

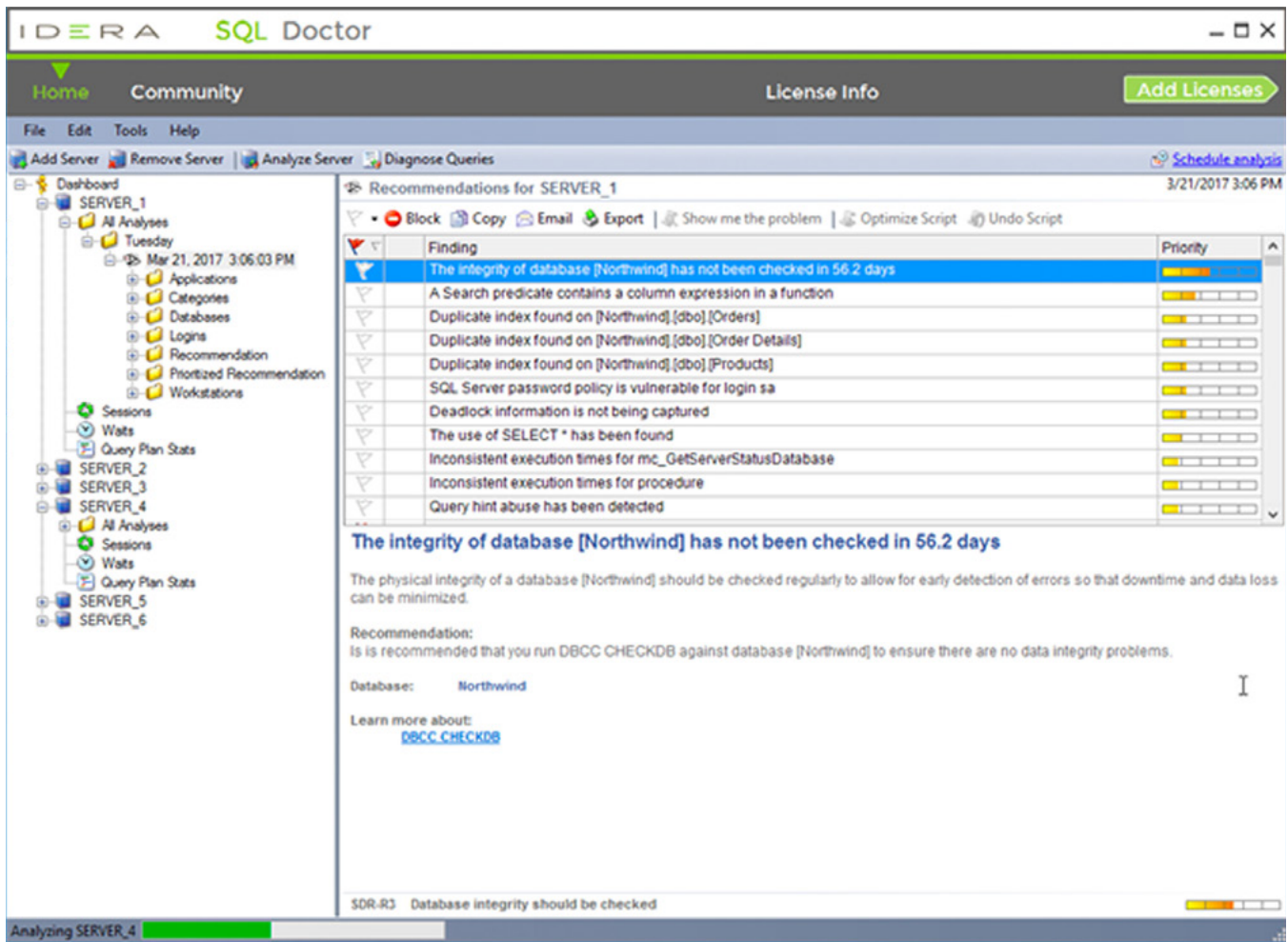
TUNE THE
PERFORMANCE OF
SQL SERVER, AZURE
SQL DATABASE AND
AMAZON RDS WITH
SQL DOCTOR

SQL DOCTOR DIAGNOSES AND PROVIDES THE CURE FOR WHAT AILS SQL SERVER ON-PREMISES, IN THE CLOUD, AND AS A MANAGED CLOUD DATABASE.

Collect performance information, analyze it, and determine the resolution in minutes rather than hours. Leverage proven industry best practices endorsed by Most Valuable Professionals (MVPs) to analyze the performance and to provide recommendations. Target some of the most common areas of performance problems, such as queries, server configuration, security, database objects, memory, wait statistics, query plans, and much more.



Quickly see the overall health of all registered servers, based on the last analysis run. Access quick links to the shared tasks for a server such as updating SQL Doctor settings, reviewing wait stats, and analyzing a query.



View a list of performance recommendations based on a full analysis based on selected criteria. The performance gain that was received from making the suggested change, how relevant it is for the parameters that were specified when configuring the analysis, and the confidence SQL Doctor has in the recommendation determines the priority of the recommendation. Narrow the recommendations by targeted applications, selected performance categories, databases on the server, logins at the server or database level, frequency of specific recommendations, prioritized recommendations, and workstations associated with the server.

The screenshot shows the SQL Doctor interface with the following components:

- Header:** IDEERA SQL Doctor, License Info, Add Licenses
- Menu:** File, Edit, Tools, Help
- Toolbar:** Add Server, Remove Server, Analyze Server, Diagnose Queries, Schedule analysis
- Dashboard:** Recommendations for US-WEST-2.RDS.AMAZONAWS.COM,1433 (3/22/2017 3:18 PM)
- Navigation:** All Analyses, Sessions, Wats, Query Plan Sta, SERVER_1 to SERVER_6
- Table of Recommendations:**

Finding	Priority
The SQL Server instance is experiencing memory stress	High
The RDS instance is enabled for public access	High
QUOTED_IDENTIFIER is set to value ON for database AdventureWorks2014	Medium
One of the security groups attached to the RDS instance allows access from any IP address	Medium
Index [PK_log_back_05E4F2FD418C0875] on [rdsadmin].[dbo].[log_backup_manifest] with a partition size of 6.8 MB is 98.3% fra...	Medium
Index [lifecycle_backup_round_index] on table [rdsadmin].[dbo].[log_backup_manifest] is experiencing high levels of page latch cont...	Medium
Index [lifecycle_backup_round_index] on table [rdsadmin].[dbo].[log_backup_manifest] is experiencing excessive Row lock contention	Medium
Index [AK_Address_rowguid] on [AdventureWorks2014].[Person].[Address] is disabled	Medium
Guest user has permission to access database rdsadmin	Medium
- Selected Recommendation Details:**

The RDS instance is enabled for public access

When is this not a problem?

 - If the instance contains no sensitive data or the owner accepts the risks of exposing the RDS instance publicly, it is ok to enable this access.

Why is this a problem?

 - When an instance is enabled for public access, it can be accessed from resources outside the AWS Virtual Private Cloud container that the instance lives in, making it more exposed.

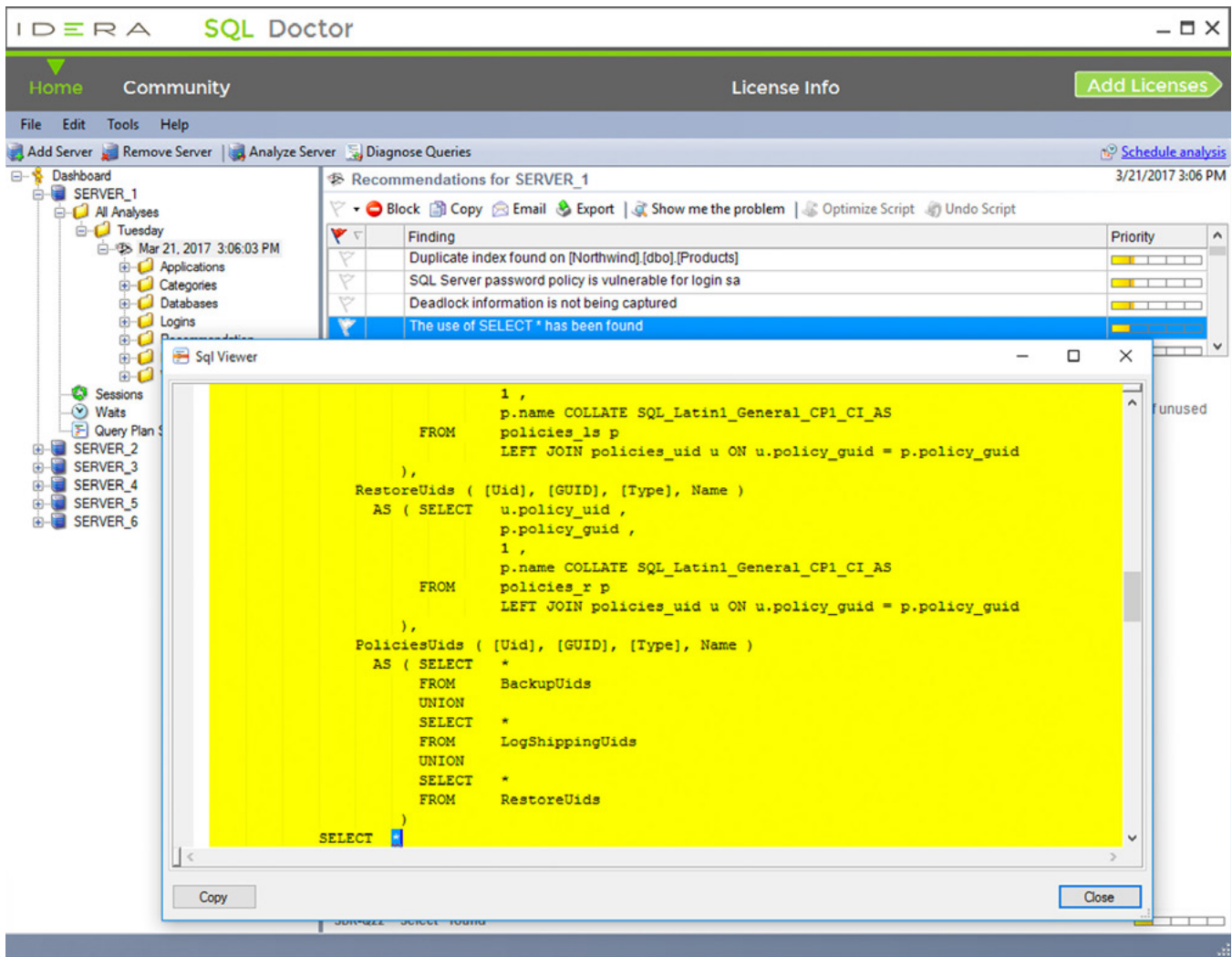
Recommendation:

Since RDS is in the cloud, it can be accessed over the internet. This means that it is important to create the instance with protections against intrusion. In order to limit access and protect the RDS instance from intrusion, public access should be disabled.

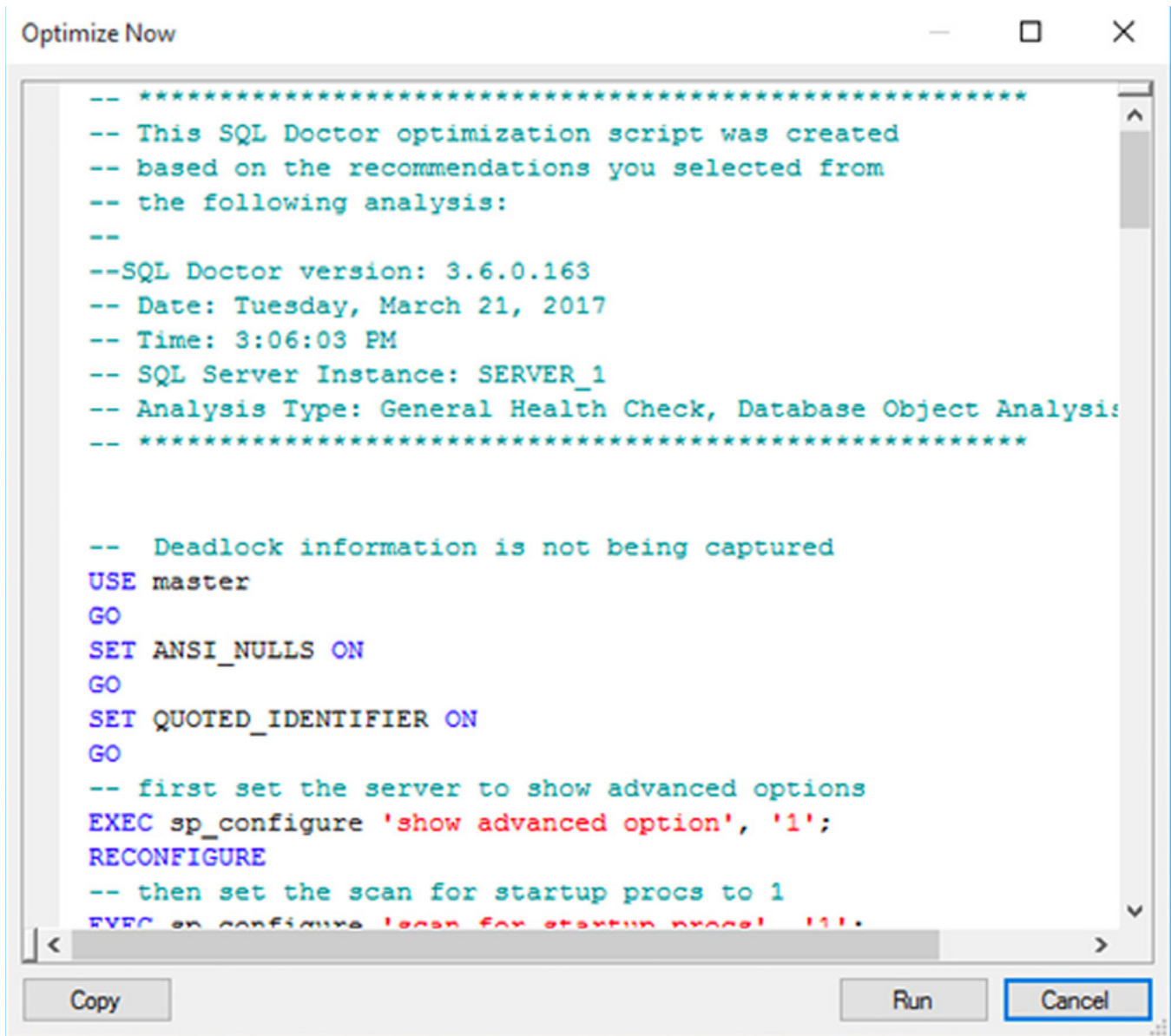
Learn more about:

[RDS FAQ \(How do I connect to an RDS DB Instance in VPC?\)](#)
- Status Bar:** SDR-511 RDS Instance has public access enabled

View detailed information about each recommendation. In many cases, this includes the actual metrics, databases, tables, and applications involved. Perform these actions: Flag, block, copy, email, and export, show me the problem, optimize script, and undo script. This example lists the details for a cloud recommendation for Amazon Relational Database Service (RDS). SQL Doctor also supports Microsoft Azure SQL Database.



View the SQL text for a selected recommendation. Copy the SQL text to the clipboard to see it in a text editor or SQL Server Management Studio.



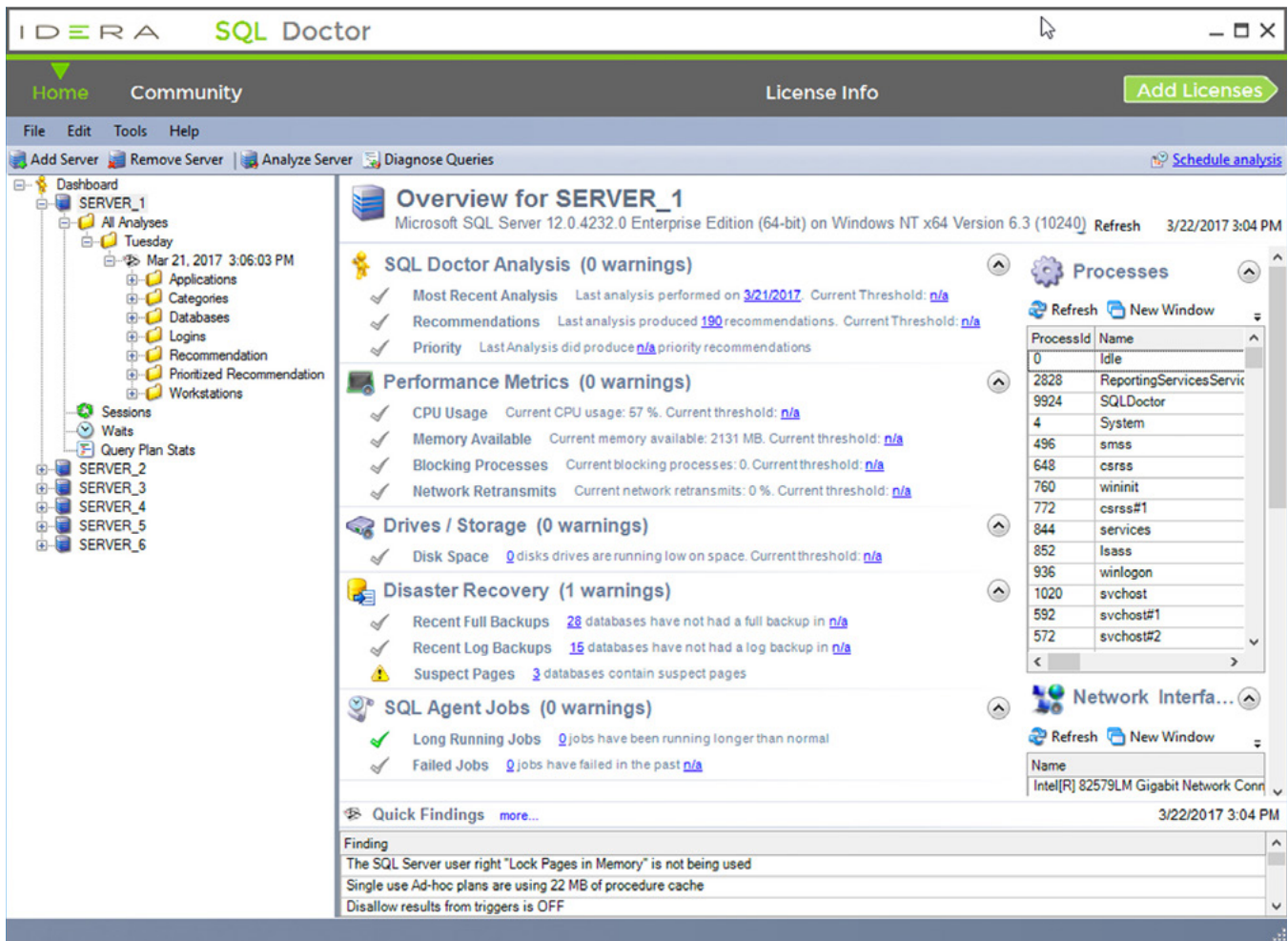
The screenshot shows a window titled "Optimize Now" with a text area containing a SQL script. The script includes a header with version and date information, followed by configuration commands. The visible text is as follows:

```
-- *****
-- This SQL Doctor optimization script was created
-- based on the recommendations you selected from
-- the following analysis:
--
--SQL Doctor version: 3.6.0.163
-- Date: Tuesday, March 21, 2017
-- Time: 3:06:03 PM
-- SQL Server Instance: SERVER_1
-- Analysis Type: General Health Check, Database Object Analysis
-- *****

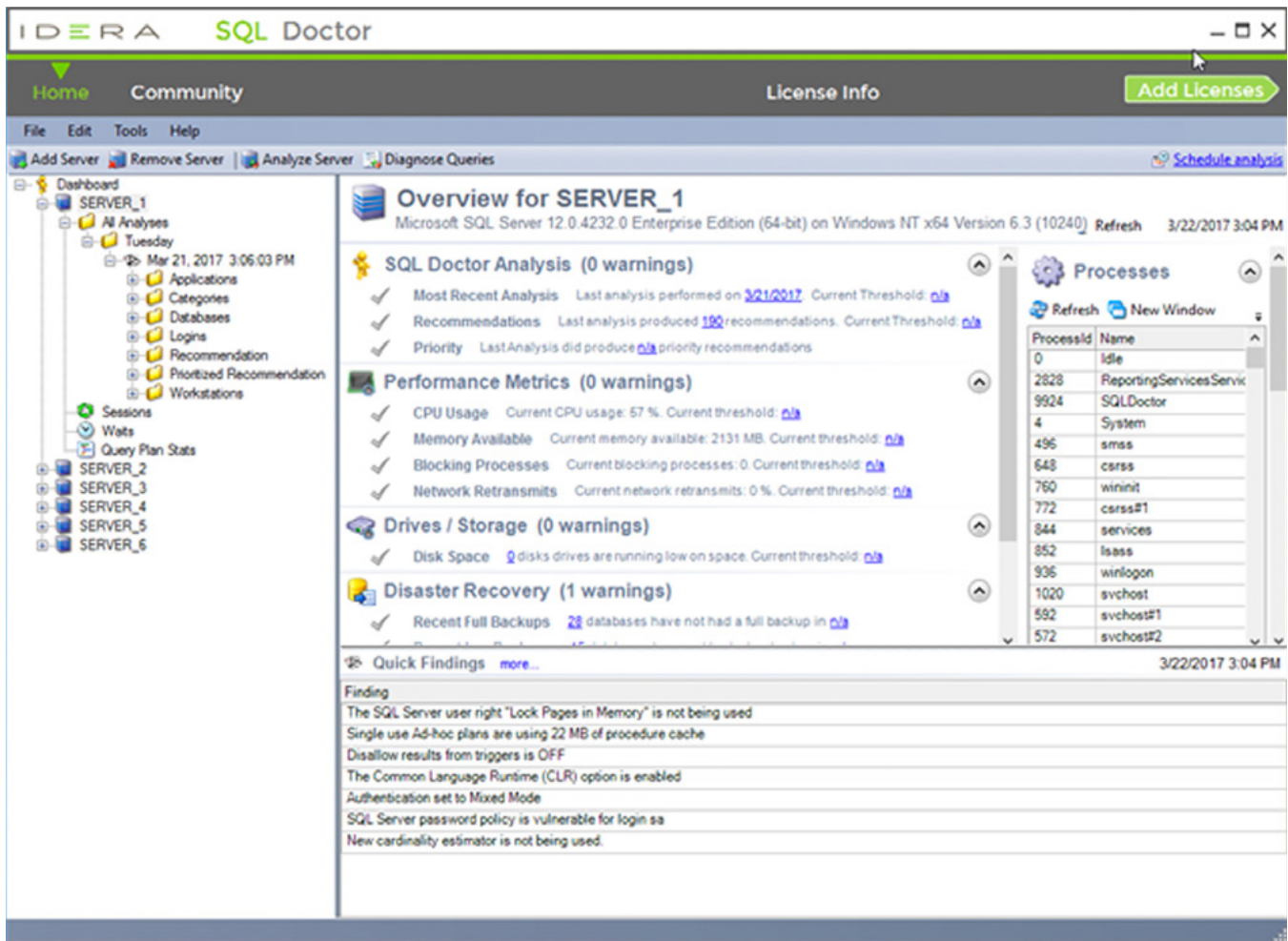
-- Deadlock information is not being captured
USE master
GO
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
-- first set the server to show advanced options
EXEC sp_configure 'show advanced option', '1';
RECONFIGURE
-- then set the scan for startup procs to 1
EXEC sp_configure 'scan for startup procs', '1';
```

At the bottom of the window, there are three buttons: "Copy", "Run", and "Cancel".

Display the script used to enact the recommended change. Alternatively, copy the script to Windows Notepad or another text editor to examine the code and research other options further before making the change.



Quickly see the overall health of each registered server, as of the last refresh. See a server health checklist that highlights where performance issues may be happening in real-time. Review real-time, key performance metrics for each major area of the server. Display quick findings based on the values of the key metrics to start troubleshooting performance problems immediately.



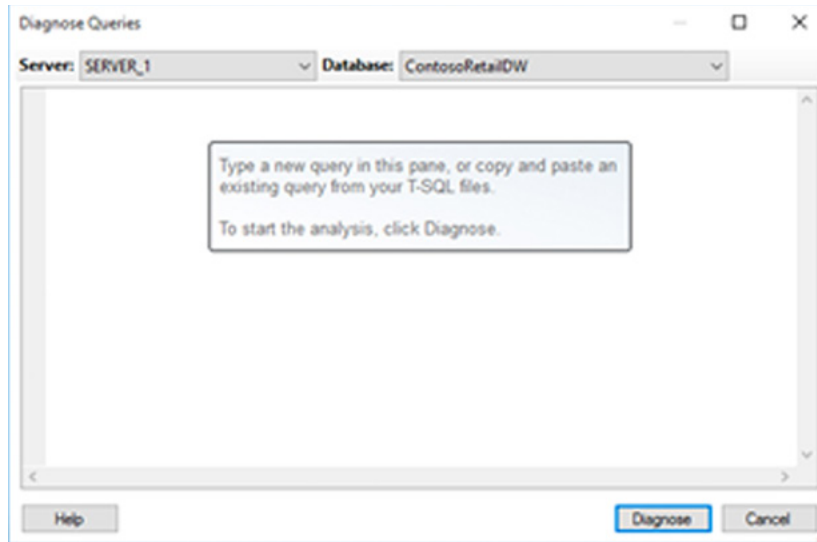
A fast and therefore limited look at critical real-time performance metrics (including queries, sessions, wait stats, and query plans) determines the quick findings. They point in the correct direction and give crucial troubleshooting information when it is needed most. However, for a thorough review of server performance, refer to recommendations generated by a full analysis.

The screenshot shows the IDERA SQL Doctor application window. The title bar reads "IDERA SQL Doctor". The menu bar includes "Home", "Community", "License Info", and "Add Licenses". Below the menu bar are "File", "Edit", "Tools", and "Help". The main interface has a sidebar on the left with a "Dashboard" icon and a list of servers: SERVER_1, SERVER_2, SERVER_3, SERVER_4, SERVER_5, and SERVER_6. The main area displays the "IDERA SQL Doctor" logo and the tagline "Analyze. Diagnose. Fix." along with the date and time: "Wednesday, March 22, 2017 3:16 PM". Below this is a tabbed interface with "All Servers" and "Analysis History" tabs. The "Analysis History" tab is active, showing a table with the following data:

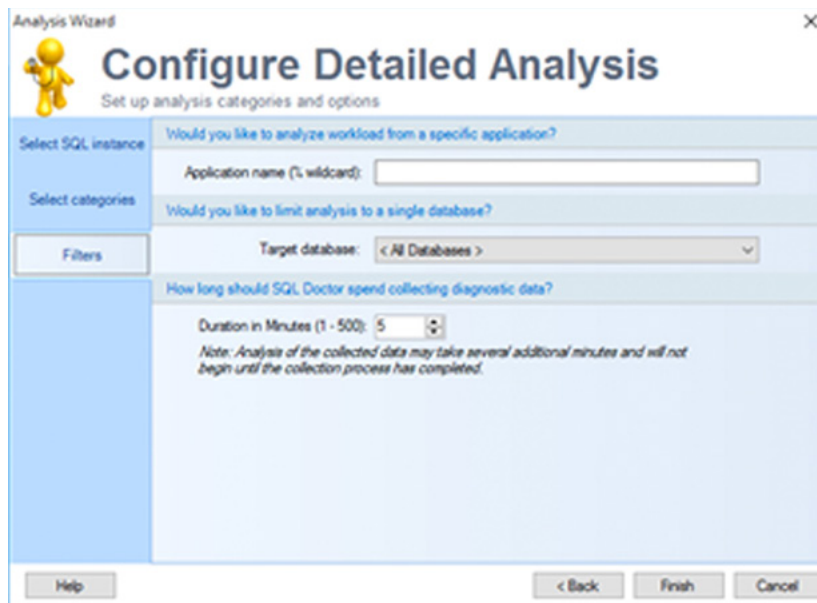
Server	Started	Duration	TaskType	Recommendations	Priority
SERVER_4	3/22/2017 3:03:31 PM	4:07	Analysis	0	
SERVER_3	3/21/2017 3:55:26 PM	2:49	Analysis	32	
SERVER_2	3/21/2017 3:50:35 PM	3:21	Analysis	190	
SERVER_1	3/21/2017 3:06:03 PM	2:22	Analysis	190	
SERVER_6	3/21/2017 2:54:47 PM	5:27	Analysis	205	

At the bottom left of the table area, there is a link: [Keep history for 30 days](#). At the bottom right, there is a "Delete" button.

Access the results of every analysis stored by SQL Doctor for each registered SQL Server instances. Summaries include the name of the analyzed server, start time, total time duration, type of analysis performed, total number of recommendations, and highest priority recommendation. For each historical analysis, view recommendations, and delete and schedule analysis.



Analyze relevant queries without having to wait for a full analysis to complete to help save time. When SQL Doctor diagnoses a query, receive performance recommendations without actually executing it. When clicking the “Diagnose” button, it parses the T-SQL script and bases the analysis and resultant recommendations on the estimated execution plans for the selected database.



When configuring the analysis, choose which database or application workload to include in the analysis. Fine-tune the analysis results further by picking a database or application. Maximize the likelihood that the recommendations accurately identify and resolve critical issues by adjusting the amount of time duration for collecting data.

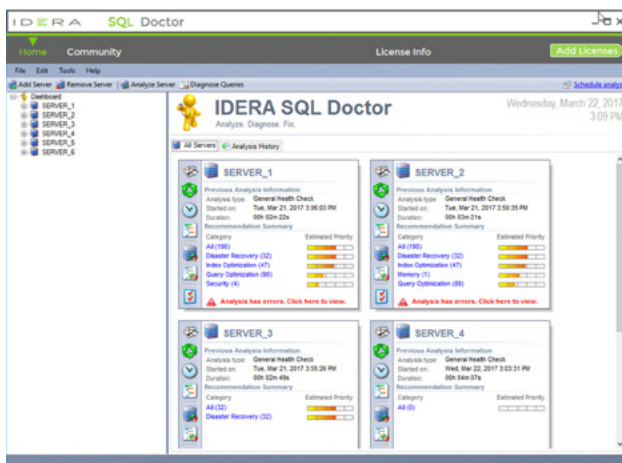
With **SQL Doctor**, we reduced our workload for tuning our systems. It identifies problems so that we can fix them faster and more efficiently.

Genet Asegid

Database Administrator, Government Employees Insurance Company
(large enterprise, insurance, USA)

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With SQL Doctor, tune the health, performance, and security of SQL Server for physical, virtual, and cloud environments.



Install and deploy SQL Doctor to meet the unique needs of any SQL Server environment.

Instantly locate problems in real-time, run analyses on an as-needed basis, schedule analyses, view prioritized rankings of issues, view expert recommendations, generate executable scripts to fix issues, view trends from the history of analysis recommendations, diagnose SQL queries, explore SQL query plan statistics, and much more.

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