

DBPLUS Performance Monitor
description of changes in the versions
2018.4.1,2018.4.2

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Below we present a list of changes in the DBPLUS Performance Monitor system for monitoring MSSQL instances.

1 New in version 2018.4.1,2018.4.2

1.1 SQL Plan Guides management

New version of the application adds the ability to manage objects such as Plan Guides.

1.1.1 Object search

For this purpose, a new Plan Guides menu has been added, available from Instance Analysis for each instance. Information on the Plan Guides established in a given instance is available on the screen. Current information as well as historical data are available.

The screenshot displays the 'Plan Guides Overview' interface. At the top, there are tabs for 'Plan Guides Overview' and 'Plan Guides History'. Below the tabs, there are filters for 'Plan guides for' (set to 'All databases') and 'Filter by Query Hash'. A 'Refresh' button is present. A warning message states: 'If plan guide doesn't contain query hash information it could mean that query is executed very fast or plan guide is not used.' Below this is a search bar: 'Search by any value in below plan guide list'. The main table lists several plan guides with the following columns: Database, Name, Create date, Last modify, Is Disable, Statement text, Query Hash, Scope, Scope object name, Scope object type, Parameters, and Hints. Below the table, there are tabs for 'SQL Text & Hints' and 'Changes history'. The 'SQL Text & Hints' tab is active, showing the following SQL statement:

```
SELECT * FROM "Navision"."dbo"."Inter Care UASAMRM Document Header" WITH (READUNCOMMITTED) WHERE (("Document Type"> @P1) AND ("Document Status"< @P2) AND ("Location Code"=@P3)) AND (("Warehouse Document No_"=@P4) AND ("Warehouse Document Type"=@P5) AND "Document Type"> @P6 ORDER BY "Document Type","Document Status","Document ID" OPTION (OPTIMIZE FOR UNKNOWN)
```

The Plan Guide Overview tab contains the following information as:

- Database name
- Name – Plan Guide name,
- Create date
- Last modify – date of last modification
- Is Disable – information about Plan Guide status,
- Statement text
- Query Hash – query ID assigned with Plan Guide
- Scope – [OBJECT/SQL/TEMPLATE]
- Scope object name
- Scope object type –(e.g. procedure, functions)
- Parameters – list of parameters
- Hints – hints related with Plan Guide

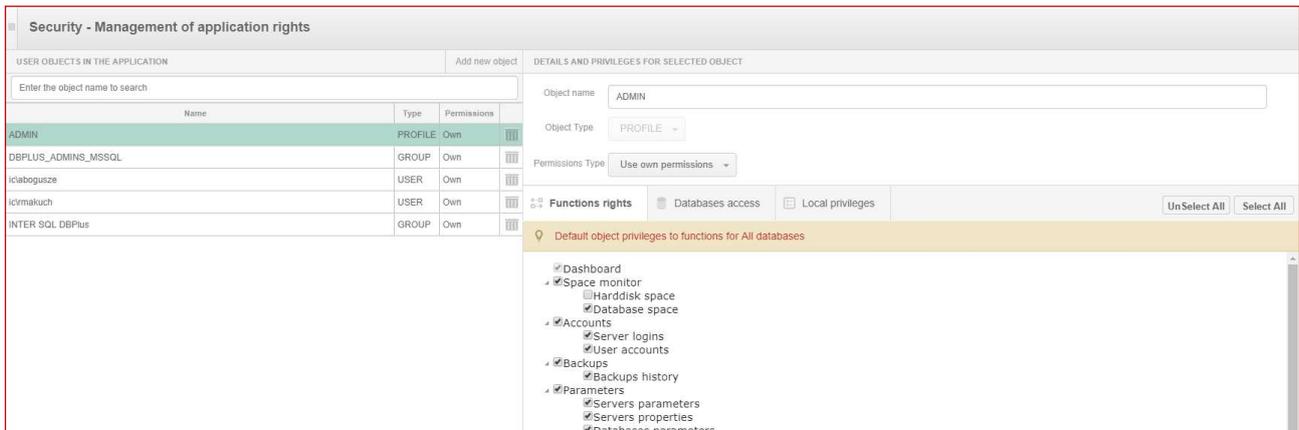
Note! Not all Guide Plan will be assigned Query Hash. This will refer specifically to those Guide Plans that have been created in the past and for which queries are not currently performed.

After clicking on the row in the table, below (the SQL Text & Hints tab), the content of the query will be presented as well as the used hints within the plan. The Changes History tab presents information about what changes were made to a given Plan Guide (e.g. Insert / Change / Drop)

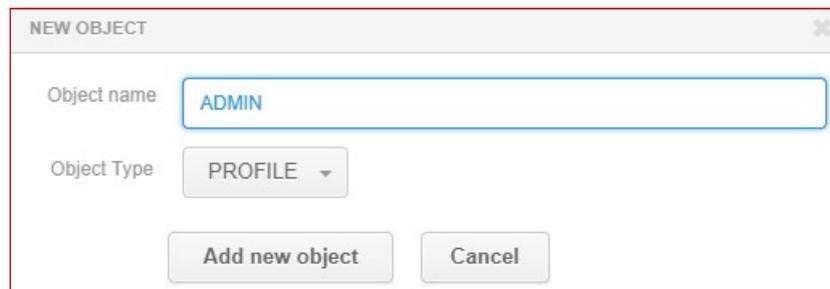
In addition, the Plan Guide History tab stores information about all Plan Guide in the SQL Instance. To search for a Historical Plan Guide, select the appropriate date range.

1.2 Permission management in the DBPLUS Performance Monitor

In the new version of the application, the functionality of giving access to the DBPLUS Performance Monitor screens has been modified. In the new version, the PROFILE access object has been added, which allows assigning appropriate access to the profile and then granting rights by assigning the profile to the user. The way of granting access to each group of objects has also been modified.

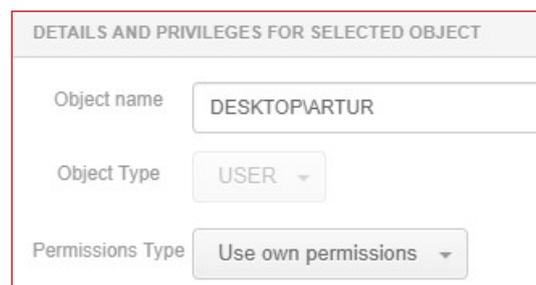


In order to create a new object, e.g. a profile (PROFILE), click on [Add new object], then select the object type "PROFILES" and give the name of the object.



To assign permissions to a given object, select it from the list on the left side of the screen. After clicking on the object on the right side, the page with the access configuration will be displayed. First you need to choose whether the permissions will be:

- own (Use own permissions).
- inherited permissions form parents.



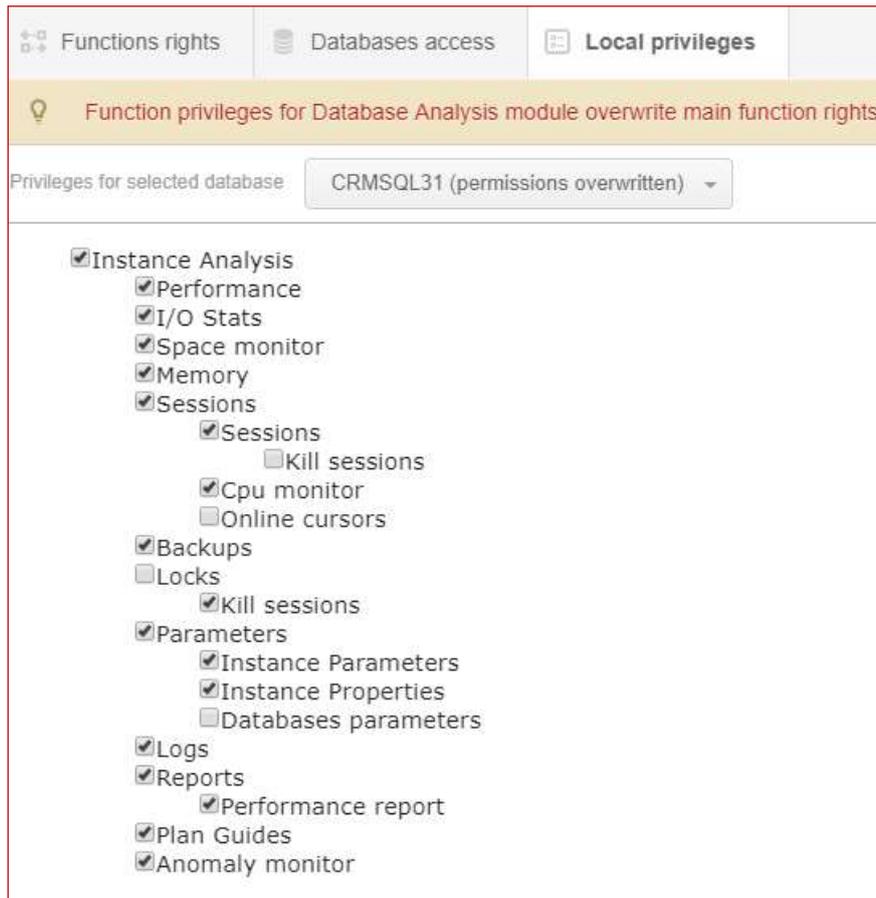
1.2.1 Own permissions

If you choose (own permissions), you have three tabs to configure permissions:

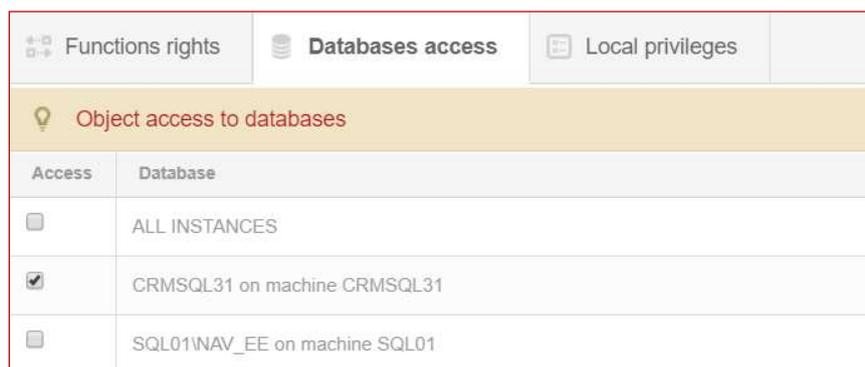
- Function rights,
- Databases access,
- Local privileges.

Functional settings allow you to give rights to pages or functionality in the application at the global level for a given user / group or profile for all databases. You can override these rights by granting custom permissions for a specific SQL instance. Custom permissions can only be changed for the Instance Analysis module. Local

permission is superordinate to a given SQL Instance in relation to functional rights. If you assign custom permissions, the (permissions overwritten) message will be displayed next to the SQL instance name.



In addition, you can restrict access to specific SQL Instance. To do this, in the Database access tab, select the appropriate check boxes for a given database or select ALL_INSTANCES. If certain bases are restricted, this will also limit the Local privileges tab.



1.2.2 Inherited permissions form parents

If you choose inherited rights, you can specify which profile or profiles to use for a given user or user group. Each profile contains a list of objects and access to which. Granting permissions to multiple profiles for the user will result in the entitlement for a given user being the sum of rights for selected profiles.

Profiles assignment	
Permissions to inherited from assigned profiles	
Access	Profile Name
<input type="checkbox"/>	ADMIN
<input type="checkbox"/>	ADMIN2
<input type="checkbox"/>	ADMIN3

Attention! In order to enable the functionality of limited access to the application, you must change the settings at the level of the DBPLUS Configuration Wizard> Applications settings> Applications Options> Configure. As well as change the status of the **SECURITY** parameter to ON

Parameter	Value	Description	
SECURITY	ON	Application can work in SECURITY mode set to ON or to OFF. It means that application uses (or doesn't use) user authentication. Setting the SECURITY to on, it requires at least one user created.	Save
DASHBOARD_ANIMATE_PARAMETERS	ON	Setting is valid for DPM dashboard displayed in television mode. Based on it each sql server icon can toggle/animate automatically its parameters like (server cpu, waits, sessions, etc.)	Edit
LOCKING_SNAPSHOT_FREQUENCY	300	The interval time in seconds between each snapshot of locks made by DBPLUS CATCHER service. The parameter can be setup separately for each instance. In a case of frequent locks, please consider lower value for LOCKING_SNAPSHOT_FREQUENCY. In a case of rarely occurred locks, please use bigger value for it.	Edit

Below screen with the DBPLUS Configuration Wizard:

It's recommended to use the same user type/account for DBPLUSORACLECATCHER service, IIS application and oracle instances monitoring purposes. Please do not use account with administrator privileges.

In application security tab please specify if application should be available in anonymous mode (for every user who enter the application url) or in secure mode (for users who authenticate)

If you want to change the protocol, you have to do it directly in IIS manager.

Application pool settings (AppPoolDPM)

Login type: LocalSystem

Username:

Password:

Website settings (DBPLUS Website)

Protocol: http | Binding property: Default

Port: 80 | Host name:

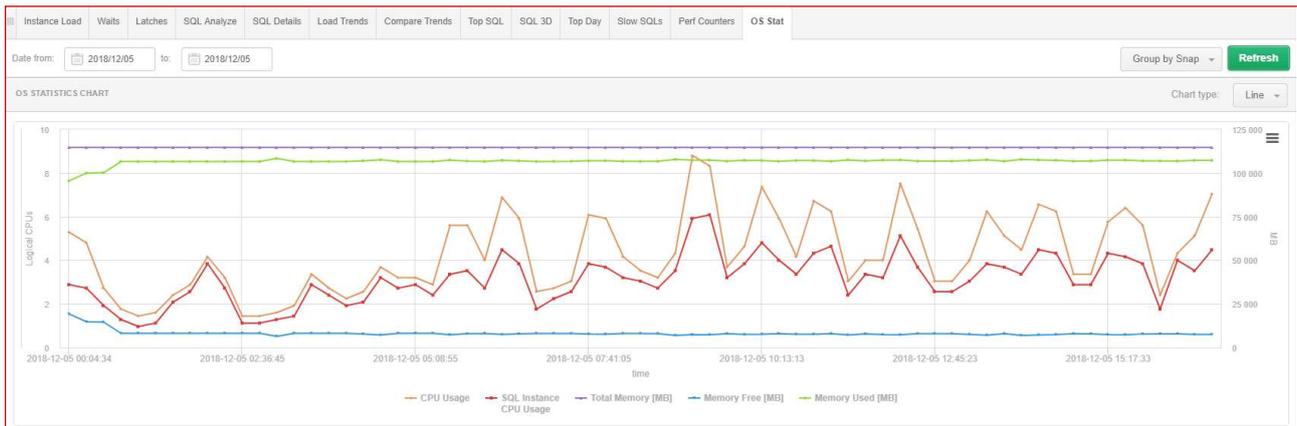
Application path: C:\Program Files (x86)\DBPLUS.Or |

Application security

Use windows authentication in access to application

1.3 Information about statistics the OS

In the new version of the application, information about statistics collected at the operating system level has been added:



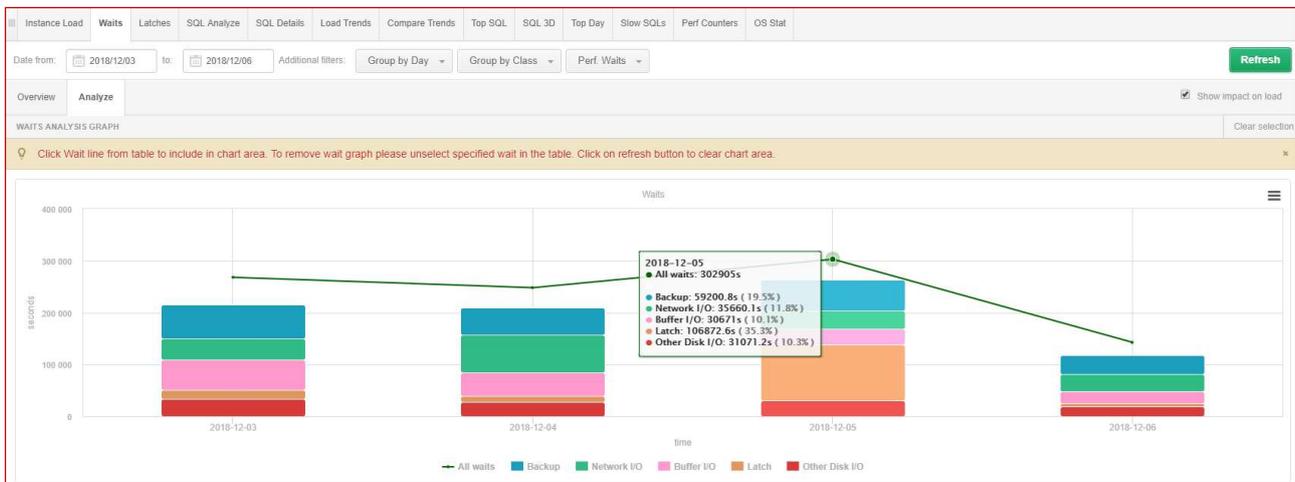
The OSS Stat tab contains the following information as:

- Logical CPUs – number of available processor,
- SQL Instance Logical CPUs – number of available processor on SQL Instance,
- CPU Idle [Seconds] – the number of processor inactivity seconds, relative to all processors
- CPU Usage [Seconds] - number of seconds in which the processor was busy executing the user or kernel code, including all processors on the server
- SQL Instance CPU Usage – [Seconds] - number of seconds in which the processor was busy executing the user or kernel code, including all processors on the SQL Instance,
- Total Memory [MB] - total amount of physical memory.
- Memory Free [MB] – total amount of free physical memory.
- Memory Used [MB] - total amount of used physical memory.

Logdate	Logical CPUs	SQL Instance Logical CPUs	CPU Idle	CPU Usage	SQL Instance CPU Usage	Total Memory [MB]	Memory Free [MB]	Memory Used [MB]
2018-12-05 00:04:34	16	16	10.72	5.28	2.88	114 687 MB	19 158 MB	95 529 MB
2018-12-05 00:19:47	16	16	11.20	4.80	2.72	114 687 MB	14 723 MB	99 964 MB
2018-12-05 00:35:00	16	16	13.28	2.72	1.92	114 687 MB	14 499 MB	100 188 MB
2018-12-05 00:50:13	16	16	14.24	1.76	1.28	114 687 MB	8 096 MB	106 591 MB
2018-12-05 01:05:26	16	16	14.56	1.44	0.96	114 687 MB	8 092 MB	106 595 MB
2018-12-05 01:20:39	16	16	14.40	1.60	1.12	114 687 MB	8 091 MB	106 595 MB
2018-12-05 01:35:52	16	16	13.60	2.40	2.08	114 687 MB	8 092 MB	106 595 MB
2018-12-05 01:51:05	16	16	13.12	2.88	2.56	114 687 MB	8 093 MB	106 594 MB

1.4 Grup wait by class, screen Waits > Analyze

The new version of the software has added wait sort functionality by class. Depending on the period you selected, you can now see the share of a given class in the total number of waits. The functionality works for grouping after performance wait and for all waits.



The data is also available in a tabular version. A validation class was assigned to each valid.

Class	Total wait time in period [Seconds]	Load [%]
Backup	213 184 439	22.2
Network I/O	181 885 408	18.9
Buffer I/O	158 329 403	16.5
Latch	141 108 972	14.7
Other Disk I/O	111 297 741	11.6
Lock	69 209 978	7.2
Cpu	58 415 465	6.1
Tran Log I/O	24 044 539	2.5
Buffer Latch	2 846 919	0.3

1.5 Session menu

The new version of the application adds the ability to search information about the historical user's session using a given type of wait and also for the session using Tempdb the version store information.

1.5.1 Searching for sessions for a given waits

The new version of the application adds the ability to search information about the user's session using a given type of wait. We start the search by pressing the "Hide additional filters" button and then from the list of available waits we add the ones we want to view.

After pressing the Refresh button, only those sessions that were waiting, for a wait selected by the user from the list will be presented in the given period.

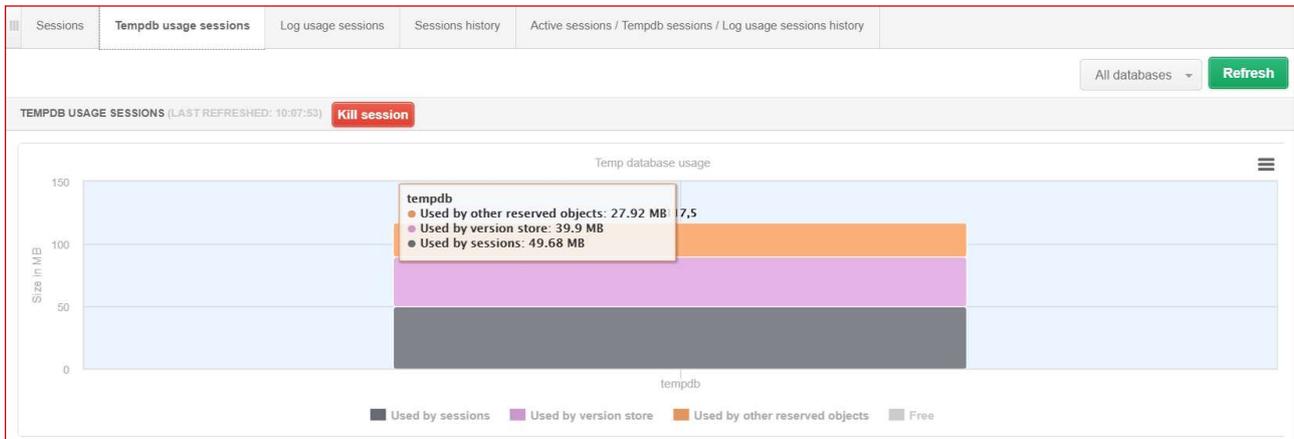
At the same time, you can also select other filters, e.g. such as SID session ID or Query Hash value.

Logdate	Type	Session Id	Program	Nt user name	Host name	Login name	Context info	Query Hash	Plan Hash	Wait type	Wait time [Seconds]	Blocking session id	Command	Database	Elapsed Time [Seconds]	Cpu Time [Seconds]
2018-12-06 08:18:40	Session	142	MSCRMw3wp	crm_isinter	CRMIS32.w3wp:	INTER/crm_isinte		0x6A088E3970BEC16	0x5E9DDA7602EC4	PAGEIOLATCH_SH	0.1 126		INSERT	InterCars_MSCRM	0.097	0
2018-12-06 02:06:24	Session	56	SQLAgent - TSQL c	crm	CRMSQL31	IC/crm		0xBF75BD63A95B2F3	0x2251F93F40C0D	PAGEIOLATCH_E	0 0		DELETE	IT	17.916	13.704
2018-12-06 03:26:00	Session	113	SQLAgent - TSQL c	crm	CRMSQL31	IC/crm		0xBF255A6F345A2E0	0x04D15B068F8A9	PAGEIOLATCH_E	0 0		DELETE	IT	576.563	104.442
2018-12-06 03:26:31	Session	113	SQLAgent - TSQL c	crm	CRMSQL31	IC/crm		0xBF255A6F345A2E0	0x04D15B068F8A9	PAGEIOLATCH_E	0 0		DELETE	IT	607.183	113.528
2018-12-06 03:27:01	Session	113	SQLAgent - TSQL c	crm	CRMSQL31	IC/crm		0xBF255A6F345A2E0	0x04D15B068F8A9	PAGEIOLATCH_E	0 0		DELETE	IT	637.837	122.313

1.5.2 Information about sessions version store Usage

The new version of the application has been added information about the use of memory in the Tempdb database via query version store

This information is visible on the chart in the Tempdb usage sessions tab.



This information is useful when the "read_committed_snapshot with ON" parameter is enabled on the basis (the parameter is switched on so that "select" type queries do not block the query that make changes).

This setting generates additional entries in the Tempdb database because the change version is kept until the transaction is closed.

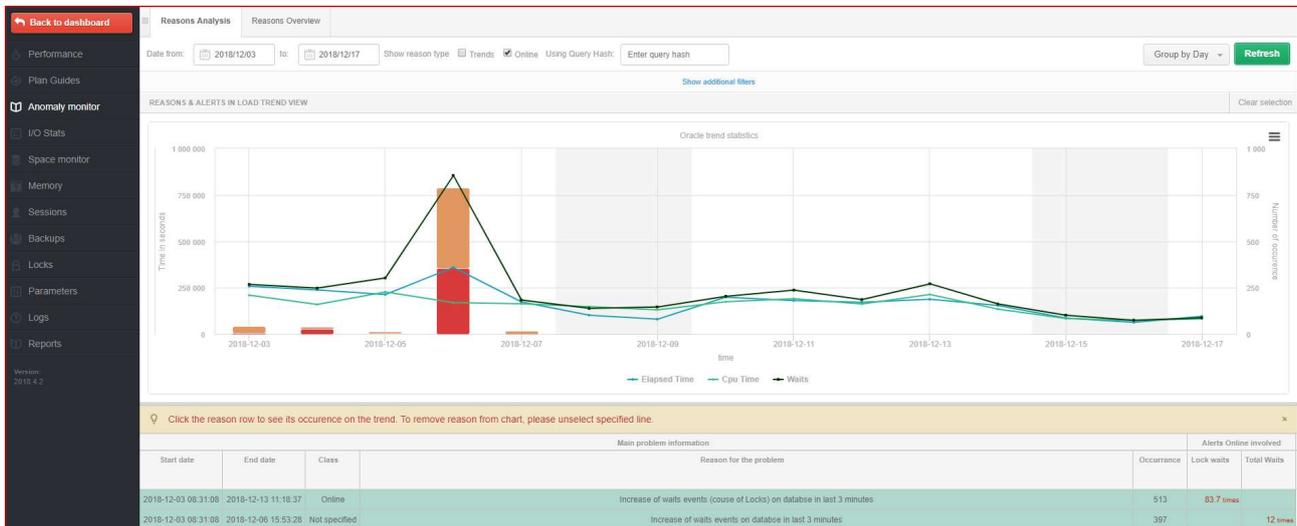
1.6 Anomaly Monitor

In the new version of the application, the functionality of viewing anomalies (alerts) has been added. The browser is available from the Instance Analysis> Anomaly Monitor SQL Instance details.

1.6.1 Problems viewer in the SQL Instance

On the page user can choose between two tabs: Reasons Analysis and Reasons Overview.

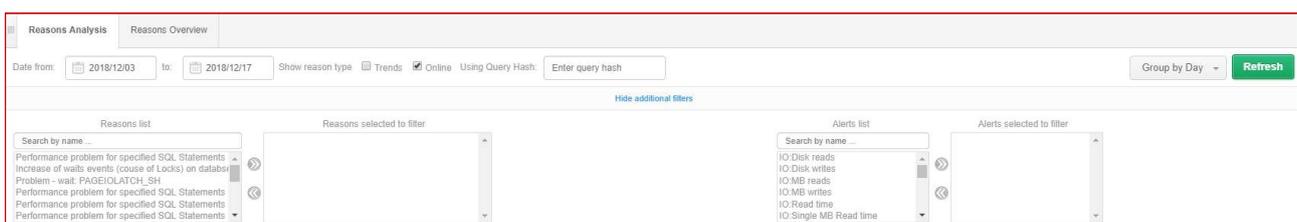
1.6.1.1 Reasons Analysis



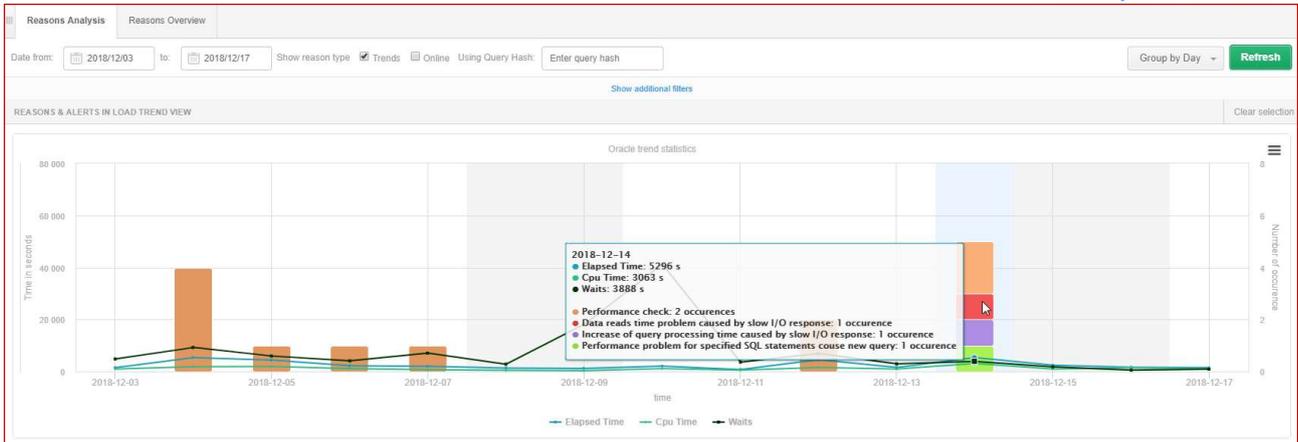
On the page you can choose several filters to help you find the problem you are looking for. As part of the filtering these options are available:

- choosing a date or range of dates,
- sorting after month, day, hour, snap,
- (Trends or Online) - the ability to indicate which type of alerts we want to view,
- Hash value - selection of alerts in which the indicated query identifier occurred,
- Reason list - the opportunity to indicate the dedicated causes of the problem,
- Alert lists - the ability to indicate dedicated alerts.

Screen of available filters on the Anomaly Monitor page:



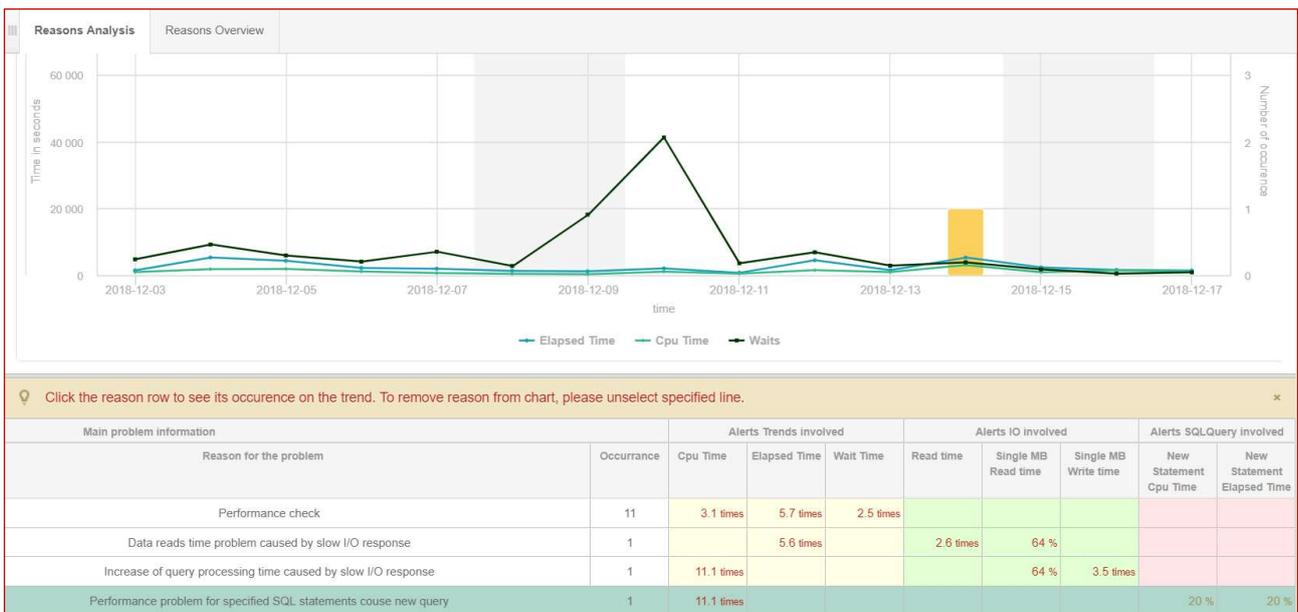
After configuring the appropriate filters, click the [Refresh] button. As a result, a graph will be presented in which, apart from the SQL Instance such as Elapsed Time, CPU Time o Waits, the number of occurrences of a given problem per unit of time will be presented in the form of bars in the graph. By indicating a given bar on the chart, a tooltip will be presented with information containing data on basic measures as well as the number of instances of a given problem per unit of time.



Below the graph is a table containing additional information about the causes of alerts presented in the graph. The table contains:

- **Start date / End date** - date range in which the given reason occurred,
- **Class** - the class / area to which the given reason was assigned,
- **Reason for the problem** - the cause of the problem,
- **Occurance** - the number of instances of a given cause in the selected date range
- **Alerts trends involved / IO involved / SQL Query involved** - sets of alerts included in the definition of a given problem cause.

The user can indicate the reasons for the problem in the table. Each selection / uncheck will convert the data in the chart and present only the selected rows.



The data contained in the table are average data for all occurrences of a given reason. For a more in-depth analysis of a given problem, after selecting a row, the table will display additional detailed information in the **Alerts Details** tab. This view contains information on alerts that have exceeded the thresholds defined for the given cause of the problem.

There is also a view grouping alerts of the same type that occurred after each other. This allows you to verify how long the problem lasted. This information is available in the Reasons Occurance Statistics tab.

Reasons Occurance Statistics | Alerts Details

REASONS CHARACTERISTIC BETWEEN 2018-12-04 05:38:02 - 2018-12-14 17:44:14 FOR PERFORMANCE CHECK

Start date	End date	Snapshots occurrence	Problem duration rounded to snap intervals [HH:MM:SS]
2018-12-04 05:38:02	2018-12-04 06:08:29	3	00:45:27
2018-12-04 11:12:55	2018-12-04 11:12:55	1	00:15:00
2018-12-05 05:59:20	2018-12-05 05:59:20	1	00:15:00
2018-12-06 05:34:58	2018-12-06 05:34:58	1	00:15:00
2018-12-07 15:56:14	2018-12-07 15:56:14	1	00:15:00

In the case below for one (Occurrence = 1) occurrence of the problem Data reads time problem caused by slow I / O response. Values for each of the alert defined for this problem which exceeded the threshold values were presented.

Alerts Details				
LIST OF ALERTS GENERATED IN 2018-11-16 22:19:43 FOR REASON DATA READS TIME PROBLEM CAUSED BY SLOW I/O RESPONSE				
Logdate	Level	Alert name	Hash value	Message
2018-11-16 22:19:43	Critical	Read time		Alert Type: I/O Stat, The measured statistic value is 110 % higher than average , Last value: 1814 s, Reference history value: 862.4 s
2018-11-16 22:19:43	Critical	Single Block Read time		Alert Type: I/O Stat, The measured statistic value is 135 % higher than average , Last value: 0.0035 s, Reference history value: 0.0015 s
2018-11-16 22:19:43	Warning	Elapsed Time		Alert Type: Load Trends, The measured statistic value is 81 % higher than average , Last value: 7557 s, Reference history value: 4164 s

Note: information in the Alerts Details tab is only available for the last selected cause of the problem.

1.6.1.2 Reasons Overview

As part of this tab, the application allows you to view problems in one set. We can choose the same filters as for the Reasons Analysis tab and additionally the option of marking / deselecting grouping after the Cause.

The screenshot shows the 'Reasons Overview' tab with the following elements:

- Filters:** Date range from 2018/12/03 to 2018/12/17. Checkboxes for 'Show reason type', 'Trends', 'Online', and 'Using Query Hash'. A search box for 'Enter query hash' and a 'Group by reason' checkbox.
- Reasons list:** A list of reasons with search and filter options.
- Alerts list:** A list of alerts with search and filter options.
- REASONS & ALERTS OVERVIEW Table:**

Logdate	Reason name
2018-12-14 14:26:23	I/O>Data reads time problem caused by slow I/O response
	Read time Alert Type: I/O Stat, The measured statistic value is 2.6 times higher than allowed maximum , Last value: 32871 s, Reference history value: 9204 s
	Single MB Read time Alert Type: I/O Stat, The measured statistic value is 64 % higher than allowed maximum , Last value: 0.0425 s, Reference history value: 0.0258 s
2018-12-14 14:26:23	I/O/increase of query processing time caused by slow I/O response
	Single MB Write time Alert Type: I/O Stat, The measured statistic value is 3.5 times higher than allowed maximum , Last value: 0.1000 s, Reference history value: 0.0224 s
	Single MB Read time Alert Type: I/O Stat, The measured statistic value is 64 % higher than allowed maximum , Last value: 0.0425 s, Reference history value: 0.0258 s
	Cpu Time Alert Type: Load Trends, The measured statistic value is 11 times higher than average , Last value: 437.5 s, Reference history value: 36.3 s

Depending on the checkbox **[Group by reason]**, alert data will be displayed in various lists:

- selected

REASONS & ALERTS OVERVIEW	
Logdate	Reason name
2018-12-02 06:32:14	I/O/Data writes time problem caused by slow I/O response
	Single Block Write time Alert Type: I/O Stat, The measured statistic value is 10.5 times higher than allowed maximum , Last value: 1.87 s, Reference history value: 0.1623 s
	Write time Alert Type: I/O Stat, The measured statistic value is 2.6 times higher than allowed maximum , Last value: 10137 s, Reference history value: 2849 s
	Wait Event Time Alert Type: Load Trends, The measured statistic value is 119 % higher than average , Wait: log file sync, Last value: 60.6 s, Reference history value: 27.6 s
	Elapsed Time Alert Type: Load Trends, The measured statistic value is 66 % higher than average , Last value: 1769 s, Reference history value: 1067 s

- unselected

REASONS & ALERTS OVERVIEW					
Logdate	Reason	Level	Alert name	Hash value	Message
2018-12-02 06:32:14	I/O/Data writes time problem caused by slow I/O response	Critical	Single Block Write time		Alert Type: I/O Stat, The measured statistic value is 10.5 times higher than allowed maximum , Last value: 1.87 s, Reference history value: 0.1623 s
2018-12-02 06:32:14	I/O/Data writes time problem caused by slow I/O response	Critical	Write time		Alert Type: I/O Stat, The measured statistic value is 2.6 times higher than allowed maximum , Last value: 10137 s, Reference history value: 2849 s
2018-12-02 06:32:14	I/O/Data writes time problem caused by slow I/O response	Critical	Wait Event Time		Alert Type: Load Trends, The measured statistic value is 119 % higher than average , Wait: log file sync, Last value: 60.6 s, Reference history value: 27.6 s
2018-12-02 06:32:14	I/O/Data writes time problem caused by slow I/O response	Warning	Elapsed Time		Alert Type: Load Trends, The measured statistic value is 66 % higher than average , Last value: 1769 s, Reference history value: 1067 s
2018-12-02 06:32:14	I/O/increase of query processing time caused by slow I/O response	Critical	Single Block Write time		Alert Type: I/O Stat, The measured statistic value is 10.5 times higher than allowed maximum , Last value: 1.87 s, Reference history value: 0.1623 s

1.6.2 Setting a class for a given cause of the problem

In the new version of the application, information about the class assigned to the cause of the problem has been added. Setting the class is nothing but an additional categorization of problems. The problem class is defined in the dictionary table available in the menu Configuration> References lists> Reasons class.

Reference types management	
REFERENCE	REFERENCE LIST ITEMS
List Name	Enter the name for new item Add item
Server types	Name
Reason class	I/O Edit ×
	Network Edit ×
	Memory Edit ×
	Lock Edit ×
	Log Edit ×
	Latch Edit ×
	New process Edit ×

The class can be set by defining the new cause of the problem as well as modifying the existing one in the **Reasons & Problems definition** tab.

REASON DEFINITION

Reason description: Network problem not caused by I/O disk storage issues

Calculation Type: Based on Trends

Reason Class: I/O

Enabled:

Rules & Formulas | Notifications & Conditions

AND OR Add rule Add group

Trends:Wait Event Time - [TCP Socket%] Delete

AND OR Add rule Add group Delete

AND OR Add rule Add group Delete

NOT:IO:Disk reads Delete

NOT:IO:Single Block Read time Delete

Rules preview: Trends:Wait Event Time - [TCP Socket%] AND ((NOT:IO:Disk reads AND NOT:IO:Single Block Read time) OR (NOT:IO:Disk writes AND NOT:IO:Single Block Write time))

OK Cancel

1.6.3 Change in verifying the change of the query explain plan

The new version has modified the functionality associated with verification whether the impact on exceeding the threshold set in the alert definition (applies only to alerts for queries - SQL Query) was influenced by the change of the query plan.

From now on the Alert definition for e.g. Elapsed Time with the change plan check option will be presented and configured separately than the Elapsed Time alert without this option selected.

ALERTS CONFIGURATION		Enabled	Level value WARNING	Level value CRITICAL
Sql Query	Execution	<input checked="" type="checkbox"/>	50 %	100 %
Sql Query	Elapsed Time (for plan changes only)	<input checked="" type="checkbox"/>	50 %	100 %
Sql Query	Elapsed Time per 1 exec (for plan changes only)	<input checked="" type="checkbox"/>	50 %	100 %
Sql Query	Disk reads (for plan changes only)	<input checked="" type="checkbox"/>	50 %	100 %
Sql Query	Execution (for plan changes only)	<input checked="" type="checkbox"/>	50 %	100 %
Load Trends	Elapsed Time	<input checked="" type="checkbox"/>	50 %	100 %
Load Trends	Wait Time	<input checked="" type="checkbox"/>	30 %	80 %

This change allows for more precisely defining problem definitions that cause the SQL Instance performance degradation.

Type	Class	Reason/Problem description	Enabled	
Trends	Process	Problems cause Query change plan	<input checked="" type="checkbox"/>	Trends:Elapsed Time AND ((SQLQuery:Elapsed Time (for plan changes only) AND SQLQuery:...
Trends	Process	Database performance degradation cause SQL query change plan	<input checked="" type="checkbox"/>	((Trends:Elapsed Time AND Trends:Wait Time AND Trends:Execution) AND (NOT SQLQuery:...
Trends	I/O	Network problem not caused by I/O disk storage issues	<input checked="" type="checkbox"/>	Trends:Wait Event Time - [TCP Socket%] AND ((NOT IO:Disk reads AND NOT IO:Single Block...
Trends	I/O	Problems cause increase Executions and Disk Reads	<input checked="" type="checkbox"/>	Trends:Elapsed Time AND ((SQLQuery:Elapsed Time AND SQLQuery:Elapsed Time per 1 ex...

1.6.3 New parameter controlling the alert function

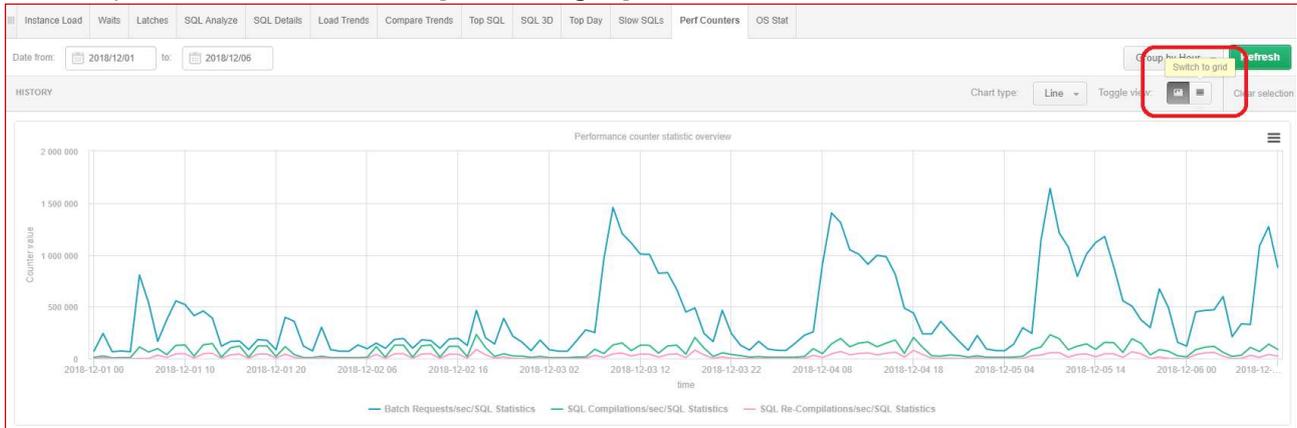
The new Minimal History Days parameter has been added for alert settings. The parameter is visible in the main menu Configuration > Alerts settings in the General settings tab. It mainly concerns new SQL Instance connected to monitoring. Specifies the minimum time after which trend-based alerts will be calculated. The problem occurred after start monitoring new SQL Instance a large part of alerts was not able to correctly show the problem due to the lack of a "stable" trend. The parameter is modifiable and can be changed if necessary.

GENERAL SETTINGS	
Elapsed Time greater than	400 seconds <small>Alerts would only be ran if the elapsed time for all sql statements would take at least seconds in duration of 15 minutes (snapshot time)</small>
History Days	<input checked="" type="checkbox"/> Mon <input checked="" type="checkbox"/> Tue <input checked="" type="checkbox"/> Wed <input checked="" type="checkbox"/> Thu <input checked="" type="checkbox"/> Fri <input type="checkbox"/> Sat <input type="checkbox"/> Sun <small>We recommend to select working days only</small>
Number of Days Back in History	30 <small>How long history would be included in snapshot alerts calculation</small>
Minimal History Days	7 <small>Minimal number of days required to calculate trend estimations. It lets to avoid random alerts when instance monitoring has just started</small>
STATEMENTS SETTINGS	
Number of Top Queries to check	10 chosen by Elapsed time <small>How many top statements from each snapshot would be check by Alert Engine</small>
Number of Days Back in History	7 <small>How long statement history would be considered in snapshot alerts calculation</small>
WAIT EVENTS SETTINGS	
Number of Top events to check	3
Number of Days Back in History	7 <small>How long wait history would be considered in snapshot alerts calculation</small>

1.7 General Improvements

1.7.1 The ability to export Performance Counters statistics

In the new version of the application, the ability to export performance statistics has been added. The functionality is available from the Perf Counters tab under Instance Analysis. Export is possible by changing the chart preview to the tabular form **[Switch to grid]**.



Export is performed for statistics previously selected from the table, choosing one from the following Grid options:

Export grid or Export grid with formatted data.

Name	Class
ADO parse lock X get attempts	User
ADG parse lock X get successes	User
Batched IO (bound) vector count	Batched IO
Batched IO (full) vector count	Batched IO
Batched IO (space) vector count	Batched IO
Batched IO block miss count	Batched IO
Batched IO buffer defrag count	Batched IO
Batched IO double miss count	Batched IO
Batched IO same unit count	Batched IO
Batched IO single block count	Batched IO

Logdate	ADG parse lock X get attempts/User	Batched IO (space) vector count/Batched IO	Batched IO same unit count/Batched IO	Batched IO buffer defrag count/Batched IO	Batched IO double miss count/Batched IO
2018-11-27 00:03:37	0	0	205 614	3 718	3 209
2018-11-27 00:18:50	0	0	159 959	3 273	993
2018-11-27 00:34:01	0	0	519 359	5 021	3 005
2018-11-27 00:49:14	0	0	18 402	599	1 075
2018-11-27 01:04:26	0	12 830	0	2 112	24 473
2018-11-27 01:19:38	0	0	0	1 211	5 344
2018-11-27 01:34:51	0	0	0	631	7 863
2018-11-27 01:50:03	0	0	322 606	2 322	13 419

1.7.2 The ability to generate a Performance Report in hourly mode

In the new version of the application, we have made it possible to generate a Performance Report by providing specific hours for which the report should be generated. The report can be generated from the SQL Instance level in the Reports menu.