

Adrenaline™

More details about fine-tuning iSeries performance



Winning the optimization battle on multiple fronts

Unbeaten Path's Adrenaline service begins with an overview assessment. We look at your system to roughly quantify the extent of response time improvement that is theoretically achievable. The assessment provides insight on the most efficient approach to harvest victories in these three tuning categories:

⊕ Performance tuning

Performance tuning is the iterative process of appropriately balancing the resources available to the iSeries system. Tuning the system involves separating workloads into different memory pools to take advantage of Expert Cache. We also analyze performance reports to find the optimum setting for time slices, ensure disk activity is balanced, check for anomalies on communications lines, review the settings of system values, and, as necessary, adjust priorities.

⊕ Database tuning

Database tuning embraces both database analysis and the way your enterprise uses those databases. Unbeaten Path's Adrenaline service then create indexes to improve performance.

INFOR cannot ship performance-enhancing indexes with BPCS / ERP LX because each BPCS client employs the software in a unique way. For example, let's say company A has many customers and relatively few items while company B has thousands of items but only a few customers. Those two companies need remarkably different indexes. If INFOR provided the same "average user" indexes to both companies, the result would be detrimental to system performance at both companies.

Our Adrenaline database tuning exercise employs a series of cycles through nine hypothesis, experiment, and measurement steps. The iterations continue until we are confident that efficiency has been optimized. The attention level descends to individual BPCS / ERP LX programs that are 'notorious' iSeries chip stranglers.

Database tuning must necessarily include attention to regular work-day activity, overnight processing, and peak-load processing (e.g. the month-end close).

⊕ Database housekeeping and software-specific adjustments

The database is analyzed for files which are incrementing, which contain deleted records, or which are work files that should be cleared nightly.

Illustration of a need for housekeeping attention

INFOR ships files with a capacity of 10,000 records (1,000 increments of 1,000 records are allowed). Files such as ITH and RAR usually exceed this capacity by a generous margin. Jobs employing those big files are halted while the files are incremented ...and that process can be repeated several times during the same job.

Additional specialized tuning is required for BPCS/ERP LX. Examples of analysis targets include job descriptions/classes and subsystems that handle Client/Server jobs.

Insights about SQL + BPCS version level

The introductory “**first things first**” section of the [overview document about Adrenaline professional services](#) made this point: thorough archiving is an essential activity before launching an iSeries performance fine-tuning initiative. That’s even more true for BPCS versions more recent than v5.x. Here’s why:



Between v4 and v5, BPCS was rewritten to use SQL file accesses. That works quite differently from the legacy RPG chain functionality, of course. SQL file access episodes evoke IBM’s SQL Optimizer. The Optimizer makes decisions based on many variables (e.g. memory parameters) and the frequent result is that SQL does things you wouldn’t ever be able to predict. An example of unexpected SQL results is in the box below:

The SQL Optimizer dynamically creates an index over the ITH file for every access within a screen program ... and then throws it away each time. That’s terrible for iSeries performance because each index creation job might take 20 seconds or more.

**During those seconds,
the RISC chip is 100% blocked to any other user.**

Another facet of SQL that isn’t necessarily top of mind has to do with deactivated (soft-deleted) records. SQL consumes chip resources by reading and working with all the records in a file, even the deactivated ones. That’s another good reason to do a thorough archive and reorganization for key master files. That can be accomplished using [Locksmith software](#).

Note that if your company migrates from some version x to version y of BPCS or ERP LX, there is strong rationale to repeat the Adrenaline optimization process.

Other surprises from the SQL Optimizer

IBM doesn’t make it easy to fine-tune your system because things keep moving.

Starting at V5R2 of the operating system, IBM re-wrote the entire database to fit SQL better than RPG and from that point forward, there were two different SQL Optimizers. Some things (e.g. select/omit logicals) are now penalized by being sent back to the older Optimizer.

Finally, even when you have gone through the effort to create a custom index, sometimes Optimizer won't use it. Also, it’s not unusual for the Optimizer to look at your carefully written SQL statement, ignore it, and then write its own 'program.'

More details about Adrenaline

Adrenaline professional services are performed by one of Unbeaten Path’s technical experts using a VPN connection to your iSeries.

The services we deliver are subject to our money-back-guarantee of customer satisfaction.

Questions ?

It would be a privilege to answer any questions about **Adrenaline iSeries performance optimization** services. Here's Unbeaten Path International's contact information:

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Send us an e-mail (click [here](#))

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