

X-REF BUILD REPORTS

When PATHFINDER X-ref data is built or refreshed, (Object and/or Field), several different reports are created. Some of these reports provide status as the job runs. Others tell you what problems were encountered that may reduce the accuracy of your X-ref. While it may seem a daunting task if the reports are large, they should be reviewed and problems resolved wherever possible. In fact, the larger they are, the more important this task is. This article will give a general overview of the reports, including which report can help with system cleanup.

Everyone should be reviewing reports. Even seasoned PATHFINDER users will benefit from reviewing the principles discussed below.

By correcting some conditions reported on the Object X-ref problem log, you will typically be correcting some of the same conditions reported on the Field X-ref problem logs. For example, "Source not found" messages. If the Object X-ref build didn't find source, more than likely the Field X-ref build didn't find it either. Adding source files to the source list (see Setup Menu) will help resolve this issue for both builds. So you would probably find it most advantageous to "conquer" the Object X-ref Problem Log first. Once you have made the necessary adjustments, rebuilding both Object and Field X-ref would be in order. You'll see the progress you are making!

The reports created by the Build/Refresh Object X-ref are the Current Status report and the Problem Log. They can be easily identified in the outq with the following user data: *Status, or *Problem

Build/Refresh Object X-ref Status report is produced periodically during the Object X-ref Build/Refresh. The date and time it is created is reported, as well as the object it is currently documenting when the report is written. It includes a running total of programs documented, listed by type. In sites with large numbers of programs, it is not unusual for several of these reports to exist.

Build/Refresh Object X-ref Problem Log. The key is interpreting the information. Not only will this report indicate potential X-ref problems, it can also help with some areas of system maintenance. For example, if a library is deleted from the system, but not removed from a job descriptions library list, PATHFINDER can let you know about it. Any hard-qualified reference to objects that do not exist will be reported, pointing out possible problems in applications or candidates for deletion. These are just two examples of messages that will help with some clean up.

Use the following description of the Build/Refresh Object X-ref Problem Log report headings when reading the report:

-----**Program Stack**-----

This lists the object (could be a *SBSD, *JOB, *MODULE or *PGM), library, and source sequence of the object Pathfinder was documenting when it encountered the problem. The source sequence (Srcseq), if any, is the statement in the source, which references the object listed in the Problem Object columns.

-----**Problem Object**-----

The object that caused the problem is identified here. The name, library qualifier, and type of object will be listed. When problems are listed for a source file, the member name is also listed.

-----**Warning/Problem**-----

The condition causing the problem is described here.

If you find after reviewing the Problem Log for the build that additional libraries need to be added to the DOCLIBL or source files added to the Source List (see Setup Menu), another build should be scheduled to reflect the changes. Each of these reports will print the Input Parameters, including the setup values such as DOCLIBL and Source List, used to run the jobs. This information will be on the first page. If changes are needed, you can see the name of the value to change.

The reports created by the Build/Refresh Field X-ref are the Substitute Source Edit, File Edit, and Source Edit. Again, the user data can help identify them in the outq: *SUBSTITUT, *FILE_EDIT, and *SRC_EDIT.

Build/Refresh Field X-ref Problem Log – Substitute Source Edit. This report indicates when the source from which an object was originally compiled (based on information in the object), could not be located. It tells you which source was used as a substitute, or if none was found. In addition, the Substitute Source Edit will notify you when more than one program or module references the same source and if duplicate source members were found. If you have more than one source member, reviewing this will forewarn you of the possibility that PATHFINDER used the wrong source.

Build/Refresh Field X-ref Problem Log File Edit. The File Edit is pretty straightforward. All libraries being documented are searched for referenced files. It reports when a file is not located, and what program references it. When the Warning/problem contains the message: “Field X-ref dropped for this program” it is due to the file not being located. All field usage for the indicated file, used within this program has not been documented in the Field X-ref.

Build/Refresh Field X-ref Problem Log – Source Edit. The messages on this report identify when there is a difference between the objects referenced in the program object and objects referenced in the source being used to build X-ref. Source syntax checking is done and these errors are also listed on this report.

Some of the problems listed on the Source Edit may have been previously addressed by a problem appearing on the Substitute Source or File Edit reports. For instance, the message “File in source not found in pgm obj” on the Source Edit would potentially mean the source

used to build the X-ref for this program does not match the compiled object. If this was the result of locating a duplicate (albeit wrong) source member, it would have been reported on the Substitute Source report. "External field definition not found" messages on the Source Edit indicate the external file referenced in the program wasn't located. This would also have been reported on the File Edit.

Since PATHFINDER creates both Object and Field X-ref by analyzing source, it's important the source is located. When source is not located, the Object X-ref build will use the limited information provided by DSPPGMREF as a LAST resort, but the Field X-ref will not document a program without source. So you can see how critical it is to your X-ref to ensure the source is found. Messages such as "Source not found" are provided to help you know what source can't be located. Most frequently, when source is not found, it is due to a source file(s) not being entered on the Source list (see Setup Menu).

The Source List (see Setup menu) contains an option, "Sequence Control", which defaults to a "1". This causes PATHFINDER to search for the source based on the object description information (DSPOBJD), and only use the Source List if that fails. If the "Sequence control" is set to "2", the source files on the Source List will be searched first, and object description information is used only if source is not found from the list. If the majority of your programs do not point to the correct source, using a "Sequence control 2" will reduce the messages "Original source [file, library, member] not found, Substitute used instead of original" on the Substitute Source report. Any of these "source not found" messages appearing for 3rd-party vendor programs (or your own) where you don't have the source, can not be resolved. Remember, the Refresh only documents CHANGED objects, so the refresh Problem Logs will not report these messages again.

Speaking of the refresh, both the object and field X-ref Refreshes generate (yep, you guessed it) REPORTS!! The same Problem logs are created during the refresh as with the build, plus the "X-ref Refresh" report. Since the Refresh only processes changed, new and deleted objects, this report details which objects those were. This can serve as a handy tool for reviewing daily maintenance activity and even be filed for use as a historical audit log.

If you would like more detailed information on any area of the package, simply contact us by email at info.hawkeye.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 at Hawkeye Technical Services.