MODULE 5: GOING LIVE

Module Overview

"Going Live" focuses on the deployment phase of the upgrade project that implements the upgraded solution in the actual production environment and produces a successful go live. "Going Live" covers the activities that are included in this phase, such as pre-production upgrade, acceptance testing, and the actual live data upgrade.

After finishing code and the data upgrade on the test environment, Adam, the development consultant from the Microsoft Certified Partner, must implement the upgrade on the customer production environment. To make sure that the production database of Cronus International Ltd. is not corrupted during the upgrade process, Adam first performs the upgrade in the pre-production environment.

Later, after he performs acceptance testing with the customer's key users and the customer signs off on the upgrade, he performs the live data upgrade on the customer's production environment.

Objectives

- Prepare the pre-production environment for upgrade.
- Configure the software.
- Conduct user training.
- Move the upgraded solution to the pre-production.
- Set up users.
- Perform acceptance testing.
- Conduct production upgrade and go live.

Pre-Production Upgrade

Before you start the data upgrade in the production environment, you should perform the pre-production upgrade. This is the "test" upgrade, where the upgraded solution undergoes post-upgrade actions and testing by the partner and the customer's key users before they are moved to the production environment.

Pre-production upgrade includes the following activities:

- Preparing the pre-production environment and the source system.
- Conducting user training, if it is necessary.
- Performing a data upgrade on the pre-production environment.
- Setting up users and roles in the upgraded system.
- Performing acceptance testing.

Preparation of the Pre-Production Environment

Careful preparation of the pre-production environment makes sure that the upgrade process runs smoothly on the pre-production database. It also reveals all issues that may interfere with the live upgrade. To prepare the pre-production environment, you must do the following:

- Install and configure the software that is required for Microsoft Dynamics NAV 2013.
- Configure the option of Microsoft Dynamics NAV 2013 that is selected by the customer.
- Configure database components and server(s).
- Verify the configuration.

Note: Before you start the upgrade, make sure that the customer has the license file upgraded to the newest version of Microsoft Dynamics NAV.

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For a deployment of Microsoft Dynamics NAV 2013 you must install the core components. The following are the three tiers that make up the Microsoft Dynamics NAV architecture.

- The RoleTailored client is the client tier that includes a Microsoft Dynamics NAV Windows client and a Microsoft Dynamics NAV web client.
  In addition to the RoleTailored client, Microsoft Dynamics NAV 2013 also supports additional client types. This includes web service clients, a SharePoint client through Microsoft Dynamics NAV Portal Framework, and a Navision Application Server (NAS) services client for programmatic access.

For more information about the various client types, see the following website.

Client Types

http://go.microsoft.com/fwlink/?LinkId=277039

- Microsoft Dynamics NAV Server is the middle or server tier, managing all business logic and communication.
- SQL Server, augmented by Microsoft Dynamics NAV 2013 database components, is the data tier.

Note: When you install Microsoft Dynamics NAV 2013, all components must have the same version and build of Microsoft Dynamics NAV for the software to run correctly.

You can have multiple instances of any of the core components in a production environment.

The figure "Microsoft Dynamics NAV 2013 Components Example 1" shows a simple installation that has two Microsoft Dynamics NAV Windows clients and a Microsoft Dynamics NAV web client that connect to a single Microsoft Dynamics NAV Server. This in turn connects to a computer that has SQL Server and the Microsoft Dynamics NAV database components.
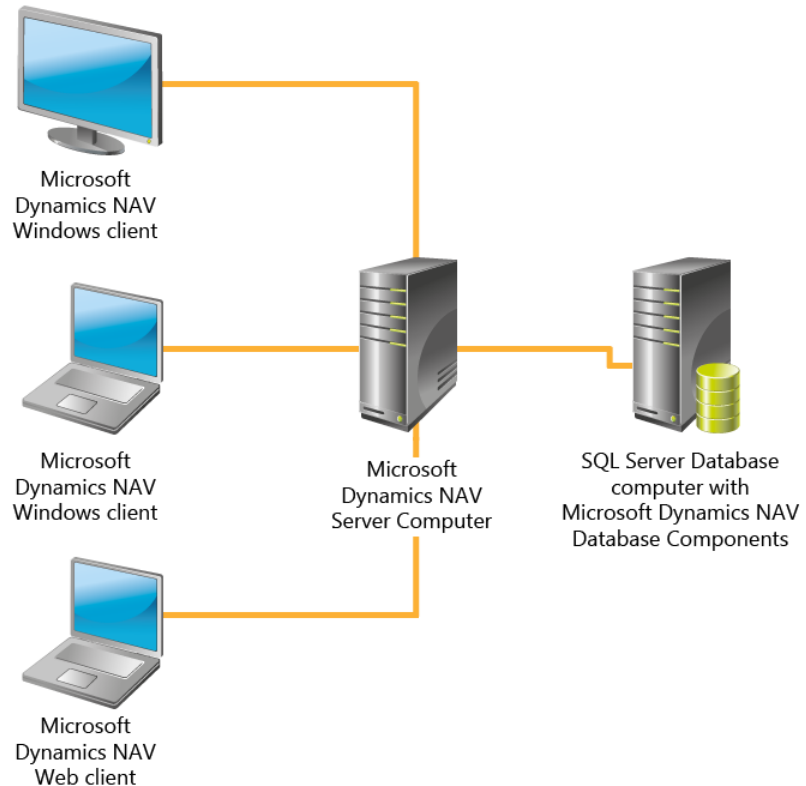
FIGURE 5.1:DYNAMICS NAV 2013 COMPONENTS EXAMPLE 1

Common configurations are as follows:

- All three components reside on the same computer:
  This is the configuration for a demo install, and is also typical for a
  development environment, where a developer can work on Microsoft
  Dynamics NAV applications without having to worry about network
  connections and inter-component security.

You can find a description of this scenario on the following website.

Walkthrough: Installing the Demo Version

http://go.microsoft.com/fwlink/?LinkId=277040

- A RoleTailored client and Microsoft Dynamics NAV Server reside on
  the same computer. The data tier is located on a separate computer.

You can find a description of this scenario on the following website.

Walkthrough: Installing the Three Tiers On Two Computers

http://go.microsoft.com/fwlink/?LinkId=277041

Each tier resides on a separate computer.

You can find a description of this scenario on the following website.

Walkthrough: Installing the Three Tiers on Three Computers

http://go.microsoft.com/fwlink/?LinkId=277042

In addition to the three core components, there are additional components that improve or supplement the core components, as follows.

Component	Purpose
Microsoft Dynamics NAV Server Administration Tool	Tool for configuring and managing Microsoft Dynamics NAV Server and Microsoft Dynamics NAV sites.
Microsoft Dynamics NAV Portal Framework for Microsoft SharePoint	Set of components that you use to build SharePoint web applications that display Microsoft Dynamics NAV pages and reports.
Development Environment	Development environment for creating and modifying Microsoft Dynamics NAV applications in Application Language (AL)
Microsoft Office Outlook Add-In	Component for synchronizing data, such as to-dos, contacts, and tasks between Microsoft Dynamics NAV and Outlook.
Automated Data Capture System (ADCS)	Microsoft Dynamics NAV tool for accurately capturing data for inbound, outbound, and internal documents, primarily for warehouse activities. With ADCS, company employees use handheld devices and radio frequency technology to continuously validate warehouse inventories.
Web Server Components	Components that enable Microsoft Dynamics NAV web clients to connect with a browser.

Component	Purpose
ClickOnce Installer Tools	Set of tools to create ClickOnce deployments for applications for the Microsoft Dynamics NAV Windows client.

More information about the additional components is available on the following website.

Additional Components

http://go.microsoft.com/fwlink/?LinkId=277043

System Requirements for Microsoft Dynamics NAV 2013

Information about the minimum hardware and software requirements to install and run Microsoft Dynamics NAV 2013 are available on the following website.

System Requirements for Microsoft Dynamics NAV 2013

http://go.microsoft.com/fwlink/?LinkId=277044

For Microsoft Dynamics NAV 2013, you must install Microsoft Dynamics NAV Server on a 64-bit operating system. Microsoft Dynamics NAV also requires a 64-bit edition of SQL Server. If there is no usable edition of SQL Server on the destination computer, Microsoft Dynamics NAV 2013 Setup installs a 64-bit edition of SQL Server 2012 Express

Installation options

When you run Microsoft Dynamics NAV 2013 Setup, you can select from a list of predefined installation options that are logical collections of Microsoft Dynamics NAV components.

Information about installation options is available on the following website.

Installation Options

http://go.microsoft.com/fwlink/?LinkId=277045

Configuring Microsoft Dynamics NAV

During and after installation of Dynamics NAV, you can configure options for the selected components.

Information on the configuration options for specific components in Microsoft Dynamics NAV Setup is available on the following website.

Configuring Microsoft Dynamics NAV

http://go.microsoft.com/fwlink/?LinkId=277046

User Training

One of the aspects of upgrade implementation at a customer site is to make sure that the users have a thorough understanding of the processes that they perform on the upgraded Microsoft Dynamics NAV 2013 solution.

Therefore, you must conduct user training that offers insight into the differences between the old functionality and the features of the solution's target version, changes in user interface (UI) design, and so on. Such training prepares the selected users to participate in the user acceptance testing.

The training must be delivered in short, directed sessions that begin with a broad overview to provide the trainees with a framework of the overall solution. As soon as this overview is delivered, sessions must focus on the users' defined job tasks.

We recommend that you use the pre-production environment that has the customer's migrated data from trial data upgrade. Using customer-specific data improves the learning experience. By viewing data that they are familiar with, users can understand the functionality more quickly.

Newer users must be provided with the correct tools and training before the actual training on site. The prerequisite training options may include eLearning, existing customer training programs and curriculum, and so on.

This can be found on PartnerSource and CustomerSource.

Microsoft Dynamics NAV 2013 Product Readiness Library

http://go.microsoft.com/fwlink/?LinkId=277047

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Pre-Production Data Upgrade

The pre-production data upgrade enables you to use the latest customer business data and objects to evaluate the upgraded solution and to check whether the system functions correctly and no data is lost because of the upgrade.

During pre-production upgrade, you repeat all steps of the trial data upgrade except that you use the customer's pre-production environment, and the customer performs the testing. See "Data Upgrade" for more information.

The following is the checklist for performing the pre-production upgrade:

1. Make a copy of the latest production database to the pre-production environment.
2. Run through the step-by-step script document that was created on the Trial Data Upgrade stage. When you consider that the pre-production environment is new, correct the steps and take the appropriate time to upgrade correctly.
3. Set up security in Microsoft Dynamics NAV 2013.
4. Go to the final acceptance testing.

You must set up roles and permissions for existing users to work in the new RoleTailored environment. Use the following checklist to set up a secure Microsoft Dynamics NAV 2013 environment:

1. Check that all required users and groups are created in the upgraded database after the pre-production data upgrade.
2. Create new users, if it is necessary.
3. Configure Role Centers.
4. Assign users and groups to profiles.

You can use the Windows client to do any of the following tasks:

- Add users.
- Associate each user with one or more permission sets,
- Create and modify permission sets.

Information on configuration of users, permissions, and permission sets is available on the following websites.

About Users

http://go.microsoft.com/fwlink/?LinkId=277048

About Permissions

http://go.microsoft.com/fwlink/?LinkId=277049

About Permission Sets

http://go.microsoft.com/fwlink/?LinkId=277050

When a user creates a new database, that user automatically is assigned only the SUPER permission set. As you create and define permission sets in a new database and companies, always assign the BASIC permission set that grants all users access to all required system tables and other fundamental tables.

Note: *In versions of Microsoft Dynamics NAV that are earlier than Microsoft Dynamics NAV 2013, the word* role *was used to describe a set of permissions for a set of objects in the Microsoft Dynamics NAV database that you assign to one or more users. In Microsoft Dynamics NAV 2013, the new term for this concept is* permission sets*.*

Follow the steps in "Data Upgrade" to upgrade roles and permissions in the database.

After you create users, you must assign them to permission sets and add them to profiles to align them with role centers in the RoleTailored client.

Profiles are collections of Microsoft Dynamics NAV users who share the same role center. A *role center* is a type of page that contains different parts. Each part is a container in which you can host other pages or predefined system parts, such as an Outlook part or parts to add tasks, notifications, or notes.

Configuration and customization are ways to customize a RoleTailored client to suit the daily requirements and tasks of user groups or individual users.

Configuration

A *configuration* is a modification that an administrator implements, such as presenting a custom home page to all users of a role center.

An administrator, SUPER user, or Microsoft Certified Partner, performs configuration tasks. This person configures the role center for a specific role and then assigns users to the role center.

For example, when Susan, an order processor, uses the Microsoft Dynamics NAV Windows client, she uses the Order Processor Role Center. This is customized to help her perform her daily tasks. In configuring Susan's Role Center, the administrator added or removed UI elements. This includes items in the navigation pane, page parts, and FactBoxes.

When you open the Microsoft Dynamics NAV Windows client in configuration mode, you can change a Role Center. These changes then become part of the RoleTailored client UI for users who are assigned to the profile that is associated with the Role Center.

To configure a profile, you must open the Microsoft Dynamics NAV Windows client in configuration mode.

To open the Microsoft Dynamics NAV Windows client in configuration mode, follow these steps:

1. At the command prompt, browse to the root folder of the Microsoft Dynamics NAV Windows client. For example: "cd C:\Program Files (x86)\Microsoft Dynamics NAV\70\RoleTailored Client"

2. Type the following command.

```
Microsoft.Dynamics.Nav.Client.exe -configure -profile: "profileid"
```

3. Replace "profileid" with the name of the profile that you want to configure.

Note: You must be the owner of a profile to open it in configuration mode.

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a. For example, to configure the Accounting Manager profile, use this command to open the RoleTailored client in configuration mode:

```
Microsoft.Dynamics.Nav.Client.exe -configure -profile:"Accounting Manager"
```

You use the **User Personalization** page in a RoleTailored client to assign a user to a profile.

To assign a user to a profile, follow these steps:

1. In the **Search** box, type "User Personalization", and then select the related link.

2. In the ribbon, click **New**.

3. In the **User ID** field, click the **AssistEdit(...)** button to view all available user logins.

4. Select a user login, and then click **OK**.

5. In the **Profile ID** field, select the profile ID that you just created. Click **AssistEdit** to view all available profiles.

6. In the **Language ID** field, select the appropriate language ID, or leave this field blank.

7. In the **Company** field, select a company from the **Companies** window.

8. Click **OK**.

Personalization

Personalizations are modifications that are made by a user, such as changing the UI of a page to fit individual requirements and preferences. Users perform all personalization tasks. Examples of user personalization are as follows:

- Resizing columns

- Changing the contents of drop-down menus

- Customizing the navigation pane

- Adding or removing FactBoxes

- Organizing items in the **Quick Access** pane

- Saving queries or filters

- Selecting columns in a list location

Information about configuration of Role Centers is available on the following website.

Profiles and Role Centers

http://go.microsoft.com/fwlink/?LinkId=277051

Acceptance Testing

When you complete and test all tasks within the upgrade, the code upgrade is complete. After the objects are transformed, and the trial and pre-production data upgrade are performed, acceptance testing can start.

Acceptance testing is based on real-world scenarios for the application in the pre-production environment. During acceptance testing, the primary focus is the functionality and the usability of the upgraded Microsoft Dynamics NAV solution, instead of on the technical aspects. In other words, the whole system and its end-to-end processes must be tested to make sure that the upgraded Microsoft Dynamics NAV system meets customer business requirements.

To perform acceptance testing, set up a local upgraded database, and give your key users a short introduction about what was upgraded and then let them test the upgrade. The users who participate in the test must receive user training before they perform the test. You can run the same use cases as discussed in the planning stage.

📋 **Note:** *The testing must be done with the customer's license so that problems with the license are discovered before live data upgrade.*

The following testing types are included in acceptance testing:

- Functional
- Performance and stress
- Integration
- End-to-end scenario

Functional Testing

In the functional testing stage, the whole functionality of the solution must be verified by key users.

Standard activities during functional testing include the following:

- Creating and updating master records
- Creating and posting journals
- Creating and posting documents
- Running the monthly update processes
- Executing various functions and procedures, such as the following:
    - Make Order
    - Release/Reopen
    - Copy Document
    - Explode BOM
    - Archive and Restore
    - Prepayments
    - Approvals

- Generating document-related reports.

The test team can run these activities manually or use the automated tests that are created in the Application Test Toolset for Microsoft Dynamics NAV 2013 on the pre-production environment. The test team can create additional tests, if it is necessary.

Functional testing verifies that all functions, features, and customizations that are included in the upgraded solution work correctly in Microsoft Dynamics NAV 2013, and meet customer business needs and requirements. In other words, the focus is on real business scenarios and business processes that the users perform.

Performance and stress testing

Performance testing as part of the acceptance testing serves the following purposes:

- Demonstrates that the system meets performance criteria.
- Compares two systems to determine which system performs more effectively.
- Defines which parts of the system or workload may cause unsatisfactory performance.
- Validates and verifies scalability, reliability and resource use.

Stress testing frequently refers to tests that put a larger emphasis on robustness, availability, and error handling under a heavy load, instead of on what might be considered correct behavior under typical circumstances. In particular, such tests make sure that the software does not crash under conditions of insufficient computational resources, such as memory or disk space or unusually high concurrency.

Performance and stress testing can measure and define different testing results and characteristics, such as CPU time, physical I/O, memory usage, and so on. The testing results are then collected, analyzed, and compared with the pass/fail criteria that was first established. For example, you can use the source version of Microsoft Dynamics NAV as a base for comparison. Use the test result information to improve performance.

Integration Testing

When the upgraded solution is integrated with a third-party system(s), key users and application consultants must perform integration testing by using the integration testing scripts. Developers usually create and run automated unit tests for this purpose.

Integration testing verifies that integration of the solution that was upgraded to Microsoft Dynamics NAV 2013 with other systems works as expected and satisfies customer business processes and needs.

End-to-End Scenario Testing

End-to-end scenario testing verifies that Microsoft Dynamics NAV 2013 supports all aspects of the business after the upgrade of the customer solution is completed. It also makes sure that the following results were achieved:

- The overall process flows as expected.
- The system components integrate correctly.
- The correct information is exchanged.

The end-to-end tests are usually performed by using actual transactions for the period. The customer provides these transactions as samples of their business. The test results can be thoroughly documented for future reference and customer approval.

📋 **Note:** *You must clearly define the pass or fail criteria for the tests. You should carefully analyze and review these results against these criteria before you obtain customer sign-off.*

If any issues are detected during testing, you must have available resources at the customer site to resolve problems. Review issues and make sure that they are actual problems with the upgrade and not a change in requirements. Do not accept a change in requirements as an upgrade bug. Make sure that you log all valid bugs.

As soon as you resolve the issues, let the users perform additional testing. Finally, ask the customer to approve the completion of the work and move to production upgrade.

Application Test Toolset for Microsoft Dynamics NAV 2013

Use the Application Test Toolset for Microsoft Dynamics NAV 2013 to automate tests. The tool contains the following items:

- Tools for managing and executing tests, capturing code coverage information, and selecting relevant tests out of available tests
- Between 7000 and 9000 regression tests
- Helper libraries to improve test development through the reuse of common functionality
- Searchable documentation of helper libraries with examples of how to use library functionality

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📋 **Note:** *The Application Test Toolset applies to the following country/region releases of Microsoft Dynamics NAV 2013: W1, AU, CA, DE, DK, ES, FR, GB, IN, IT, MX, NL, NZ, SE and US.*

To install the Application Test Toolset, follow these steps:

1. Download the supplement from **PartnerSource**. The Application Test Toolset is available for download on PartnerSource on the following website.

Application Test Toolset for Microsoft Dynamics NAV 2013

http://go.microsoft.com/fwlink/?LinkId=277052

2. Extract the content.

3. Open the Dynamics NAV 2013 Development Environment.

4. Import the FOB file that is found under your corresponding country/region version folder. For example:
    .\AppTestToolsetNAV2013\DE\AppTestToolsetNAV2013-W1.fob

To run the Application Test Toolset, follow these steps:

1. In the Dynamics NAV 2013 development environment, open the Object Designer, and then select **Pages**.

2. Select Page 130021, **Test Tool**, and then click **Run**.

3. The **Edit – Test Tool** page opens as shown in the "Edit Test Tool Page" Figure.
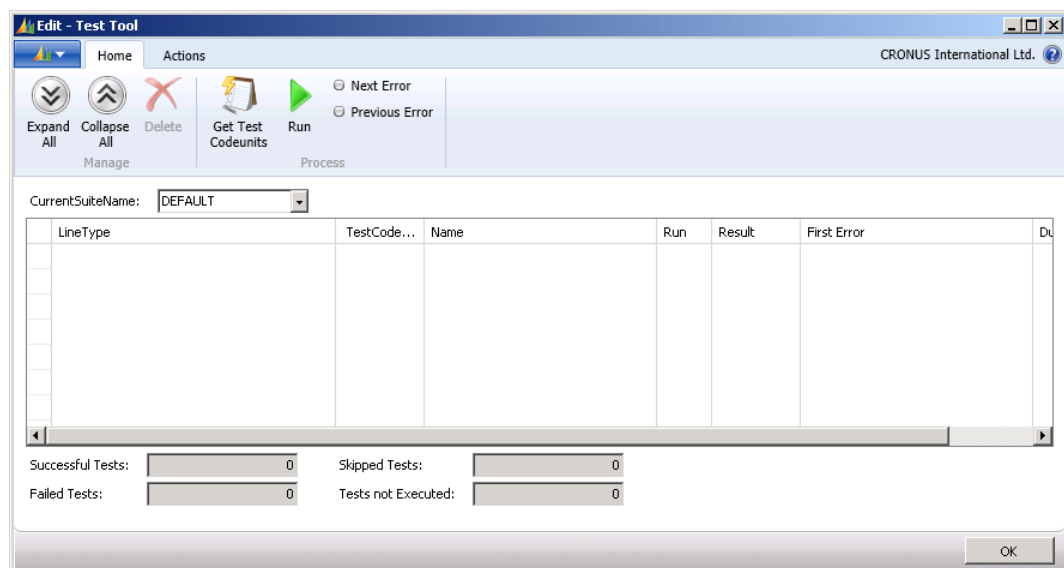

FIGURE 5.2:EDIT TEST TOOL PAGE

4. Click **Get Test Codeunits**, and then select **All Test Codeunits**.

5. After Microsoft Dynamics NAV finishes loading all test codeunits, they are displayed on the **Test Tool** page as shown in the "Test Tool Page All Codeunits" figure.

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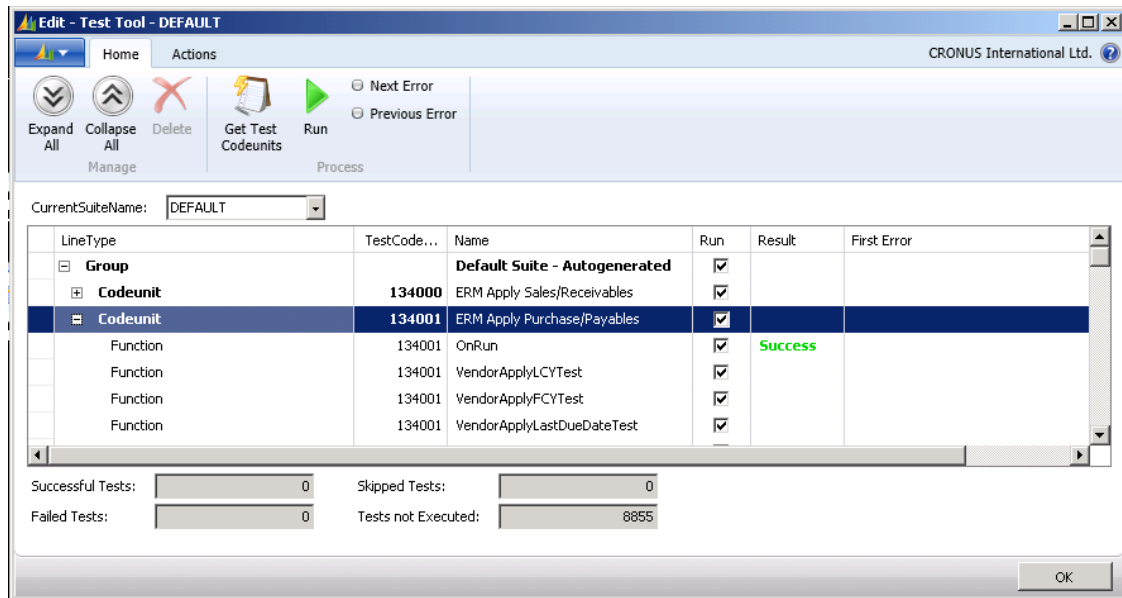
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FIGURE 5.3:TEST TOOL PAGE ALL CODEUNITS

6. To run the codeunits, click the **Run** action, and then select **All**.

7. It takes approximately one to two hours to run all tests, depending on your computer and the setup.

8. When the run is completed, the results are shown in the **Test Tool** page.

📝 **Note:** *Any changes that were done to the database through running of tests from the Test Tool are automatically rolled back by using the Test Isolation testability feature of Microsoft Dynamics NAV 2013.*

You can also run individual tests on codeunits by selecting them, and then selecting either **Active Line** or **Active Codeunit** after you click the **Run** action.

If any test fails, you can attach a debugger session and rerun the failing test. The debugger then breaks at the line where the test failed. Then you can inspect the call stack and examine variables to determine the underlying cause of the failure.

Extending the Toolset With Your Own Tests

If you developed a custom test codeunit, you can easily integrate it into the Application Test Toolset. To include your own tests, follow these steps:

1. In the **Test Tool** page, click the action **Get Test Codeunits**, and then select Select Test Codeunits. This displays a page that lists all available test codeunits that includes your own.

2. Select the codeunits that you want to add to the tool, and then click **OK**. The new test codeunits appear at the bottom of the Test Tool list. You now can select and run them exactly like any of the default tests.

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> 📝 **Note:** *During development, it may be helpful to see the output that is produced by the tests. You can disable Test Isolation just by running the test codeunit directly from the development environment. Instead, we recommend that you attach a debugger session that breaks at the test entry point. Then step through the test execution and inspect variables to determine whether your test is performing as expected.*

The available tests in the Application Test Toolset are built on a layer of libraries that contain helper functionality to automate many aspects of Microsoft Dynamics NAV 2013.

For example, the library named Library – Sales contains functionality that is related to working with customers and sales documents. This includes creating new customers, sales headers, and sales lines, and posting sales documents. The library is extensive and has functionality in many areas of the product, such as finance, service, jobs, warehousing, inventory and so on.

> 📝 **Note:** *When you develop custom tests from scratch, take advantage of the existing helper functionality for functions.*

To help you browse the libraries, Microsoft included a Microsoft Compiled HTML Help file (*.chm), that is bundled with the .fob file.

Live Data Upgrade

After the upgrade at the pre-production environment, you now are ready for the actual upgrade of the customer's production system, that is, the production upgrade or live data upgrade. During production upgrade, you repeat all the pre-production upgrade steps, except that you use the actual customer's environment instead of its copy.

For successful execution of the live data upgrade, make sure that there is a well-scripted set of activities that are coordinated between the users and the project team. The step-by-step script is based on the results of the pre-production data upgrade that specifies the estimated time for the data migration process. Based on the script, accurately schedule the data upgrade to production to make sure that users see the most recent data when the system becomes available.

Scheduling

The final upgrade of data typically is performed over the weekend. This strategy reduces the system downtime during the normal work week. However, this strategy requires support and coverage from the customer's operations and administrative personnel.

You must shut down systems and lock out users while the final data upgrade tasks are performed. Therefore, careful planning and scheduling minimize any disruption to the business. As soon as the final data upgrade to production is completed successfully, you must communicate to the users about system availability.

Locking Out Users

To perform the live data upgrade, you must make sure that no users are connected to the production database, and that data that they enter is not lost after the lock-out. Therefore, before locking out users, you must inform them about the date and time of the lock-out and require them to finish all tasks.

You can use one of the following examples to lock out users, depending on the customer's business environment:

- You can use the **Expiration Date** field in the **User Card** window, to make sure that everybody is offline at the appropriate date.
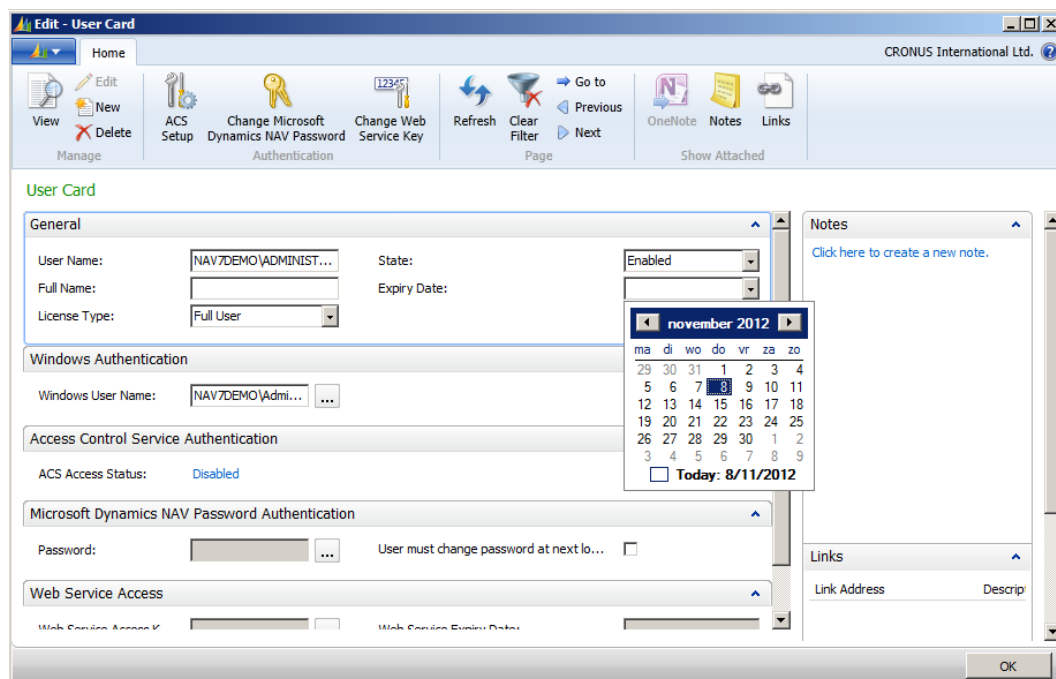

FIGURE 5.4:USER CARD WINDOW

- You can restrict access to the database by using SQL Server management tools. You can use the database properties in SQL Server Management Studio as shown in the "SQL Server Database Properties" figure.
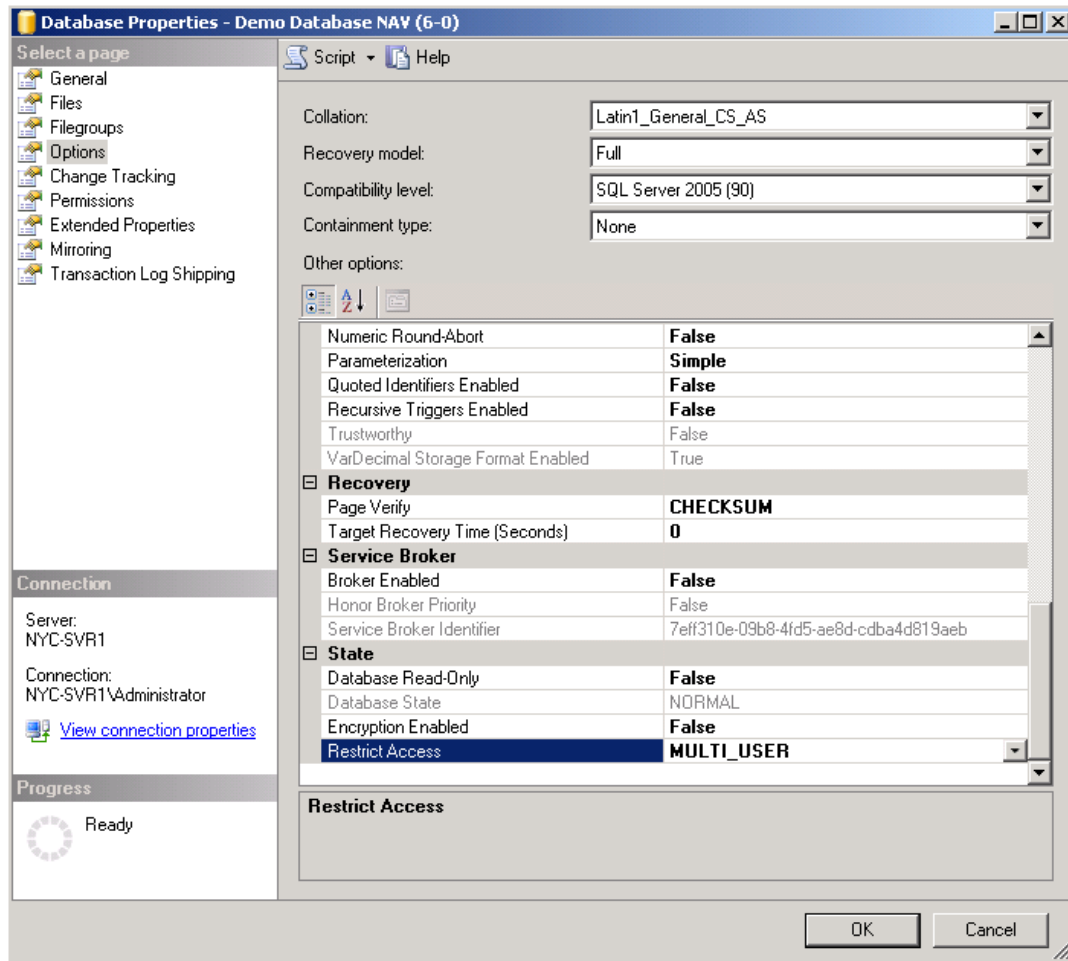
FIGURE 5.5:SQL SERVER DATABASE PROPERTIES

- You can set the database to single-user mode in the **Alter Database** window of the Dynamics NAV Development Environment.
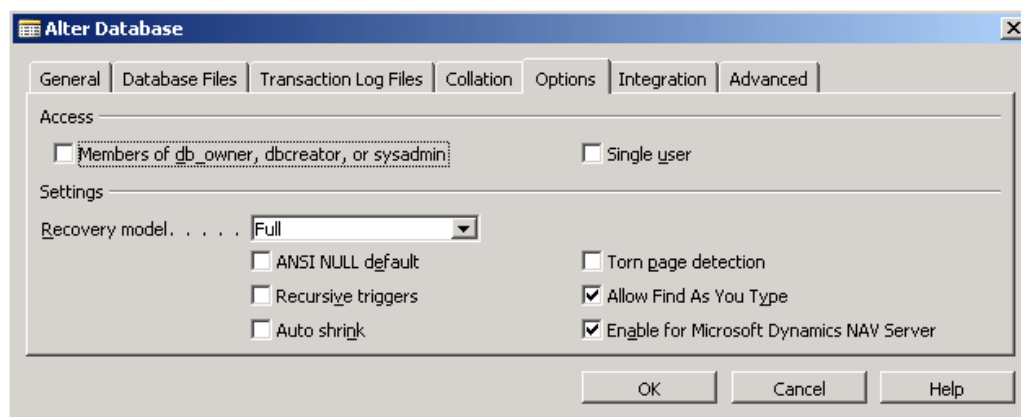

FIGURE 5.6:ALTER DATABASE WINDOW SINGLE USER

Before you start the actual live data upgrade, delete all logins except those that you will use to perform the procedure. Restore the logins after the data upgrade is complete.

Setting the Cut-Off Time

In most cases, trade-offs occur in the cut-off for the users to enter data that will be upgraded to the new solution. If the cutoff date is set too early in the process, you may have to enter data two times: one time in the existing solution, and again in the new solution after going live.

You can extend the time slot for upgrading the data to allow for time to resolve any issues.

If the cut-off date is set too late in the process, the time slot for upgrading the data is shortened. This reduces the time to resolve issues.

Resources

Organizing the live data upgrade process must also include the description of the team that is performing the upgrade. It can be personnel from the customer site or the project team.

If the customer selected the project team to perform the upgrade, decide upon the method of doing the upgrade: remotely or on site.

If the customer decides on a remote connection, inform them that they must provide the project team members with full access to the servers and the database and maintain stable connection.

The onsite data upgrade option is more expensive. However, it provides immediate response and prompt resolution of any issues that occur during the upgrade.

📋 *Note: You can use a well-configured and tested pre-production environment for data migration. Upon successful completion of the upgrade, it can become the target production environment.*

Live Data Upgrade Checklist

To perform a live data upgrade, use the Microsoft Dynamics NAV Upgrade Go-Live Checklist that is available in Microsoft Dynamics Sure Step. Make sure that you carefully follow the Upgrade and Going Live instructions.

Microsoft Dynamics NAV Windows clients can be deployed by using the ClickOnce deployment technology. ClickOnce lets you deploy web applications by selecting a link on a webpage. ClickOnce is a component of the Microsoft .NET Framework.

For more information about how to deploy clients, see the following website.

Deploying Microsoft Dynamics NAV Using ClickOnce

http://go.microsoft.com/fwlink/?LinkId=277053

Additional prompts that help you organize and perform the live data upgrade correctly include the following:

- Freeze the current Microsoft Dynamics NAV production environment. Make sure that there are no users logged on to the database.

- You can use the **Session** tab of the **Database Information** window in the Microsoft Dynamics NAV Development Environment.
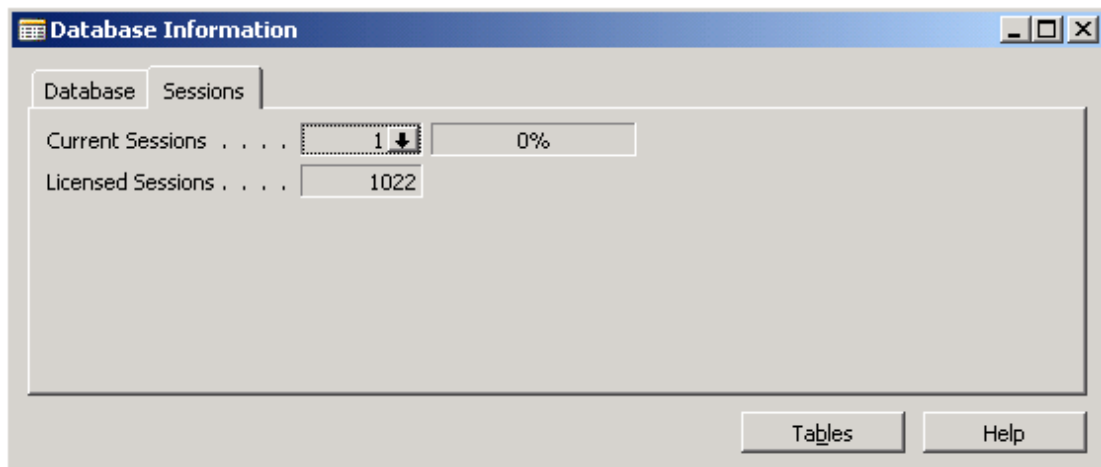

FIGURE 5.7:DATABASE INFORMATION SESSIONS

- Check whether any application server instances are running, such as job queues that are in progress, and stop them.

- Create a complete backup of the current Microsoft Dynamics NAV database.

- Check the server's regional settings. They must be the same as the localization of the database.

- Define the SQL parameters for the database, such as the following:

  o The location of the Database and Log files and the growth settings

  o The Collation to use

  o The settings in the **Options**, **Integration**, and **Advanced** tabs of the **Alter Database** window in the development environment

- Set clear names for the database, log, and backup.

- Check the number of companies to upgrade.

- Decide how to handle open and non-posted documents.

- Study the prerequisites for Upgrade Toolkit step 1 and Upgrade Toolkit step 2. Make sure that the prerequisites are acted upon before the upgrade is initiated.

- We recommend that you restart the server after you complete each key process. The minimum requirement is restarting the Microsoft Dynamics NAV clients after each key process is complete.

- For an ISV add-on, use the Upgrade Toolkit that was released specifically for the add-on.

- As soon as the database is restored, re-create all the users and permission sets.

Risk Mitigation

To eliminate any risks that may arise during the production upgrade, be prepared with a set of strategies to resolve issues in advance, such as the following:

- Have additional hard disk drives available.

- If it is possible, use a test server that is running the old version of the system as a backup production server. You can switch to this system, but do the actual restore on the production server.

- For databases, prepare a SQL Server backup with all the indexes already built.

- During the upgrade process, you may have to replace actual computers (64-bit computers must be installed to run the servers). It is important for system administrators to verify that client computers have suitable access to the new server.

If you face any problems during the live upgrade, you must make sure that you have enough time to roll back to the old production environment. Remember that a restore process can take time.

📋   **Note:** *The best practice is to always keep the old production environment running until the upgrade is complete. During this time all users are locked out and the database is set to Single-User Mode.*

Restoring a backup is a costly and risky operation. We recommend that you enable the existing DB again by removing Single User to give access to all users if the upgrade must be rolled back.

To calculate the time that is required for recovery and to prepare for rolling back if there are issues, perform a test roll-back. Describe its flow and results in the Disaster Recovery Test Results document of Microsoft Dynamics Sure Step. If there are issues during the live upgrade, complete the Disaster Recovery Failover Process document that is available in Microsoft Dynamics Sure Step.

Going Live and Project Closure

After all the upgrade project activities are completed by the project team, you can move to the Go Live stage. When going live, provide a business consultant at the customer site to help the users get started.

The project manager at the customer site signs off when the go live is successful. The project is not considered complete until the customer has given a final approval. This is due as soon as all processes are signed off and approved, and all bugs are resolved.

Project Closure Activities

After going live, you must follow up with the customer on any pending items that must be closed and, most important, obtain the customer's satisfaction with the project. These items must be measured and documented.

After the customer project manager agrees that the upgraded application and data were delivered according to the project plan, a formal project closure meeting should occur between the executive project management teams.

In summary, project closure includes the following activities:

- Complete all outstanding items and correctly transition to the customer.
- Provide training plans to support users, as determined from the review of issues that were received during go live.
- Complete all documentation that is turned over to the customer. This includes support contact information.
- Conduct a briefing session for the support team (if there is Premier Support).
- Collect and communicate lessons learned from the consulting team.
- Upload all project documents in the common repository for future reference.
- Provide a copy to the customer of all project deliverables for their future reference.

Summary

The ultimate target of the upgrade project is to implement the upgraded solution in the customer's production environment, make sure that the solution is stable enough, and that it can be operated by the users. This task is performed through two major stages, as follows:

- Pre-production upgrade that is a "test" upgrade by using a copy of the customer's production system.
- Production upgrade, that is, a live data upgrade in the actual customer's system.

Pre-production and production upgrades require thorough preparation of the environment. These upgrades consider the architecture of Microsoft Dynamics NAV 2013, and configuration of the Microsoft components and user roles and permissions.

An important part of the upgrade implementation on site is training users so that they can conduct the acceptance testing of the upgraded system. Acceptance testing usually follows the pre-production upgrade. The test results are the justification for signing off on the live data upgrade.

The live data upgrade results from careful planning, designing, and testing. It requires coordination and communication with the customer's business community. The update must be as transparent an activity as possible and must factor in trade-offs between duplication of effort and risk.

Module Review

Test Your Knowledge

Test your knowledge with the following questions.

1. What are the primary human resources to perform acceptance testing of the upgrade on the customer site?

2. Pre-production data upgrade must be performed after you complete code upgrade and object transformation on the pre-production environment.

   ( ) True

   ( ) False

3. What conditions must the customer secure for performing the live data upgrade remotely?

4. If you face problems during the live upgrade, you must make sure that you have enough time to roll back to the old production environment. How can you calculate the time that is required for recovery?

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5. What is integration testing?

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Test Your Knowledge Solutions

Module Review and Takeaways

1. What are the primary human resources to perform acceptance testing of the upgrade on the customer site?

    MODEL ANSWER:

    Acceptance testing should be performed by key users from the customer side who were adequately trained in the upgraded system.

2. Pre-production data upgrade must be performed after you complete code upgrade and object transformation on the pre-production environment.

    (   ) True

    (√) False

3. What conditions must the customer secure for performing the live data upgrade remotely?

    MODEL ANSWER:

    The customer must make sure that a stable Internet connection is maintained on the production site, and provide the project team with full remote access to the production database and all servers.

4. If you face problems during the live upgrade, you must make sure that you have enough time to roll back to the old production environment. How can you calculate the time that is required for recovery?

    MODEL ANSWER:

    To calculate the time that is required for recovery and to prepare for rolling back if there are issues, you can perform a test roll-back, and describe its flow and results in the Disaster Recovery Test Results document of Microsoft Dynamics Sure Step.

5. What is integration testing?

    MODEL ANSWER:

    Integration testing verifies that integration of the solution that was upgraded to Microsoft Dynamics NAV 2013 with other systems works as expected, and that it satisfies customer business processes and needs.