Vermont Information Processing

”GiAPA – a game-changer for resolving our performance challenges. We have improved our customer service... and have a much better ROI on our IBM i”

Interview with Brian Kelly, Technical Director, Vermont Information Processing

GiAPA – Automatic Application Analysis on IBM i

Introduction to Vermont Information Processing

Vermont Information Processing is completely dedicated to the beverage industry and has been since 1972. We partner with beer distributors, soda bottlers, breweries, wineries, distilleries, and other beverage suppliers to help their businesses run smoother, smarter, and more profitably.

When you work with VIP, you get more than just access to our technology and innovations; you're adding a team of specialized-beverage industry experts who can draw on years of experience. From day one, your team is part of our team. We'll stay at your side to ensure your technology meets your needs and that you're uncovering critical business insights that will be game-changers for your operations and sales.

Challenges:
Performance analysis and improvement was trial & error

Hosting hundreds of customers on our cloud-based solution has provided some significant challenges, especially as we continue to grow.

Resolving performance challenges used to be based on trial & error. We would almost entirely rely on before/after run times to see if anything was performing well and we had no idea of the implications on I/O usage.

Also, we were not good at analyzing the many small services programs that run tens of thousands of times per day. These programs which alone take up minimal cpu time, cumulatively have a significant impact on performance. Almost all analysis was based on thinking “This job seems to be taking a long time” as opposed to hard statistics.

“Today, if you are not using GiAPA, you are basically flying blind. GiAPA has not only gathered the information for us but eliminated the noise to help us focus on the actual performance issues... and GiAPA even points out what changes can be made to gain efficiency.”

“I cannot speak highly enough about the tool. I would recommend GiAPA to anyone.”

*“You can never stop improving!
We will continue to evaluate and improve our massive portfolio of ~20.000 programs making the overall footprint of each job smaller and smaller.”*

Brian Kelly, Technical Director, Vermont Information Processing

Some of the Benefits

GiAPA has helped us focus on the actual performance issues instead of 'flying blind'.

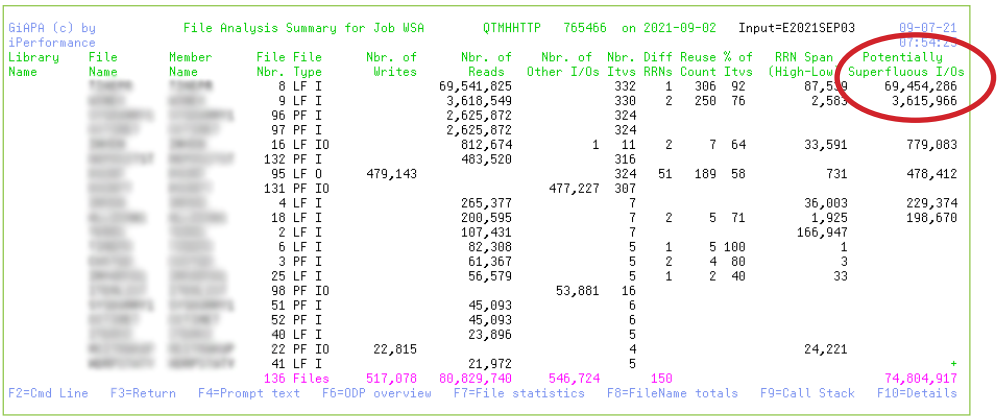
We have been able to deal with issues during high-volume/high-traffic times and completely eliminate the performance problems that we would see with high CPU and high disk utilization spikes.

Also, on a couple of occasions, we have been able to push the need to add additional hardware – as the gains from both an I/O reduction as well as a CPU utilization effort have been enough to delay the need.

How do you define GiAPA?

A combination of an operational tool, and a development tool. DEVELOPERS use it to see before/after statistics on their changes - and GiAPA can even point out what changes can be made in programs to gain efficiency.

OPERATIONS use it to look at the current production landscape to see what is inefficient, what looks wrong, or what might be the reality (hard numbers) to make informed decisions.



GiAPA (c) by iPerformance — File Analysis Summary for Job WSA — QTMHHTTP 765466 on 2021-09-02 — Input=E2021SEP03 — 09-07-21 07:54:2

Library Name	File Name	Member Name	File Nbr.	File Type	Nbr. of Writes	Nbr. of Reads	Nbr. of Other I/Os	Nbr. Itvs	Diff RRNs	Reuse Count	% of Itvs	RRN Span (High-Low)	Potentially Superfluous I/Os
			8	LF I		69,541,825		332	1	306	92	87,519	69,454,286
			9	LF I		3,618,549		330	2	250	76	2,583	3,615,966
			96	PF I		2,625,872		324					
			97	PF I		2,625,872		324					
			16	LF IO		812,674	1	11	2	7	64	33,591	779,083
			132	PF I		483,520		316					
			95	LF O	479,143			324	51	189	58	731	478,412
			131	PF IO			477,227	307					
			4	LF I		265,377		7				36,003	229,374
			18	LF I		200,595		7	2	5	71	1,925	198,670
			2	LF I		107,431		7				166,947	
			6	LF I		82,308		5	1	5	100	1	
			3	PF I		61,367		5	2	4	80	3	
			25	LF I		56,579		5	1	2	40	33	
			98	PF IO			53,881	16					
			51	PF I		45,093		6					
			52	PF I		45,093		6					
			40	LF I		23,896		5					
			22	PF IO	22,815			4				24,221	
			41	LF I		21,972		5					
			136	Files	517,078	80,829,740	546,724	150					74,804,917

F2=Cmd Line F3=Return F4=Prompt text F6=ODP overview F7=File statistics F8=FileName totals F9=Call Stack F10=Details

One of Brian Kelly's favourite areas of GiAPA is the File Analysis Summary which can show superfluous I/O's. This has been huge in improving performance by targeting those with high I/O's.

VIP's journey with GiAPA and ~20.000 programs

There was a time when we would look at our customers' jobs and target those that were utilizing over 2 hours of CPU time or had > 1 million superfluous reads.
Then, we started targeting those that were over 1 hour.
Now, we are hard pressed to find any that are over 45 minutes, but we will continue to evaluate and improve our massive portfolio of ~20.000 programs.

VIP's IBM i environment

- 9 production servers, each with a DR box
- 3 test servers + 1 development

GiAPA usage at VIP

- Since Jan 2015
- 5-10 developers use GiAPA every month
- 5 operators + 3 additional people

The Vision Moving Forward

VIP plan to continue to:

- Improve the health of the box
- Improve the performance for the customers
- Save on additional hardware

GIAPA IN A NUTSHELL

GiAPA helps IBM i users with:

- Automatic application analysis every 15 sec.
- Program optimisation suggestions
- Resource reporting

Resource usage < 0.1% CPU

Contact

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