

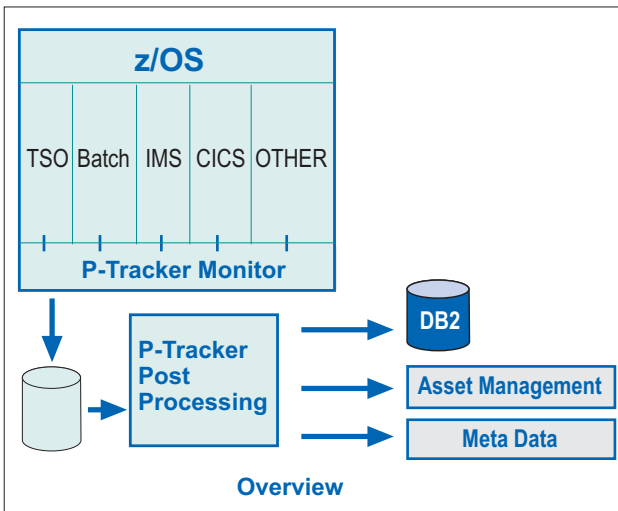
Programm Monitor

Call Sequence • Asset Management • Meta Data

P-Tracker is a system enhancement program, which logs all program calls under z/OS (OS/390, MVS). Every call to a module, whether by LINK, LOAD, ATTACH, XCTL or STOW, is recognised and logged together with the name of the load-library from which the module was loaded. P-Tracker can discover chains of program and subprogram calls, here described as 'Call Sequences'. Both the module-name and the load-library of the calling program are tracked. In post-processing, these pair-relationships can be combined to create complete call sequences. The process of logging program calls and successive call sequences is referred to as monitoring.

Yet another program monitor?

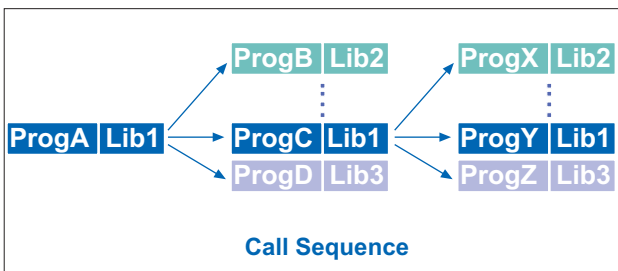
There are several products available which track program calls in z/OS. Experience shows that none of them offer the robust tool required by clients to cater for the multiple IT-departments



needs in specialised software monitoring. P-Tracker answers the problems and needs our clients asked us to deliver to them where they helped define its features and its special strengths.

Completeness

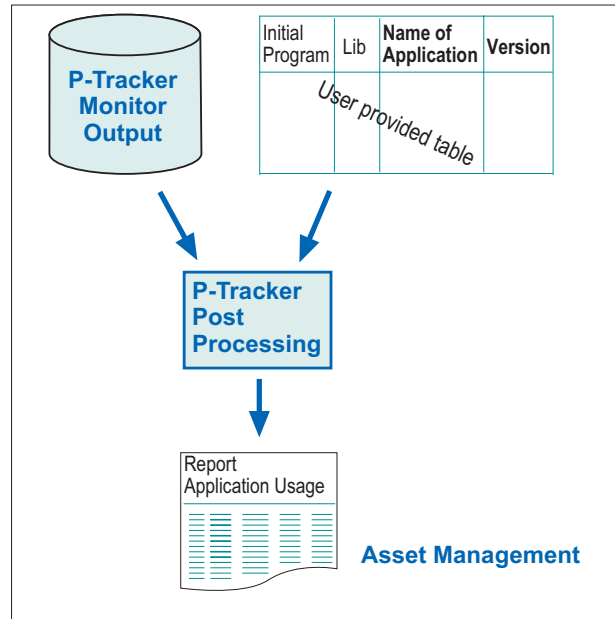
P-Tracker monitors all program calls under z/OS, i.e. not only are batch program calls logged but also programs executed under CICS, IMS/DC, etc. Every dynamic program call is recognised and logged. To recognise calls to subroutine in



statically linked modules the P-Tracker Monitor Output can be supplemented with the P-Tracker Load Module Analyzer.

P-Tracker delivers all the information, which the maintenance

programmer needs when working in a complex environment (dynamic, table-controlled calls, subsystems, etc.). With the user defining a suitably long monitoring interval, P-Tracker



delivers reliable information on how a program is embedded and used in its environment. One can readily see which program uses another and from which load-libraries the modules are executed. Using P-Tracker Output, this meta-data on program call-structures can also be updated in any existing repositories and data dictionaries.

Making Call Information available to all Applications

Information about the usage of programs is important in multiple areas:

- For data-centre accounting it is important to know which user or user group has used which application/product and how often.
- Inventory (development & operations) will want to know which members/products in a library have not been used, seldom used or where there's declining usage.
- Inventory reconciliation of products is required for license compliance or removal of unused software.
- Version control is to ensure correct library management of internal (in-house) software and to quit outdated versions of vendor software.



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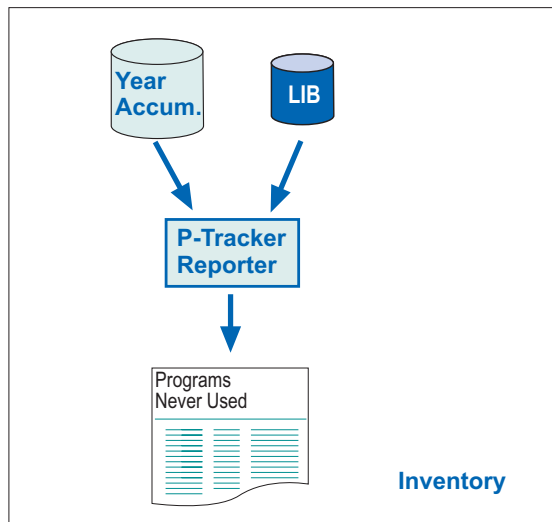
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- Change control matters – A maintenance programmer needs to know which programs call a module which is to be modified or which modules have to be relinked when a subroutine is changed.

There are other areas that also require call-information and it is reasonable to expect that they should all acquire their information from the same tool in a standardised process in order to optimise data storage and reduce CPU overhead. P-Tracker integrates all the various inspection elements into a single product delivering reports. One can also export the P-Tracker data on to other systems or into DB2 tables to facilitate individualised SQL-Queries.

License & Internal Software Asset Management (LIAM)

The usage frequency of applications and program packages is fundamental to Asset Management. P-Tracker delivers the detailed information needed for z/OS. Companies prefer to focus on the identification of licenses and the products (both internal developments and licensed software) on their system and reporting on their usage. This is where P-Tracker's design

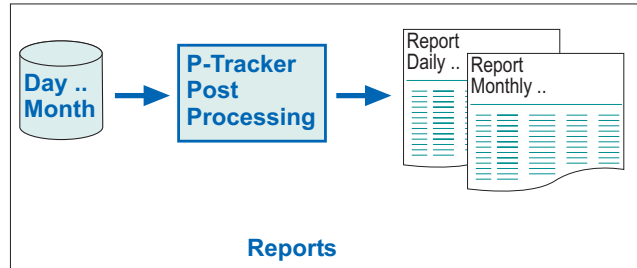


allows you to easily ascertain these critical LIAM objectives quickly and accurately.

P-Tracker's Monitor Output contains all the modules called within your defined monitoring interval, on the monitored image. This along with the LIAM-Table, defined by the user, and containing information on products (applications, licenses, vendors, etc.) as well as load libraries and notable modules will give you accurate reports on usage of products and their version/release.

Call Sequences (CS)

Using P-Tracker's ISPF interface, maintenance programmers can carry out generic searches on program modules and library names and display for any module, which other modules were called by it and which other modules called it. The relevant load-libraries are also displayed and thus it is possible to create the complete 'Calling Chain' of any executed program.



Inventory and Housekeeping

As a rule it is not necessary to include all load-libraries when creating call-chains. For in-house system developers and maintenance teams it is of no consequence to know the calling sequence in licensed vendor-products. Such libraries may therefore be reasonably excluded from the monitoring process if the user is only interested in the call sequence as a source of information for development programmers. P-Tracker optionally maintains the 'Table of Called Modules', which relates to how often a module was called since P-Tracker was installed/activated. A comparison between this 'Table of Called Modules' and the load-libraries, delivers an interesting report of all modules not used during the monitored interval. If the period is long enough, e.g. over a quarter or year-end, it may indicate obsolete modules or a source of error. P-Tracker delivers a report of "Never used modules" which may be removed from the production libraries.

Daily, Weekly and Monthly Chunks

In the post-processing control panel the user defines which file segments or "chunks" the monitor's raw data is to be held, i.e. daily, weekly, monthly and/or yearly. P-Tracker's reporter produces generic reports based on selected chunks. The user chooses the desired fields, which are to appear as columns on a report from all those (attributes) collected by P-Tracker. Any sort sequence is user-defined, as is the name of the report.

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