

# Precise™ for Microsoft® .NET

Performance Management for Microsoft .NET applications

## Ensure infrastructure performance

Today's Internet-enabled applications demand peak performance, especially under burst loads when business consequences are greatest. Multi-tiered architectures centered on Microsoft .NET applications provide the functionality needed to meet these demands. Precise for Microsoft .NET provides specialized features to ensure that the IT infrastructure withstands business demands and supports growth.

Middleware application components, including Microsoft .NET applications, are commonly viewed as the source of performance bottlenecks. However, slowdowns on the Microsoft .NET tier are often a symptom of problems in another tier, such as the database tier or the Web tier. To isolate the definitive root cause of application performance problems, you need an integrated solution that manages performance end-to-end.

Precise for Microsoft .NET provides application performance management from URL to SQL—even into physical storage. It correlates performance data tier-to-tier, helping you to determine how one application component is affecting the performance of another. This enables IT organizations to isolate slowdowns on the Microsoft .NET tier and follow the problem in context into another tier for resolution.

Precise for Microsoft .NET is a comprehensive application performance management solution for Microsoft .NET applications. It addresses the need for optimizing application performance during the development, testing, and production phases of the application life cycle. This single solution makes identifying and communicating Microsoft .NET performance problems easy. It can be shared by all

stakeholders involved with the development, testing, and production use of an application.

As Microsoft .NET applications become increasingly important to your business, there is a greater need to ensure that they scale properly and meet service level expectations. These business demands require specialized data collection and analysis capabilities. Precise for Microsoft .NET helps you detect and correct performance problems in the business-logic tier before your business is affected.

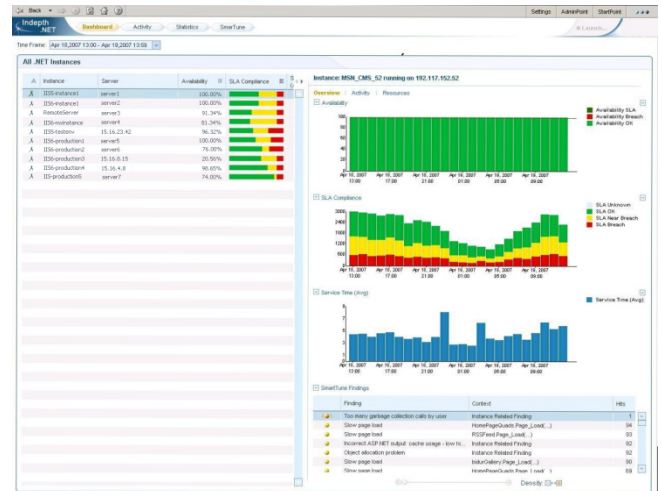


Figure 1 The dashboard provides a quick overview of the monitored applications' performance and availability.

## Benefits

Precise for Microsoft .NET provides many benefits to both expert and junior personnel, including giving them the ability to:

- Understand response-time contributions from ASP.NET, ADO.NET, Web services, XML, Windows forms, Microsoft .NET remoting, SQL Server 2005 stored procedures, and more
- Quickly isolate problematic SQL statements, then continue the performance analysis in the database using Precise for SQL Server or Precise

# Precise™ for Microsoft® .NET

Performance Management for Microsoft .NET applications

- Precise for Oracle. Precise for Microsoft .NET provides full launch in context capabilities from a specific SQL statement in an ADO.NET method to the Statement analysis in the Precise for Microsoft SQL Server product, enabling a much faster investigation of the problematic SQL
- Gather data with low overhead - making the product "production safe"
  - Archive and review historical performance data
  - Analyze complex performance data automatically and provide expert advice to resolve or prevent problems from occurring.
  - Use the product's operational dashboard or integrate to Precise ASD (Application Service Dashboard) to provide the best control for your servers' performance data
  - Automatically identify the hot spots in your application and correlate activity across Web servers, application servers, and databases
  - Visually manage SLA compliance per instance, service request, or business transaction
  - Monitor and manage application performance reliably and accuracy in both production environments and QA
  - Monitor and measure Web services in Service Oriented Architecture (SOA) environments

## Understand Microsoft .NET application response time

Precise for Microsoft .NET's unique transaction-oriented perspective monitors requests as they flow through your .NET application, all the way to the database and beyond into the storage tier. Tracking the transactions end-to-end allows quick identification of Microsoft .NET application performance bottlenecks.

Precise for Microsoft .NET monitors various Microsoft .NET technologies and interfaces, including ASP.NET,

ADO.NET, Web services, Microsoft .NET remoting, response time from Enterprise Services (COM+ components), MSMQ, and more. It can monitor Web applications as well as stand-alone Microsoft .NET applications.

For every service request and method, Precise for Microsoft .NET tracks and collects a comprehensive set of metrics, including response time, method invocation time, database (ADO.NET) invocation time, invocation count, and many others.

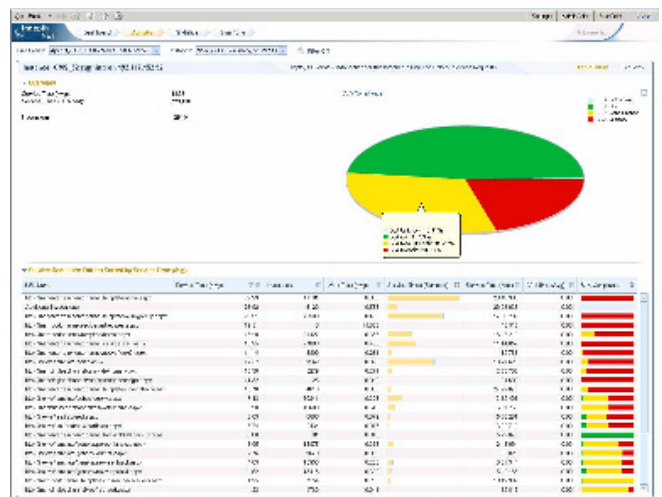


Figure 2 SLA metrics on the system, application, and service request level help maintain customer satisfaction and productivity.

It's powerful data collection and reporting allows organizations to quickly isolate Microsoft .NET performance bottlenecks. This includes the ability to drill-down into any method or service-request. For database calls it provides the database access context (server, instance, connection string) as well as the full SQL text for the statements being executed. The ability to isolate the slowest performing SQL statements empowers developers to quickly triage application performance.

# Precise™ for Microsoft® .NET

Performance Management for Microsoft .NET applications

## Automatic performance analysis

Precise for Microsoft .NET takes your application performance analysis one step higher, providing automated performance analysis.

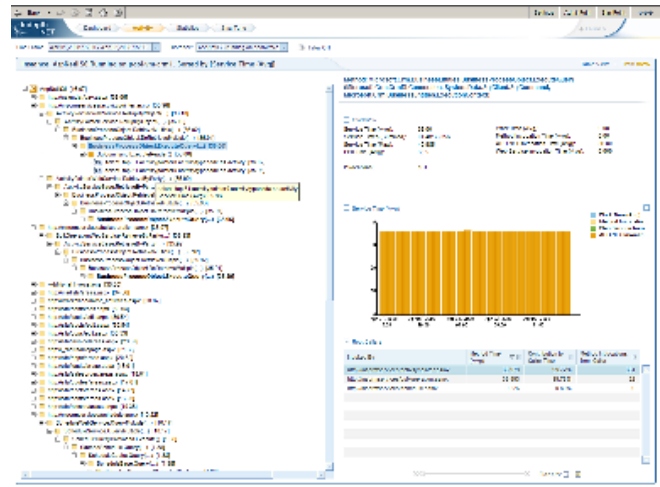
The mechanism is based on a knowledge base algorithm that analyzes collected performance data and finds potential problems that can be addressed with a simple configuration change. The analysis results are then displayed within the Precise for Microsoft .NET product.

The constructed rules were developed by Microsoft .NET experts using knowledge built up over years of actual troubleshooting and application optimization in enterprise .NET deployments.

## Optimize time from problem detection to correction

To shorten the time it takes to find and fix performance problems in Microsoft .NET applications, Precise for Microsoft .NET provides a comprehensive dashboard that includes the top (slowest) executing service requests, SQL statements, and Web services. It also displays application availability, average response time, number of invocations, and SLA compliance status.

Once a slow-responding component has been identified, Precise for Microsoft .NET provides greater visibility by drilling down into every invoked method. Response times can be quantified by examining which methods are called, the Web services each method invoked, calls it made into the database, its direct contribution to the total response time for the originating service request, and more.



The performance tree view in the activity workspace enables search and drill capabilities inside your application performance data.

## Correlate performance counters

Precise for Microsoft .NET can collect various performance counters and facilitate the correlation of the collected metrics to the business transactions that they support. This correlation helps you understand the response time for an application in the right context.

## Monitor your SQL Server

One of the strongest features presented in the most recent versions of SQL Server is the integrated CLR, allowing users to write complex stored procedures with Microsoft .NET languages to run inside the database. Precise for Microsoft .NET includes a SQL Server instance type that enables full performance management of the Microsoft .NET compatible stored procedures.

Combined with the deep integration with Precise for SQL Server, your application's connection with the DB has never been watched so closely. Using just a few clicks, you can easily navigate from a slow URL

# Precise™ for Microsoft® .NET

Performance Management for Microsoft .NET applications

to the slow ADO.NET method and to the exact execution plan of the executed SQL.

## Take advantage of flexible instrumentation

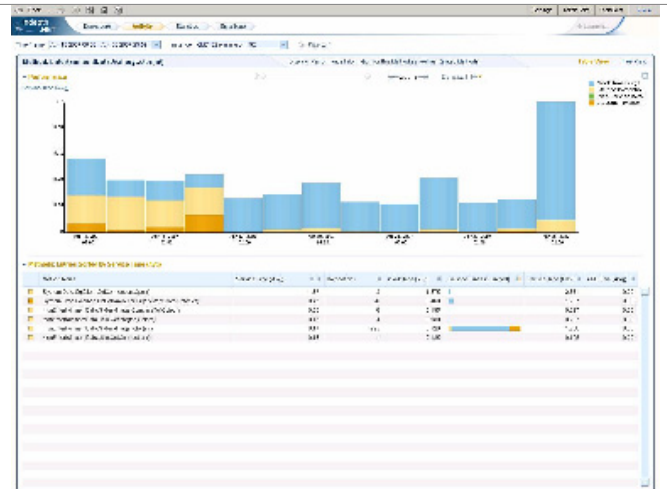
Precise for Microsoft .NET performs dynamic instrumentation of monitored applications using a combination of standard profiling interfaces and proprietary code instrumentation techniques. This instrumentation approach ensures maximum visibility with minimum overhead. It does not require changes to the source code, and enables the collection of various performance measurements at the method level.

Precise automatically instruments common Microsoft .NET interfaces. It also gives you maximum flexibility in instrumenting your applications. With the user interface and configuration files, you can specify DLLs or executables, namespaces, class names, and method names—all by using regular expressions. This flexibility greatly enhances your ability to monitor existing applications as well as newly deployed applications, with minimal configuration changes and no changes to the MSIL code that is stored on disk.

## Precise for .NET: behind the scenes

Precise for Microsoft .NET is designed to run in production and scale to meet the variable needs of .NET applications and deployments. Low-overhead, high-precision technology allows the agents to run in production to gain maximum application visibility with a minimum of overhead.

Precise for Microsoft .NET extracts performance metrics from the underlying operating system so that it can correlate CPU usage with .NET application components and specific end-user transaction



The visual breakdown of contributors to response time minimizes time to problem resolution.

requests. Multiple levels of “method invocations” among .NET components are correlated with user transactions to provide visibility into quantitative relationships among application components. It also leverages the unique vantage point of the middle tier to associate user requests with database activity, enabling it to isolate scalability bottlenecks between the middle tier and the database tier.

Precise for Microsoft .NET can also help identify class contention, report on exceptions thrown, and diagnose memory leaks.

## Transaction Performance Management

.NET application components are commonly cited as the source of performance bottlenecks. However, slowdowns on the .NET tier are often a symptom of problems in other tiers such as the Web server, the network, or the database. Precise for Microsoft .NET enables IT organization to isolate slowdowns on the .NET tier and correlate the problem in context with the users, web servers, or database calls made to accelerate problem resolution.

When integrated with Precise for Oracle, IBM DB2

# Precise™ for Microsoft® .NET

Performance Management for Microsoft .NET applications

---

Universal Database, or SQL Server, Precise for .NET further empowers IT staff to follow application performance problems across the .NET tier into the database.

## System Requirements

Consult <http://www.precise.com/support> for detailed Microsoft .NET application server and operating system version support information.

---

### Microsoft .NET

Microsoft .NET Framework v1.1  
Microsoft .NET Framework v2.0  
Microsoft .NET Framework v3.0  
Microsoft .NET Framework v3.5  
Applications written in C# or VB.NET

---

### Application servers

IIS 5  
IIS 6  
IIS 7

---

### DataBase servers

SQL Server 2005 CLR

---

### Operating systems

Windows® 2000  
Windows XP  
Windows 2003  
Windows 2003 R2  
Support both x86 and x64 configurations

---

## About Precise Software Solutions

### Commitment, Focus, Experience

For over 15 years Precise Software Solutions has helped our Global 2000 customers manage business performance in complex, heterogeneous environments, assuring availability and business continuity. Precise offers a complete solution – from discovery through ongoing management – that allows our customers to focus on their core business. We offer the broadest platform support, in terms of enterprise application, operating system, database, and development environment coverage. Precise is the solution of choice for IT as an organization-wide standard for application management.

### Visit our Web site

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

### To speak with a Product Specialist in the U.S.

Call toll-free 1 (877) 845 1886. For specific country offices and contact numbers, please visit our Web site.