

PSG Projekt Service GmbH

The SQL Server Company
Hamburg | Karlsruhe

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PSG Profile

Our mission



WE ARE EXPERTS ON THE MANAGEMENT OF COMPLEX PROCESSES WHICH ARE BASED ON SQL SERVER.

We have understood that SQL Server is never used alone and is an indispensable part of **complex systems**.

We do not believe in unique problems. There are only a handful of known challenges.

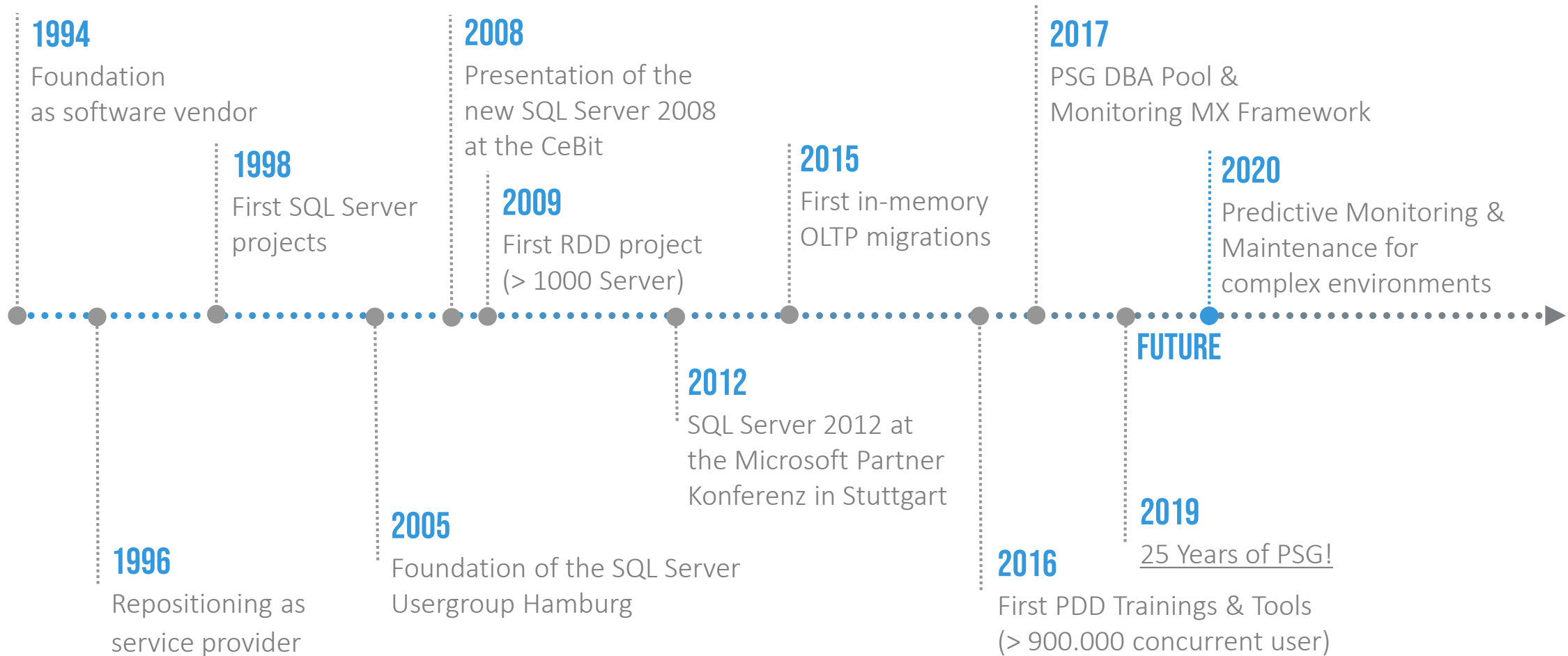
We have the solutions!

We offer a complete support lifecycle for **SQL Server** environments.

We guide our customers to measureable SQL Server **Performance Excellence**.



Milestones



Core competences

A deep technical understanding of database systems

Over 20 years of experience with SQL Server

Development of own approaches to generic challenges

A unique toolbox for monitoring systems and optimizing workloads

Experience in mastering very large and complex environments (servers, data & users)

Knowledge of how to build useful and efficient documentation of workloads and baselines

Knowledge from numerous migration projects

30 years of experience in software development

Supported various DWH / BI projects as architects and coaches



Customers' Quotes

The logo for BIZERBA, featuring the word "BIZERBA" in a bold, black, sans-serif font.

„Das war definitiv einer der besten SQL Server Workshops an dem wir beiwohnen durften.“

Gerald Schimanski

Manager CORE Microsoft .Net (IT-S)
Bizerba GmbH & Co. KG

The logo for UKSH (Universitätsklinikum Schleswig-Holstein). It features the letters "UK" in blue and "SH" in red, followed by the text "UNIVERSITÄTSKLINIKUM Schleswig-Holstein" in blue.

„Der SQL Server fügt sich als perfekte Lösung für die Patientenversorgung in die Arbeitswelt unserer Mitarbeiter ein, ohne alles Bisherige über den Haufen zu werfen.“

Dr. John F. Näthke

Projektmanager
UKSH-Universitätsklinikum
Schleswig-Holstein

The logo for the Umwelt Bundesamt (Federal Environment Agency). It features the text "Umwelt Bundesamt" in white on a green background, with a small green icon of a person holding a leaf.

„Mit dem SQL Server ist der Monatsbericht zur Mittelverwendung heute in Sekunden erstellt. Früher haben wir drei Arbeitstage darauf gewartet.“

Dr. Joachim Hübener

IT-Leiter
Umweltbundesamt



“

Investigating performance issues in complex database applications can leave even experienced developers clueless. This is where the experts from PSG helped us out: Instead of recounting general best-practices and fixing isolated symptoms, they understood our development approach and the nature of our business application before developing optimizations. This resulted in enhanced development procedures, which then led to a measurable improved database performance and, in the end, noticeable increased response times of our business applications. Success factors were, beside a fundamental technical expertise, the personal and direct dialogue with the developers, in which questions were answered perspicuous and tailored recommendation were given.

Manuel Schlieff, Head of IT, Pantaenius Holding GmbH



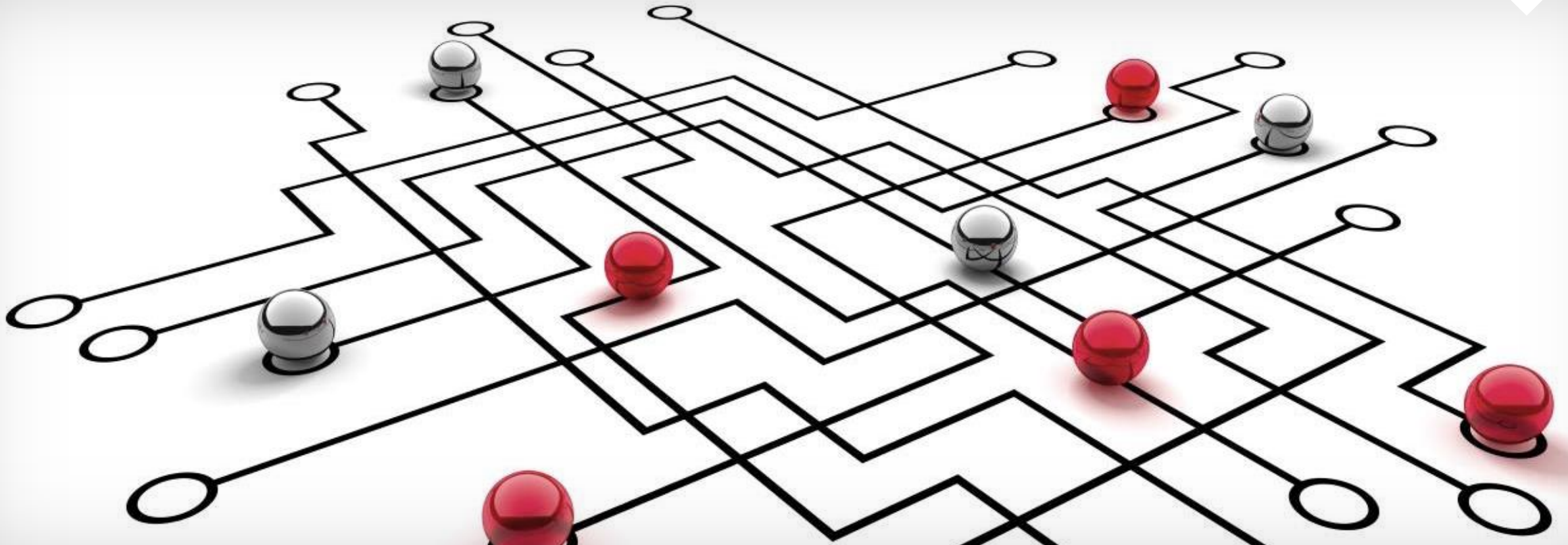
APPROACHES

METHODS, TOOLS & TRAININGS

Complex Environments

Data in database systems are always part of a bigger picture. These data are often **distributed** over many databases and servers, in addition, they are not always adequately **fast** and **reliable**.

Such systems can become very complex over time!



RISK MANAGEMENT APPROACH

Visible & invisible risks

An iceberg floating in water. The tip of the iceberg is above the water line, and the much larger base is submerged. The background is split horizontally: the top half is light gray and the bottom half is blue, representing water.

**T-SQL CODE, INDEXES,
MONITORING OF INFRASTRUCTURES**

Visible risks are well known from common experience of development or administration.

**QUERY STABILITY, DATA DISTRIBUTION,
GUESSING INDEXES, MONITORING
WORKLOAD PATTERNS, CONCURRENCY
AND MORE**

Invisible risks are **unexpected** for most developers and administrators. Sometimes they call such behavior a bug.



COMMON MISASSUMPTIONS

SQL SERVER OLTP WORKLOAD

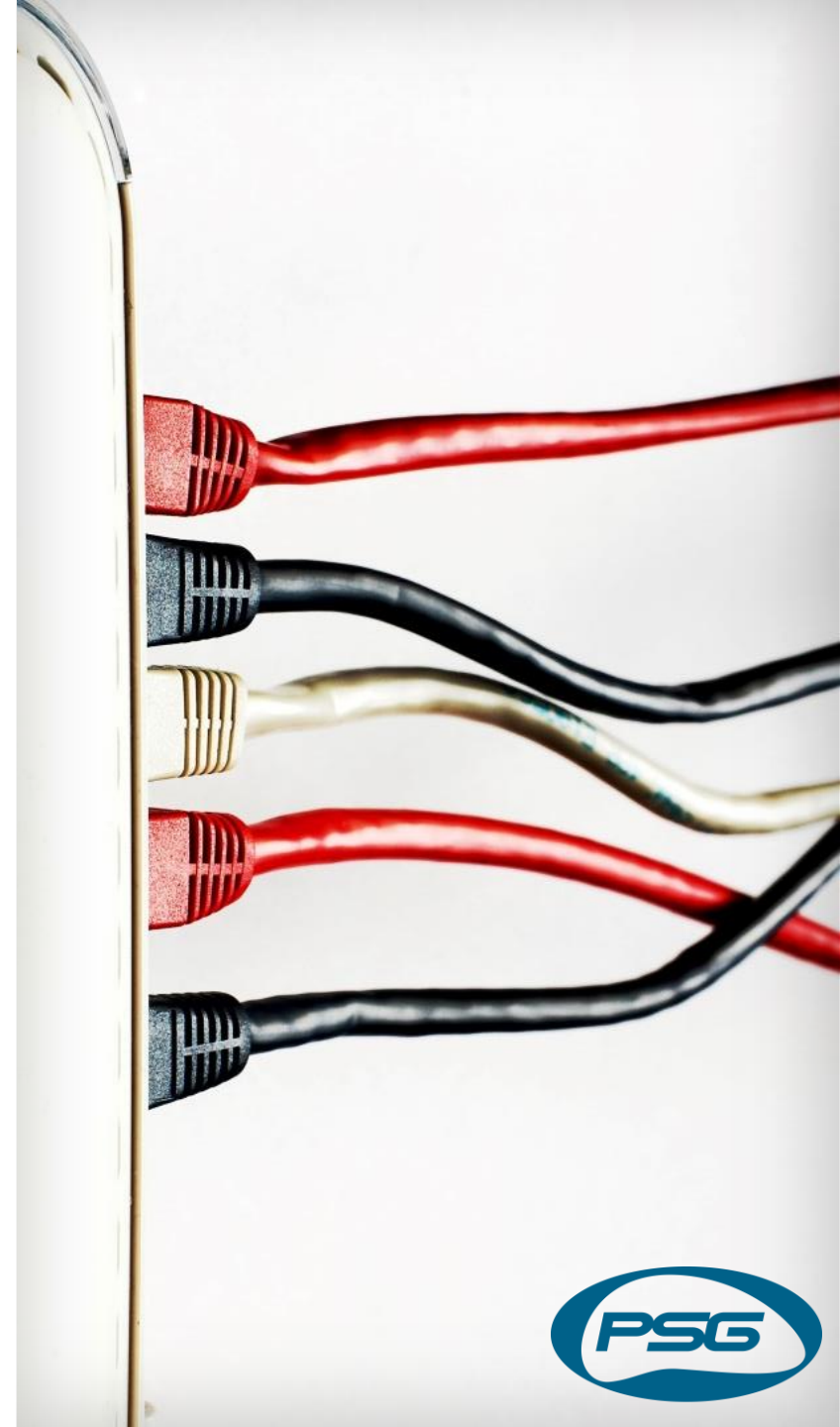
1 The size of a database is obviously an obstacle.

2 T-SQL code quality matters.

3 We already have indexes!

4 Once done right is enough.

5 More of all (Hardware) always helps!



PSG METHODS & ASSOCIATED TRAININGS

Overview of our approaches

PSG PTS

PERFORMANCE,
TROUBLESHOOTING &
SUPPORT

The focus of this method is on instant analysis and problem solving

This method includes best practices and proven methods to analyze performance and stability challenges.

Target audience are administrators and one-man project teams

PSG PDD

PERFORMANCE
DRIVEN
DEVELOPMENT

The focus of this approach is on the performance aspect of the development or redesign of complex systems based on SQL Server.

The development of sufficiently fast software with SQL Server is seen in this approach as a series of risks.

This method provides actions which are taken by the team to mitigate these risks.

Target audience are developers, team leads and project managers.

PSG RDD

REPOSITORY
DRIVEN
DESIGN


The focus of this architectural and development approach is to mitigate the risks of getting lost in complexity.

The emphasis is on designing repositories to reduce complexity in large environments.

Such repositories enable the possibility of managing systems in more efficient ways.

The target group are companies with tough challenges regarding the number of servers, databases, processes and/or users.



A man in a dark long-sleeved shirt is shown in profile, focused on his work. He is standing in front of a server rack and is pulling out a server unit. His hands are on the handles of the unit, which is partially extended from the rack. The server rack is filled with various components, including cables and other server units. The background is slightly blurred, emphasizing the man and the server unit he is working on. The overall tone is professional and technical.

OUR DBA POOL

DBA as a Service (DBA Pool)

Advantages

NO STAFF SHORTFALL

A team of experts takes care of your SQL Servers and processes.

PERIODICAL ASSESSMENTS

The DBA team regularly evaluates the possible risks of stability, performance and scalability.

COST TRANSPARENCY

Additional services are performed only after approval.

THE SQL SERVER COMPANY

PSG accompanies you during all imaginable SQL Server projects.

USAGE OF PSG MX

Your SQL Servers can be analyzed on demand with the monitoring framework PSG MX (xService & xVault).

SME ON YOUR SIDE

Our suitable subject matter expert is ready to be involved in daily tasks as well as in projects.

COMMUNICATION AS EQUALS

Our team communicates on an equal footing with your vendors and developers.



BEYOND MONITORING



PSG MX AIOps as a Service

Overview

FOCUS ON PROCESSES

PSG MX concentrates on the business processes which cause SQL Server workload. Behind the scenes, MX uses the PSG RDD method to group technical details of the workload to reduce the complexity of a solution.

RISK MANAGEMENT

MX focuses on the risks identified as significant and tracks whether there may be a danger to the work of the solution. In doing so, the emphasis is placed on understandable to all involved parties evaluations.

FLEXIBLE FRAMEWORK

Since the MX monitoring framework is a PSG in-house development, it is ensured that a maximum degree of toolset flexibility can be achieved for different requirements.

PAY PER DETAIL

PSG MX offers different levels of insights. Firstly, it provides risk management based information for managing a solution. Secondly, it can automatically deliver feedback about the quality of the solution to developers.



EXAMPLES

How do our customers use the capabilities of PSG to operate their complex environments?



EXAMPLES

How do our customers use the capabilities of PSG to manage their (complex) environments?

PERFORMANCE

- Analyse and solve performance issues
- Plan and implement monitoring solutions (PSG PDD & PE)

COMPLEX DATA SILO

- Analyse silo dependencies
- Consolidate as well as decentralize structures (Orchestration RDD)

VENDOR AUDIT

- SQL Server best practices usage audit
- Communication with vendor's dev team

RELIABILITY

- Plan and setup HA features
- Create and implement operational concepts

MIGRATION

- From 20xx to newer versions & cloud
- From Cluster to AVGs (live)

KNOWLEDGE

- Plan and migrate to in-memory OLTP
- Design and create repositories to manage environments (RDD)

A pair of calipers and a ruler are shown on a dark, textured background. The calipers are positioned diagonally, with their jaws open. The ruler is placed horizontally across the middle of the image. The text "HOW TO START?" is overlaid in large, white, bold, sans-serif capital letters on the left side of the image.

HOW TO START?

RISK IDENTIFICATION & ASSESSMENT

NEXT STEPS

1

IDENTIFICATION OF THE MAIN RISKS TO THE RELIABILITY OF YOUR SYSTEM

2

DEFINING RISK MITIGATION MEASURES AND BUILDING A PLAN OF ACTIONS

3

EXECUTION OF THE PLAN AND FURTHER ANALYSIS OF THE CONTINUOUS PROGRESS



PSG Projekt Service GmbH

The SQL Server Company



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