

## UP-TO-DATE, EFFORTLESSLY!

X-Ref data is very time-sensitive. It is 100% accurate the moment it is built, however, as time moves on and changes are made to your system, the X-ref data becomes dated. One way to make sure that X-ref data is always accurate is to completely rebuild Object and Field X-ref every night. This is not practical, as a full rebuild is generally a time-consuming process, often scheduled for weekends. Fortunately, it is not necessary to re-invent the wheel (completely rebuild X-ref) each night. By “refreshing” the X-ref regularly it rarely needs to be completely rebuilt. Because the refresh is dealing with only the changes to the environment, it will complete in a fraction of the time required to completely rebuild.

The refresh is available for both the Object and the Field X-ref. The refresh process determines the adds, changes, and deletes which have taken place in your environment, and applies these changes to X-ref data. Adds and changes are determined by comparing last change dates for programs within the libraries being refreshed with the last successful build/refresh date. This is similar to how IBM determines changed objects for the Save Changed Objects (SAVCHGOBJ) command. If a program has a change date later than the last build/refresh date, the program is flagged as added or changed. These programs are then documented and X-ref data is updated accordingly. When a library, not previously documented for a specific X-ref, is added to the list of libraries to document, the refresh function will automatically document all objects residing in that library regardless of their change dates. Once this updating is complete, the refresh then checks for deleted programs by verifying that every program included in the X-ref still exists. If an object is not found, the refresh removes it from the X-ref data.

When this job is executed, the X-ref Refresh report is generated. This report will detail all the changes (adds, changes, deletes) that have taken place within your environment since the last successful run of the Build/refresh. The X-ref Refresh report will also document any potential application problems caused by the deletion of an object. Many sites save this report to serve as an automated change control log.

To truly take advantage of the refresh, it should be a regularly scheduled job so that it doesn't require any conscious effort by you or your staff. PATHFINDER has made the periodic scheduling of refreshes easy. It allows you to save the setup of the refresh job into a CL source member. This member may then be used to automate the refresh. To begin your automation, simply use our menu options to select the Object or Field refresh required. A refresh is selected by taking document choice 3, “With changed programs” from the Build/Refresh Object X-ref (BLDOBJ) or Build/refresh Field X-ref (BLDFLD) available on the Object X-ref Menu or Field X-ref Menu respectively. You will be prompted through all necessary parameters for the refresh. The last panel you will see is the “Submit Panel”. On the submit panel, press “F20=Save submitting data”. You will be prompted for a CL source file, library, and member name. PATHFINDER will create a CL source member to submit the refresh you just selected using the entry panels. The

source member PATHFINDER creates will be ready to compile after adding the PGM (Program) and ENDPGM (End program) statements to the CL.

Once a CLP is created to submit a refresh, there are several ways to schedule its periodic execution. We recommend scheduling a refresh of both the Object X-ref and Field X-ref on a nightly basis. Many sites use a job scheduling package to schedule the execution of the CLPs created by PATHFINDER. Inclusion of the refresh CLP in a nightly jobstream (such as a backup procedure) is another possibility to automatically submit the refreshes. We've even seen some sites who IPL each night define the refresh job as an autostart job in a subsystem description.

With procedures in place to handle your site's refresh requirements, PATHFINDER X-ref maintenance will seem effortless. You'll be able to take advantage of X-ref options, confident that PATHFINDER is providing accurate and up-to-date information.

One question you may have at this point is, "In what circumstance should I rebuild the X-ref instead of refresh?" We recommend rebuilding the X-ref in the following situations:

1. If you have changed any of your Setup values (option "53. Setup Menu") such as the Documentation Library List, the Source List or the Build Values. Unless you are simply adding new libraries, this is a good time to rebuild.
2. When new features are added to the X-ref process through a new release of PATHFINDER. Sometimes new features won't take effect until a full rebuild is performed. The information mailed with the new release media will indicate if this is a requirement.
3. The final situation applies to customers using third-party vendor application software. A new release of the application changes many things all at once; a rebuild is the most efficient way to make the X-ref current.

For further information, please contact our Technical Services department. We can be reached by email at [info.hawkinfo.com](mailto: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.