software ^AG

Save mainframe costs
ZIIP™ your Adabas & Natural apps

Reduce your mainframe TCO with ease

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Can you afford not to zIIP?

With two-thirds or more of your IT budget dedicated to just "keeping the lights on," you likely face constant pressure to reduce the cost of your existing mainframe systems. If you could quickly implement a risk-free solution that required no code changes and achieved immediate cost savings, wouldn't you try it?

Let Software AG help you significantly lower the cost of operating your IBM® z System® mainframe by moving significant workload from your main CPU to IBM's System z Integrated Information Processors (zIIPs). With our zIIP enabled Adabas & Natural platforms as well as Natural for Db2®, you can achieve immediate IT cost savings while still delivering high performance and reliability.

Our customers have reduced costly CPU consumption on their mainframe by up to 98 percent, resulting in hundreds of thousands of dollars in savings within months—savings that will continue for life. With this rapid ROI, even if you are planning a future change in platforms, you will benefit significantly from implementing either Adabas or Natural, or both, with zIIP capabilities.

Let us show you the potential savings before you even acquire new zIIP engines. We will conduct a free proof-of-value assessment by selecting critical batch, online or database jobs with high CPU consumption to run with and without Adabas & Natural for zIIP. We will then analyze the results to determine your specific ROI.

It couldn't be easier to get started. All measurement tools needed are already in your products. Just turn on the switch. Since no application changes are required to use zIIP, installation is fast and simple. How can you afford not to explore leveraging zIIP with your Natural or Natural for Db2 applications or Adabas or Db2 databases to reduce the cost of your existing mainframe systems?

Ask your Software AG representative today for a free proof-of-value assessment.

Realize immediate benefits

The benefits of leveraging zIIP with your applications and databases are really significant for simply reducing the amount of CPU consumed on your mainframe. By offloading online, batch and database workload to lower-cost zIIP engines, you reduce the TCO for the whole machine.

KEY BENEFITS

Customers have already achieved significant savings with Natural for zIIP and Adabas for zIIP. Imagine how much more you can save with Natural for Db2 for zIIP.

ROI
IN 5 MONTHS

ZERO
CODE CHANGES
REQUIRED

$623K
SAVED IN 8 MONTHS

By leveraging zIIP with your applications or databases, you can:

- Reduce your mainframe's TCO

- Achieve immediate results, without disruption, as installation requires no changes to the application

- Significantly reduce mainframe CPU consumption, typically by 90 percent or more for Natural applications and 75 percent or more with Adabas

- Reduce even more CPU consumption by offloading additional Db2 workload for Natural for Db2, typically 90 percent or more for Natural applications and 60 percent or more for Db2

- Save software costs and mainframe operating costs

- Improve price-performance ratio by increasing throughput with low-cost zIIPs while deferring hardware upgrades and their attendant software costs

Unlike other vendors who can only offer partial solutions for offloading enterprise application workload, Software AG owns both the application and data management platform and thus can offload a large portion of your mainframe workload. We strive to make Adabas & Natural the most efficient application platform on the IBM z System mainframe in the world so you can achieve the lowest TCO possible for your environment.

# Customers quickly achieve significant savings

Customers using zIIP with Natural applications have realized a 70 to 90 percent or more reduction in CPU consumption on the mainframe, yielding significant savings in operational costs, rapid ROI and other operational benefits.

European bank realizes immediate load reduction
Enabling Natural to leverage zIIP is a great example of customer-driven development. Collaboration between Software AG and a large IT solution provider in Austria, who zIIP enabled Natural batch workload in production, yielded important lessons that led to product enhancements that greatly improved the benefits of leveraging zIIP.

For example, a new way for the Adabas-Natural interface to communicate with the Adabas nucleus was implemented to avoid switches for Adabas calls altogether. This new communication does not require the return from zIIP to the GPP, thus reducing the number of switches dramatically and allowing even more CPU consumption to be moved to the zIIP. This new Adabas communication was a breakthrough in reduction of overhead.

The customer, a European bank, put the improved product back into production for its end of quarter batch processing and saw its GPP load reduced from 100 percent to 22 percent.

GPP LOAD WAS **REDUCED**

100% » **22**%

IN EARLY CUSTOMER REVIEW
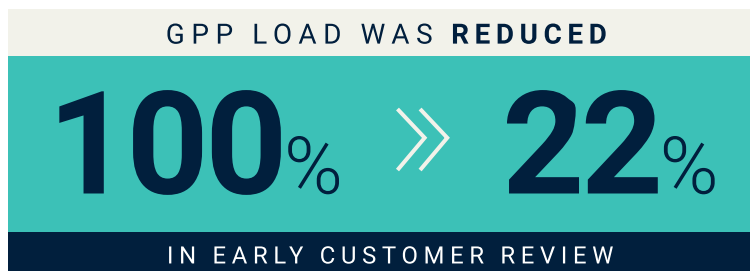
Scandinavian insurance company zIIPs batch in less than two weeks
A major insurance company in the Nordics leveraged zIIP to offload 90 percent of batch and 85 percent of its online workload from its mainframe Natural environment. This increased headroom, providing much-needed capacity for development and testing environments. By reducing overall CPU consumption by 22 percent, the company estimates that the solution will pay for itself within a year, defer the need for a mainframe capacity upgrade and, in the future, help reduce the cost of its mainframe environment.

U.S. pension fund realizes rapid ROI
America's second largest public pension fund and the largest educator-only pension fund in the world saved much faster than anticipated when it implemented Natural with zIIP. The agency expected to recoup the investment cost over the first year but achieved this savings in the first five months.

There were no Natural code changes or modifications to batch jobs required to use zIIP with Natural. This was a huge selling point for the customer, since its team was concerned that a new product would require more testing and more validation—in short, more time to realize savings. Savings happened faster than planned. In eight months, the agency saved a total of $623,768 or $77,971 a month. The savings achieved on both batch and online processing will continue for life.

There has also been a net positive effect in performance. While business processes moved to zIIP saw no degradation in speed, some business processes that remained on the central processor now run faster.

U.K. automotive company improves SLAs

It took less than a month for an automotive company in the U.K. to significantly reduce CPU consumption by offloading much of its batch processing to zIIP. These savings freed up space for a more resilient development and testing environment and also helped provide additional production space for one of its partner organizations.

This improved the company's ability to deliver on user SLAs, improved application performance and reduced the size of the batch window. Even though much of the CPU saving was reallocated, the company was still able to reduce overall CPU consumption by 20 percent.

Bank in Asia-Pacific installs solution in only two days

Although planning to shift its funds management system to Linux in the future, a bank in Australia recognized the opportunity to achieve significant cost savings immediately by leveraging zIIP. Testing results demonstrated great potential—savings of 90 percent for online processes and 60 percent on batch.

The primary benefit was easing the pressure on its hard-capped MSU use. Using zIIP eliminated the need to secure additional MSUs from other business units and enabled it to release six MSUs back to their development environment. These MSUs had previously been taken from development to support production performance shortfalls, which heavily impacted the release cycle. Thanks to quicker batch and online processing, greater customer satisfaction was achieved.

U.S. agency postponed hardware upgrades and reduced operating costs

By using zIIP with Natural, a state agency in the U.S. avoided purchasing a new mainframe when approaching capacity. By moving eligible workloads to the zIIP, the computer system used by state and county workers to determine eligibility for public assistance and health care saved well over $150,000 a month in CPU costs.

REDUCTION IN CPU	$150,000 A MONTH IN SAVINGS	POSTPONED MAINFRAME UPGRADE
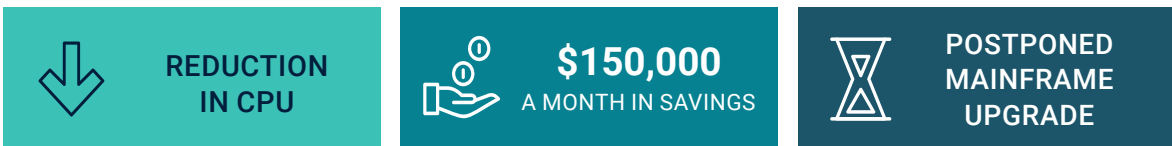
Why zIIP? An IBM® innovation

For the past few decades, the perceived cost of running business workloads on a mainframe drove companies to consider alternative hardware platforms employing operating systems such as Linux®, UNIX® and Windows®.

Today, judicious exploitation of IBM's innovative zIIP specialty engines can increase effective capacity by offloading eligible workload from the General Purpose Processor (GPP), thereby reducing the need for costly upgrades and improving total cost of ownership. zIIP processors can be purchased for significantly less money than equivalent GPP capacity. This means any infrastructure or application functions that can be diverted to a zIIP run at a much lower cost.

" Our Adabas & Natural system is highly reliable with tremendous transaction speeds and low TCO. Our productivity with Natural is very high and we are always able to improve system performance with tools like Adabas Fastpath, Natural for zIIP and Event Replicator for Adabas."

— Alfred Prenner | Systems DBA, IT Solutions

Take an optimal step toward Digital Transformation

At Software AG, we strongly believe that mainframe applications have a strong role to play in a company's future. As such, we strive to provide the fastest, most efficient database and application platforms on the mainframe— Adabas & Natural!

To help our customers address the increasing demand to serve online, mobile and cloud applications, as well as the Internet of Things, we introduced Natural for zIIP for Batch, Com-plete, IMS and CICS®; Adabas for zIIP and Event Replicator for Adabas for zIIP. In 2022, we also added Natural for Db2 for zIIP to extend even more GPP savings to Natural for Db2 applications.

With these add-on products, you can move your ever-increasing batch and online application workload as well as database workload to zIIP—a low-cost alternative on your mainframe—and reduce your overall total cost of computing. By increasing the availability of your business data to your digital world, Adabas & Natural for zIIP make the mainframe environment more affordable and attractive to include in your Digital Transformation.

Adabas & Natural for zIIP and Natural for Db2 for zIIP are examples of Software AG's Adabas & Natural 2050+ agenda in action. We are continuously innovating and developing new products and services to ensure your Adabas & Natural applications—that hold your differentiated business logic and high-value data—can play a key role in your organization's Digital Transformation.
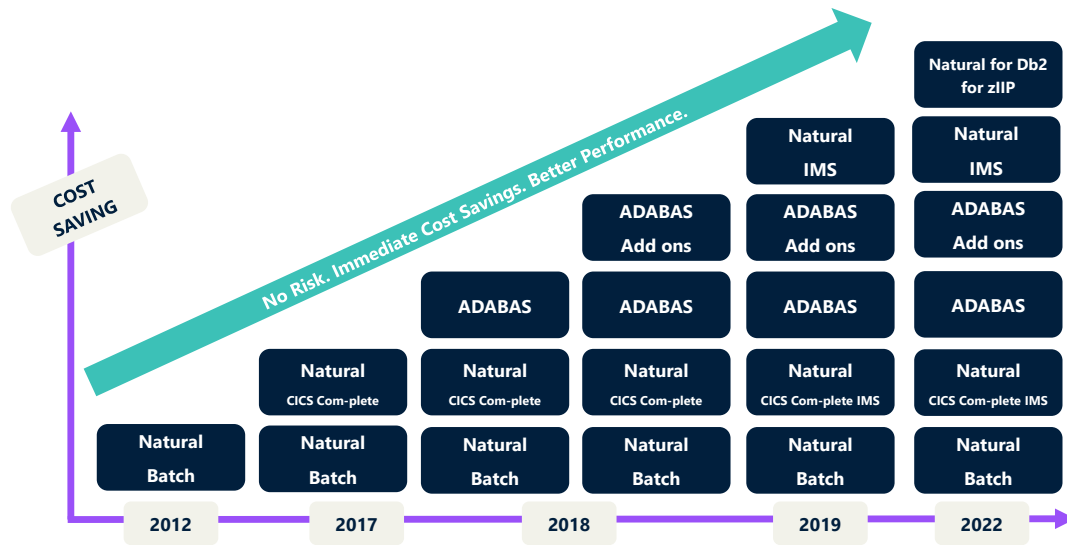

Figure 1: zIIP offloading—Adabas & Natural 2050+ in action

Adabas & Natural 2050+ will help you:

- Optimize your IT operations to save costs
- Modernize your applications to appeal to users and developers and connect with the newest technologies
- Transform your business to be digital-software-driven

Get started on your own Digital Transformation—implementing zIIP with Adabas & Natural or Natural for Db2 is an easy first step toward optimizing your operations and reducing your TCO.

Explore our Adabas & Natural 2050+ agenda for more ways to optimize, modernize and transform your business to become future-ready—now.
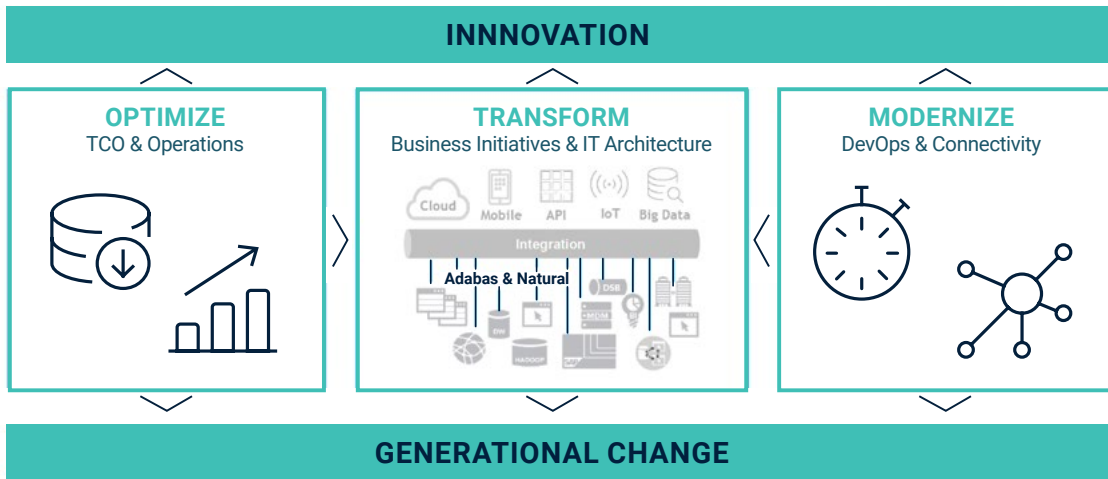
Visit 2050.softwareag.com

Figure 2: Adabas & Natural 2050+ Agenda

How zIIP enablement works

To leverage zIIP with Adabas or Natural, a new add-on for each platform must be installed. This tool moves workload from the GPP by switching execution to zIIP whenever possible. Much thought and effort was spent to keep the overhead involved with switching to a minimum and maximize the execution time on the zIIP processor. As a result, reductions in GPP CPU of up to 98 percent can be achieved. Since no changes to the application are required, these low-risk solutions are easy to deploy.

CPU-intensive workload is predestined to be executed on zIIP processors. Workload offloaded to zIIP can run at unlimited processor speed. Running eligible workload on zIIP gives you the benefit of executing tasks faster for less money.

As you see in the zIIP usage report in Figure 3, peak CPU usage is reduced to a lower value by offloading both Adabas & Natural workload. In this example, the four-hour average across total CPU usage is reduced significantly. Our goal is to reduce mainframe operation costs by providing the most cost-efficient application runtime environment on IBM zSystems.
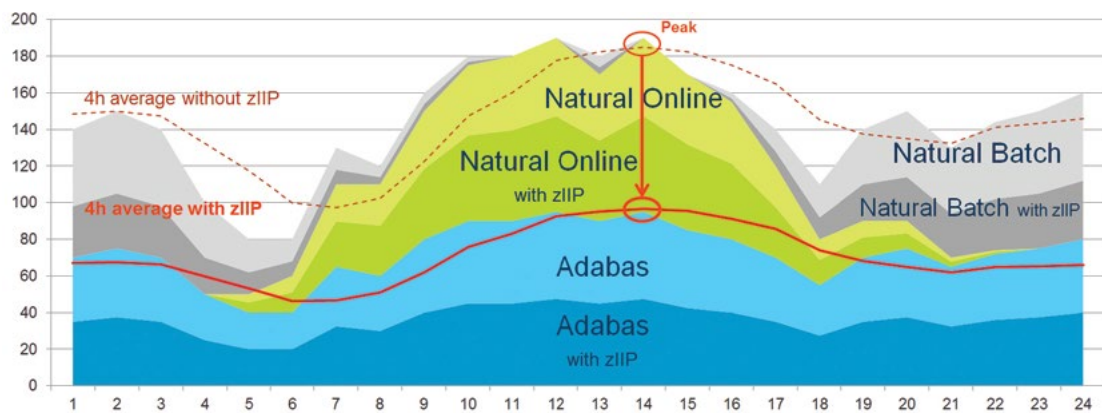

Figure 3: Reduce Peak Workload with zIIP Offloading

The total amount of load that can be directed to zIIP depends on numerous factors, such as the structure of the applications, user exits, file I/O, 3GL components, external Sort and other software competing for zIIP capacity.

Natural for Db2 for zIIP extends our zIIP enablement solutions to include Natural for Db2 applications. Now you can reduce even more GPP by shifting Db2 client and nucleus workload to zIIP, thanks to the ability to access the Db2 application remotely using a JDBC driver. Realize up to 90% GPP reduction on your core Natural application with Db2 clients and up to 60% reduction for the Db2 nucleus, as shown in Figure 4.
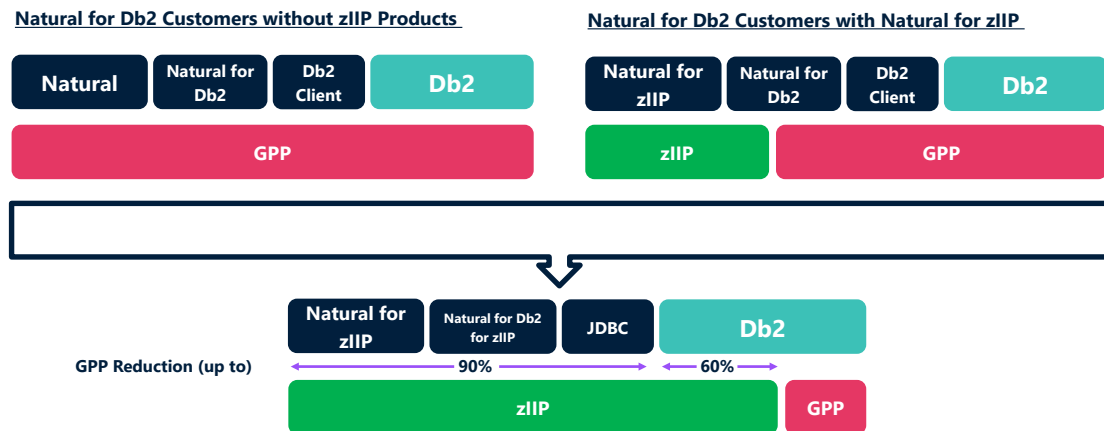

Figure 4: Achieve greater savings by shifting Natural for Db2 workload to zIIP.

Monitor your zIIP savings opportunity

What zIIP statistics are available for viewing?
You can use appropriate tools for Adabas & Natural to display zIIP statistics and analyze your CPU savings. The tools display the number of GPPs and zIIPs available in your z/OS environment. You can see the CPU time consumed and view a list of components that are causing switches between zIIP and non-zIIP mode.

How can I determine how much load could move to zIIP?
Statistics are provided on how much load is moved to zIIP as well as how much load could not be moved due to limits on zIIP capacity. You can forecast how much load will be directed to zIIP in your environment from statistical reporting. Even if you don't currently have any zIIPs in place, the statistics will tell you how much load could be moved to zIIP for each Adabas & Natural job as IBM has added "PROJECTCPU" as an option in PARMLIB member IEAOPTxx. With Natural 8, output of statistics can be controlled globally via the Natural parameter NTZIIP (on,stat=on,print=all).

" Natural for zIIP has exceeded CalSTRS expectations. It has allowed us to save significant Natural batch processing costs in a span of few short months with very little effort."

— Mohammad Asghar | Adabas DBA, Business Solutions, CalSTRS

Start saving now

Ask your Software AG sales representative about projecting your ROI, before even acquiring zIIP processors. Software AG will conduct a free proof-of-value approach by:

- Selecting some critical batch jobs, TP environments or databases with high CPU usage

- Running select databases without and then with zIIP

- Running select applications without and then with zIIP

- Analyzing the results to determine your specific ROI

Don't give up on your mainframe assets as you make your transformation to address the digital economy. zIIP provides a low-cost alternative to increasing capacity on your existing mainframe if you are reaching your z/OS capacity limit or are just looking to reduce operating costs. Adabas & Natural for zIIP and Natural for Db2 for zIIP are ideal solutions to reduce costs while addressing increased demand for transaction processing.

Guido Falkenberg is Senior Vice President of Adabas & Natural at Software AG. He has been with Software AG for more than 20 years and has vast experience with mainframe modernization, integration middleware, big data and SAP® solutions. Guido has worked in R&D and as an IT enterprise architect helping companies to align their application portfolio towards new technologies and business scenarios. He drives and evangelizes the technology strategy for Adabas, Natural, and mainframe modernization.

Take the next step

Learn how much leveraging zIIP with your applications and databases can lower your mainframe TCO. Our experts will assess your mainframe environment, peak usage times and workload to determine the full potential of enabling zIIP for your databases, batch jobs and online transactions. Ask your Software AG representative about a free proof-of- value assessment.