

# | Powering your performance

# the 6 pillars of performance

If you want to enhance your performance, these are the 6 pillars to focus on. At SQL Perform, that is exactly what we do. We deliver you expert advice and provide cost-effective performance tools that significantly improve the performance of your Dynamics NAV products on SQL Server.

1  
proper  
hardware.

2  
proper  
maintenance.

3  
tuning.

4  
monitoring.

5  
business  
intelligence.

6  
archiving.

# Our specialties

## 1. Valuable hardware & software

- | **Infrastructure planning:** We help you plan and size your environment in implementation or upgrade projects
- | **SQL Installation and Upgrades:** Do you sometimes lose yourself in the jungle of licenses? Stop searching and simply ask an expert. We stand by you with advice and help with any upgrades procedures, more cost effectively than ever before. And exactly the way it should be done: adapted to your needs and not “Next Next Finish”.
- | **Performance-Labs:** We measure throughput and unveil bottlenecks via extensive testing services

## 2. Reliable Maintenance

- | **Perform-Maintenance tool:** Ensure database efficiency and boost your performance by making use of a tool specifically designed for maintenance plans

## 3. Tuning

- | **Perform-Analysis tool:** Find the most efficient and speediest resolution to system bottlenecks
- | **Health Check:** We deliver you a 360 degree system review on performance, system efficiency and preventative care and a plan showing you how to approach performance bottlenecks
- | **Performance-Tuning:** We get your system back on track in no time. We do application tuning on all products and code review on Dynamics NAV

## 4. Monitoring

- | **Perform-Tracking tool:** Track your database in a reactive and proactive mode, changing the way you take decisions by gaining historical data insight and evaluating trends over time
- | **Perform-Monitoring:** We keep track of performance to maximize availability and avoid downtime
- | **Support Desk:** You can rely at all times on the SQL Perform Support Desk for ad hoc queries or immediate problem resolution

## 5. Business Intelligence

- | We help you evaluate and optimize the impact of your BI solution on the overall performance of your database

## 6. Archiving

- | **Perform-Archiving tool:** Archive years of business data while keeping it within reach and retaining only the data you need
- | **Perform-Compression tool\*:** Compress business data while automatically replacing it with new summarized data

(\*) only available for Dynamics NAV products

## How can we help you?

Whenever you experience performance issues of your Microsoft Dynamics NAV products on SQL Server, it is a good time to give us a (emergency) call. We support and assist you in ensuring the optimal running of databases. You can call for our help for anything: planning, implementation, installation and setup, proactive maintenance, training, problem solving and much more.

## How we work (fast)

Because you want issues to be resolved fast, SQL Perform has developed a methodology that does exactly that. How it benefits you?

- ✓ Faster project time – so you can focus on your core business ahead of time
- ✓ Lower overall cost – you control your budget and keep overhead down
- ✓ Focus – you get the right solution: exactly what you need and want
- ✓ Minimum nuisance – you can be part of the development process, without taking you away too much from your day to day business

## Why else work with SQL Perform?

- ✓ You work with a team of SQL and NAV specialists, each with a strong technical background
- ✓ You talk with experts that truly focus on the performance of NAV on SQL Server – 100% of their time!
- ✓ We are your one stop performance solution center, so you can ask us anything
- ✓ You can always count on our experience to find the solutions you really need
- ✓ Our customers and partners confirm they feel much more secure since working with SQL Perform

## About SQL Perform

SQL Perform immediately sorts out critical performance issues of Microsoft Dynamics NAV products and other databases such as AX and CRM on SQL Server. A unique focus on these platforms creates a second to none customer service. We proactively take action to track bottlenecks and prevent escalation. SQL Perform delivers the expertise and the tools to fully optimize the performance of databases, to our customers in Europe, US and Canada. As a performance partner, we give our customers business a sustainable performance boost. Could your database use a boost?

[www.sqlperform.com](http://www.sqlperform.com)

# Perform-Tools

With Perform-Tools, optimizing Microsoft Dynamics products on a SQL Server platform never was this easy. They are a fully tested and supported set of tools that ensure the ongoing performance optimization of your databases. While Dynamics NAV (formerly Navision) offers your growing business a powerful yet cost-effective solution, we see an ever growing adoption of a Microsoft SQL Server back-end.

Perform-Tools, solely developed for Dynamic NAV products on SQL Server, addresses three major pillars of performance:

1. **Perform-Analysis:** Valuable performance analysis
2. **Perform-Maintenance:** Proactive database maintenance
3. **Perform-Tracking:** Longterm performance monitoring



Feel secure?



In total control?



Monitor  
ups & downs?



Prevent  
disasters?

# Analyzing tools for the escalation of performance issues

## Perform-Analysis tool

**With Perform-Analysis, you have the most efficient and speediest resolution to solve system bottlenecks.**

### Product highlights

- | "Soft" bridge for SQL Server and NAV, AX, CRM
- | Disk latency analysis
- | Memory usage analysis
- | Index cost analysis
- | SIFT index cost analysis
- | Table costs analysis
- | Blocking analysis
- | Locking analysis

### Why would you need Perform-Analysis?

Microsoft Dynamics NAV and AX are a comprehensive Enterprise Resource Planning system. For instance, Dynamics NAV has close to 1000 tables within a database that covers every single area of your business. Since Dynamics NAV is equally an OLTP and OLAP system, these tables have both transaction and analytical processing purposes. To manage this comprehensive system, you need a dedicated set of tools that understands the setup of Dynamics NAV. These tools can assist Dynamics NAV and SQL Server experts in **tuning your system to achieve optimum performance.**

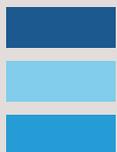
Soft bridge: Perform-Analysis provides a "capability bridge" between SQL Server and Dynamics NAV, AX or CRM. For example, Certified NAV developers will have vital information about Table indexes and SIFT indexes that cause the largest overhead. They can focus on the tables, indexes and application areas in their optimization efforts.

### Typical questions addressed in the analysis process

- | 1 | How many blocks, time outs or deadlocks did you encounter over a period of time?
- | 2 | Which application areas were affected?
- | 3 | Which users were involved?

### Know what to focus on

Perform-Analysis provides the answers, showing not only SQL Server IDs but also more meaningful and clearly described Dynamics NAV table IDs and names. Perform-Analysis makes it crystal clear where the focus should be. Software installation has proven that removing the top 20-50 index and SIFT overheads will yield at least a 20-30% system performance boost - without a need to change a single line of code.



**Want to boost your system performance?  
Let's start with analyzing your environment now.**

# Health Check Service

## week 1: Analysis

Monitor the system

Collect data

Analyze data



## Perform-Analysis+: Health Check

### Want to optimize the return on your Dynamics NAV investment?

You keep your business systems running at peak performance through proactive, real-time performance monitoring. Performance degradation over time is the 'number one' cause of lost productivity. Systems without regular preventative maintenance will inevitably slow down your staff's interaction with your NAV system, increase their frustration with the product and eventually affect customer experience. These increasing issues directly influence your company's bottom line.

### Act now. Get a Health Check, a 360 degree system review



SQL Perform specializes in optimizing your business system's performance. By implementing SQL Perform's Active Health Check Service, your company gets a 360 degree system review focusing on performance, system efficiency and preventative care. This information will enable you to effectively fix problems before they start.

### It helps you protect your NAV investment

Let us help you. Our team of specialists is here for you to

- | review your system
- | provide a health check report
- | assist you or your NAV partner to make the system running smoothly
- | confirm system efficiency

It's like an oil service of your car. For sure you regularly have it; why not protect your NAV investment just like that?

### A new way of decision-taking

The Health Check helps you take decisions based on well-grounded trends instead of ad hoc measurements.

**week 3: Review**

- Analyzing monitored results
- Checking overall efficiency
- Proposing recommendations
- 'Helicopter View' Report

**week 4: Conference call**

- Report explanation
- Agree on further actions

**Benefits**

- ✓ Independent review of your system
- ✓ Cost effective fixed price
- ✓ Reduces risk of performance related issues
- ✓ Proven methodology
- ✓ Provided by experienced Dynamics/SQL experts
- ✓ Tested and well appreciated by many happy customers

**The outcome of a Health Check: Helicopter View Report**

**Perform-Tools** + **Helicopter Report** = **A strong formula to your benefit**

# Proactive database administration tools for optimal database performance

## Perform-Maintenance tool

### Product highlights

- ! Gives you a **20-30% performance boost** compared to non-maintained systems
- ! Allows to implement an **advanced maintenance plan** (useful for large databases)
- ! Has a **self-learning** algorithm based on the last 10 runs of the maintenance plan. It indexes with optimum **page fill factor** for read and write performance
- ! Provides the option to **split up** the maintenance plan over time, e.g. per company, in a limited timeframe, weekdays versus weekend, etc..
- ! Optimizes SQL Server **statistics** making Query Optimizer more efficient

### Did you know...

#### ” There is an 80-90% probability that your Microsoft Dynamics database is not enabled for optimal performance

Perform-Maintenance will ensure your back-end database is as efficient as possible. When it runs for the first time, Perform-Maintenance will ensure your database setup options will be correct. Immediately following that, it will remove unnecessary overheads. This program will continue to run on a regular basis, giving you the perfectly running Dynamics database that you've always wanted.

#### ” Many standard statistics within SQL Server prove to be of little value

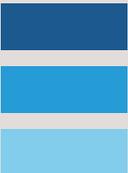
Perform-Maintenance will remove the unnecessary statistics, while at the same time providing valuable and meaningful Dynamics orientated statistics.

#### ” In the typical Dynamics system many tables are volatile and become extremely fragmented

Perform-Maintenance will make sure that indexes and data are de-fragmented and stored as efficiently as possible by optimizing both read and write times.

### **Benefits: 20 to 30% more performance**

- ✓ It has been proven by many customers that a properly maintained back-end database can yield extra 20-30% of performance compared to databases without Perform-Maintenance being run.
- ✓ Also backups will become quicker due to smaller files.
- ✓ Perform-Maintenance can be run unattended allowing SQL Perform clients to concentrate on using the system to run the company.



**Want to ensure the efficiency of your database and yield its performance? Contact us to implement your professional maintenance plan now.**

# Performance tracking & monitoring to keep a finger on the pulse

## Perform-Tracking tool

### A revolution in gathering vital system statistics

Performance-Tracking for Microsoft Dynamics helps companies gain access to the system “pulse” much faster than you could ever imagine. Tracking your database in both a reactive and proactive mode allows you to gain historical data insight and evaluate trends over time. It will change the way you take decisions.

### Track through historical data

In order to really know if something is slower than it should be or has been damaged, you require historical data. When someone says the system is “slow” today, you can then look back at past data to see if the performance was the same. Without that essential information, you’re simply making an educated guess, and that certainly can’t improve your organization. Using Perform-Tracking to collect this type of baseline data can truly change the way you do business.

### Better decision taking

Perform-Tracking shows the impact of changes and provides vital information as to what happened when, both in a reactive and a proactive mode. Whether you need to evaluate what isn’t functioning correctly or how to gather information to evaluate trends over time, Perform-Tracking can help.

### Focus areas or information collected by Perform-Tracking

#### User Activities

**Perform-Tracking monitors a variety of baseline data related to user activities and system stress.**

#### **This can be used for various KPIs :**

- | the amount of locking and blocking in the system
- | the number of deadlocks and timeouts

#### **It can also be used to create records:**

- | for which user performs majority of transactions
- | one that shows the majority of storage I/Os
- | who is taking majority of CPU load

### Valuable information at your fingertips

The information you need is truly right at your fingertips with Perform-Tracking. Once gathered, you can use it for performance analysis purposes or even to form a baseline should a serious problem ever occur. By proactively working and collecting data in the database itself, you gain valuable insight that just wasn’t possible before.

## Object Changes

- | Have you ever experienced unwanted or unplanned object changes?
- | Do you know who has changed what and when?
- | Has someone ever deployed an object, ran some functions and then changed the object back, you're left without an understanding as to why the data is inconsistent?
- | Do you want to recover a previous historic version of an object?
- | With Perform-Tracking you solve problems like these.

## System Growth

Perform-Tracking gathers system growth related data, such as database growth, log growth and drive space usage. Part of the functionality is also monitoring Dynamics table growth, so that you understand the system better. This can be vital for proactive infrastructure planning as well as focusing properly on the tables that need archiving and or compressing.

## Proactive Alerts to react quicker

Do you want alerts on critical business issues? From alerts on object changes to those on increased blocking, timeouts and deadlocks, Perform-Tracking will help you react quicker to potential issues.

For example, perhaps everyone is suddenly blocked, and no one seems to understand what's happening with the system. If somebody were running Adjust Cost or a Posting Batch in the morning because they forgot to run it in the evening, it could be a real issue. With Perform-Tracking, instead of users calling you, you get an alert via e-mail enabling you to pro-actively deal with the situation.



**You are in control, vigilant and proactive with Perform-Tracking. Want to be in charge too?**

# Perform-Tracking+: Perform-Monitoring support services

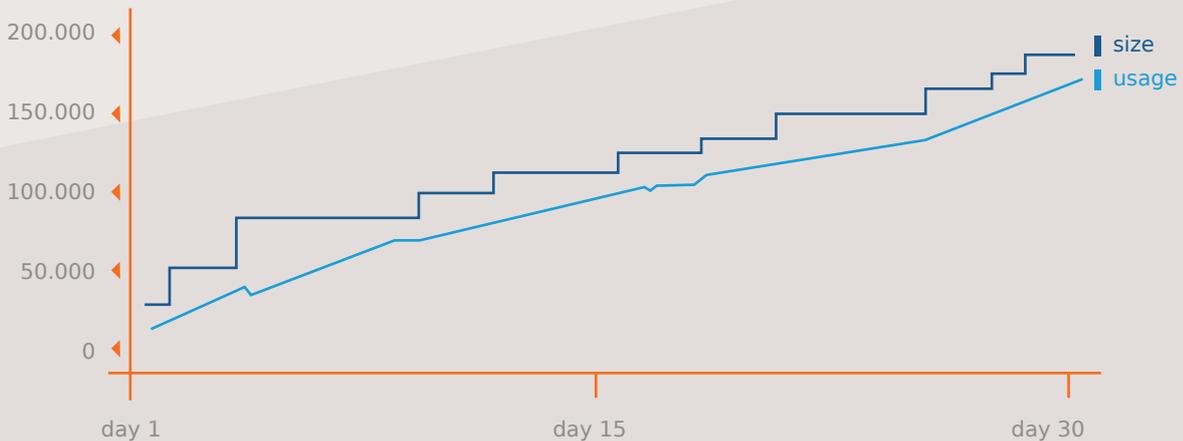
## What if your system stops working?

As a company, you are dependent on your Business Information (ERP) system. More and more people and departments in your organization are working with the system, but what happens if the system stops working?

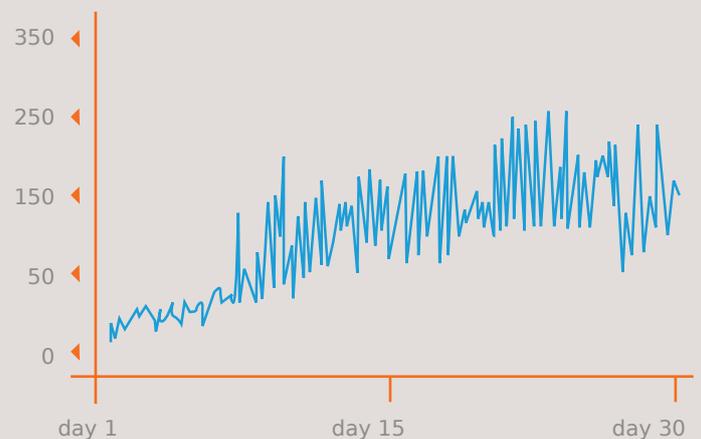
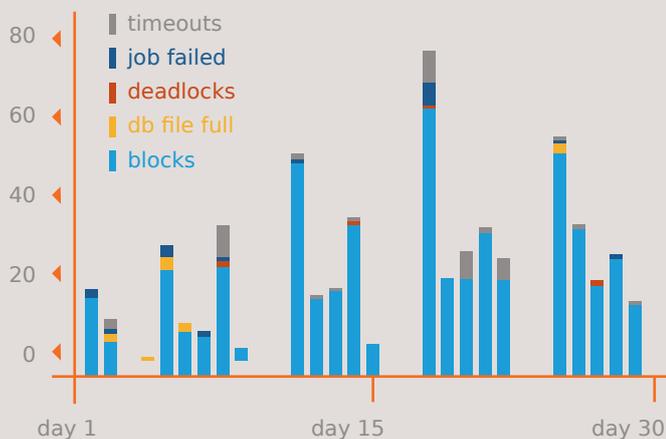
## Ensure availability, avoid downtime

SQL Perform offers pro-active performance support to ensure your ERP system will never stop working. We keep track of your system's performance to make sure availability is at its maximum level and avoidable downtime is at an absolute minimum.

### monthly report: database size trends



### monthly report: duration & alerts



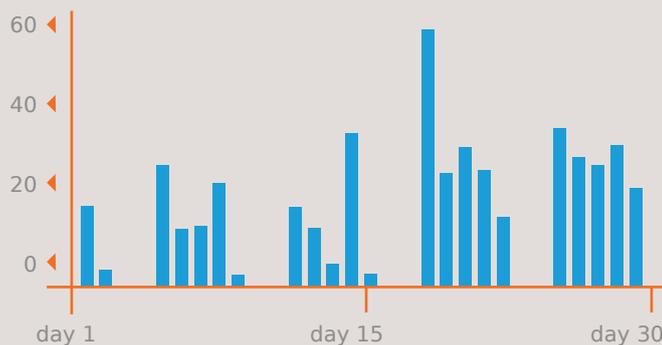
## How we work?

- | As a soft bridge between your infrastructure system and your ERP system, we will provide information on both systems so you can evaluate how they best work together.
- | In case of an incident or disaster, we offer you all of the necessary input to make the best possible decisions for faster recovery of your system.
- | With constant system measurement and vital trend analysis, we'll be there if the trend goes down.
- | You can opt for packages that include a support contract which ensures serious downtime is a thing of the past.

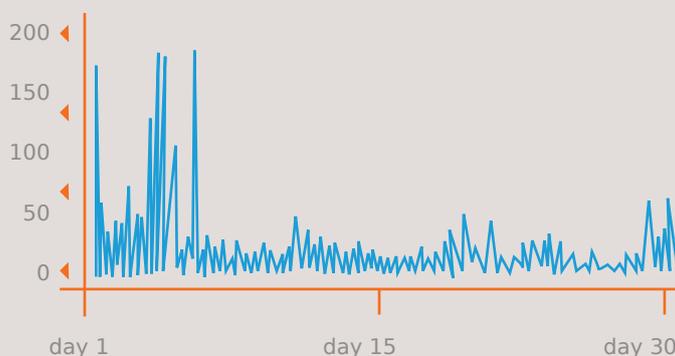
## What we do when monitoring your system

- | **'Managed' Alerts:** we keep a watchful eye on your database and alert you when important issues arise. In case actions are required, we will agree with you who will take the necessary steps.
- | **Monthly Report:** We will send you a monthly report detailing trends about your server's performance. By evaluating those trends carefully, you can take action before a real disaster occurs.

monthly report:  
**deadlocks per day**



monthly report:  
**deadlocks per day - trend**



**Want to get an unbeatable sense of security?  
Give us a call to discuss your monitoring needs.**

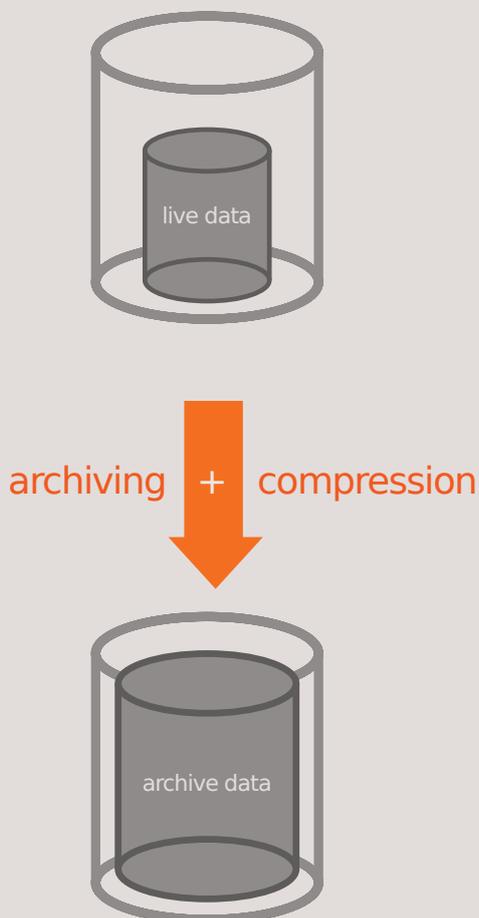
# Archive-Tools

**Go for Smaller. Better. Faster. Stronger.**

**Archive-Tools** help you maximize your Return on Investment. Our products are designed to prolong the life expectancy of your NAV solution. Your database gets **smaller** and **faster**. Its performance gets **better**. In the end, your business turns **stronger**.

Archive-Tools allow users to select what data will be shifted to a secondary historic data database on a regular basis.

- I Perform-Archiving moves the selected data from a primary to a historic database
- I Perform-Compression not only moves the data, but also replaces the original detail ledger records with new summarized data. Opening and closing balance records are created whilst detailed data gets moved to somewhere else.



## What if your database turns bigger, and bigger, and bigger...

There are thousands and thousands Microsoft Dynamics NAV users out there. This unique group extends from small to large companies and from small databases to large databases. Each with a small, moderate or large numbers of transactions. However small or large your database is, it carries on, growing and growing, month by month, year by year. That is the nature of the NAV product.

## ...and gets too large?

At some point historical data becomes too large to keep and maintain, both from a resources point of view (disks, memory), and a performance point of view. What if it takes a long time to drill down to ledgers or produce reports fast?

 IT departments can deploy a SQL Server feature called Data Compression. But, that requires the Enterprise Edition of SQL Server, and it will only deal with the disks and RAM issue. Not with the quantity and complexity of all the data in the database.

 Use tools that allow users to archive the data somewhere, while still keeping it available for inspection and audit. But in such a way it is not clogging the operational database.

### A typical data lifecycle



### Key functionalities

#### Perform-Archiving

- | Archive single table
- | Archive pair of tables
- | Dimension handling

#### Perform-Compression

- | Compress single ledger
- | Compress pair of ledgers
- | Dimension handling

#### Shared features

- | Archive into a different database/company
- | Registers
- | Un-do
- | Keep key data integrity
- | Fast through T-SQL scripts

## Original data never deleted

Legal and fiscal requirements are met

## Any NAV table handling

Customization, add-ons, base application

### Design principles

Users confirm Archive-Tools are spot on. These design principles are the core fundamentals of Archive-Tools. Originated as design goals, they made the SQL Perform team of experts rethink and redevelop the tools over and over again, to make them perfectly fit to the customer's needs.

## Execution within same transaction

Rollback if an error is encountered

## The power of undo

De-archive possible

## Fast T-SQL execution

Compared to C/AL code in NAV

## Dimension handling

All functionality retained

## Linked table handling

Orphans are not there

## Traceability-registers

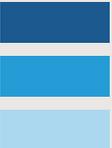
History of archiving retained

## Data visibility

Historic data anytime available

## Benefits

- ✓ Get a solid performance boost of your SQL Server immediately
- ✓ Improve your data visibility
  - + In your operational database, retain only the data you need to move forward
  - + View historic data in the archive database
- ✓ Speed up processes and fasten response times
  - + Faster drill downs in NAV
  - + Faster reports in NAV
  - + Faster backups
  - + Faster maintenance
- ✓ Improved compliance for fiscal and legal requirements
  - + Retain data for audit and detailed inspection
  - + Cleverly maintain statutory data retention periods requirements
  - + Traceability: keep registers of all archive runs
- ✓ No fear: un-do functionality to reverse to the original state in case of problems
- ✓ Lean Infrastructure
  - + Requires less RAM and CPU power
  - + Minimizes need for SQL Server data compression



**Want to commit to business agility?**  
**Contact us to start the process now.**

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