:

- Describe the purpose of the LCM.
- Discuss the methods for managing and monitoring application.
- Explain the advantage of using the MOS.
- Discuss the features available in IDM.

Topics
- LCM
- Application monitoring and management
- MOS
- IDM
LCM

LCM is a framework that facilitates standardized and uniform installation, maintenance, and management of Infor M3 products. This framework enables administration and customization of several servers and products from a centralized location.

Architecture and communication

The diagram below depicts the components of the LCM framework.

The LCM server contains a database, product packages, and associated scripts. It is the central point of the architecture. All installation components and scripts are stored on this server, and it also hosts a database that contains information about all the managed servers and the installed Infor M3 products on these servers.

LCM services include installed services that are administered with the help of the LCM server. LCM services should be installed on all servers that you want to manage with LCM, such as application servers and the database server. To install an LCM service, an LCM server must first be installed in the network.
An LCM service receives scripts and packages from the LCM server, and then executes the scripts. The progress and logs are sent back to the LCM server, which in turn forwards this information to the LCM client.

The LCM client contains product plugins and is the user interface for LCM. It is used by all users who manage Infor applications on the network. The client can be installed on each user’s computer or on a centralized administration client. The client cannot communicate directly with the LCM services, but must log on to the LCM server. The server authenticates the user against the LDAP server.

The LCM client connects to the LCM server, which, in turn, connects to each LCM service.

**Components, middleware, functions and tasks**

With the LCM, the following components can be installed:
- Infor M3 BE
- ISO
- Infor WS
- IES

LCM supports registration of middleware:
- The Grid
- StreamServe
- Microsoft SQL Server

LCM enables you to perform these additional functions and tasks as well:
- The Admin view provides common work management functions for LCM.
- LCM includes tasks that can be performed on any product installation (i.e., general tasks).
- You can maintain and manage Infor M3 products such as the following:
  - **Infor M3 BE tasks** – Examples of tasks include installing a service pack, installing additional languages, installing Infor M3 Foundation, uploading an Infor M3 BE package, unregistering Infor M3 BE, or retrieving an MCE.
  - **Environment tasks** – Environment tasks include editing properties, starting an environment, stopping an environment, fixes, database, copying an environment, field audit trail, environment overview, exporting fix information to a Microsoft Excel® file, creating a TellUs package, and the environment configurator.
  - **Runtime environment tasks** – You can also monitor, configure, and maintain a distributed runtime environment using the Infor Grid.

**Demo: Explore LCM**

Your instructor will demonstrate the user interface for LCM, including the Admin view and the tasks and functions that can be performed in LCM.

**Demo steps**

**Part 1: Launch LCM on the remote desktop**

1. Select **Start > RDP – M3 App**. The **Windows Security** window displays.
2. Click **Use another account**.
3. Type `gdeinfor2/eduinst` in the **User name** field.
4. Type `Inst234` in the **Password** field.
5. Click OK. The Remote Desktop Connection widow displays. Note: If a certificate message
displays, click Yes.

6. Double-click the LCM-Client shortcut on the desktop.

7. Verify eduinst displays in the User field. If not, type it.

8. Type Inst234 in the Password field.

9. Verify localhost displays in the Server field. If not, type it.

10. Verify 4060 displays in the Port field. If not type it.

11. Verify E:\Infor\LifeCycleManager\LCM-Client\workspace\admin displays in the Workspace
field. If not select it.

12. Click Log On. LCM displays.

Part 2: Explore LCM

1. Select Admin > Products > Manage Products. The display updates listing all the registered products.

2. Expand M3Master in the navigation tree on the Applications tab. Note: To expand a navigation tree in this application, click the right-facing arrow next to the application name.


4. Select Grid Management Pages. The Infor ION Grid Management Pages displays. Note: These pages display the same type of information and allow the same options as those seen in the Grid.

5. Expand M3M_Grid on the Applications tab. The applications in the Grid display.

6. Right-click M3_UI_Adaptor. An options menu displays. Note: These options can be used to manage and monitor the individual application.

7. Right-click M3BE_15.1_M3M. An options menu displays. Notes: The options associated with each applications may vary. The options for this application are more extensive than those available for the M3_UI_Adaptor in step 6.


9. Explore the Information and Tasks areas on the Dashboard tab. Note: The options available on the options menu (as seen in step 7) display in the Tasks area on the Tasks tab. The remaining tabs in the Task area correlate to sub-options that might be available on the options menu.

10. Click Close (X) on the Dashboard tab.

Note: Do not close LCM. Leave LCM open for use in the next demonstration.
**Downloading the LCM client**

The LCM client can be inside or outside the firewall to connect to the LCM server. Download the LCM client to the desktop at http://<serverIPaddress>:4062/update.

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**LCM roles and security access**

The LCM administrator sets up usage rights for users based on LDAP groups. LCM uses the different LDAP groups to grant different rights to different roles. There can be one role that is only allowed to read; a second role can manage the Infor M3 development environment but not the test or production environments.

LDAP details include the following:

- LDAP running over Transmission Control Protocol/Internet Protocol (TCP/IP) or User Data Protocol (UDP) using port 389 for LDAP or port 636 for LDAPS (LDAP over secure sockets layer [SSL] for encrypted traffic)
- Either a flat text file or a relational database as LDAP directory for storing data
- A tree of directory entries
- A unique, distinguished name (DN) for each entry
- Specified user or group permissions to access and modify entries and schema

**Certificates**

Certificates are used to ensure secure communications. Packages and installation units delivered from Infor must contain a valid Infor certificate to enable installation. Some products can be installed without a certificate.

**Update support**

The LCM client and LCM service have update support that enables them to synchronize themselves with the LCM server.

**Wizards**

Wizards are used to collect information on a task that should be performed on a specific LCM service.
User groups and users

When a user logs on using the LCM client, the user identification (ID) and password are sent over an encrypted SSL connection to the LCM server. The server authenticates the user against an LDAP server and checks if the user is a member of the LCM user group. If no such group has been defined, all users that can be found in LDAP using the defined user search filter are allowed to log on.

There are three levels of users in an LCM environment:

- **LCM Administrators** – Members of the LCM administrator group (defined in LCM.properties in the LCM server directory) are allowed to execute all tasks throughout the server environment.

- **Product Installation Administrators** – For each product installation, an administrator group can be defined. Members of this group are allowed to administer (i.e., perform tasks on) that specific product installation as well as all product installations that are children to it.

  To be able to set the administrator group for a product installation, you need to be administrator for the parent of that product installation (or be a LCM administrator). This exception also applies to the Add Path and Remove Path tasks.

- **Viewers** – All users that can log on to LCM can view information about all managed servers and installed applications. However, users are not allowed to perform any tasks, unless the task is explicitly defined as a Viewer task.

The client displays only the tasks that the user is allowed to perform. Therefore, for a Viewer user, only a few or no tasks at all display when the user is positioned on a node in the tree.
Application monitoring and management

Any application in the Grid can be monitored as a generic Grid application using the Monitor Application option. Additionally some applications have the ability to observe activity through the Manage Application option. The Infor M3 BE application is an example of an application that uses both the Monitor and Management Application options.

Monitor Application

The Monitor Application option is used to monitor and maintain the server, nodes, applications, etc.

⚠ In order for the Monitor Application page to be shown in the Grid, the application must be running.

The page shows the current state of the application, and it is possible to start and stop the application and its nodes. In addition, this page provides links to the application's configuration and management pages.

Demo: Monitoring an application using the Monitor Application option

Your instructor will demonstrate how to monitor an application in the Grid using the Monitor Application option in LCM.

Demo steps

Note: Ensure you are working in LCM for this demonstration. If not, follow the steps in Demo: Exploring LCM, Part 1 to launch LCM.

1. Select Admin > Products > Manage Products. The display updates listing all the registered products.
4. Review the displayed information.

Notes:

- The same information (e.g., type, name, status, log, up time, CPU usage and heap usage) displays for each application.
- The Status field shows a warning if something needs attention. If so, you can click the warning to review the actions to be taken.
- Log files are accessible.
- The Start and Stop buttons are the same as the options on the application dashboard and options menu.

5. Click Configuration. The displayed information updates.
6. Review the displayed information.
7. Click Back. The displayed information updates.
8. Click Management Pages. The displayed information updates.
9. Review the displayed information.
10. Click **Close** on the **M3M_Grid** tab.

**Note:** Leave **LCM** and the **Dashboard** tab open for use in the next demo.

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**Manage Application**

The Infor M3 BE Manage Application option is used to manage servers, jobs, and log files and to perform high-level technical tasks. It is launched through the web server or through LCM. Key features of the application are listed below:

- Easy tree structure
- Log view allowing you to dump information from the log file
- A Profiler that summarizes performance and resource consumption
- The ability to find jobs and classes
- The capability to control jobs by batch, auto, and interactive methods

**Manage Application connects to environments**

The following diagram illustrates how the application connects to a DEV and PRD environment.
Demo: Managing an application using the Manage Application option

Your instructor will demonstrate how to manage an application in the Grid using the Manage Application option in LCM.

Demo steps

Note: Ensure you are working in LCM for this demonstration. If not, follow the steps in Demo: Exploring LCM, Part 1 to launch LCM.

1. Select Admin > Products > Manage Products. The display updates listing all the registered products.

2. Click Manage Application. The M3M_Grid tab displays.

3. Review the displayed information, including the following:
   - **Type** – Type of JVM, provides a link to the subsystems
   - **Jobs** – Number of jobs in the JVM
   - **Up Time** – How long the job has been running
   - **Heap Usage** – Heap size of the JVM
   - **Command** – Links to JVM shutdown, suspend

4. Click Subsystem A. The display updates to show all jobs running in Subsystem A. Note: Not all subsystems display at all times; they are dependent on what jobs are currently running or have run recently.

5. Click Back. The display updates.

6. Click News. The display updates. Note: These messages show both fundamental and critical errors.

7. Click Back. The display updates.

8. Click Log Files. The display updates.

9. Select Node logs from the Select Log Type drop down menu. The log file updates. Note: Node logs occur when a JVM starts; dump logs are created if a program crashes.

10. Click Tools. A list of available tools displays. Note: The available tools depends on the application being managed.

11. Click Foundation: M3BE_15.1_M3M. The display updates. Notes:
   - A single subsystem (Subsystem A) currently displayed.
   - Leave LCM and the Dashboard and M3M_Grid tabs open for use in the next demonstration.

12. Minimize the RDP window. Note: Click the minus (-) sign in the upper-right corner to minimize a form, screen, or window in this application. Do not close the connection.

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Demo: Impact of application activity on Manage Application data

Your instructor will demonstrate how Manage Application data is impacted by activities in ISO and Infor M3.

Demo steps

Part 1: Launch ISO and call M3 programs

1. Double-click the ISO shortcut on your desktop.
2. Type <your course assigned username> in the User Name field. Note: Your username will be provided when your training environment is assigned.
3. Type <your course assigned password> in the Password field. Note: Your password will be provided when your training environment is assigned.
4. Click Log On. ISO launches.
7. Minimize the ISO window.

Part 2: Review changes in application using Manage Application

1. Maximize the RDP window. Note: To re-open/maximize a screen, click the program icon in the task bar.
2. Verify the M3M_Grid tab is displayed. If not, select it.
   Notes:
   o Additional subsystems display because you launched ISO.
   o Subsystem IW indicates two jobs are running because you called two Infor M3 programs.
3. Click Tools. A list of available tools displays.
5. Type SOS100 in the Job Name field.
6. Clear the User field.
7. Click Next. The Find Jobs – Result window displays. Note: The information indicates the program (SOS100) is being used by STDSTU04 (your ISO username) and details the status, job identification, up time, etc.
8. Click Finish.
9. Click Close to return to the RDP desktop.
10. Click Close to return to the training environment desktop.
Note: Do not close ISO. Leave the application open for use in later demonstrations.
**M3 document and media solution**

MOS enables you to control output from Infor M3 in the form of documents and their different media, regardless of whether they are printed, faxed, emailed or sent as EDI messages.

MOS is based on the idea that document media should be user defined. This way, an organization can fully determine how its business communication takes place via Infor M3 documents. This capability in turn enables a more user-friendly media control of the documents in the business process.

The media selection can be defined and determined on several functional levels:

- By the user who requests the output
- By the receiver of the output and the receiver’s own business standards for receiving output
- Based on document content (different object values)

**M3 document and media management**

Output from Infor M3 is created in one of two different formats:

- XMLOUT – Infor M3 documents shared with external systems
- STREAM – Infor M3 documents read by humans
XMLOUT

For documents to be shared with other systems, the output is still triggered in Infor M3 via printer programs.

The process works as follows:

- Infor M3 document and media management
  - In Infor M3, the generation of an output, media settings, plus partner references is performed.
  - XMLOUT, a structured file that is sent to the M3 Enterprise Collaborator, it only contains control information and keys to the business data.

- MEC administration
  - In MEC, the Message Initiator file is used by the Infor M3 e-Collaborator server.
  - XMLOUT is used as input and the data is retrieved by Infor M3 APIs.

- Output
  - The output is sent to an external system.
STREAM

Documents to be read by humans are managed via output servers such as Infor M3 OUT (StreamServe).

**M3 Document and Media Administration**

- **Generating output:** Settings plus Partner references. A separate Streamfile may be sent for each output produced from M3.

**Streamfile**

- A structured file that is sent to a specified port on the M3 Output Solution (StreamServe) server.
- It is sent via TCP/IP from M3 application server. It contains the media control section, the front page section, and the document data.

**StreamServe Administration**

- **M3 Output Server:** each streamfile received triggers a predefined document layout.

The process works as follows:

- **Infor M3 document and media management**
  - Infor M3 generates output, depending on settings plus partner references.
  - A separate Streamfile may be sent for each output produced from Infor M3. A Streamfile is a structured file that is sent to a specified port on the Infor M3 Output Solution (StreamServe) server. It is sent via TCP/IP from Infor M3 application server.

- **StreamServe**
  - In the Infor M3 Output Server, each Streamfile received triggers a predefined document layout.
IDM

Business documents are becoming a more integrated part of business processes, but paper information is hard to maintain. Regulations demand greater traceability, tracking and professional management of documents.

IDM was developed to address these needs. IDM is a central repository in Infor M3 for unstructured data (i.e., documents) built to ensure sizing, stability, and security. You can use IDM to link to an image or picture in Infor M3 to provide access to information and documents.

The following diagram illustrates how IDM works.

IDM is completely integrated with ISO, enabling powerful SmartLinks. It provides users with easy access to documents.

In IDM, there are features to manually add, manage, delete, and connect pictures/documents to relevant data in Infor M3 applications. This includes locking mechanisms, version tracking, and full security.

To summarize, IDM features include:

- Ability to store millions of documents
- Flexible access to documents and their metadata
- Ability to search document content
- Ability to preview documents
- Direct link to documents from Infor M3 panels
- Ability to drag and drop new documents to Infor M3 panels
- Capability to securely edit documents with check-in/out
- Integration with Smart Office, StreamServe, ReadSoft®, IES, and e-Commerce
- A comprehensive security model
StreamServe Adapter and printed documents
With IDM comes a component called the StreamServe Adapter, which enables automatic storage of output from Infor M3 to StreamServe. The StreamServe Adapter allows an Infor M3 user to print an invoice and then view the printed invoice directly from Infor M3 (through ISO) directly after the printing is finished.

Ephesoft Adapter
Another component that comes with IDM is the Ephesoft Adapter. This adapter enables automatic storage of all documents scanned through the Ephesoft system. Scanned supplier invoices become even more powerful with the Infor M3 ADC Adapter. The adapter enables automatic registration of the scanned supplier invoice in Infor M3. For example, an Infor M3 user can use the Ephesoft Adapter to automatically view a scanned invoice as a .pdf or a .tif file when simply browsing relevant Infor M3 data.
Check your understanding

______________ is a framework that facilities standardized and uniform installation, maintenance, and management of Infor M3 products.

a) ION  
b) ION Grid  
c) Infor M3 BE  
d) LCM

Which option in LCM is used to manage servers, jobs, and log files and to perform high-level technical tasks for applications in the Grid?

Which of the following are features included with IDM? Select all that apply.

a) Ability to monitor and maintain the server, nodes, applications  
b) Ability to store millions of documents  
c) Flexible access to document and their metadata  
d) Integration with ISO, StreamServe, ReadSoft, Infor Enterprise Search (IES) and e-Commerce
Lesson 4: BPM suite

Estimated time
1 hour

Learning objectives
After completing this lesson, you will be able to:

- Discuss features and functionalities of the tools found in the BPM suite.

Topics
- MDP
- Field Audit Trail (FAT)
- Event Hub
- Infor M3 WS
- SDT
- MEC
- ION
- MAK
- Eclipse
- IPA
MDP

MDP is a data dictionary – that is, a dictionary of all files and fields that are inside the files, along with the programs they are related to. MDP makes it possible to generate metadata for a unique Infor M3 BE installation. It provides the following functionality:

- Access to Infor M3 BE-related metadata
- Metadata for programs, database tables, and out files including:
  - Parameter lists
  - Data structures
  - Table columns
  - Table indices
  - Utility programs
- Ability to search in any market or customer component
- Comparison of different Infor M3 BE installations
- Many search, sorting, and filter options
- Ability to export to Microsoft Excel

Installation, configuration, and metadata creation is done in the Grid at the customer location using LCM. MDP has a web-based user interface, with a look and feel similar to ISO.

Metadata is environment specific, thereby providing information that is up-to-date from every point of view.

- Base, fixpack, and fixes – Information is included in metadata (also service pack information for Customer modifications).
- Multiple types of metadata – Metadata is generated for standard, market, and customer unique information, per the Infor M3 BE environment.

Demo: Working with MDP

Your instructor will demonstrate how to use MDP by searching for OIS020, viewing relations for that program, and determining whether a program is bookmark-enabled.

Demo steps

1. Launch Internet Explorer.
2. Type http://m3app-2013.gdeinfor2.com:41963/mdp/ in the Address field.
3. Press Enter. The M3 Metadata Publisher login screen displays.
4. Type Infor123 in the Password field.
5. Click Sign In. M3 Metadata Publisher displays.
6. Type OIS020 in the Keywords field.
7. Verify the Programs radio button is selected. If not, select it.
8. Verify the Table radio button is selected. If not, select it.
9. Click Search. The search results display. Note: Results are displayed on tabs by the type of entity selected. In this demonstration, there is one result on the Programs tab and no results on the Table tab.
10. Click **OIS020**. The displayed details update. **Note:** Details are displayed on 11 tabs:
   - **Tables used** – tables used by OIS020
   - **Programs used** – programs called by OIS020
   - **Used by** – programs that call OIS020
   - **Plist used** – parameter lists used by OIS020
   - **DS used** – data structures used by OIS020
   - **Out used** – output files used by OIS020
   - **Util used** – utilities called by OIS020
   - **Panels** – panels available in OIS020
   - **Bookmark tables** – bookmark tables for OIS020
   - **Bookmark parameters** – bookmark parameters for OIS020
   - **Function parameters** – function parameters for OIS020

11. Verify the **Tables used** tab is selected. If not, select it.

12. Review the details, including the different values in the **Usage** column.

13. Click the **Programs used** tab.

14. Review the details.

15. Click the **Used by** tab.

16. Review the details.

17. Click the **Panels** tab.

18. Click **View Table Fields** in the **OIS010/A** row. The **OIS010/A – Sales Price List. Enter Names/Language Table fields used (9)** window displays.

19. Review the details.

20. Click **Close**.

21. Click **View Record Field** in the **OIS010/A** row. The **OIS010/A – Sales Price List. Enter Names/Language Record fields used (10)** window displays.

22. Review the details.

23. Click **Close** to return to the desktop.
Field Audit Trail (FAT)

More and more companies demand trailing of important sensitive information. FAT meets that demand by keeping a history of who changes important information, when the change is made, the last value, and the new value. This functionality is an important business requirement from some market segments, such as the food and beverage and the pharmaceutical industries.

User roles

FAT provides two user roles: Administrator and Audit Views. Administrators have the ability to set up, modify, and manage audit trails using the Audit Manager. Users with the Audit Viewer role have rights to examine audit trail data via the Audit Viewer.

Audit file

FAT creates an audit file to contain the captured data for each file being audited. The format of this audit file is composed of the audited fields and some extra tracking information.

Example: FAT on Credit limit fields

An organization uses FAT to track changes to customer the credit limit fields in Customer. Open (CRS610/J).

Credit limit fields found in Customer. Open (CRS610/J)
The Last Changed Details fields provide the information about when the fields were last changed, but FAT provides additional details. The images below show the FAT details on the Credit limit 1 field.

Credit limit change details in Audit Fields (SES120) and Field Audit Trail. Display (SES121/B1)

A concise view of the FAT details are available in the Field Audit Trail Manager, as shown in the image below.

FAT details shown in the Field Audit Trail Manager
Event Hub

The Event Hub is a hub-and-spoke Grid extension that connects Infor M3 applications by distributing events from publishers to subscribers based on subscriptions.

An event is something that happens in an application that may be relevant to other applications. It can be triggered by something that happens in the application (e.g., Infor M3 database events). Publishers are applications that need to publish events, such as Infor M3 BE and Infor IPA. Subscribers, conversely, are applications that need to receive events that are published by another application.

Examples include MEC, IES and IPA. Subscriptions are predicators indicating that a subscriber is to receive a particular event. Subscriptions are given by the subscribers.

Examples of publisher to subscriber event routing within the Event Hub include the following:

- Infor M3 BE database events and batch job exits → IPA
- Infor M3 BE database events → MEC
- Infor M3 BE database events → IES

The Event Hub is metadata driven. This is advantageous in that, for example, there is no need to modify source code Infor M3 BE for every customer business case.

Event Hub and Infor M3 BE

Infor M3 BE can publish events when:

- Any database record is created, updated, or deleted
- Any interactive program starts, exits, or fails
- Any standard subroutine starts or exits
- Any batch program starts, exits, or fails
An event contains the following data:

- Publisher name (e.g., Infor M3)
- Document information
  - Document name (e.g., MITMAS [item master table in Infor M3 BE])
  - Document elements including the element name (e.g., ITNO [item number field in Infor M3 BE]), element value and old element value (if applicable)
- Operation on the document (e.g., Create, Update, Delete, Start, eXit, Fail, Request, or Response)
- Timestamp

**Event Hub and Event Analytics**

Event Analytics is a subscriber with a publisher. In between the subscriber and the publisher, there is a rule engine. In the rules, you can analyze the event data and post new events.

For example, you may want to post an event only when the old status is less than 20 and the new status is 20 (i.e., when the Infor M3 item is released).
Infor M3 WS

Think of WS as a remote control that controls Infor M3 programs without using the user interface. WS has an open, platform-independent standard based on XML, for providing targeted access to application functions. It provides the perfect building blocks for the creation of Service-Oriented Architectures (SOAs) and application-to-application integration platforms. WS enables you to execute business application functions without the need to learn proprietary protocols and languages. WS provides support across industry and for all major tool vendors (IBM, Microsoft, Oracle, etc.).

WS in the Infor M3 context

Infor M3 WS conforms to all the standards so Infor M3 can interact with anyone, independent of hardware platform, programming language, or operating system.

In the Infor M3 context, WS:

- Provides easily maintainable APIs to Infor M3 (Java)
- Runs each function and program in Infor M3 both in batch and interactively
- Delivers web service-enabling machine interface (MI) programs (related to an API program)

With WS, you can use the Infor M3 standard API. You can create a WS using Infor M3 functions.

Example of Infor M3 tool for creating Web Services

Infor M3 WS is:

- Standards compliant
- Platform neutral (written entirely in Java and is a standard J2EE [Java 2 Enterprise Edition] application)
- Fully integrated and compatible with other components of Infor M3

Note: Integration with ISO includes support for the single-sign on solution.
Consumer uses

The following are ways WS are used in various applications.

<table>
<thead>
<tr>
<th>Application</th>
<th>Typical Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart applications</td>
<td>• Building portals/composite applications</td>
</tr>
<tr>
<td>Data-loading applications</td>
<td>• Loading data from third-party applications</td>
</tr>
<tr>
<td></td>
<td>• An advantage is that Infor M3 business logic is enforced</td>
</tr>
<tr>
<td></td>
<td>• Migrating and/or upgrading data in Infor M3 using Smart Data Tool (SDT)</td>
</tr>
<tr>
<td></td>
<td>• or custom-made web services clients</td>
</tr>
<tr>
<td>Custom applications</td>
<td>• Data capture/entry</td>
</tr>
<tr>
<td></td>
<td>• Warehousing</td>
</tr>
<tr>
<td></td>
<td>• In a scenario where there are no existing machine-based integrated</td>
</tr>
<tr>
<td></td>
<td>programs (e.g., API) for a specific Infor M3 program</td>
</tr>
</tbody>
</table>

WS are also supported for use in Mashup and MEC.
SDT provides a means to migrate data from legacy or third-party systems to Infor M3. Infor uses this tool with WS to populate data and add it to the Infor M3 application. Other uses for SDT include the following scenarios:

- Creating a fully customized configuration
- Importing master data into a system that is already configured
- Completing cut-over work before Go Live
- Ongoing maintenance of pricelists and product lines

SDT is used with Windows to read Excel spreadsheet data and directly import it into Infor M3 via WS with full data validation, thus ensuring data integrity.

**Spreadsheets**

You do not have to be a technical person to use the SDT. Instead, spreadsheets are used to organize data, as detailed in the example below.

- Existing (legacy) data is copied into yellow columns.
- Fixed data is pre-set according to template type (grey columns).
- Specific columns can be exported to separate sheets to be input before the main data transfer for pre-required data.
How SDT uses the spreadsheet data
MEC

MEC is a lightweight message broker application and Infor M3 integration platform that enables communication and integration of Infor M3 to internal and external resources through passing of messages or documents (XML or flat file). MEC provides message-based integration between functions in the Infor M3 EMS and other external applications to enable business process collaboration within and across enterprises. MEC includes the enabling technology, flexible development tools, and several ready-made, industry-standard interfaces (i.e., business messages).

In any given enterprise, there are messages that must be sent to suppliers, vendors, and those in other industries. When interfacing with external systems, MEC allows mapping to read information from Infor M3, convert the information to XML, and send it to another system that then takes the information and converts it on its own servers.

In Infor M3, there are many documents that can be sent or received, such as invoices, orders, picking lists, and bank payments. MEC is the Infor M3 component that builds, sends, and receives these documents in electronic form.
Uses for MEC

When you send a document through a traditional post office, you start with a message and an envelope, and then you send it. It goes to the post office, where it is routed and thereafter delivered to the receiver.

![Envelope and Post Office Diagram]  
*The post office process*

MEC acts like the post office that sends your mail. Then, at the other end of the process, the recipient application opens the “envelope,” reads the message, and converts it as needed.

![MEC Communication Diagram]

*MEC communication*

Common uses for MEC include the following:

- Message-based integration
- ION support
- EDI
- IDM support

MEC client and server tools

There are different tools that support the solution, different tools to administer the messages, and other tools map messages to be sent to other different information buses.

The mapping tool runs in the Eclipse framework.
Integration capabilities with hub-and-spoke architecture include the following:

- Flat file (all formats)
- Message Queue (MQ) Series (real time)
- EDI (all formats and transaction types)
- HTTP triggers
- Scheduled integrations and batch jobs

**MEC as an Infor M3 adapter**

Using MEC, no application specific adapter is needed. Instead, MEC provides connections to any application that provides either an XML or flat file interface.
Infor M3 integration components

MEC receives information from WS, APIs, EPC, and MOS, and then sends XML and flat files.

To connect Infor M3 with other systems, different Infor M3 integration components can be used.

Asynchronous communication means Infor M3 does not need to be up when sending a message; it waits and sends the message when the MEC server is up or sends it from the MEC when it is possible.
ION

Infor ION is a middleware that provides an interface among Infor solutions, a variety of ERP systems, and other third-party software. Infor ION enables customers to configure a routed infrastructure, setup workflows, design business event monitors, and manage tasks and alerts.

Infor ION Connect uses Business Object Documents (BODs) to exchange information between applications. BODs are XML documents that use XML schemas based on Open Applications Group Integration Specification (OAGIS) standards. Recommended BOD content is specified by Infor, and each application has to semantically map its data according to these specifications.

Comparing business integration architecture

It is possible to create one connection for each message; however, this point-to-point architecture is extremely difficult to maintain and monitor.

![Point-to-point architecture]

With ION, a hub-and-spoke architecture is created wherein ION distributes messages to the different systems.

![Hub-and-spoke architecture with ION]
Infor M3 BE ION enablement overview

Infor M3 BE ION enablement includes MEC and Event Hub (including Event Analytics). Basic data synchronization includes the system of record (SOR).

The following diagram shows the process of connecting to Infor ION to send information.

![Diagram](image)

**Infor ION: Connecting and sending information**

In the diagram, a change in Infor M3 BE results in an event in Event Hub. Event Analytics can receive events and “filter/process” events, also. MEC receives the event, builds the BOD, and sends it to Infor ION.

BOD message patterns

The diagram below illustrates how Infor ION receives the XML (i.e., BODs) and sends it to another ERP system.

![Diagram](image)

**Infor ION BOD message patterns**
MAK is an Integrated Development Environment (IDE) for Infor M3 ERP systems. This powerful tool set provides critical administrative functions such as the ability to configure, debug, and support the Infor M3 BE applications as well as to make enhancements to the Java version of Infor M3 BE. Delivered as a plugin to Eclipse, an open source software development framework, MAK enables the configuration of frequently changing key elements of the Infor M3 ERP system such as output interfaces, view definitions, language files, and field help.

Modification rights

MAK is a required product, but it is not shipped with the ability to modify Infor M3 source code. This right may be requested by a customer, if needed.

If requested, the customer signs an agreement that grants the customer the right to modify the Infor M3 source code and indicates the following:

- There is no charge for the rights.
- Rights exist solely between Infor and the customer.
- In exchange for granting the right to modify Infor M3 source code, Infor retain rights to all intellectual property and derivative works created with the MAK.
- Partners are able to modify Infor M3 source code on behalf of a customer who has been granted this right.

Only people with a MAK certification are allowed to modify the source code.
The diagram below summarizes abilities available with the standard MAK edition, along with the additional capabilities available with modification rights.

**Standard MAK abilities**
- Additional fields in output
- Hide fields, add fields, etc.
- Change literals "DC" = "RELOAD"
- Customize field help
- Source level debugging

**Modification rights**
- Change and create new business logic
- Change and create new tables

*MAK standard abilities and modification rights*
Eclipse

As mentioned previously, MAK is an Eclipse plugin. Eclipse is an open platform for tool integration built by an open community of tool providers. Its features include the following:

- Many companies support Eclipse technology
- Used by IBM as a framework for WebSphere
- Extendable architecture (plugin technology)
- Core features and middleware from Eclipse framework
- Written in Java, own graphical user interface (GUI) classes

The following screen shot shows the MAK perspective in Eclipse. Note the four features identified.

The following screen shot shows an example of an Infor M3 program being debugged in Eclipse.
IPA

IPA is a tool that allows for multi-step and multi-level human review and approval of work flows. It is an enterprise-class BPM application that provides the following:

- The ability to automate, control, and measure business processes that span:
  - Systems-to-systems
  - People-to-systems
  - People-to-people
- A multi-step, multi-level, human review and approval workflow
- The ability to start flows on any event in Infor M3 using Event Hub
- Integration to ISO
- Reduced or eliminated need for Infor application modifications

**IPA process**

With IPA, you simply create a model, publish it, and then interact.

![IPA process diagram]

**IPD**

IPD allows you to visually create, edit, and test processes. Based on Eclipse, it provides activity nodes for Infor applications (e.g., Infor M3 APIs) as well as for other integration connection like e-mail notifications, multi-level approvals, WS, Infor ION Connect, and Event Hub. Rules allow parallel routing, escalation reminders, and re-routing.

**IPS**

IPS executes defined processes. It also manages triggers, including those generated by the Event Hub. It creates and progresses work units through the processes and provides the ability to monitor and analyze process performance.

**Inbasket**

Users interact with work units through the Inbasket. It is accessed through ISO or Infor Ming.le.

**Application trigger options**

There are several Infor M3 applications trigger options for IPA (grid-based foundation):

- JavaScript from ISO
- Infor Event Hub
- Application Messages
- Scheduled triggers in IPA
Model using IPD

The image below provides an example of how a process may be designed to approve a customer.

![IPD example: Approving a customer](image)

Publish to IPS

All the published flows show in IPS with statistics. You can upload a flow to the server, then monitor and optimize the flow. You can also use this screen to administer the IPA, including activities such as researching errors.

![IPS example: Administration example](image)
Interact via Inbasket

IPA can alert a user when an action needs to be performed. This alert can be sent to the user in an e-mail, or it can be delivered to an Inbasket, either in ISO or Infor Ming.le. This is an ISO Inbasket, but is also part of the flow of the IPA.

ISO Inbasket example: A part of IPA work flow
Check your understanding

Which Infor M3 technology corresponds to each of the descriptions below?

A data dictionary allowing access to Infor M3-BE relates metadata for programs, database tables, and out files

Provides easily maintainable APIs to Infor M3 and runs each function and program in Infor M3 both in batch and interactively

Enables customers to configure a routed infrastructure, setup workflows, design business event monitors, and manage tasks and alerts

Provides critical administrative functions such as the ability to configure, debug, and support the Infor M3 BE applications

Message broker application and Infor M3 integration platform; enables communication and integration of Infor M3 to internal and external resources through passing of messages or documents (XML or flat file)
Lesson 5: UPP

Estimated time
2 hours

Learning objectives
After completing this lesson, you will be able to:

- Discuss features and functionalities of the tools found in the UPP.

Topics
- The Infor M3 user experience
- ISO
- M3 H5
- Infor Ming.le
- IES
- EPM
- Infor Business Vault – Data Warehouse Designer (BV-DWD) with M3 Analytics
- Ad Hoc Report Designer
- Infor M3 Report Manager (MRM)
- Infor e-Commerce
The Infor M3 user experience

Infor M3 provides three options for general users to access the system:

- ISO
- M3 H5
- Infor Ming.le

**ISO**
ISO is the client for the rich user experience. It provides the following features:
- A canvas with widgets
- Personalizations
- Mashup Designer capabilities
- IES capabilities

**M3 H5**
M3 H5 provides an HTML 5-based user interface. The Infor M3 UI Adapter code is rewritten in HTML5. It has a new look and feel based on Infor UX 3.0 design.

**Infor Ming.le**
Infor Ming.le is the newest Infor xi Infor M3 user experience. Using a thin client structure, Infor Ming.le provides IES capabilities and is available for use with all Infor products.
ISO

ISO is a rich Internet application (RIA). It provides a rich information workplace that connects people, processes, and information.

Advantages to using ISO include the following:

- Provides a user-centered way of interacting with enterprise applications
- Leverages world-class productivity software from Microsoft
- Has a Microsoft Office and Microsoft Windows operating system presentation

Evolution of the UI

Key capabilities

The key capabilities of ISO include the following:

- A rich application user experience
- Dynamic personalization
- Collaboration and workflow
- Microsoft Office interoperability
- Business intelligence

Configuration

ISO is installed in the Grid and can be scaled out.

An ISO connection to Infor M3 is provided by two components:

- The ISO M3 Adapter, which contains the Infor M3 Net Extension
- The Infor M3 API web server, which allows Infor Smart Office to connect to the Infor M3 APIs.

The Infor M3 API WS application is used to expose the MI programs as web services.

The application supports both traditional WSDL-based web services (XML) and RESTful web services (Representational State Transfer architecture with XML and JSON). For Java-based clients, a grid proxy API is also exposed.
Tools and enhancements

In the diagram below, the features shown in orange can be used to enhance users’ experiences with Infor M3 user interfaces. The applications shown in green can be used to accomplish ISO tasks. Most of these applications are part of ISO.
Personalizations

The personalization tool is used to customize Infor M3 for yourself or for a group of users. For example, you can highlight an important value, change a number into text, and hide fields that never need to be changed to make the program easier to use.

Ways to personalize your Infor M3 program using ISO

Mashups

Mashups, created using Mashup Designer, allow you to customize Infor M3 by composing panels, calling web pages, and calling list APIs. More advanced programmers can create mashups to update, create, and delete APIs and Infor M3 external integrations. You can configure a mashup to allow for role- or user-specific use.

Demo: Explore ISO

Your instructor will demonstrate features of ISO, including calling an Infor M3 program, creating a personalization, and running a mashup.

Demo steps

Note: Ensure you are logged in to ISO. If not, follow these steps:

- Double-click the Infor Smart Office shortcut on your desktop.
- Type <your course assigned username> in the User Name field. Note: Your username will be provided when your training environment is assigned.
- Type <your course assigned password> in the Password field. Note: Your password will be provided when your training environment is assigned.
- Click Log On. Infor Smart Office launches.
Part 1: Call a program and create a personalization

1. Start Customer. Open (CRS610). Panel B displays. **Note:** To start any application in the system, click in the Search field, type the program name, for example CRS610, and then press Enter.


3. Click **New.** The Conditional Styles/Create Conditions window displays.

4. Select Credit limit 1 (CRLM) in the **Target** field.

5. Select Numeric from the Select condition type drop down list. The conditional formula fields update to reflect your selection.

6. Select Greater than (>) in the Operations drop down list.

7. Select Field in the next drop-down list.

8. Type 100000 in the fourth field.

9. Click **Next.** The Conditional Styles/Work with Formatting window displays.

10. Click the pink square in the Field color area.

11. Click the red square in the Text color area.

12. Select the Enable style for entire row check box.

13. Click **Next.** The Conditional Styles/Finalize and Preview Style window displays.

14. Type Credit limit over 100000 in the Name field.

15. Click Finish. The Conditional Styles/Create Conditions window displays.

16. Click Close. Customer. Open (CRS610) displays. **Note:** All rows with a value greater than $100,000 in the Credit limit 1 field now display with a pink background and red text.

17. Click Close.

Part 2: Run a mashup

1. Select **Navigator > Mashups > Work Order Desk.** The Work Order Desk mashup displays.

2. Type A01 in the **Facility** field.

3. Type 000100 in the **Item Number** field.

4. Press Enter. A dialog window displays with the message, “View must be entered.”

5. Click OK.

6. Click **Filter Options.** The header area displays. **Note:** You may have to scroll to the right.

7. Select MOS100/4-mos100 inquiry type 4 from the View drop down list.

8. Click **Filter Options.** The header area no longer displays and a list of work orders displays.

9. Highlight the row associated with work order 3810023. Related data displays on the Work Order. Open Line tab.

10. Click the **Lines** tab. The display updates.

11. Double-click the row associated with Sequence number (Sno) 1. Work Order. Open Line (MOS101) displays.

12. Click Close to return to the canvas.
ISO Software Development Kit (SDK)

The ISO SDK is a programming tool used to write new native applications or widgets for ISO. SDK unleashes the full power of ISO as a flexible and extendable User Productivity Platform.

SDK consists of a plugin for Microsoft Visual Studio and includes the following:

- Documentation
- Samples
- Templates
- Tools

SDK is a toolkit that makes ISO a development platform and makes it possible to create applications and widgets for ISO and building blocks for mashups. Applications are built using state-of-the-art tools and languages, such as Microsoft Visual Studio and Windows Presentation Foundation (XAML and C#).

SDK is a real programming tool and requires that you are a skilled .NET programmer.

Startpad

Startpad is a configurable graphical menu option providing a simple and user friendly way of collecting bookmarks to the system or shortcuts to external applications. Capabilities include the following:

- Ability to group shortcuts
- Ability to assign unique names and icons
- Ability to add your own favorite icons
- Ability to share Startpads with other users or roles
- Ability to export and import Startpads between different installations of ISO

Example of a Startpad
M3 H5

The M3 H5 Client provides an HTML 5-based user interface for accessing data and applications from Infor M3. It provides users with the following features and functionality:

- Menu navigation and application switching using Infor controls
- Panel sequence navigator
- Dialog windows
- Favorites and recent items
- Continuous data fetching on list scroll
- Infor M3 menu through APIs
- Shortcut panel/toolbox area
- Search in lists including key search using IES
- Runs on any HTML-5 enabled web browser

The M3 H5 Plugin is available for use with Infor Ming.le and is detailed in the next section.

Demo: Explore M3 H5

Your instructor will demonstrate features of M3 H5, including calling an Infor M3 program and creating both a shortcut and a favorite.

Demo steps

2. Type <your course assigned username> in the User Name field. Note: Your username will be provided when your training environment is assigned.
3. Type <your course assigned password> in the Password field. Note: Your password will be provided when your training environment is assigned.
4. Click OK. The M3 H5 Client tab displays.
7. Select Tools > Add to Start Page Shortcuts. The Shortcuts dialog box displays.
8. Click OK. The Customer. Open tab displays.
10. Click Add in the Favorites area. The Add to Favorites dialog box displays.
11. Type Item. Open in the Name field.
12. Type mforms://MMS001 in the Link field.
13. Click Save. The Start Page displays including the new Favorites link.
15. Click Close to return to your desktop. Note: If a dialog window displays verifying you want to leave the page, click Leave this page.
Infor Ming.le

Infor Ming.le is a thin client user interface. It brings a common consumer-grade user interface for all Infor xi products. Infor Ming.le is built on the market-leading portal platform, Microsoft SharePoint®, and includes IES and IDM.

Connections

Infor Ming.le is a highly customizable social tool that leverages relationships for the company. Connections that display may include, for example:

- Your friends
- Your home page
- Your profile
- BODs

Example of Infor Ming.le home page with connections
Sharing
You can share information easily in Infor Ming.le. In the example shown here, a claim has been made that a product contains peanuts. You may want to share this information with others.

![Example of Share in Infor Ming.le](image)

**Infor M3 plugin**
The Infor M3 plugin enables the Infor M3 UI Adapter to run inside Infor Ming.le. This allows for M3 calls through the H5 Client.

**Technology stack**
The following image shows how to connect to Infor M3 using Infor Ming.le.

- Infor Ming.le connects using the Internet, Microsoft SharePoint, and the Infor M3 plugin.
- The Infor M3 plugin connects to the Infor M3 UI Adapter, which in turn connects to the Infor M3 BE.

![Infor Ming.le technology stack](image)
Functionality

The Infor M3 Plugin provides the following functionality:

- Bookmarks – let you open a specific Infor M3 record
- Shortcuts – bookmark links that can be accessed in the Shortcuts web part
- Drillback – allows passing of information and switching between Infor applications
- Context publishing to contextual web parts – allows interaction with the Infor web parts by publishing JavaScript Object Notation (JSON)

\textbf{Note:} JSON is a data format process by these web parts and can be a combination of Infor M3 fields and literal strings.

Demo: Explore Infor Ming.le

Your instructor will demonstrate features of Infor Ming.le, including calling an Infor M3 program.

Demo steps

1. Double-click the \textbf{Infor Ming.le} shortcut on your desktop. \textbf{Internet Explorer} launches.
2. Type \textit{<your course assigned username>} in the \textbf{User Name} field. \textbf{Note:} Your username will be provided when your training environment is assigned.
3. Type \textit{<your course assigned password>} in the \textbf{Password} field. \textbf{Note:} Your password will be provided when your training environment is assigned.
4. Click \textbf{Sign In}. \textbf{Infor Ming.le} displays.
5. Review the components on the \textbf{Infor Ming.le} home page.
6. Click \textbf{M3}. The \textbf{Window Security} dialog window displays.
7. Type \textit{<your course assigned username>} in the \textbf{User Name} field. \textbf{Note:} Your username will be provided when your training environment is assigned.
8. Type \textit{<your course assigned password>} in the \textbf{Password} field. \textbf{Note:} Your password will be provided when your training environment is assigned.
9. Click \textbf{OK}. The \textbf{M3 H5 UI} displays.
10. Click \textbf{Item. Open} in the \textbf{Favorites} area. The \textbf{Item. Open} tab displays.
11. Click \textbf{Close} to return to the desktop.
IES

IES is a deeply integrated, intuitive search application for Infor M3 and non-Infor M3 data to help organizations search and find relevant information securely and quickly.

Functionality

With IES you are able to do the following:

- Perform a global search.
- Perform a functional search that allows a flexible search in Infor M3.
- Saved filtered searches – these saved searches can be used to create a to-do list showing the right information directly.
- Use Alert widgets to create alerts which direct you to the application where you need to take action – for example having to release an alert first thing in the morning.

IES Technology

IES is based on a dedicated, open source search engine, Lucene, and features the following:

- State-of-the-art technology
- Same searches that power websites like Wikipedia and Yahoo
- Dedicated search engine means IES is not loading the main Infor M3 transactional database
Demo: Three ways to search using IES

Your instructor will demonstrate the three search types in IES: top down, narrow down, and bottom up.

Demo steps

**Note:** Ensure you are logged in to ISO. If not, follow these steps:

- Double-click the **Infor Smart Office shortcut** on your desktop.
- Type `<your course assigned username>` in the User Name field. **Note:** Your username will be provided when your training environment is assigned.
- Type `<your course assigned password>` in the Password field. **Note:** Your password will be provided when your training environment is assigned.
- Click Log On. Infor Smart Office launches.

**Part 1: Top down search**

1. Select **Show > Search**. The **Search** window displays.
2. Type `table` in the **Search** field.
3. Click **Search**. The search results display all instances of the word “table” in Infor M3.
4. Click **Display** for the results associated with item number **550100** in the **Items** section. **Item. Open** (MMS001) displays.
5. Click **Close** to return to the canvas.

**Part 2: Narrow down search**

1. Start **Item. Open** (MMS001). Panel **B** displays.
2. Type `chair` in the **Search** field.
3. Press **Enter**. The item list updates to include only those items associated with the word “chair.” **Note:** Leave **Item. Open** (MMS001) open for use in the next part of the demonstration.

**Part 3: Bottom up search**

1. Right-click the row associated with item number **000201**. The options menu displays.
2. Select **Find in Enterprise Search > Global**. The **Search** window displays with all instances of the item number **000201** in Infor M3.
3. Click **Close** to return to the desktop.
EPM

EPM is a BI solution suite that provides organization-wide reporting in which cross-functional data, both structured and unstructured, comes together to provide sharply focused views of the data.

**The BI life cycle**

### Suite components

The suite is comprised of the components described in the table below.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infor M3 Enterprise Performance Management suite</td>
<td>This component for manufacturing and distribution provides solutions that deliver intuitive, role-based intelligence for everyone in your organization – from operational employees to senior management.</td>
</tr>
<tr>
<td>Infor M3 Business Performance Management</td>
<td>This component supplies the information and analysis needed to make critical business decisions.</td>
</tr>
<tr>
<td>Infor M3 Analytics</td>
<td>The component generates reports covering four key areas: sales, finance, procurement, and warehouse.</td>
</tr>
<tr>
<td>Infor M3 Business Intelligence and View Point</td>
<td>This component is the operational business intelligence for strategy and decision support. BI is the end-user business intelligence layer that enables alerts, analysis, and the ability to act in context with the Infor M3 applications.</td>
</tr>
<tr>
<td>Opportunity Analyzer</td>
<td>This is the first strategic enterprise performance management tool that enables you to set practical business performance targets and identify, in advance, quantified financial and non-financial gains before committing capital expenditure to new business process improvement projects.</td>
</tr>
</tbody>
</table>
Infor Business Vault – Data Warehouse Designer (BV-DWD)

Business Performance Warehouse (BV-DWD) is the data warehousing foundation layer that structures the data from Infor M3 data sources to enable the BI layer. Its purpose includes managing all cube and warehouse maintenance and generating industry standard online analytical processing (OLAP) data marts and cubes.

BV-DWD can be used with Infor M3 and non-Infor M3 data. It is delivered with a visual data management tool (generates ETL, handles maintain and deploy) and can be complemented with predefined models (Business Measurement Model) for Infor M3. There are approximately 45 models available, designed by application and industry experts for most business processes, which saves work.

All work that is done to construct relationships in BI must be done manually. Infor M3 provides relationships and naming conventions to help with this process.

The following chart illustrates:

- How BV-DWD lets you build the data
- How you extract the data
- When you combine Infor databases in the data warehouse
- When you analyze the data

With the analysis service, you build the queue that enables you to put the data in cubes – for example, for time or the change. The last step is creating the UI that allows a user to use the data cubes.
BI solution without BV-DWD

The following diagram illustrates how you might build a BI solution without BV-DWD. It involves multiple databases and people, and becomes unwieldy very quickly.

BI solution with BV-DWD

The BV-DWD approach, on the other hand, lets you build something that enables you to synthesize a subset (cube) of info related to what you need (production, etc.) and reduces the data to manageable chunks.

BI lets you get information about your company, but you need a data warehouse to get a complete view of the overall company across all departments. Only then can you sift out the parts, segments, and data that you need. For example, if you combine sales and distribution data, you can see whether declining sales are due to a distribution problem.

BI enables you to provide the interface that allows top management to build the reports they need. BI tools allow you to build the data sets, whereas other tools allow you to explode the data cubes.

With a data warehouse, all these data sources are transformed into a report-friendly format. It also guarantees that all the business rules for how to interpret the data must be defined only once.

A BV-DWD data warehouse also takes care of changes in structural data, like changing sales reps between departments, so the correct analyses can be done. This is called "slowly changing dimensions," and is a key feature of a data warehouse, but is not something normally handled in the operational systems.
Infor M3 Analytics

Infor M3 Analytics is a tool included with BV-DWD. It includes the following features:

- Pre-built scorecards are made available to users via an online web-based system. The navigation, layout and general user experience is very similar to using any other website.
- With Infor M3, content can be securely administered so that only the relevant scorecards are accessed by the appropriate users.
- Scorecards can be printed. Data can also be viewed and analysed in Microsoft Excel.
- Reports and key performance indicators (KPIs) are focused on the following five process areas within Infor M3:
  - Purchasing
  - Production
  - Warehouse
  - Sales
  - Finance

Infor M3 Analytics overview

In the diagram below, the Infor M3 solution is shown on the left. It must transform the data. It stores the data, transforms it, and then loads it to the BV-DWD. Within BV-DWD, the cubes are constructed (using SQL Server Business Intelligence Development Studio, a Microsoft tool), and these cubes are used to build the analytics. A variety of tools can be used to consume the cubes so that you can build your own reports.
Infor M3 Analytics overview
Ad Hoc Reporting

Infor M3 BE contains hundreds of reports that have hardcoded selections and hardcoded columns. Modifications are normally required, along with additional StreamServe expertise.

However, these standard reports may not provide the information you need and may cause performance issues.

Ad hoc reporting allows you to build your own reports. They also prevent performance issues. You can also export and import your ad hoc reports to other systems.

Building and producing an ad hoc report

Infor M3 ad hoc reporting is a tool within the business engine that enables you to build your own Infor M3 reports over any Infor M3 standard or custom Infor M3 table. With the Ad Hoc Report Designer, you can simulate a design before the runtime (i.e., what you see is what you get). The solution is pre-populated with Infor M3 table definitions and standard sorting orders and views. Output from the Ad Hoc Report Designer is always an XML file created by a batch job. Ad hoc report versions can be saved, then submitted online or through the Infor M3 job scheduler.

The following diagram shows an example of how an ad hoc report is built and produced. First, you build the report; then, using the engine server, the tool reports everything in XML. You can use third-party products or XLS for other means to use or deliver the reports.
Template vs. ad hoc reports

Without Ad Hoc Report Designer, reports are created using StreamServe to push data from Infor M3 into static templates, like the one depicted below.

With Ad Hoc Report Designer, report capabilities are much more dynamic. Report templates are designed as needed by users and can include the following functionality.

<table>
<thead>
<tr>
<th>Functionality</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter and selection</td>
<td>The designer contains 8 filters and 3 selections.</td>
</tr>
<tr>
<td>Aggregation</td>
<td>Records can be aggregated based on the sorting order.</td>
</tr>
<tr>
<td>Sub totals</td>
<td>Sub-total lines can be based on the sorting order.</td>
</tr>
<tr>
<td>Sorting order</td>
<td>A standard or a user-defined index.</td>
</tr>
<tr>
<td>View definition</td>
<td>Includes up to 30 columns and 300 positions.</td>
</tr>
<tr>
<td>Related tables</td>
<td>Displays data from tables related to master, including the system table.</td>
</tr>
<tr>
<td>Functionality</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Calculate fields</td>
<td>Calculated based on data from any field in master or related tables.</td>
</tr>
<tr>
<td>Currencies</td>
<td>Converts any field to local or foreign currency.</td>
</tr>
<tr>
<td>Logical formula</td>
<td>Displays or hides data or constants based on logical formulas.</td>
</tr>
</tbody>
</table>

The diagram below shows how the previous report example is more configurable.

Benefits of ad hoc reporting

Ad hoc reporting includes the following benefits:

- **Direct integration** – integrates directly with the Infor M3 database, the IDM databases, and customer extension files.
- **Standard Infor M3 role-based security** – uses the standard Infor M3 role-based security to ensure people can only view the files they are entitled to see.
- **Reduced modifications cost** – reduces the cost of modifications to Infor M3 standard reports and extra customer-unique reports during and after implementation.
- **Job scheduling** – integrates with the Infor M3 job scheduler to enable reports to run and be delivered to the user on a regular basis.
- **Standard, consumable format** – produces XML output in a standardized format, consumable by products such as StreamServe, Crystal Reports, Microsoft Excel, etc. giving you the choice of how to best use the tool’s output.
- **Minimal training** – requires minimal training as the tool is built on all the existing standards that exist within Infor M3 and ISO.
- **Minimized deployment cost** – minimizes the deployment cost as it is a module within Infor M3 BE; no extra hardware is normally required to on-board Ad Hoc Report Designer.
Infor M3 Report Manager (MRM)

MRM is an add-on module built for Infor M3 BE. It transforms Infor M3 BE data stream files and Infor M3 Ad Hoc into dynamically configured reports. It enables generation of PDF and Excel files, which can be distributed through e-mail and to the Infor M3 Report Manager Client.

There are approximately 800 standard reports preloaded in MRM. The reports can then be configured and tailored using the preloaded configuration as a base. It provides a framework for finding, generating, viewing, extending, exporting, and distributing Infor M3 reports in Infor Smart Office, Infor M3 H5, and Infor Ming.le.

Example of Infor M3 Report Manager environment
Infor e-Commerce

Infor e-Commerce solution is a standard e-commerce, cross-channel, sell-side offering based on a market leading platform targeting a wide variety of companies. In other words, it is a tool for making sales via Infor M3.

Infor e-Commerce is targeted for all companies wishing to create an Internet-based entry point for their customers and partners. It is especially useful for organizations operating a variety of trading channels, with a highly mixed customer base, and that may offer many products, multiple product assortments, and maintain multiple catalogs.

Advantages include the following:

- Fully integrated processes
- Integrated tool set
- Flexible deployment

Infor e-Commerce is an Infor M3 application, but is not considered part of the Infor M3 technology. It belongs to the Customer Relationship Management suite that helps you manage your customers throughout the entire customer life cycle.

Solution examples

The following images are examples of what the Infor e-Commerce user interface can look like.

Examples of Infor e-Commerce interfaces
Check your understanding

Which Infor M3 technology corresponds to each of the descriptions below?

Allows you to perform a global search, save searches and create alerts

An RIA that provides a user-centered way of interacting with enterprise applications

Provides an HTML 5-based user interface for accessing data and applications from Infor M3

A BI) solution suite that provides organization-wide reporting in which both structured and unstructured cross-functional data comes together in sharply focused views

Includes pre-built scorecards, reports KPIs
Course summary

Estimated time
30 minutes

Learning objectives
Now that you have completed this course, you should be able to:

- Describe the technical framework of Infor M3.
- Identify the advantages of the Infor M3 product architecture.
- Identify the main components of Infor M3 System Foundation.
- Identify the main components of Infor M3 BPM suite.
- Identify the main components of Infor M3 UPP.

Topics
- Course review
Which of the following are considered a part of the UPP within Infor M3? Select all that apply.

a) BPM suite
b) EMP suite
c) ISO
d) System Foundation suite

Number the tiers below to reflect the flow of information in a typical Infor M3 Java architecture.

Access
Application server
Database server
Users
Web server

The same information (e.g., type, name, status, and up time) displays for each application in the Grid when using which of the following options in LCM?

_______________________________________________________________________
_______________________________________________________________________

Indicate whether each Infor M3 technology application is part of the BPP or the UPP.

Event Hub
Infor BV-DWD with M3 Analytics
Infor e-Commerce
ION
MEC
Infor M3 WS
Infor Ming.le
ISO
ISO SDK
SDT