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Open Scenario Study: IDA Open Scenario Repository User's Manual

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Preface

This document reports the work performed by the Institute for Defense Analyses in partial fulfillment of the task order titled “Open Scenarios for Defense Planning.” The work was sponsored by the Deputy Under Secretary of Defense for Science and Technology with additional oversight by the Office of the Director for Cost Assessment and Program Evaluation and the Force Structure, Resources, and Assessment Directorate (Joint Staff, J8). The authors wish to thank the reviewer, Ms. Janet Nauta, of the Institute for Defense Analyses, and Ms. ElizaBeth Johnson of the Institute for Defense Analyses for editing the document. All trademarks are the property of their respective owners.

Contents

1. Overview....1
   - 1.1. Input Files....2
   - 1.2. Output Files....2
   - 1.3. Help....3
   - 1.4. User Knowledge of Microsoft Products....3
   - 1.5. Conventions....3
   - 1.6. CD with Open Scenario Repository Information....3
   - 1.7. On-Line Version of Beta Open Scenario Repository....4
   - 1.8. IDA Contact....4
2. Background....5
3. Installing the Open Scenario Repository....9
   - 3.1. System Requirements....9
   - 3.2. Install the Open Scenario Repository....9
   - 3.3. Install Microsoft Add-Ins....10
4. Using the Open Scenario Repository....11
   - 4.1. View Brief Tutorial....13
   - 4.2. Browse Scenarios in Repository....13
   - 4.3. Select Filter Parameters for Browsing the Scenarios....17
   - 4.4. Get Statistical Reports on Repository....20
   - 4.5. Get Report Count Scenario Components....20
   - 4.6. Restart Jump Menu Bar....21
   - 4.7. Add and Modify Scenarios (Database Administrator Only)....22
     - 4.7.1. Find a Scenario....23
     - 4.7.2. Edit a Scenario....23
     - 4.7.3. Add a Scenario....23
     - 4.7.4. Add and Modify Country – Subregion – Geographical Region....24
   - 4.8. Printing and Exporting....25
5. Filtering Data from the Open Scenario Repository....27
   - 5.1. Filtering Methods....27
     - 5.1.1. Filter by Selection....27
     - 5.1.2. Use Filter by Form....28

5.1.3. Use Advanced Query 28
5.1.4. Select Filter Parameters 29
5.2. Sample Filters 30
5.2.1. Scenarios for China Covering the 2010 to 2025 Timeframe. 30
5.2.2. Scenarios with the Keyword Space in the Purpose Field. 30
5.2.3. Scenarios with a Published Date Equal to 2005. 31
5.2.4. Scenarios with File Type of PDF or Doc. 31
6. Taxonomy of Fields 33

Appendices

A. Identifying Scenario Components.....A-1

B. Acronyms.....B-1

List of Figures

Figure 1. Welcome Screen.....12

Figure 2. Main Menu Screen 12

Figure 3. Browse Scenarios Screen 15

Figure 4. Select Filter Parameters for Browsing the Scenarios Screen 18

Figure 5. Scenario List Screen.....19

Figure 6. Report Count Scenario Components 21

Figure 7. Add and Modify Scenarios.....22

Figure 8. Add and Modify Country - Subregion - Geographical Region 24

List of Tables

Table 1. Taxonomy of Fields.....33

1. Overview

The purpose of this document is to provide instructions for using the Institute for Defense Analyses (IDA) Open Scenario Repository, a proof-of-principle Microsoft Access 2007® database. The full range of proposed repository capabilities is discussed in *Open Scenario Study Phase II Report: Assessment and Development of Alternatives for Satisfying Unclassified Scenario Need* (IDA Paper P-4537).[1] Additional context is provided in *Open Scenario Study, Phase I Volume 1: Assessment Overview and Results* (IDA Paper P-4326).[2]

The Open Scenario Repository is a prototype database that IDA developed in Microsoft Access 2007®. The prototype allows the user to search the Open Scenario Repository using a taxonomy of relevant classifications. The ability to search the repository is an imperative feature because it allows the user to quickly identify scenarios of interest from the hundreds of scenarios in the database and also to determine the number of scenarios that meet the specified criteria. Using the prototype repository, the user can access and download each scenario through a hyperlink. The database administrator (DBA) has the option to add or modify scenario data in the Open Scenario Repository; however, the user version of the repository does not include this option.[3]

The Open Scenario Repository menu contains the following options:

- **View Brief Tutorial.** Provides brief instructions for using the tool.
- **Browse Scenarios in Repository.** Allows user to search the scenarios using the taxonomy and print a report.

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1 Jason A. Dechant and James S. Thomason *et al., Open Scenario Study: Phase Two Report: Assessment and Development of Alternatives for Satisfying Unclassified Scenario Need* (P-4537), Institute for Defense Analyses, To Be Published in 2010.

2 Jason A. Dechant and James S. Thomason *et al., Open Scenario Study: Phase I Volume I: Assessment Overview and Results* (P-4326), Institute for Defense Analyses, March 2008.

3 The DBA Version of the repository has *only* been provided to the project's government sponsors.

- **Get Statistical Reports on Repository**. Brings up several reports on the counts of scenarios by country, developer, etc.
- **Get Report Count Scenario Components.** Displays a printable report of the number of components in a scenario, plus which components.
- **Restart Jump Menu Bar.** Launches the Jump Menu Bar if it has been closed.
- **Add and Modify Scenarios** (DBA Only). Allows the database administrator to add new scenarios to the database or to modify previously added scenarios. Note: users are not allowed to add or modify scenario data.

A significant feature of the prototype repository is the ability to filter the scenario classification data, which provides a means to quickly search the repository. The options for filtering the scenario classification data include:

- Using parameters for selected fields
- Using keyword searches
- Using filter by form
- Using advanced filter
- Using filter by selection

The prototype repository does not handle user security, upload and download of scenarios, message boards, blogs, wikis, or a scenario rating system; all of these features have been proposed for the final Open Scenario Repository. The prototype also does not allow users to search the actual scenarios. However, users can use the search capabilities in the application in which the actual scenario is opened through the hyperlink. For example, if the scenario is saved as a Microsoft Word® document, the Find function (Control + F) can be used to search for a specific word or phrase in the Word document.

1.1. Input Files

The IDA Open Scenario Repository does not require any input files. The taxonomy is contained in the Microsoft Access 2007® database file (ACCDE), with links to the actual scenarios.

1.2. Output Files

The IDA Open Scenario Repository is designed to generate several types of reports that can be printed or exported to a Microsoft Word® (DOCX) or Adobe® (PDF) file. The reports include:

- List of scenarios with their relevant classifications, filtered by user selections;
- Report on the number of and specific components in a scenario;
- Statistical reports of the counts of scenarios by country, developer, government sponsor, intended user, and operations depicted.

1.3. Help

A help system is provided with the repository. Selecting the **F1** key from any screen brings up guidance for that screen. Once a help screen is displayed, the user can see the contents of the entire help system and access any portion of the help. Please note, the help system is not available when viewing the statistical reports.

1.4. User Knowledge of Microsoft Products

Users who know how to use the following Microsoft products will be more adept at using the IDA Open Scenario Repository:

- Microsoft Office® options, such as Print, Copy, Save, etc., that are available from the Microsoft Office® button.
- Microsoft Access® 2007 database application including the ability to look at records, scroll through records, filter records, open and close forms.

1.5. Conventions

Throughout this manual, the following conventions are used:

F1	Names of buttons and options are in bold.
Main Menu	Screen names are in italics.
<2025>	This convention directs the user to enter the text or characters found between the arrows. In this example, the user would enter the numbers 2025.
[Open Scenario.ACDDE]	File names are in brackets

1.6. CD with Open Scenario Repository Information

A compact disc (CD), which includes the following information, is provided with this manual:

- Beta version of the IDA Open Scenario Repository – Microsoft Access® 2007 executable file [Open Scenario.ACCDE]

- Help files for the Beta version of the Open Scenario Repository (.HLP file and .CNT file)
- Microsoft Access® runtime file [AccessRuntime.EXE] (for users who do not have Microsoft Access® 2007 installed on their computers)
- PDF add-in file [SaveAsPDFandXPS.EXE] to allow creation of PDF files from all Microsoft Office® applications.
- Open Scenario Repository User's Manual (Adobe® PDF file)
- IDA Paper *Open Scenario Study Phase II Report: Assessment and Development of Alternatives for Satisfying Unclassified Scenario Need* (IDA P-4537) (Adobe® PDF file)
- IDA Paper *Open Scenario Study, Phase I Volume 1: Assessment Overview and Results* (IDA P-4326) (Adobe® PDF file)

Note: The sponsor is provided with a second CD containing the DBA version of the repository. This CD contains both the repository database file [Open Scenario DBA.ACCDB] and the associated executable file [Open Scenario DBA.ACCDE].

1.7. On-Line Version of Beta Open Scenario Repository

An on-line version of the beta repository is available on-line at http://openscenarios.ida.org/. From this site, users can access the Microsoft Access® 2007 version of the IDA Open Scenario Repository, the Microsoft Excel® 2007 version of the IDA Open Scenario Repository data, , and a copy of this User's Manual.

1.8. IDA Contact

For questions regarding the IDA Open Scenario Repository, please contact Zachary Rabold, at zrabold@ida.org, (703) 845-2357.

2. Background

Department of Defense (DoD), specifically the Office of the Director for Cost Assessment and Program Evaluation and the Force Structure, Resources, and Assessment Directorate (Joint Staff, J8), asked IDA to assess the national security community's need for unclassified, "open" scenarios and develop viable alternatives for satisfying the identified need. Phase I of the "Open Scenario Study" revealed a significant demand for unclassified scenarios throughout the national security community. In Phase II of the study, the project sponsors requested IDA scope and evaluate possible alternatives that could be used to meet the demand for unclassified scenarios.

In Phase I of the Open Scenario for Defense Planning Study, IDA discussed with sponsors and stakeholders throughout the national security community a variety of alternatives that could be used to meet the demand for unclassified scenarios and reduce recurring costs associated with unclassified scenario development.[4] Among the alternatives discussed was an unclassified scenario repository that would be populated with preexisting scenarios and made searchable in order to encourage the reuse and sharing of scenarios. The repository option would meet the demand for unclassified scenarios and seek to reduce recurring costs that are associated with iterative and duplicative unclassified scenario development processes. As a result, the IDA Study Team developed the Open Scenario Repository.

During Phase I, IDA collected approximately 200 unclassified scenarios, and then cataloged and classified each scenario in accordance with its individual characteristics. To identify which characteristics uniquely lend themselves to queries, IDA consulted in-house scenario and database subject matter experts (SMEs) to survey which classifications, or fields, were best suited to make the prototype repository searchable.

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4 *Open Scenario Study: Phase I Volume I: Assessment Overview and Results* (P-4326).

After deliberation, thirteen fields were identified and included in the taxonomy for the prototype repository:

- Scenario Name (Scenario X)
- Scenario Abbreviation (e.g., X-2020)
- Scenario Purpose (e.g., to aid special operations forces counterinsurgency
- training)
- Date Published (e.g., 2007)
- Government Sponsor (e.g., U.S. Army)
- Developer (e.g., Army Training and Doctrine Center)
- Geographic Region (e.g., North America)
- Country (e.g., United States)
- Time frame (e.g., 2020)
- Intended User (e.g., U.S. Army special operations forces)
- Level of Detail (e.g., Medium)
- File Type (e.g., PDF)
- Operations Depicted (e.g., counterinsurgency)

Once the fields were identified, IDA then populated each field in a Microsoft Excel® spreadsheet with a value for each of the 200 scenarios.

In Phase II, the data contained in the spreadsheet were imported into a Microsoft Access 2007® database and separated into related tables. A user interface was added to the database to provide sophisticated query capabilities, linkage to the scenarios, statistical reports about the contents of the database, and summary reports of search results. In the process of creating the database, the descriptors (i.e., values for the fields) were standardized to improve the search-ability of the database. For example, the original descriptors for the field *Operation Depicted* included “civil-military operations”, “CIMIC”, and “civil-military emergency planning”; these descriptors were standardized to “Civil-Military Operations” to simplify searching the repository. Additional fields were added to the taxonomy to include Timeframe Range, Timeframe Minimum, and

Timeframe Maximum.[5] The scenarios were reviewed to determine the presence of seven possible scenario components and the indicators for these were stored in the database: assumptions, context/road to war, threat/challenge, objectives, strategic concept, concept of operations (CONOP), and forces data. And finally, additional scenarios were added to the database, bringing the total to 350 scenarios.[6]

5 See Section 6 of this paper for a description of the taxonomy defined for the Phase II IDA Open Scenario Repository.

6 The total number of scenarios may increase or decrease, depending on scenarios that are added or deleted at the discretion of the DBA.

3. Installing the Open Scenario Repository

3.1. System Requirements

The IDA Open Scenario Repository was developed in Microsoft Access 2007®, so users must have the Microsoft Access 2007® database application installed on their computer to use the repository. Users who do not have Microsoft Access 2007® should install the Microsoft Access® runtime file [AccessRuntime.EXE] from the CD or download it from the Microsoft Download Center. [7]

There are no other system requirements, given the small size of the database interface and that the actual scenarios are stored at websites.

3.2. Install the Open Scenario Repository

Follow these steps to install the IDA Open Scenario Repository from the CD:

1. Copy the Open Scenarios folder from the CD to your local hard drive. The folder contains the Open Scenario executable file [Open Scenario.ACDDE]. Deselect the **Read Only** option to modify the properties of this file.
2. This folder also contains this User's Manual and two database Help files: [Open Scenario Help.HLP] and [Open Scenario Help.CNT].
3. The Help for the Open Scenario Repository was created in Windows Help format. Windows Help was not included in Windows Vista® or Windows 7® operating systems. If you are running either of these operating systems, you will need to download and install the file [WinHlp32.EXE] from the Microsoft web site to your hard drive. Once Microsoft Help is installed on your computer, you will be able to view the Help file from the repository by

[7] Microsoft Download Center website: Accessed December 2009 at http://www.microsoft.com/downloads/en/default.aspx.

hitting **F1**. For more information, review the article on the Windows Help Program [WinHlp32.EXE] available at Microsoft's support website.[8]

4. If you do not have Microsoft Access® 2007 installed on your computers, copy the Microsoft Access® runtime file [AccessRuntime.EXE] from the CD and install it.

3.3. Install Microsoft Add-Ins

To create Adobe® PDF files from the reports generated by the Open Scenario Repository, users must copy and install the add-in file [SaveAsPDFandXPS.EXE] to all Microsoft Office® applications. The file is available on the CD that accompanies this manual or the file may be downloaded directly from the Microsoft® web site. To download the add-in file from Microsoft:

1. Go to the Microsoft Download Center website at

   http://www.microsoft.com/downloads/en/default.aspx.

2. Type < 2007 Microsoft Office Add-in: Microsoft Save as PDF or XPS> into *Search* and follow the instructions that appear.

3. After installing the Save as PDF or XPS add-in, you can save any report from the database as Adobe® PDF or XPS.

[8] "I cannot open Help files that require the Windows Help (WinHlp32.exe) program," Microsoft Article ID 917607 - Last Review: October 27, 2009 - Revision: 20.3: Accessed December 2009 at http://support.microsoft.com/kb/917607.

4. Using the Open Scenario Repository

To open the IDA Open Scenario Repository:

1. Double click on the executable file [Open Scenario.ACDDE].
2. In Microsoft Access 2007®, the following warning appears on the top of the screen:

Security Warning Certain content in the database has been disabled. Options...

3. Click on the **Options** button and the *Microsoft Security Options Security Alert VBA Macro* screen appears. Select the **Enable this Content** option and click **OK.**[9]
4. When you open the file [Open Scenario.ACDDE], a *Welcome* screen is displayed (see Figure 1). Note: This screen shows a disclaimer to users of the repository.

[9] Alternatively, you can add the folder into which you have saved the ACCDE file to the list of Trusted Locations for Microsoft Access® 2007.

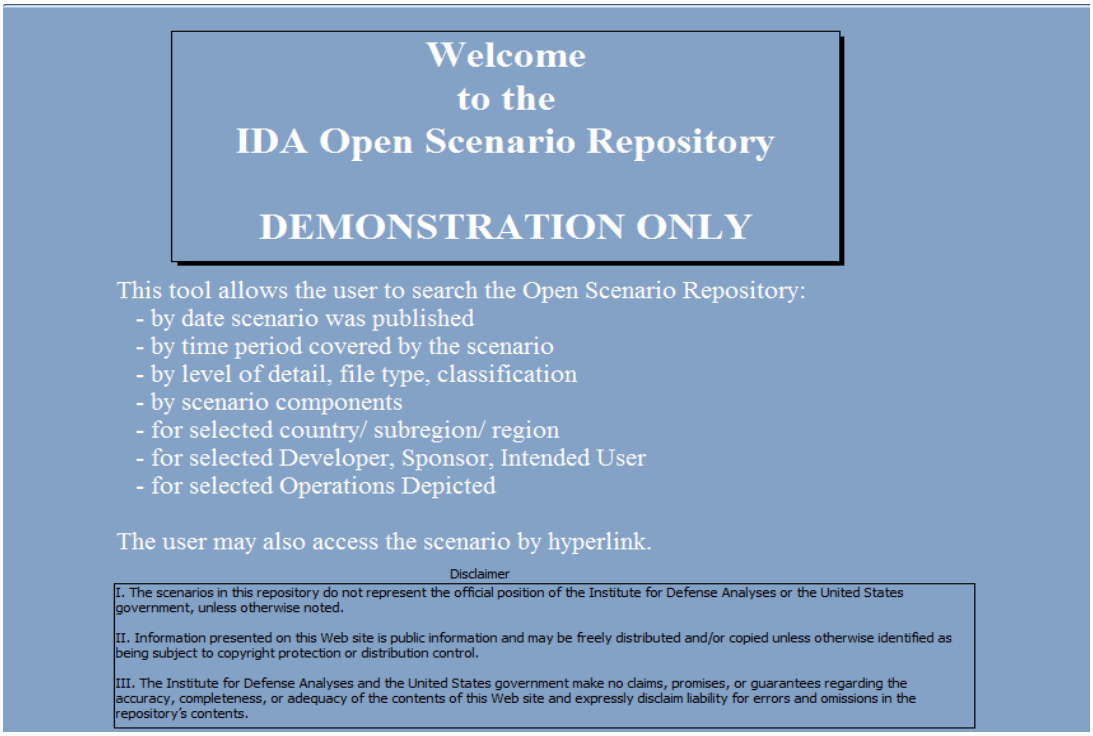

Figure 1. Welcome Screen

The *Welcome* screen displays for a short period, and the *Main Menu* screen (see Figure 2) automatically displays. Recommend you minimize the Microsoft ribbon located across the top of the screen, so that more space is available to display the screens. To minimize the ribbon, right click on the **Home** tab and select **Minimize the Ribbon**.

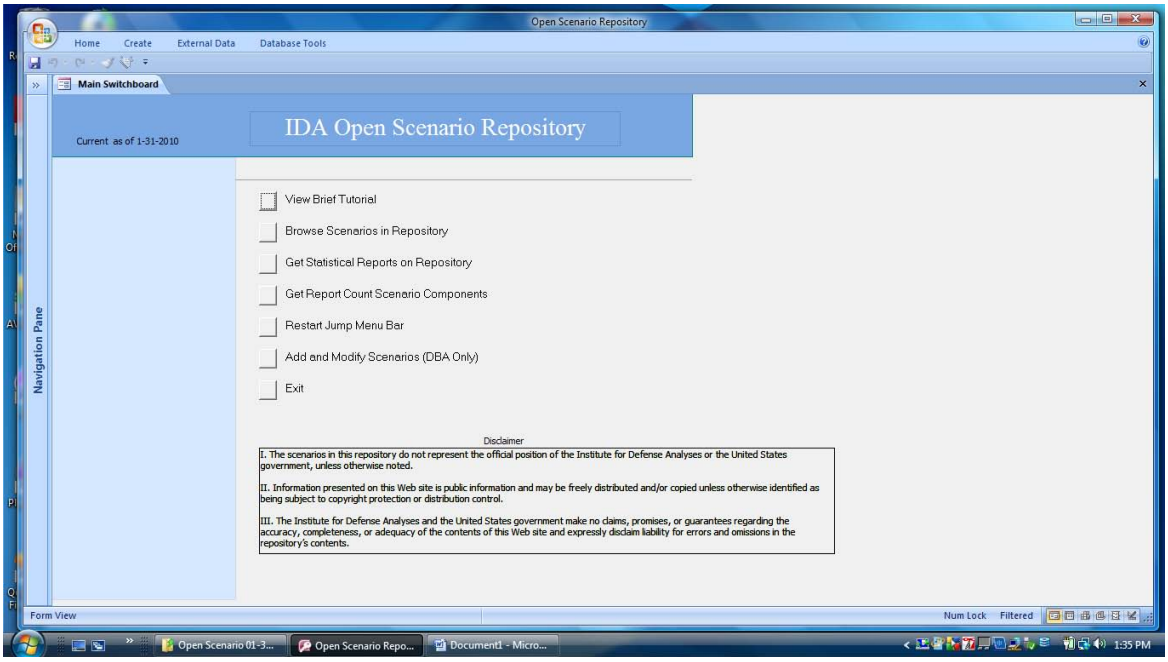

Figure 2. Main Menu Screen

The Main Menu provides the following options:

- **View Brief Tutorial.** Provides brief instructions for using the tool.
- **Browse Scenarios in Repository.** Allows user to search the scenarios using the taxonomy and get a printable report.
- **Get Statistical Reports on Repository.** Brings up several reports on the counts of scenarios by country, developer, etc.
- **Get Report Count Scenario Components.** Displays a printable report of the type and number of components in a scenario.
- **Restart Jump Menu Bar.** Launch of the Jump Menu Bar if it has been closed.
- **Add and Modify Scenarios (DBA Only).** Allows the administrator to add new scenarios to the database or to modify previously added scenarios.

4.1. View Brief Tutorial

Use the **View Brief Tutorial** option to read brief descriptions of how to use the Open Scenario Repository.

4.2. Browse Scenarios in Repository

Use the **Browse Scenario in Repository** option to access the *Browse Scenarios* screen (see Figure 3), which is the primary screen that allows you to navigate within the repository. From this screen, you may define filters to search the list of scenarios. You may also create a report showing the results of your search and then either print or export the report to Microsoft Word® (DOCX) or Adobe® (PDF).

On the *Browse Scenarios* screen, follow these general steps to search the repository:

1. Select desired filtering method by selecting the corresponding button.
2. Specify your filter.
3. Apply your filter and review the results.
4. Print or export your results.

On the *Browse Scenarios* screen, you have several options for filtering the scenario classification data:

- Select Filter Parameters
- Use Filter by Keyword
- Use Filter by Form
- Use Advance Filter
- Filter by selection

There is a button for each option except the last one. If the **Select Filter Parameters** option is used, it must be used first as this option clears the current filter before creating one based on the parameters. The other options may be used after the parameters option to further filter the results from the parameters filter. Alternately, any of the other three options may be used in any order to create a cumulative filter. See Section 5 of this manual for more instructions on filtering data.

> **Hint:** When the Filter by Form screen or the Advanced Filter Form screen is displayed, all previously specified criteria are also indicated. The criteria specified through the filter parameters is contained in the Scenario ID field. Within this screen you can use the right mouse button to select to Clear Grid in order to create a new filter. However, if you do not create a new filter and you do not apply the empty filter, the previous filter is retained. To permanently delete a filter use the Clear All Filters button on the Browse Scenarios screen.

Once a filter has been created it can be applied and the results displayed. You can also create a printable report based on the same filter. The filter can be removed to restore the list to all the scenarios. All filters may be cleared and a new filter can then be created and applied. When a filter is removed, the filter itself is retained by the database but is not applied to the scenario data, thus leaving it unfiltered. When filters are cleared, the filter value becomes empty and if the filter were applied the data would not be restricted.

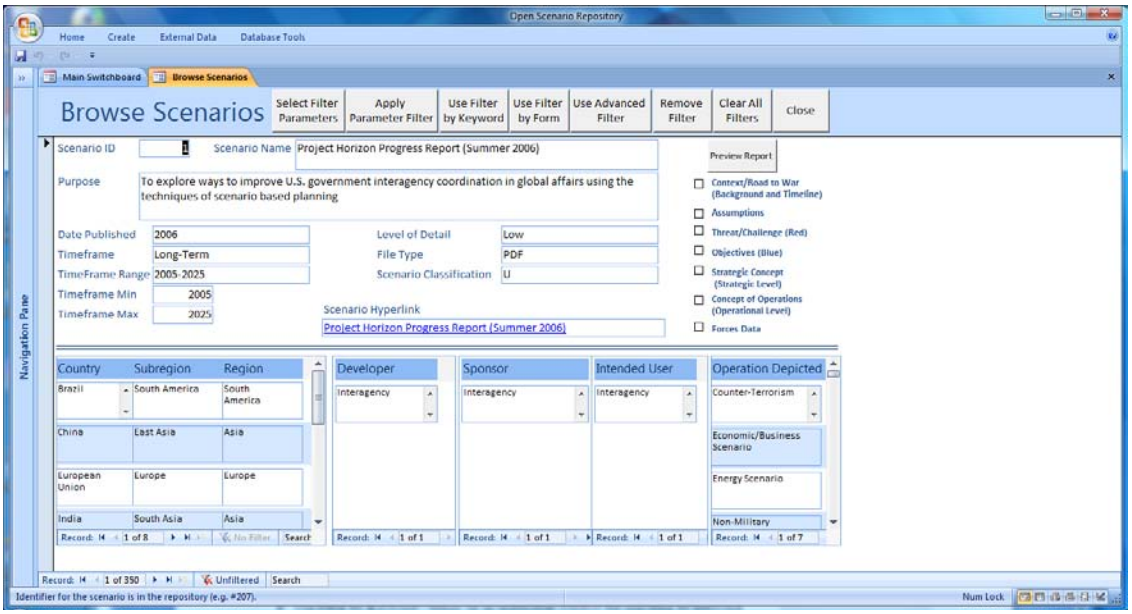

Figure 3. Browse Scenarios Screen

Use the following buttons on the *Browse Scenarios* screen to search the repository:

- **Select Filter Parameters.** This button brings up the *Select Filter Parameters for Browsing the Scenarios* screen on which you can specify parameters that can be used to create a filter for the scenarios. These parameters include a range of dates for scenario timeframes and specific values for region, subregion, country, developer, government sponsor, intended user, and operation depicted. See Section 5 for instructions on using this screen.
- **Apply Parameter Filter.** Applies the filter specified on the *Select Filter Parameters* pop-up screen. Before this filter is applied, all previous filters are cleared (deleted). However, this filter may be further restricted using the other filter methods. If you use the **Remove Filter** button to remove this cumulative filter, then you can apply the Parameter Filter using this button without going back to the *Select Filter Parameters* screen. However, any criteria added using the other filter methods will not be included in the filter.
- **Use Filter by Keyword.** Brings up an instruction window for searching by keyword, which prompts user to **Put cursor on desired field, click the right mouse button, select 'text filters' then 'contains,' and enter the desired keyword.** and select **OK**. You may only filter on the fields in the top portion of the screen.

- **Use Filter by Form.** Opens the Microsoft Access *Browse Scenarios: Filter by Form* window on which you may specify a filter using the fields on the form. Each field has a dropdown of all values used in that field. You may only filter on the fields in the top portion of the screen. Use the right mouse button to apply the filter.
- **Use Advanced Filter.** Opens the Microsoft Access *Advanced Filter* window on which you may specify a filter using the fields on the form. You may only filter on the fields in the top portion of the screen. Use the right mouse button to apply the filter.
- **Remove Filter.** Removes the filter and restores the screen to display all the scenarios in the database. When a filter is removed, it is not cleared or deleted; it is just not applied to the scenario data. Use the **Clear All Filters** button to actually delete the filter.
- **Clear All Filters.** Deletes all entries in the filter.
- **Preview Report.** Brings up a print preview of a report that lists scenarios meeting the current user filter. The report shows the filter that has been applied and the date the report was generated. The report may be exported to Microsoft Word® (DOCX) or to Adobe® (PDF).

Hint: There is no guarantee that a given combination of parameters will yield results. Although the repository will display a message when no results are found, it is more productive to select the most important parameter, view the results and further restrict those results based on values found there. For example, if country is the most important criterion, specify it and filter the data. If the range of dates is too broad, then restrict the timeframe.

Hint: When a report is displayed in Print Preview mode and the menu bar displays only one option (i.e., Print Preview), you must click on this option to show all available Print and Export options. From this menu you can print the report, export it to Microsoft Word ® (DOCX) or to Adobe® (PDF), or close the report.

From *Browse Scenario* screen, you may access the actual scenario through the hyperlink displayed in the middle of the screen. Hyperlinks are not provided for the

Unclassified // For Official Use Only (U//FOUO) scenarios but you may contact the IDA Study Team for more information on these scenarios.

The record navigator bar at the bottom left of the *Browse Scenario* screen indicates which record is displayed (e.g., 1 of 350). Use the left and right arrows to scroll through the records. Note: Each record in the IDA Open Scenario Repository equates to one scenario.

4.3. Select Filter Parameters for Browsing the Scenarios

From the *Browse Scenarios* screen, select the **Select Filter Parameters** button to bring up the *Select Filter Parameters for Browsing the Scenarios* screen (see Figure 4). On this screen, you may specify parameters that can be used to create a filter for the scenarios. You may select specific scenarios from a list of scenarios and include these scenarios in your filter. Other parameters include a range of dates for scenario timeframes and specific values for region, subregion, country, developer, government sponsor, intended user, and operations depicted. The parameters include the fields that cannot be specified using the other types of filter methods because they are multi item classifications, for example, each scenario may be associated with several countries. On this screen, you can see the last filter created using this method (within this session).

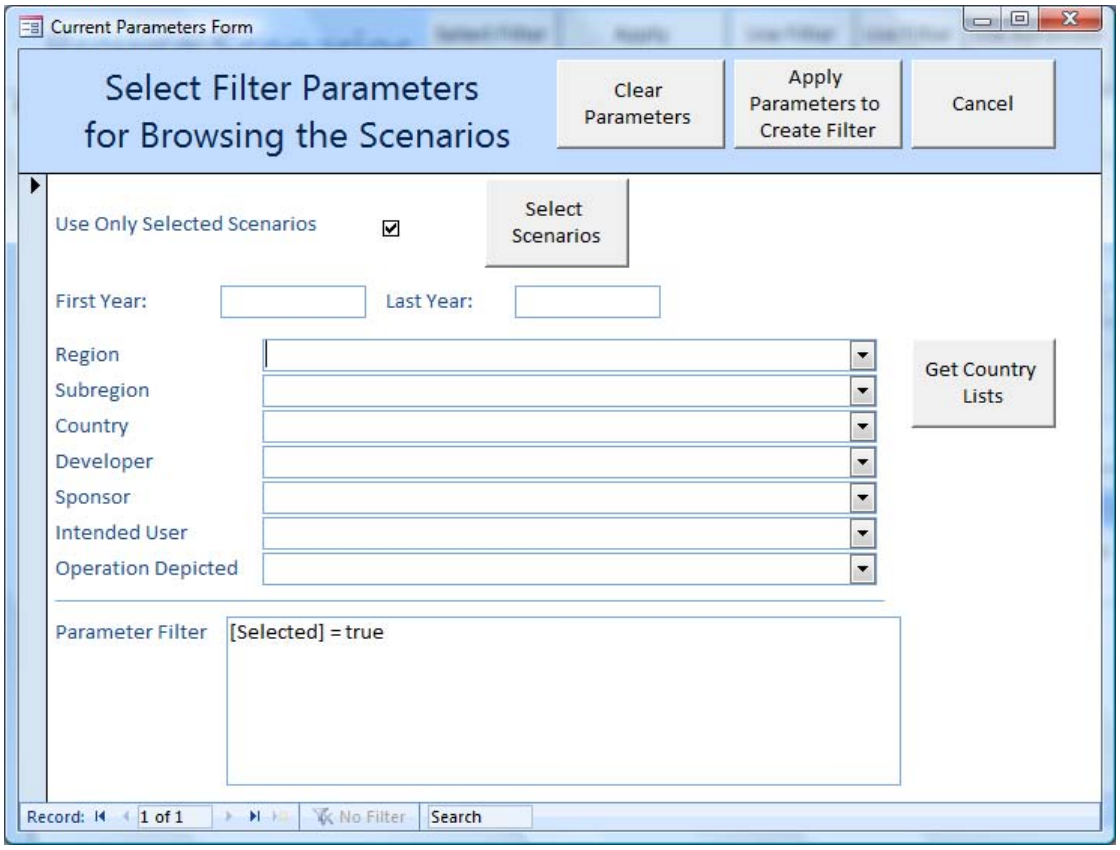

Figure 4. Select Filter Parameters for Browsing the Scenarios Screen

To specify particular scenarios to be included in your filter, click on the **Select Scenarios** button. This brings up a *Scenario List* screen on which you check the desired scenarios (see Figure 5). You can use the **Deselect All Scenarios** button to uncheck all scenarios. The selected scenarios remain selected until you deselect them individually or use the **Deselect All Scenarios** button. After specifying the scenarios, you may check the **Use Only Selected Scenarios** option on the *Select Filter Parameters for Browsing the Scenarios* screen to include them in the filter. Uncheck this option to not use this restriction in the filter. Checking and unchecking this option does not affect the list of selected scenarios; it only affects whether the filter is restricted to the list.

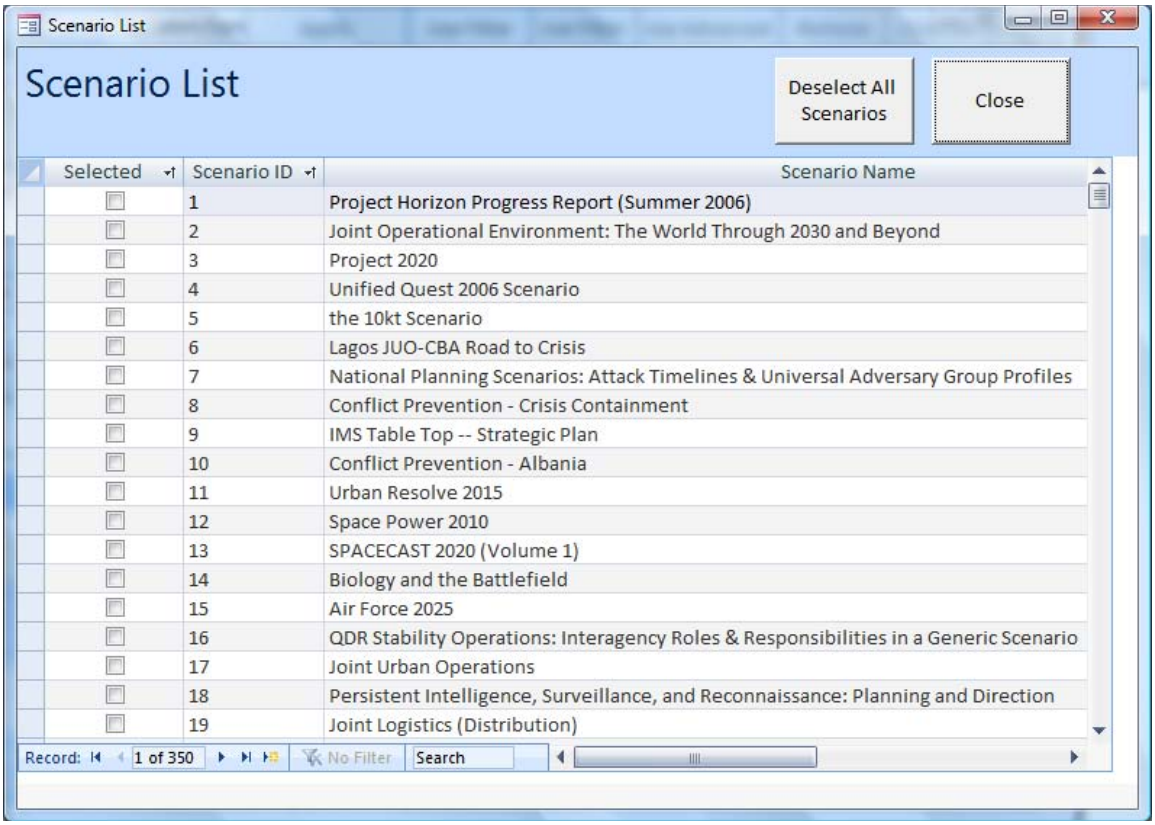

Figure 5. Scenario List Screen

On the *Select Filter Parameters for Browsing the Scenarios* screen, you may specify the desired timeframe range of dates by entering both a First Year and a Last Year. For example, type in<2006>. If either year is blank, the filter will not include the timeframe. When this restriction is used, any scenario with a Timeframe that intersects with this range of years will be included. Note that scenarios with a Timeframe of *none* or *present* will not be included because they do not have a value in the Timeframe Minimum and Timeframe Maximum fields. However, if you want to include these scenarios in your list, you may use the **Use Advanced Filter** option to add Timeframe equal to *present* (or *none*) as an OR criteria.

To aid in the selection of country, you may also bring up a list of countries covered in the repository. Select the **Get Country Lists** button and two tabs appear. One tab lists the countries in alphabetic order and the other tab lists the countries by geographical region. Each country is assigned to a subregion and each subregion to a geographical region. You may elect to filter scenarios by geographical region, subregion or country. If you select a geographical region, the dropdown for subregions is restricted to those subregions in the selected geographical region and the country dropdown is

restricted to the countries in the selected geographical regions. If you select a subregion, the dropdown for the country is restricted to countries in the subregion.

Each of the other parameters (e.g., region, subregion, etc) has a dropdown list from which to select one value for that field.

Once you specify the parameters, click on the **Apply Parameters to Create Filter** button to create the filter and return to the *Browse Scenarios* screen. If you do not wish to create a new query, click on the **Cancel** button to close the popup screen.

Use the **Clear Parameters** button to clear out all entries for the parameters. This feature is useful when starting a new filter.

4.4. Get Statistical Reports on Repository

Use the **Get Statistical Report on Repository** option to bring up a series of statistical reports of the counts of scenarios by subregion, country, unique developer, unique sponsor, unique intended user, and unique operations. These reports show the range of classifications covered in the current repository. They may help in identifying pertinent scenarios and also identify where there is a gap in scenario coverage. These reports can also be accessed from the *Jump Menu Bar*.

4.5. Get Report Count Scenario Components

Use the **Report Count Scenario Components** option to display a printable report of the number of components in a scenario and also to identify those components (see Figure 6). The report is sorted in descending order by the number of components represented in the scenario. This report may aid in selecting scenarios that meet your criteria. This report can also be accessed from the *Jump Menu Bar*.

> **Hint:** When a report is displayed in Print Preview mode and the menu bar displays only one option (i.e., Print Preview), you must click on this option to show all available Print and Export options. From this menu you can print the report, export it to Microsoft Word ® (DOCX) or to Adobe® (PDF), or close the report.

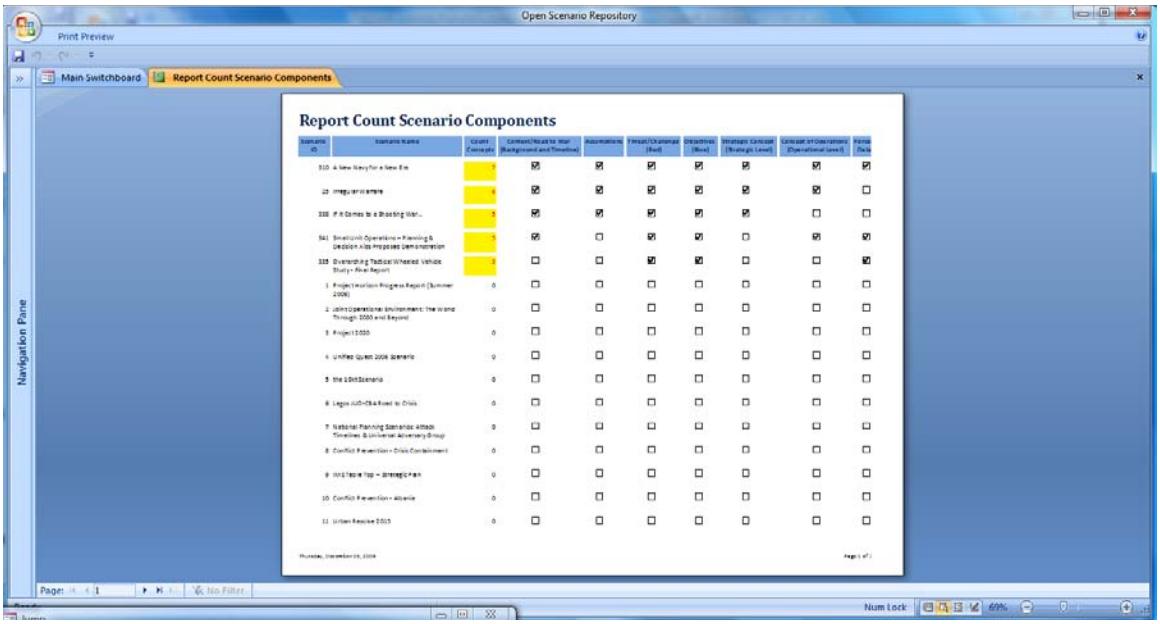

Figure 6. Report Count Scenario Components

4.6. Restart Jump Menu Bar

Use the **Restart Jump Menu Bar** option to launch the *Jump Menu Bar* if you have closed it. The *Jump Menu Bar* is automatically displayed on the bottom left of the screen when the IDA Open Scenario Repository application is opened. This bar contains buttons that allow the user to display the statistical reports and view the *Report Count Scenario Components*, without returning to the *Main Menu*.

The *Jump Menu Bar* contains the following buttons:

- **List Countries.** Provides alphabetic list of countries and a list of countries by geographical region
- **Country Stats**. Displays report of number of scenarios for each country, each subregion and each geographical region
- **Developer Stats.** Displays report of number of scenarios for each developer
- **Sponsor Stats**. Displays report of number of scenarios for each sponsor
- **Intended User Stats.** Displays report of number of scenarios for each intended user
- **Operations Depicted Stats.** Displays report of number of scenarios for each operation category depicted
- **Report Count Scenario Components.** Displays a printable report of the number of components in a scenario and also identifies those components

You can move the *Jump Menu Bar* anywhere on the screen. It is always displayed on top of the open screens. You can close the bar using the "x" in the upper right corner.

4.7. Add and Modify Scenarios (Database Administrator Only)

The **Add and Modify Scenarios** option brings up the *Add and Modify Scenarios* screen on which the DBA can add new scenarios or modify previously loaded scenarios (see Figure 7). This menu option is not available on the general user version of the IDA Open Scenario Repository and is presented here for completeness. Instructions refer only to the DBA.

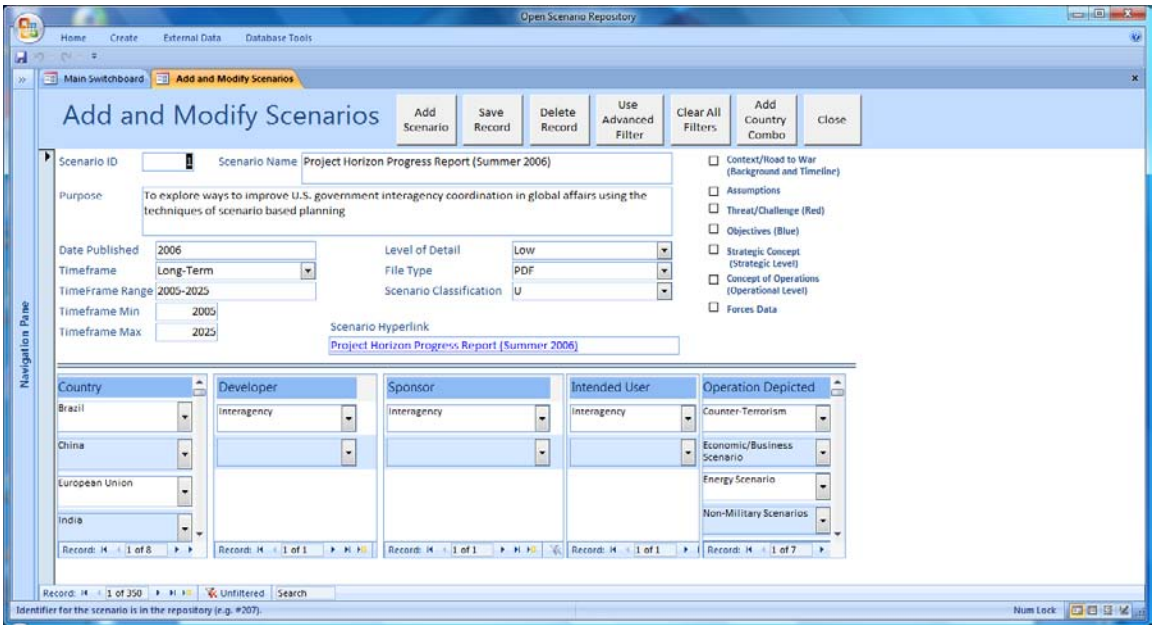

Figure 7. Add and Modify Scenarios

The following buttons on the *Add and Modify Scenarios* screen are used to manage scenario data in the repository:

- **Add Scenario.** This button brings up an empty Scenario record on which the DBA can specify data for a new scenario. Once completed, use the **Save Record** button to save the record.
- **Save Record**. Saves an altered or new scenario to the database.
- **Delete Record**. Deletes the current record from the database. The repository asks the DBA to confirm the deletion of a record because once deleted the record cannot be restored.

- **Use Advanced Filter.** Opens the Microsoft Access® advanced filter window on which the DBA may specify a filter using the fields on the form. The DBA may only filter on the fields in the top portion of the screen. Use the right mouse button to apply the filter. This option may be used to find a specific scenario.
- **Clear All Filters.** Deletes all entries in the filter.
- **Add Country Combo.** Opens a screen on which the DBA can add new countries. Each country must be assigned to a subregion and that subregion to a geographical region. This form allows the DBA to specify that combination. See Section 4.7.4.

4.7.1. Find a Scenario

To find a specific scenario, use one of the following methods:

- Use the record navigator (which indicates the record displayed, e.g., 1 of 350) located at the bottom left of the screen to scroll through the scenarios.
- Use the **Search** function at the bottom of the screen to specify a particular scenario. To use the **Search** function, place the cursor in the *Scenario ID* field and then type the number of the desired scenario into the **Search** field at the bottom of the screen and click **Enter**.
- Use any of the filtering techniques to locate a scenario based on its title or descriptors.

4.7.2. Edit a Scenario

To edit a field in a scenario, put the cursor on that field and enter the correct data. Data can be modified and added in the subforms for country, developer, sponsor, intended user and operation depicted. These subforms appear as boxes of data on the lower half of the form. Data changes are automatically saved when you move the cursor off the record, but you may also click on the **Save Record** button.

4.7.3. Add a Scenario

To add a scenario, go to the record navigator at the bottom of the screen (labeled **Record**) and click on the new record button or alternatively use the **Add Record** button. The Scenario ID is automatically generated by the database and it cannot be changed. On the new record, enter all the required data. Use the pulldown lists when available. New

scenarios are automatically saved when you move the cursor off the record but you may also use the **Save Record** button.

When moving the cursor over a field, the definition of that field is displayed in a little pop-up window. To see the definitions in the subforms, click on the subform and then move the mouse over the field.

Data are required for each field and each subform must contain at least one entry. The entry for a field may be *None* or some other equivalent term. The pulldown lists provide all values previously used in the scenario database in that field. If the list does not contain the value desired, type in the value. The descriptors initially used in the database have been standardized to allow one descriptor for several similar descriptors. Select a descriptor that is close in meaning rather than create a new descriptor. Standardization improves the search-ability of the database. If all required data is not provided, the database will not save the record. The only way to exit the record is to enter dummy data and then delete that record.

4.7.4. Add and Modify Country – Subregion – Geographical Region

From the *Add and Modify Scenarios* screen, use the **Add Country Combo** option to add a new country (see Figure 8).

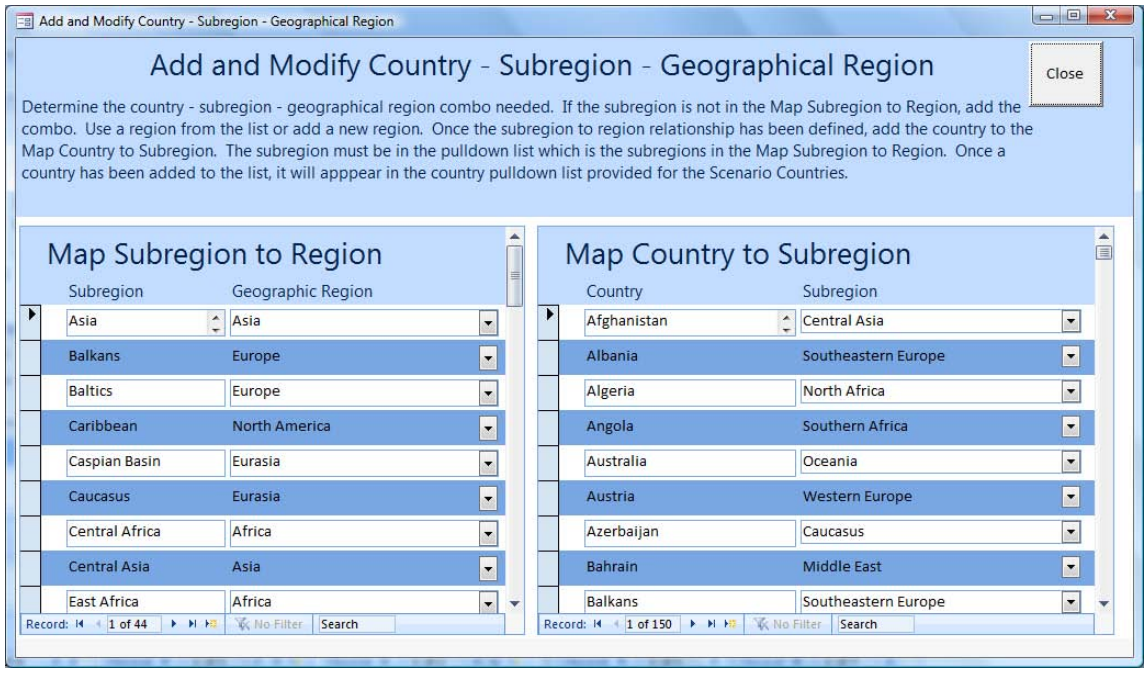

Figure 8. Add and Modify Country - Subregion - Geographical Region

First determine the country - subregion - geographical region combination needed. If the subregion is not displayed in the *Map Subregion to Region* box, add the

combination. Use a region from the list or add a new region. Once the subregion to region relationship has been defined, add the country to the *Map Country to Subregion* box. In this box, the pulldown for the subregion contains only those subregions defined in the *Map Subregion to Region* box. Once a country has been added to the list, it will appear in the country pulldown list provided for the Scenario Countries.

4.8. Printing and Exporting

When a report is displayed in Print Preview mode and the ribbon has been minimized, the menu bar displays only one option: **Print Preview**. Click on this option to show all available Print and Export options. From this menu you can print the report, export it to Microsoft Word® (DOCX) or to Adobe® (PDF), or close the report. Although you can export the report to Microsoft Excel®, the results are not useful.

When the statistical reports are displayed, use the Microsoft Office® button to print the report. To export the report, select External Data/ Export/Excel or Word or PDF. These reports produce useable Microsoft Excel® reports because they are tabular reports.

5. Filtering Data from the Open Scenario Repository

This section provides instructions for using the filter features of the IDA Open Scenario Repository. Users of the repository must be familiar with the Microsoft Office® options, such as Print, Copy, Save, etc., that are available from the Microsoft Office® button.

5.1. Filtering Methods

There are three ways to filter data in the repository using Microsoft Access®:

- Filter by Selection
- Filter by Form
- Use Advanced Filter

> **Hint:** As you apply filters to the records in the repository, the record navigator at the bottom left of the screen provides information about the records displayed. For example, **Record: 1 of 350 Unfiltered Search** indicates record #1 of 350 records is displayed and the search in effect is Unfiltered. Use the left and right arrow buttons to scroll through the scenario records.

5.1.1. Filter by Selection

Filter records by selecting values in the *Browse Scenarios* screen:

1. In a field on the main body of the screen, find one instance of the value you want records to contain in order to be included in the filter's results. The record count at the bottom left of the screen indicates which record is displayed. Use the left and right arrow buttons to scroll through the scenario records until you find one with the desired value.

2. Place the cursor in the field containing the desired value, and then click the right mouse button to display the filter options. Available choices are: *equal*, *not equal*, *contains*, *does not contain*. How you select the value determines what records the filter returns. Repeat step 2 until you have acquired the desired set of records.

3. On the *Browse Scenarios* screen, select the **Clear All Filters** option to clear the filters and start another filter selection. Note that the record status bar at the bottom left of the screen changes from *Filtered* to *Unfiltered* Search, which signifies that no filter is currently applied to the data. In addition, if you select **Use Advanced Filter,** you will see that no criteria are currently specified for a filter, i.e. there is no filter. However, if you select the **Remove Filter** option, the filter will not be applied but it still exists and can be seen in the **Use Advanced Filter** grid.

5.1.2. Use Filter by Form

Filter records by entering values in a blank view of the form:

1. From the *Browse Scenarios* screen, click on the **Use Filter by Form** button to bring up the blank scenario form.
2. Click on a desired field. Enter your criteria by selecting the value you are searching for from the pulldown list for the field (if the list includes field values), or by typing the value into the field.
3. Place the cursor outside of the selected field, right click on the mouse button, and then select the option **Apply Filter/Sort** and view the records.
4. On the *Browse Scenarios* screen, select the **Clear All Filters** option to clear the filters and start another filter selection.

5.1.3. Use Advanced Query

Filter records by using the Apply Filter/Sort feature:

1. From the *Browse Scenarios* screen, click on the **Use Advanced Filter** button.
2. In the list of fields for the Browse Scenarios, double click on each field that you want included in the query. This action will add the field to the design grid displayed at the bottom of the screen.
3. Enter the **Sort** and **Criteria** values for each field included in the filter.
4. Place the cursor in the middle portion of the screen that is blank, right click on the mouse button and select the option to **Apply Filter/Sort** and view the records.

5. On the *Browse Scenarios* screen, select the **Clear All Filters** option to clear the filters and start another filter selection.

5.1.4. Select Filter Parameters

This filter method is provided by the IDA Open Scenario Repository to allow the user to create a filter on the multi-item fields. Any of the above three Microsoft Access® methods may be used to add filter criteria **after** creating a filter using the criteria specified on the *Select Filter Parameters for Browsing the Scenarios* screen.

1. The **Select Filter Parameters** button brings up the *Select Filter Parameters for Browsing the Scenarios* screen on which parameter filter criteria may be specified.
2. After entering the criteria, use the **Apply Parameters to Create Filter** button and close the popup screen. This action stores the filter but does not apply it to the data.
3. After returning to the *Browse Scenarios* screen, use the **Apply Parameter Filter** button to apply the filter to the data. Any previous filter is deleted before the Parameter Filter is applied. Note: Once the **Apply Parameter Filter** button is selected, the status displayed on the record status bar at the bottom left of the screen (i.e., Record: 1 of 350) changes from *Unfiltered* to *Filtered Search*.
4. You may further restrict the results using any of the three Microsoft Access® filtering methods. You may also use these methods without using the Select Filter Parameter method.
5. Use the **Remove Filter** button to remove all filter criteria and return to the full list of scenarios. This action does not delete the filter. Note: Once the **Remove Filter** button is selected, the status displayed on the record count status bar at the bottom left of the screen (i.e., Record: 1 of 350) changes from *Filtered* to *Unfiltered*.

Hint: For further instructions on filter types, search the Microsoft Access Help for the topic: *Filter: Limit the number of records in a view.*

5.2. Sample Filters

This section describes how to create four different filters on the IDA Open Scenario Repository when starting from the *Browse Scenarios* screen. Note: Clear the previous filter by using the **Clear All Filters** button before creating a new one, otherwise the new criteria you specify may be added to the previous filter criteria. This section presents four examples:

- Scenarios for China covering the 2010 to 2025 timeframe
- Scenarios with the keyword *space* in the Purpose field
- Scenarios with a Published Date equal to 2005
- Scenarios with File Type of PDF or Doc

5.2.1. Scenarios for China Covering the 2010 to 2025 Timeframe.

1. Click on the **Select Filter Parameters** button to bring up the *Select Filter Parameters for Browsing the Scenarios* screen.
2. Enter <2010> in the **First Year** field and <2025> in the **Last Year** field to specify the range of years in the **Timeframe**.
3. Move your cursor to the **Country** field and select **China** from the dropdown list.
4. Click on the **Apply Parameters to Create Filter** button to save your filter and return to the *Browse Scenarios* screen.
5. Click on the **Apply Parameter Filter** button and view the resulting list of scenarios.
6. Select **Clear All Filters** to clear this filter in preparation for the next filter.

5.2.2. Scenarios with the Keyword Space in the Purpose Field.

1. Click on the **Use Filter by Keyword** button to bring up the instructions for keyword searches. Close the instruction message box.
2. Move your cursor to the **Purpose** field and right click on the mouse. Select *text filters* then *contains* and enter the keyword <space>.
3. Click **OK**. View the resulting list of scenarios.
4. Select **Clear All Filters** to clear this filter in preparation for the next filter.

5.2.3. Scenarios with a Published Date Equal to 2005.

1. Click on the **Use Filter by Form** button. This brings up a special form on which you may use dropdowns to select values for the fields in the upper portion of the *Browse Scenarios* screen.
2. Move your cursor to the **Date Published** field and select **2005** from the dropdown list.
3. Place the cursor outside of the field, right click on the mouse and select **Apply Filter/Sort**. View the resulting list of scenarios.
4. Select **Clear All Filters** to clear this filter in preparation for the next filter.

5.2.4. Scenarios with File Type of PDF or Doc.

1. Click on the **Use Advanced Filter** button. This brings up a special form on which you may create complex filters for the fields in the upper portion of the *Browse Scenarios* screen.
2. On the top of this screen is a box listing all the fields from the upper portion of the *Browse Scenario* screen. Scroll down the list and double click on **File Type**.
3. On the design grid at the bottom of the screen under **File Type** type <Like "*PDF*"> in the **Criteria** box and type <Like "*Doc*"> in the **Or** box (including the quote marks). These criteria use wild cards (*) to specify that the words PDF or Doc may appear anywhere in the field.
4. Place the cursor in the middle portion of the screen that is blank, right click on the mouse and select **Apply Filter/Sort**. View the resulting list of scenarios.
5. Select **Clear All Filters** to clear this filter in preparation for the next filter.

Hint: There are numerous options for specifying filter criteria. For further instructions on using filters, search the Microsoft Access Help for the topic: *Access Query and Filter Criteria*.

6. Taxonomy of Fields

The taxonomy developed for the IDA Open Scenario Repository consists of the following searchable/browsable fields. The scenarios were reviewed to identify values for each of the fields, if applicable, before being included in the repository. This taxonomy is meant to be a starting point for an online repository and is currently used in the current prototype IDA Open Scenario Repository, but is not intended to be exhaustive. Additions, subtractions, or alterations to this taxonomy can be made at the DBA's discretion.

Table 1. Taxonomy of Fields

Scenario ID:	The identifier for the scenario is in the repository (e.g., #207).
Scenario Name:	The scenario's formal name (e.g., Project 2020).
Purpose:	The purpose for which the scenario is supposed to be used (e.g., to examine counterterrorism operations).
Date Published:	The date the scenario was published (e.g., 2008).
Scenario Classification:	The classification of the scenario (e.g., U = Unclassified, and U//FOUO = For Official Use Only).
Scenario Hyperlink:	The hyperlink to the scenario.
Sponsor:	The official sponsor of the scenario – if applicable (e.g., United States Air Force, Hudson Institute).
Developer:	The person or organization who wrote or developed the scenario – if applicable (e.g., Office of Naval Intelligence).
Geographic Region:	The area of the world the scenario emphasizes – if applicable (e.g., South America)
Country:	The country or countries examined in the scenario – if applicable (e.g., Turkey).
Timeframe:	The time period the scenario examines (past, present, short term, mid term, long term).
Timeframe Range:	The range of dates the scenario examines (e.g., 2010-2025).
Timeframe Minimum:	The first year of the scenario Timeframe Range (e.g., 2010).
Timeframe Maximum:	The last year of the scenario Timeframe Range (e.g., 2025).

Intended User:	The person or organization whose activities the scenario is intended to support (e.g., joint warfare community).
Level of Detail:[10]	The amount of detail the scenarios has (e.g., low, medium, high).
File Type:	The type of file the scenario is formatted in (e.g., PDF).
Operations Depicted:[11]	The types of operations that are emphasized in the scenario (e.g., major combat operations, Climate Change Scenario).
Context/Road to War (Background and Timeline):	Indicates whether scenario contains Context/Road to War.
Assumptions:	Indicates whether scenario contains Assumptions.
Threat/Challenge (Red):	Indicates whether scenario contains Threat/Challenge (Red).
Objectives (Blue):	Indicates whether scenario contains Objectives (Blue).
Strategic Concept: (Strategic Level)	Indicates whether scenario contains Strategic Concept (Strategic Level).
Concept of Operations (Operational Level):	Indicates whether scenario contains Strategic Concept (Strategic Level).
Forces Data:	Indicates whether scenario contains Forces Data.

10 Determining how much detail a scenario has for IDA's prototype was a subjective process and no specific set of standards were used. In a more refined online open scenario repository, it would be useful to establish a concrete set of standards that would be applied to determine how to describe the level of detail for a specific scenario.

11 The Range of Military Operations (ROMO) was used to classify the military operations depicted in scenarios on IDA's prototype. For those scenarios that depicted non-military operations, IDA used other labels that accurately reflected what type of operations were depicted (e.g., civil-military emergency planning).

Appendix A
Identifying Scenario Components

From the *Browse Scenarios* screen in the beta version of the IDA Open Scenario Repository, users will see the seven scenario components listed on the right side of the screen. When the box next to the component is checked, this indicates that the component applies to the displayed scenario.

To determine which scenario components were present in a given scenario listed in the repository, IDA skimmed each individual scenario to see if it contained one or more of the following components:

- Context/Road to War (Background): the scenario includes timelines and general background information;
- Assumptions: assumptions about the scenario are inferred from the context, if assumptions were not already listed under a heading;
- Threat/Challenge ("Red"): the scenario includes both military and non-military (e.g., climate change; natural disaster; political) threats and challenges;
- Objectives ("Blue"): the scenario includes the ends intended to be accomplished by "blue"
- Strategic Concept (Strategic Level): a statement, in broad terms, of what is to be done to overcome the threat/challenges and achieve the objectives
- Concept of Operations (Operational Level): a general statement of how capabilities may be employed to achieve the objectives
- Forces Data: the scenario includes quantitative information on a scenario player's military forces.

IDA defined each of these scenario components broadly since no agreed upon definition of each component exists throughout the community of scenario users.

Not all the components were specifically listed as such in a given scenario. Many times, it was not clear whether there were “Blue” objectives, a Strategic Concept, a CONOPS, even a Context/Road to war (Background). In these cases, IDA used the context of the scenario to infer their presence or absence.

In addition, not all components were present in a given scenario. Many of the non-military scenarios (for example, political/social/economic), possess none of the components, and therefore, do not have any of the component boxes checked.

Appendix B
Acronyms

ACD	file extension for agent character definition file
ACCDB	file extension for Microsoft Access 2007 database file
ACCDE	file extension for Microsoft Access 2007 files that are in "execute only" mode
CD	compact disc
CNT	file extension for help contents file
CONOP	concept of operation
DBA	database administrator
DoD	Department of Defense
EXE	file extension for executable file
HLP	file extension for help file
PDF	portable document format (Adobe) file
ROMO	range of military operations
SME	subject matter expert
U//FOUO	Unclassified // For Official Use Only
XML	file extension for open XML format file
XPS	file extension for XML paper specification file

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14. ABSTRACT

This document, titled *IDA Open Scenario Repository Users Manual* offers instructions on how to use the Institute for Defense Analyses' (IDA) unclassified scenario repository. This report instructs users on how to install, run, and use IDA's proof-of-principle unclassified scenario repository using Microsoft Access. The repository contains over 300 unclassified scenarios, all of which are available for download, and is meant to complement IDA's report titled *Open Scenario Study, Phase Two Report: Assessment and Development of Approaches for Satisfying Unclassified Scenario Needs.*

15. SUBJECT TERMS

unclassified scenarios; open scenarios; scenarios; open scenario repository; open scenario database; unclassified scenario repository; unclassified scenario database; IDA open scenario repository user's manual; IDA unclassified scenario repository user's manual; IDA open scenario database user's manual; IDA unclassified scenario database user's manual

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