

PATHFINDER AS THE DEVELOPMENT ENVIRONMENT

PATHFINDER can be used as the development environment. The package includes many options which are quite valuable to the development process. As well as accessing other utilities and executing common development tasks from within PATHFINDER, additional features have been included to allow access to these PATHFINDER options from other utilities. Easy access to and from PATHFINDER saves programming “steps”, thus increasing productivity during development while taking full advantage of all that PATHFINDER offers. The following overview highlights options and features designed to help users smoothly integrate their use of PATHFINDER into their daily development routines:

5. Mass Compile (menu option from the Added Time Savers Menu)

The Mass Compile option allows compilation of a list of files and programs (both OPM and ILE), modules and service programs. Optionally, all programs, modules and service programs that reference the programs and files can also be compiled. Attributes and authorities can be retained or changed. For a file, data can be mapped from the old file to the newly created file. Optionally, all objects can be archived to allow restoration of original objects. Triggers or referential integrity constraints for files will be automatically replaced after compilation.

There are many methods to identify objects to be compiled:

- Objects specified on the Mass Compile entry panel.
- Dependent logical files of specified physical files.
- Programs, modules and service programs referencing specified objects.
- Programs, modules and service programs added through the Add Programs function of the Mass Compile option.
- Programs and modules added through the Add Source function of the Mass Compile option.
- Objects residing on a specified Compile list.

An “Exit program” can be specified for this option. With an exit program, you can set up customized functions of old objects before compiling, apply overrides (OVRDBF), distribute compiled objects to remote iSeries (AS/400, Power Systems, System i).

- “*SAVNOCRT” can be specified as the exit program to extract all the objects that were not successfully compiled in a “Mass compile” job. It writes these objects to a “Compile list”. After the errors which prevented these objects from being initially compiled are corrected, this “Compile list” can be used on a new “Mass compile” job to complete compilation.
- “*ROBOTDLVR” can also be specified as the exit program. With this exit program, objects created by the “Mass compile” option will be passed to “Robot/DELIVER”, and then automatically distributed to remote sites. For more information about Robot/DELIVER contact Help Systems at (612) 933-0609.

Mass Compile API

An API (Application Program Interface) is available to allow you to compile objects using the batch Mass Compile process. With this API, it is not necessary to use the interactive Mass Compile screens.

13=Add to compile list

This option allows objects to be added to a Compile list. The Compile list is a list of objects which can be created by the Mass Compile option. The first time this option is selected for each PATHFINDER session, a window will be displayed allowing selection of the Compile list to which the object will be added. To later select a different Compile list, use “F18=Change defaults”.

14=Compile

This option allows you to compile/create OPM and ILE programs, modules, service programs, commands and files that require source. Additional options to create ILE modules, programs and service programs are not necessary since this option creates all object types, determining the appropriate create command to use based on the type/attributes of the object for which this option is taken. The same functionality as PATHFINDER’s option “14=Compile” is available in IBM’s PDM through the use of PATHFINDER’s user-defined option “RE” (see user-defined option file USERPDM in library HAWKEYE). The following member types can be compiled: BAS, BAS36, BAS38, BSCF38, C, CBL, CBLLE, CBL36, CBL38, CICSC, CICSCBL, CICSSQLCBL, CLE, CLLE, CLP, CLP38, CMD, CMD38, CMNF38, DSPF, DSPF36, DSPF38, ICFF, LF, LF38, MXDF38, PAS, PF, PF38, PLI, PLI38, PRTF, PRTF38, RMC, RPG, RPGLE, RPG36, RPG38, RPT, RPT36, RPT38, SQLC, SQLCBL, SQLCBLLE, SQLPLI, SQLRPG, and SQLRPGLE. The object will be compiled using the necessary create command. You may change the create command parameters by prompting the option (“F4=Prompt”), or typing the correct parameters on the command line. There are six default values (see “F18=Change defaults”) used by this option as well as the user-defined option “RE”: “Object library”, “Replace object”, “Compile in batch”, “Compile exit program”, “ILE binding directory” and “Use existing bound objects”.

You can provide the source to be used to compile the object by entering source information in the SRCFILE and/or SRCMBR parameters on the command line. If you do not provide source information the following steps will be taken to locate source; if this option is taken when working in the Object or Field X-ref, for program objects, modules and service programs, the source used to compile will default to the source used at the time of the X-ref Build/refresh. If this source member is not located, IBM’s RTVOBJD (Retrieve Object Description) command will be used to locate the source member. For any other object type or when working with options that are not dependent on X-ref data, the source used to compile will default to the source member indicated through IBM’s RTVOBJD (Retrieve Object Description) command. If the entered or retrieved source can not be located or the user does not have authority to the source, the “Enter Values for Compile/Create” display will appear.

16=Programmer Menu

Provides access to PATHFINDER's Programmer menu from any PATHFINDER subfile. PATHFINDER's Programmer menu offers all the functions available from IBM's Programmer menu, with additional options and functions, and an extended command line which supports "F9=Retrieve". Object, library and source information will automatically be displayed for the selected object, allowing quick access into any of the utilities accessed via the Programmer menu.

17=UPDPGM/UPDSRVPGM

This option allows you to update an ILE program or service program with the module or service program specified. The option is only valid for ILE programs with a "How used" value of "BIND". The module and the ILE program object must exist. The appropriate update command will be determined by the type of object for which this option is taken. The update command parameters can be changed by prompting the option ("F4=Prompt"), or typing the correct parameters on the command line. There are two default values (see "F18=Change defaults") used by this option: "Compile in batch" and "ILE binding directory".

80=STRSEU

This subfile option will execute IBM's STRSEU (Start Source Entry Utility) command for the source member associated with the selected object. Additionally, the STRSEU command can be prompted using "F4=Prompt". If a source editor other than SEU is specified for the "Source editor" parameter in Defaults, this option will execute the specified source editor, allowing you to edit the source member using other editors.

81=STRSEU/browse

This subfile option allows browsing of a source member through IBM's STRSEU command.

User-Defined Options

User-defined options can be executed from PATHFINDER's subfiles, just like they are executed within IBM's PDM. The file HAWKEYE/USERPATH contains PATHFINDER user-defined options. User-defined options allow you to create your own option which will execute a command, enabling direct access within PATHFINDER to any other command or utility, such as PDM.

PDM Interface

PDM users enjoy a seamless interface between PATHFINDER and PDM. Because PATHFINDER is a command-driven system, any PATHFINDER function can be accessed directly from PDM, using user-defined options. The user-defined option file HAWKEYE/USERPDM contains all PATHFINDER options for use in PDM.

Outfiles

Information available through PATHFINDER options can be directed to an outfile. Procedures can then be written to manipulate this information to perform various development duties. Example: to create a test environment, objects for an entire job stream must be duplicated. The objects can be identified with the "Job's Objects" option. Using the PATHFINDER command for this option, PRTJOBOBJ, the output can be directed to a file. A simple program could then read that file and duplicate the objects, thus creating the test environment.

Retrieve API's

The group of Retrieve API's allows direct access to the cross reference information in PATHFINDER's Field and Object X-ref files. Use of these API's in the development environment is similar to the use of outfile, except the information is passed directly to programs through parameters. The same information available through a Retrieve API is also available to be outfiled. You must decide which method is more suitable for the development function being performed.

Using these options and features, programmers will spend less time getting in and out of PATHFINDER, thus increasing productivity. Additionally, there are design concepts and features built into PATHFINDER that will maximize efficiency while working within PATHFINDER. These concepts and features are detailed in article #206 – "Interactive Flexibility".

For further information, please contact our Technical Services department. We can be reached by email at info.hawkinfo.com or call us Monday-Thursday, 7 a.m. to 5 p.m. (MST) and Friday 7 a.m. to 3 p.m., VOICE (970) 498-9000 or FAX (970) 498-9096.