MSSQL / PI

Power Pack

Foglight by Quest

LightSpeed PM

Custom Integrations

Why MSSQL / PI Power Pack?

- Our unique solution extracts data from Foglight for SQL PI and puts it to use in easy-to-create dashboards
- Access to deep down data not readily available from the Foglight SQL agent or the ‘Performance Investigator’ tools
- Create highly advanced dashboard with the exposed the data with ‘drag and drop’ simplicity
- Eliminate the need for ‘Custom’ services and Master advanced dashboard creation in Foglight for analyzing your SQL performance
- After implementation, our knowledge transfer enables you to be successful and begin creating your own views

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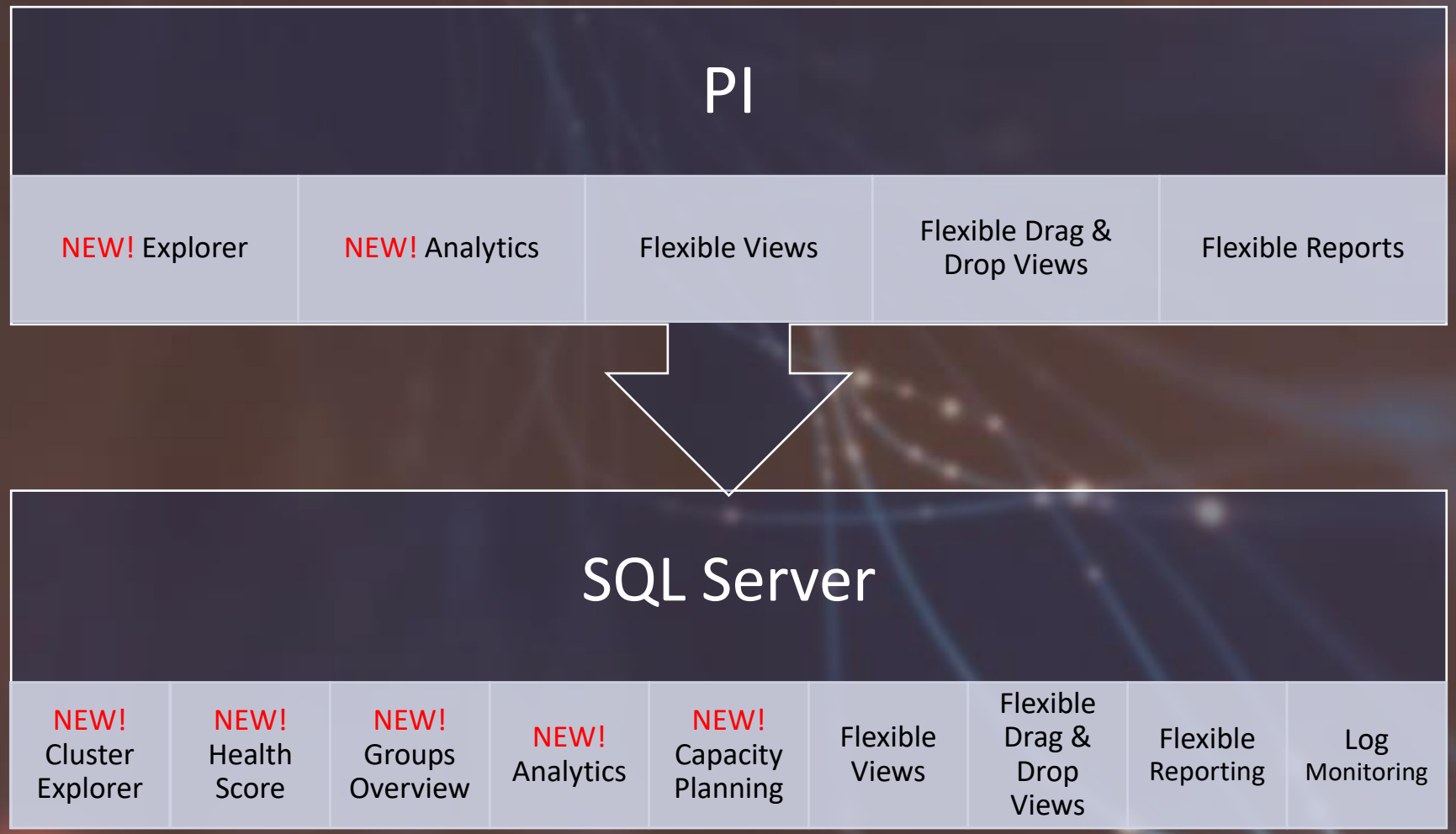
MSSQL / PI Power Pack - Solution



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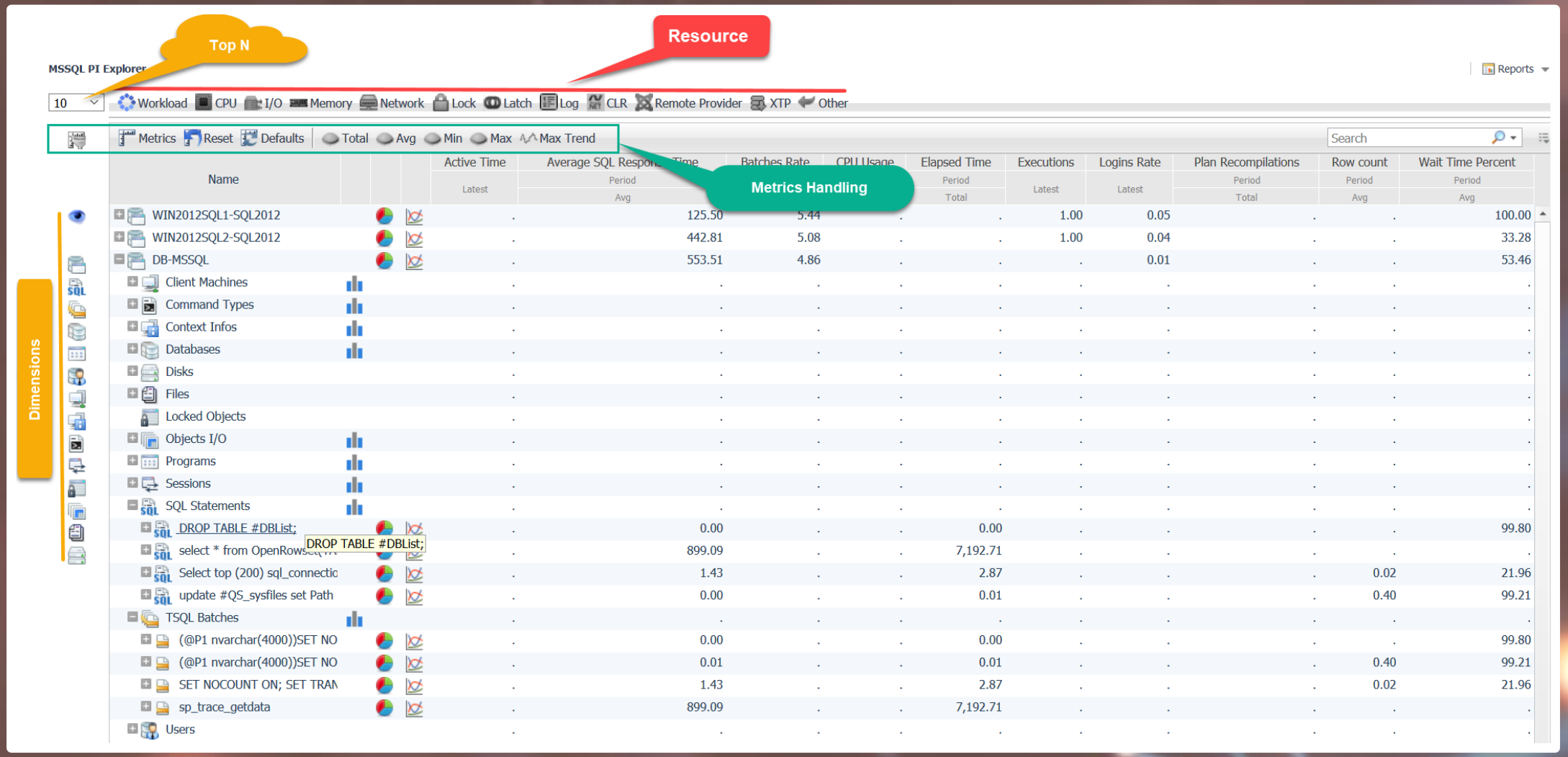
MSSQL/PI Power Pack - **PI Explorer**



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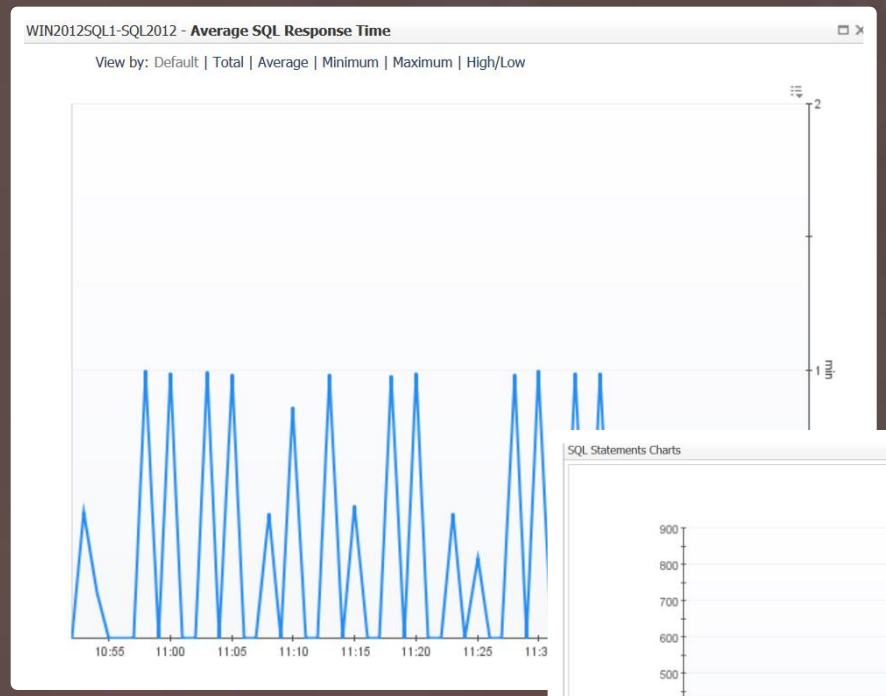
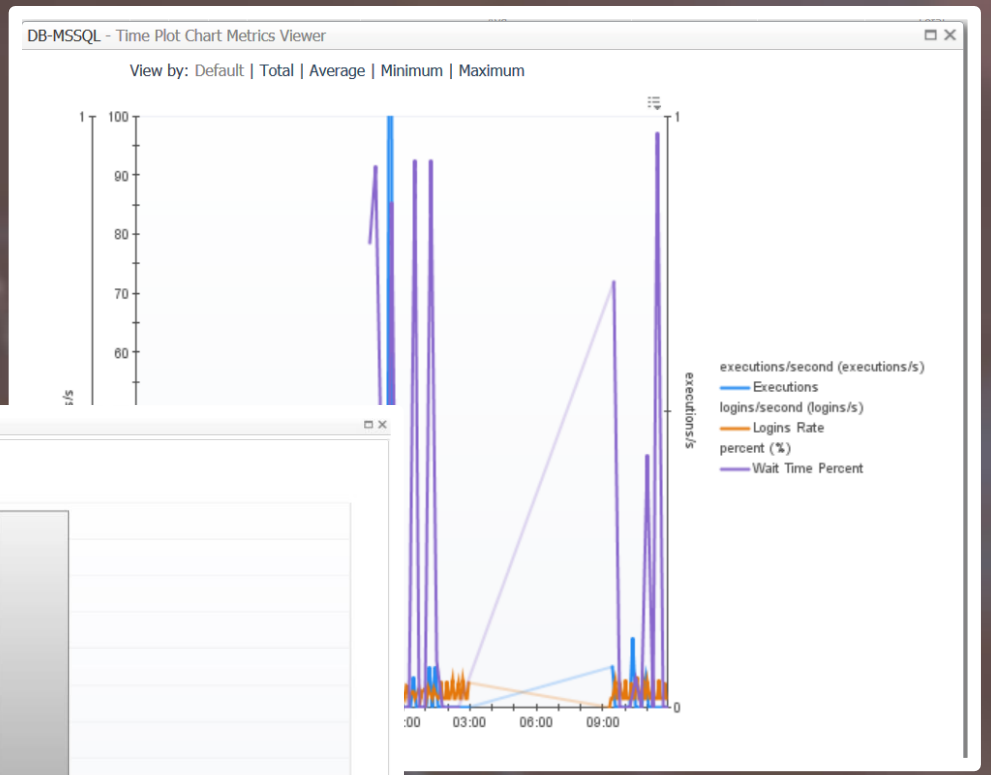
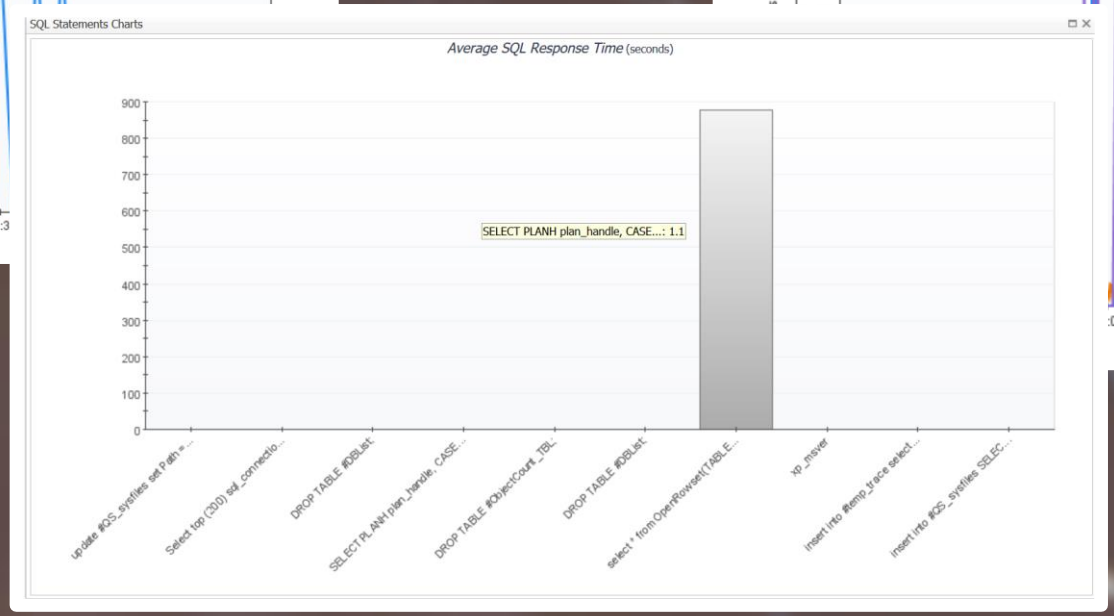
MSSQL/PI Power Pack - **PI Explorer -** Continued







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MSSQL / PI Power Pack

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PI Instances

Show selected instances and display PI Metrics

Same Capabilities as the PI Explorer

Metrics | Reset | Defaults | Total | Avg | Min | Max | Max Trend | Search

Name			Active Time	Average SQL Response Time	Batches Rate	CPU Usage	Executions	Logins Rate	Wait Time Percent
			Current	Period Avg	Current	Current	Current	Current	Period Avg
WIN2012SQL1-SQL2012			.	113.86	5.43	.	.	0.05	93.50
WIN2012SQL2-SQL2012			.	183.83	4.98	.	1.00	0.04	63.49
DB-MSSQL			0.00	205.36	4.84	0.00	.	0.01	65.82

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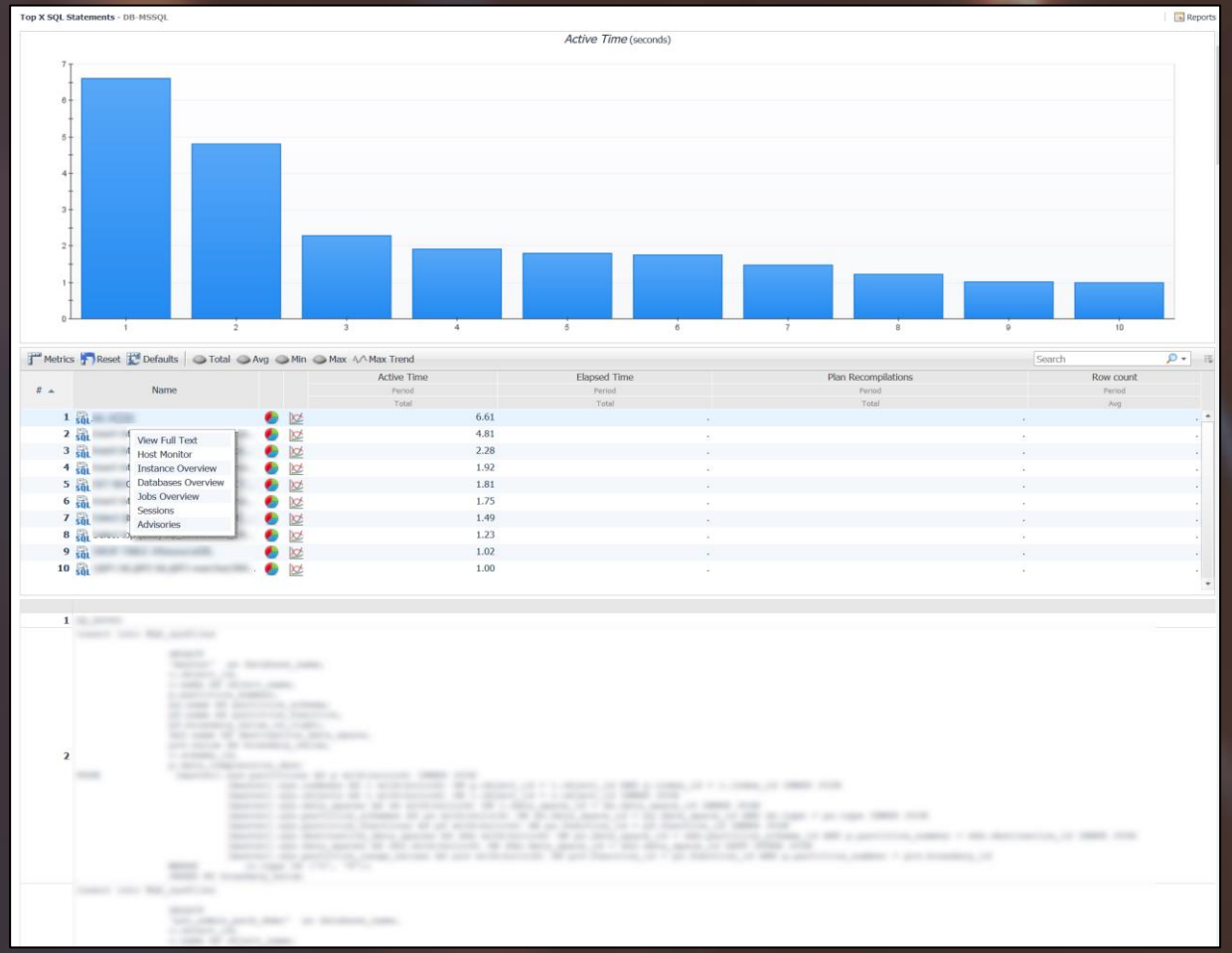
MSSQL/PI Power Pack - **PI Top 'X' SQL**

Displays Top 10 SQL statements for an instance

Active Time Clustered Bar Chart

Metrics support same as the PI Explorer

Displays SQL statements Text



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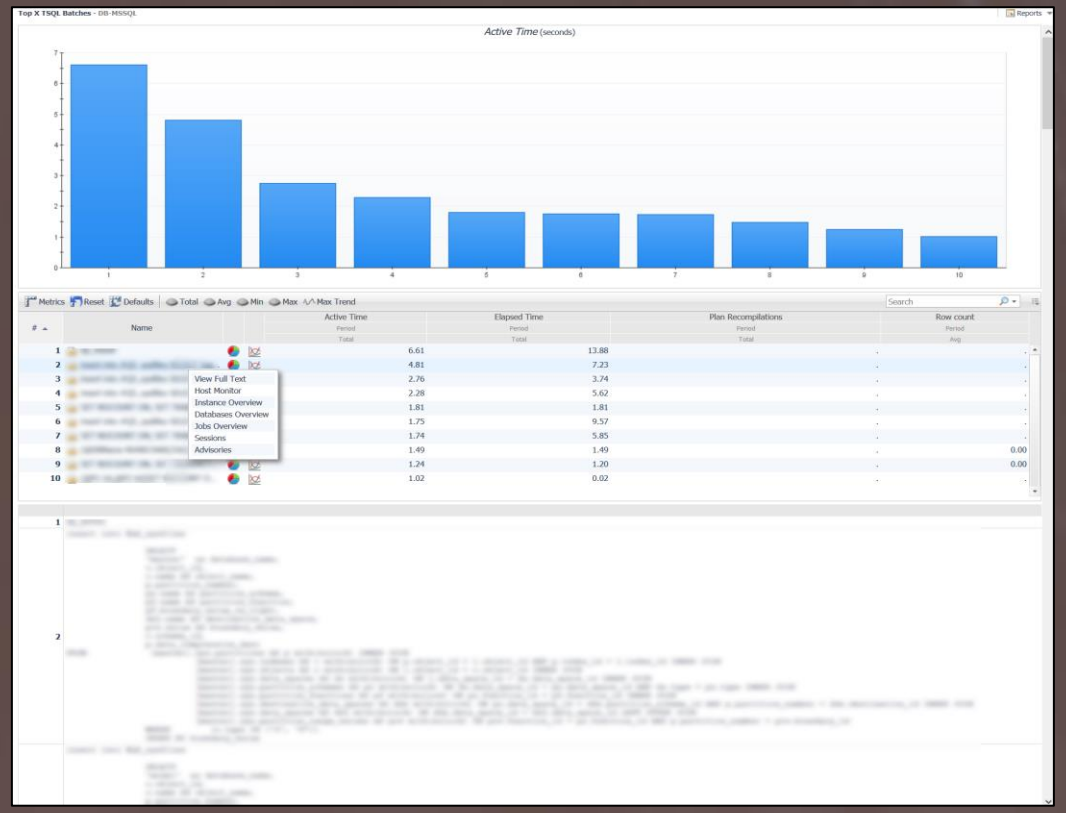
MSSQL/PI Power Pack - **PI Top 'X' SQL Batches**



Displays the Top 10 SQL Batches for an instance

Displays the SQL Batches Text

Active Time Clustered Bar Chart

Metrics support same as the PI Explorer

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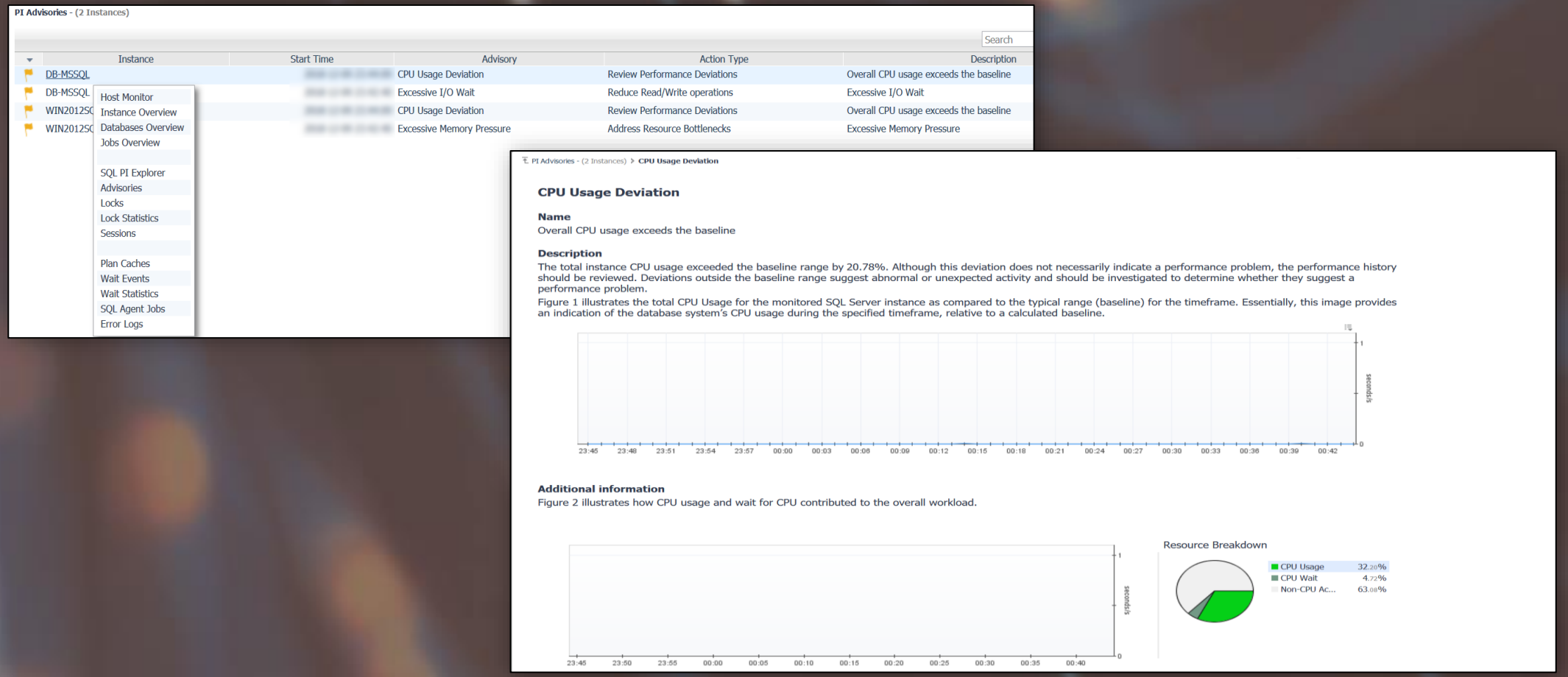
MSSQL/PI Power Pack - **PI Advisories**

Displays ‘Advisories’ on selected instances



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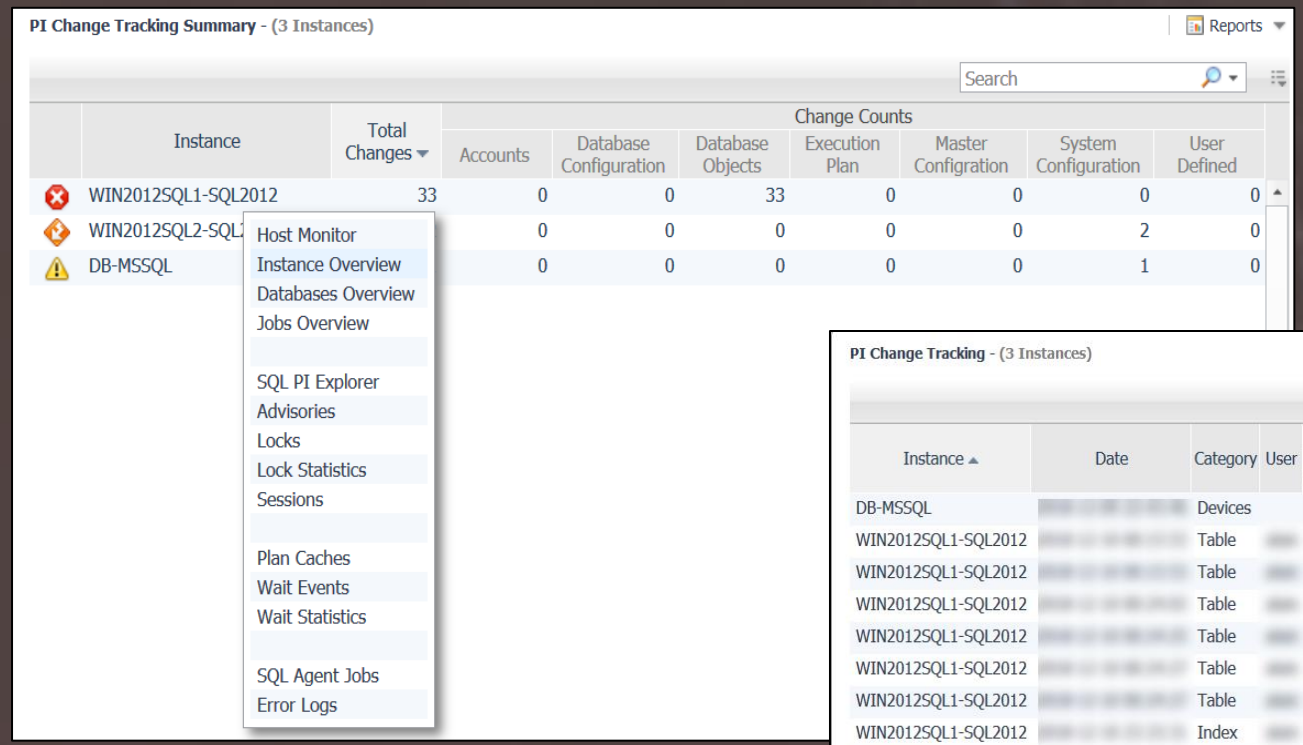
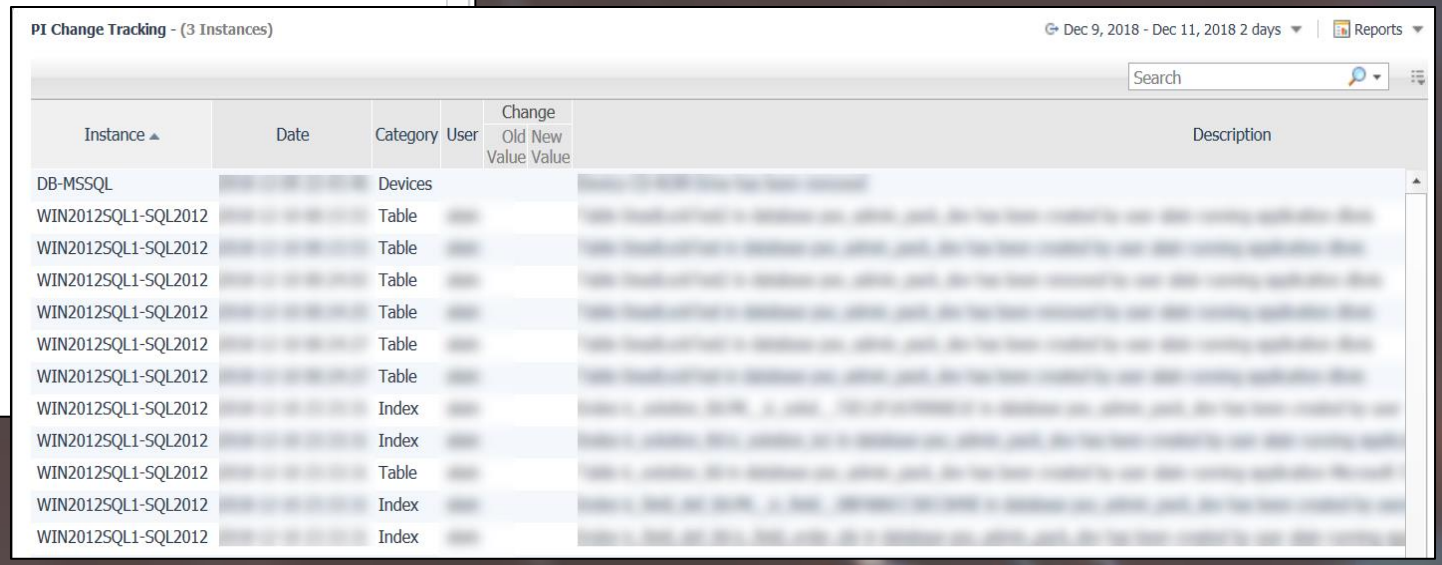
MSSQL/PI Power Pack - **PI Change Tracking**

Display changes on selected instances





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MSSQL/PI Power Pack - **PI Analytics**

24 Hour Window View

Get Insight into how a resource is utilized within a 24-hour day based on historical data

Analyze Data Using

Time Plot Charts

Time Bar Charts

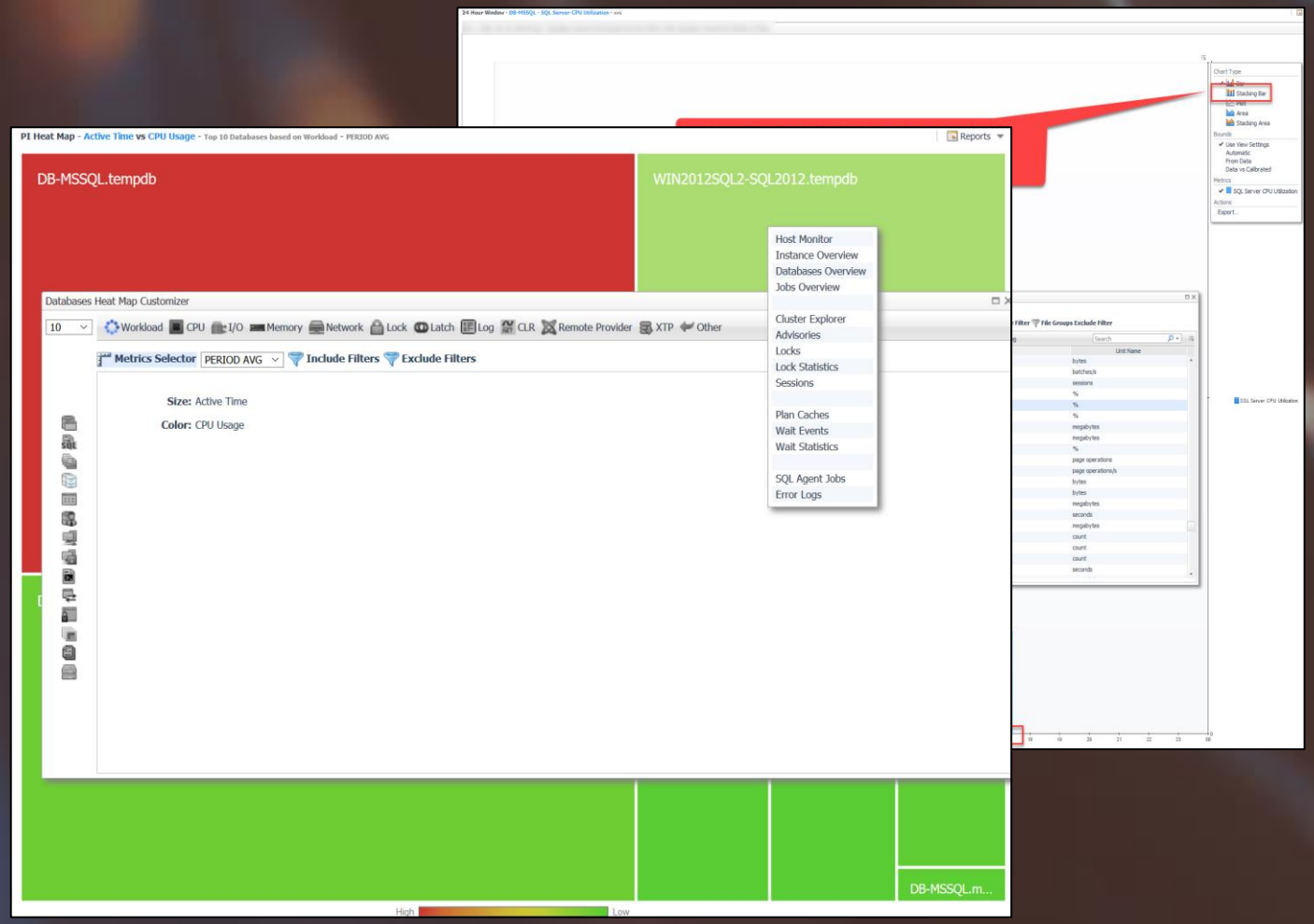
Clustered Bar Charts

Advanced Analytics Using

Bubble Charts

Scatter Charts

Heat Maps



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MSSQL/PI Power Pack - **PI Drag & Drop**

All views can be dragged:

- Directly from the ‘Views’ Tab
- Drag one or more instances
- Drag a service
- Drag a group

Advanced Customizers to select relevant options:

- Dimensions
- Resource
- Top ‘N’
- Metrics

Include and Exclude Filters where applicable for filtering based on these dimensions:

- Databases
- Programs
- Users
- Client Machines
- Disks
- Files

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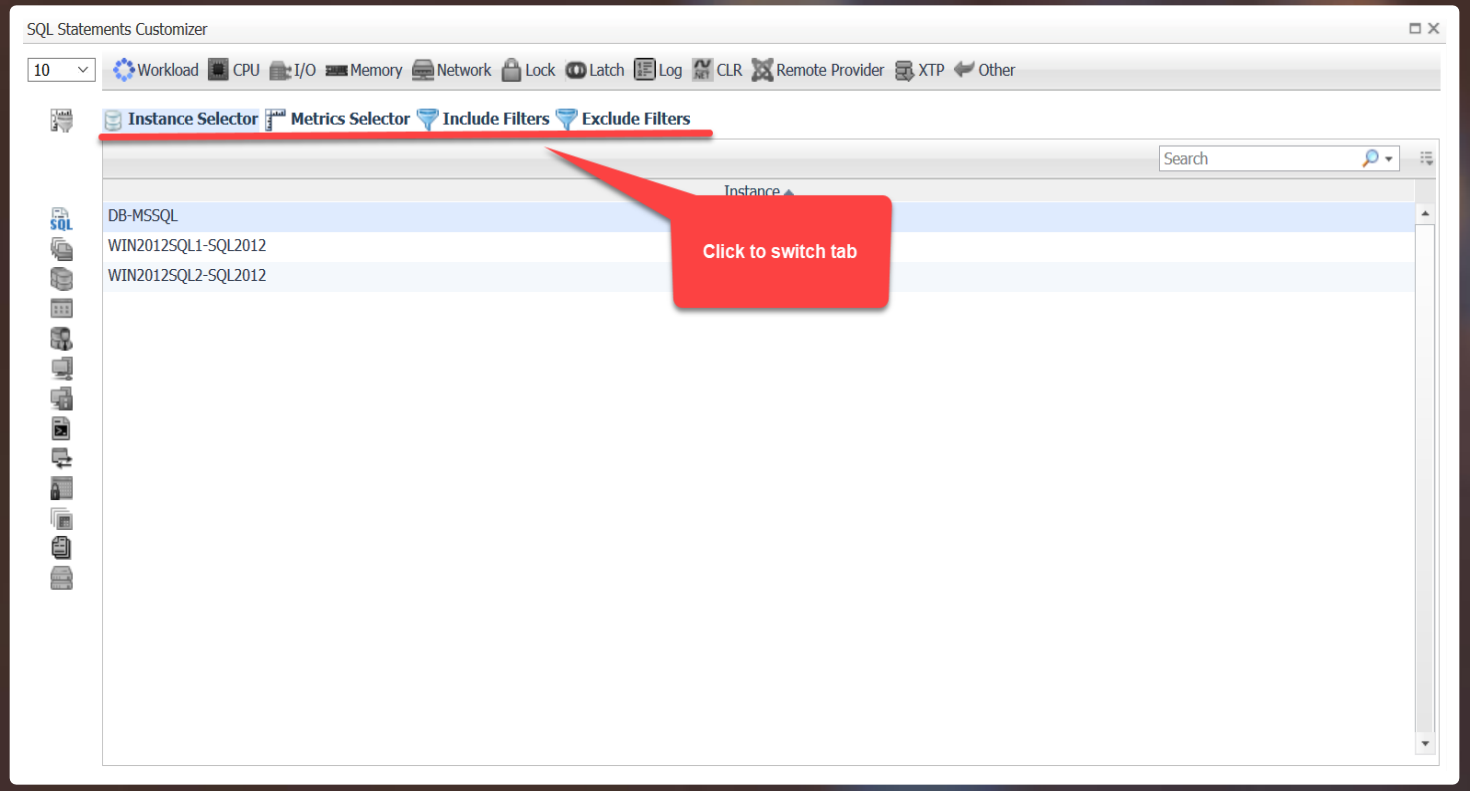

MSSQL / PI Power Pack

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PI Drag & Drop

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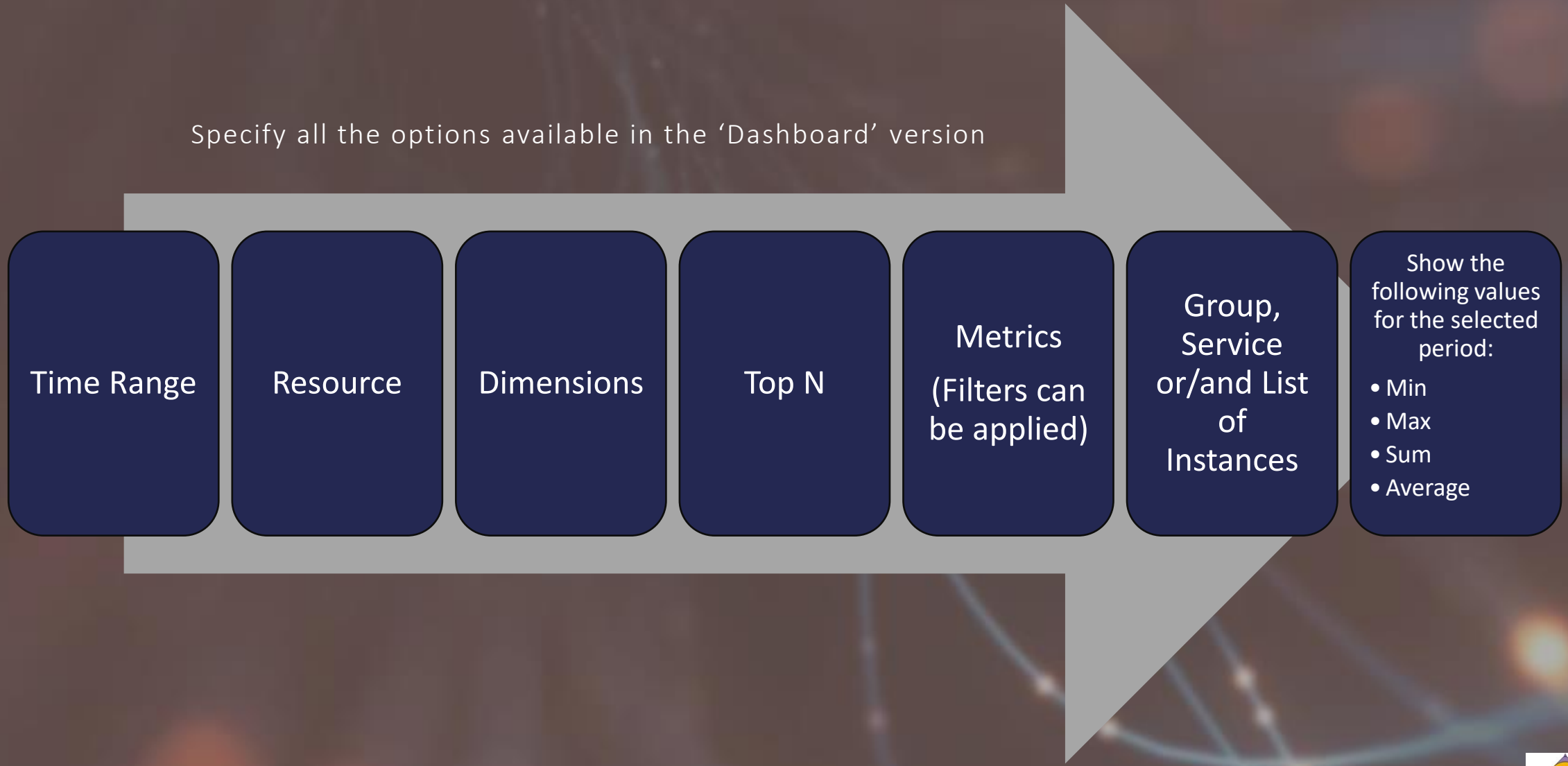
MSSQL/PI Power Pack - **PI Explorer Report**

Specify all the options available in the 'Dashboard' version



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MSSQL / PI Power Pack

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PI Instances Report

Specify all these options available in the Dashboard version

- Time Range
- Resource
- Metrics to Plot in a clustered bar chart
- Metrics (Filters can be applied)
- Group, Service or/and List of Instances
- Ability to show the following values for the selected period:
  - Min
  - Max
  - Sum
  - Average

MSSQL/PI Power Pack - **PI Top N Report**

‘Top N’ = the values of the metrics are relative to the instance then you can specify:

Time Range	Resource	Dimensions	Top N
Include / Exclude provides filtering ‘Top N’ results with the following dimensions: •Databases •Programs •Users •Client Machines •Disks •Files	Metrics to Plot in a clustered bar chart	Metrics (Filters can be applied)	Ability to show the following values for the selected period: • Min • Max • Sum • Average

Group, Service or/and List of Instances

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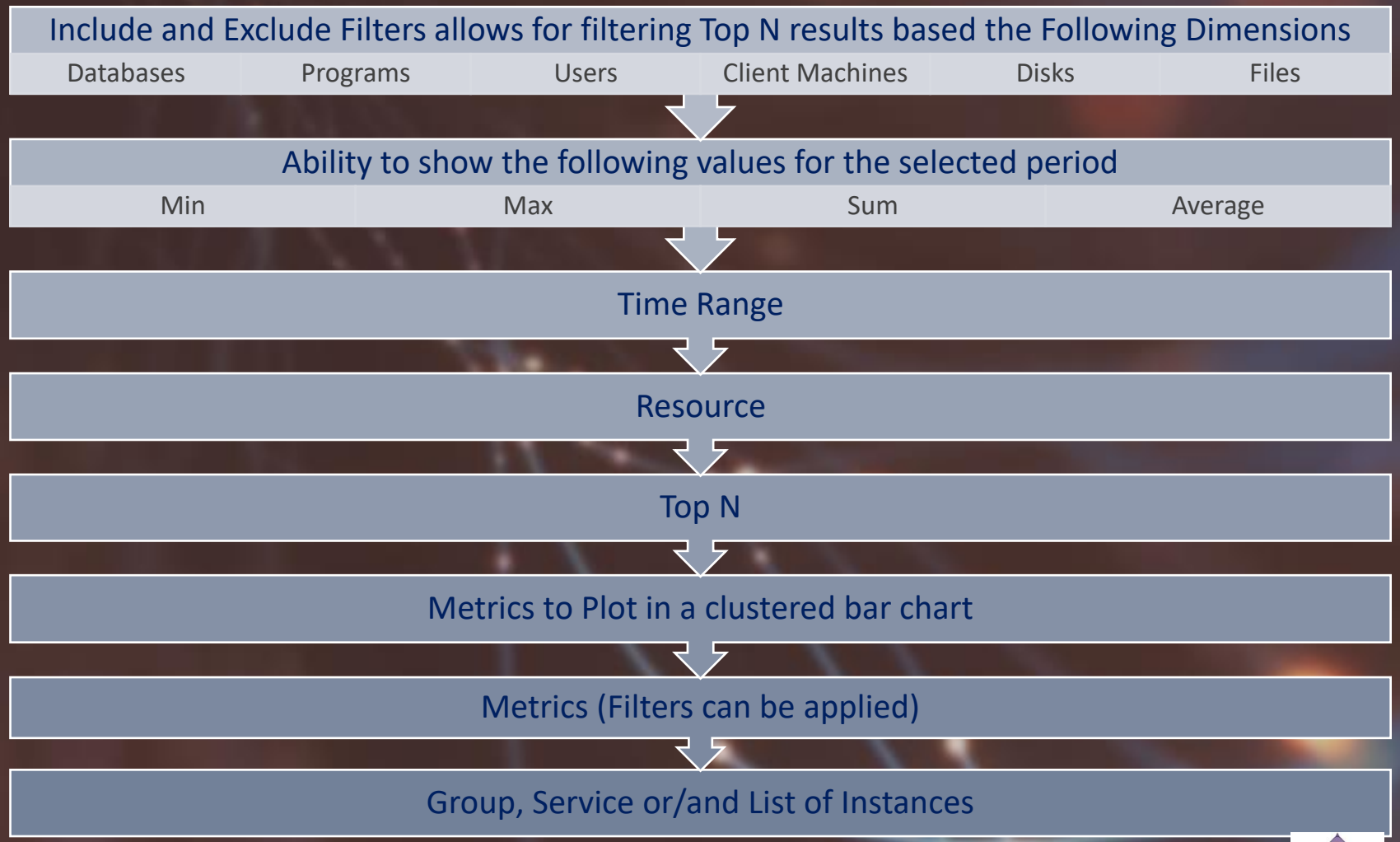
MSSQL/PI Power Pack - **PI Top N SQL Report**

'Top N SQL Statement'

Where the values of the metrics are relative to the instance
or
a specific dimension
and the **full text** of the statement is included in the report there is an ability to specify these items:



MSSQL / PI Power Pack

PI Reports - Top N SQL Batches

- Include and Exclude filters allows for filtering 'Top N' results based the Following Dimensions
  - Databases
  - Programs
  - Users
  - Client Machines
  - Disks
  - Files
- Ability to show the following values for the selected period
  - Min
  - Max
  - Sum
  - Average
- Group, Service or/and List of Instances
- Metrics to plot in a clustered bar chart
- Metrics (Filters can be applied)
- Time Range
- Resource
- Top N

Ability to specify these 'Top N SQL Batches' with the MSSQL / PI Power Pack

'Top N' SQL Batches where the values of the metrics are relative to the instance or a specific dimension and the Full Text of the Statements is included in the report

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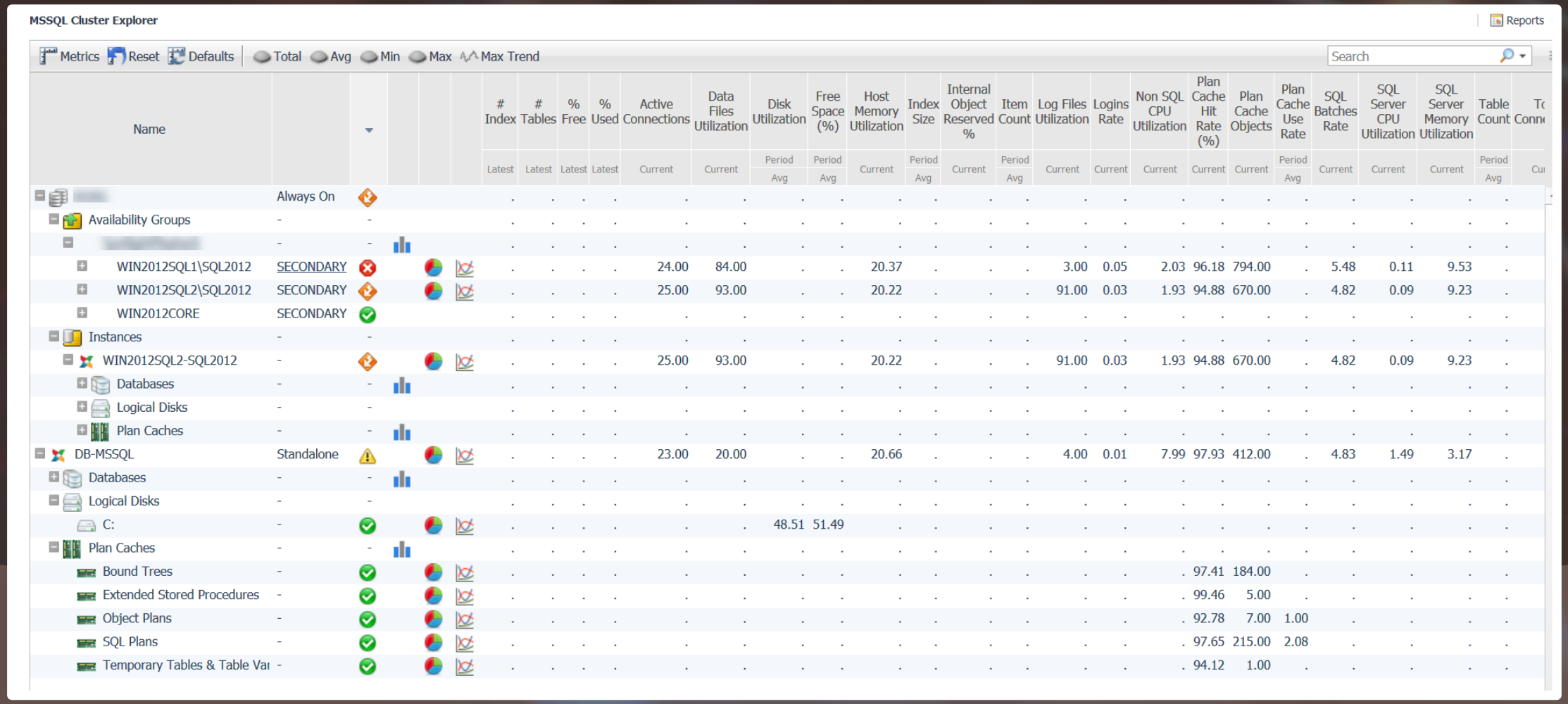

MSSQL/PI Power Pack - **SQL Cluster Explorer**

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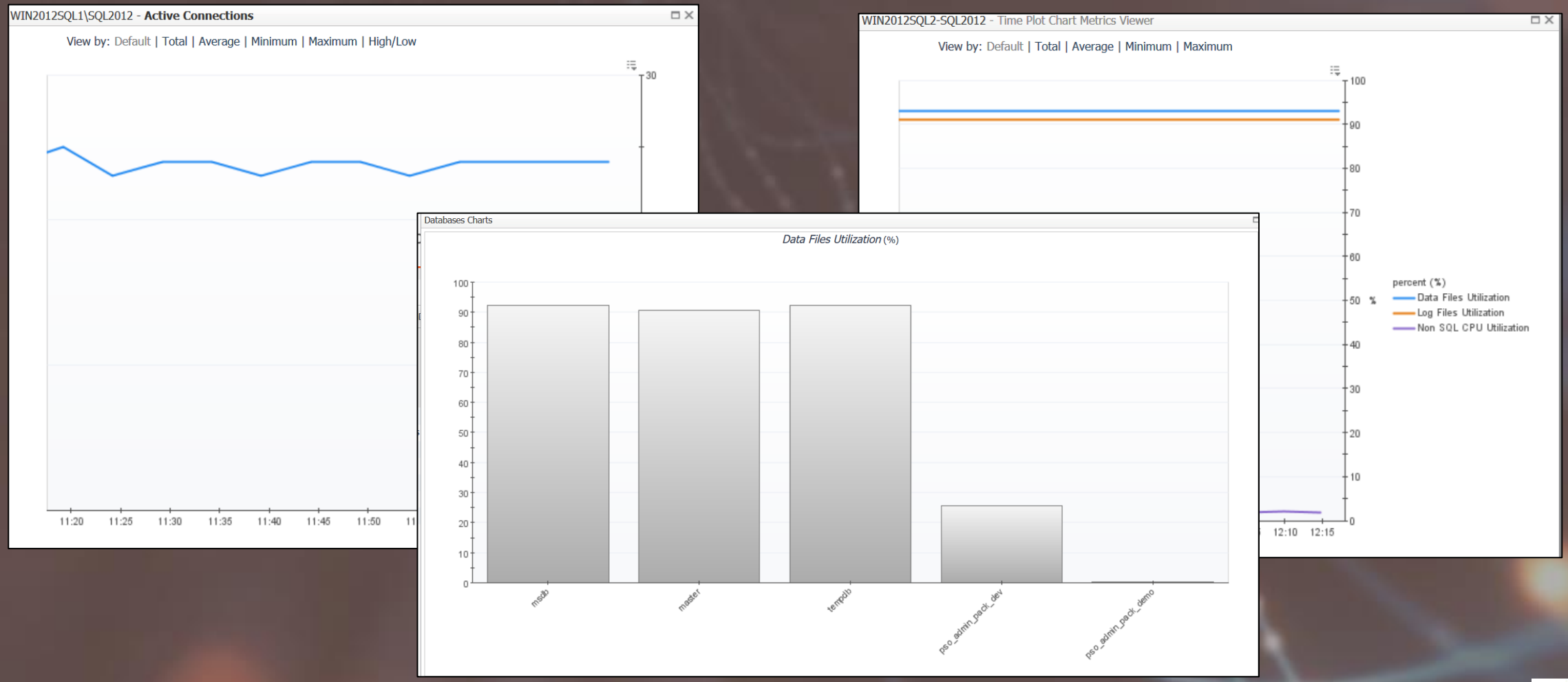
MSSQL/PI Power Pack - **Cluster Explorer -** Continued



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MSSQL/PI Power Pack – **Health Score**

You control how to evaluate the health of an instance

Total control over how the Health Score gets calculated by defining health score per the instance

Totally customizable within these parameters:

- Up to 4 Metrics to be used in the calculation with a defined weight (0 - *OFF* to 100)
- Each Metric can have up to 4 thresholds to decide how much impact the weight has:
  - 25% Impact
  - 50% Impact
  - 75% Impact
  - FULL IMPACT

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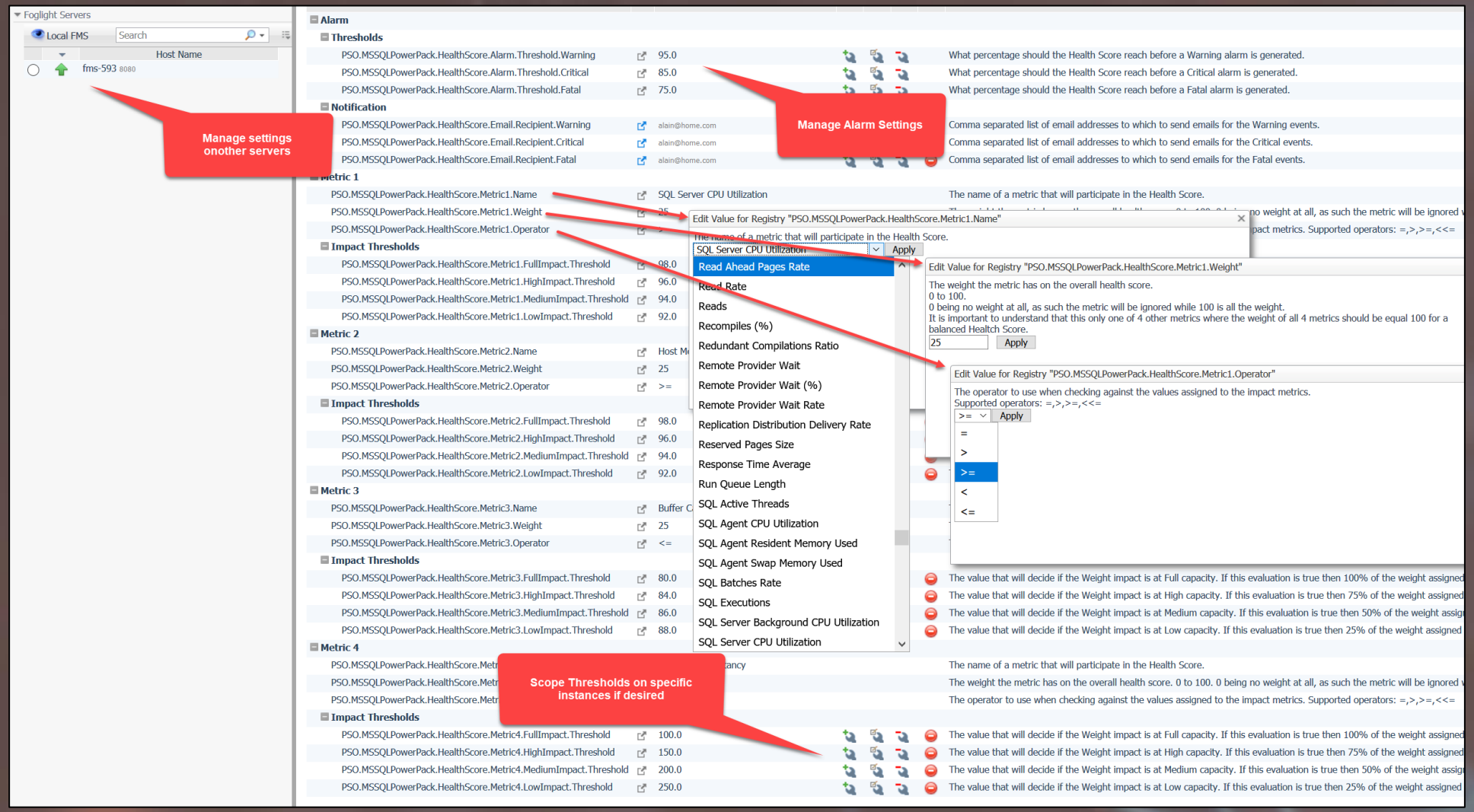
MSSQL/PI Power Pack – Health Score Settings



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MSSQL/PI Power Pack - **Groups Overview**

- Alarms
- Health Score
- Availability
- CPU Utilization
- Databases
- Key Metrics

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Various Views

Views are built from the ground up for a visually clean and professional appearance

- Drill Downs
- Adaptive display
- Customizers
- Filters
- Many views offer the same feature set as the Cluster Explorer

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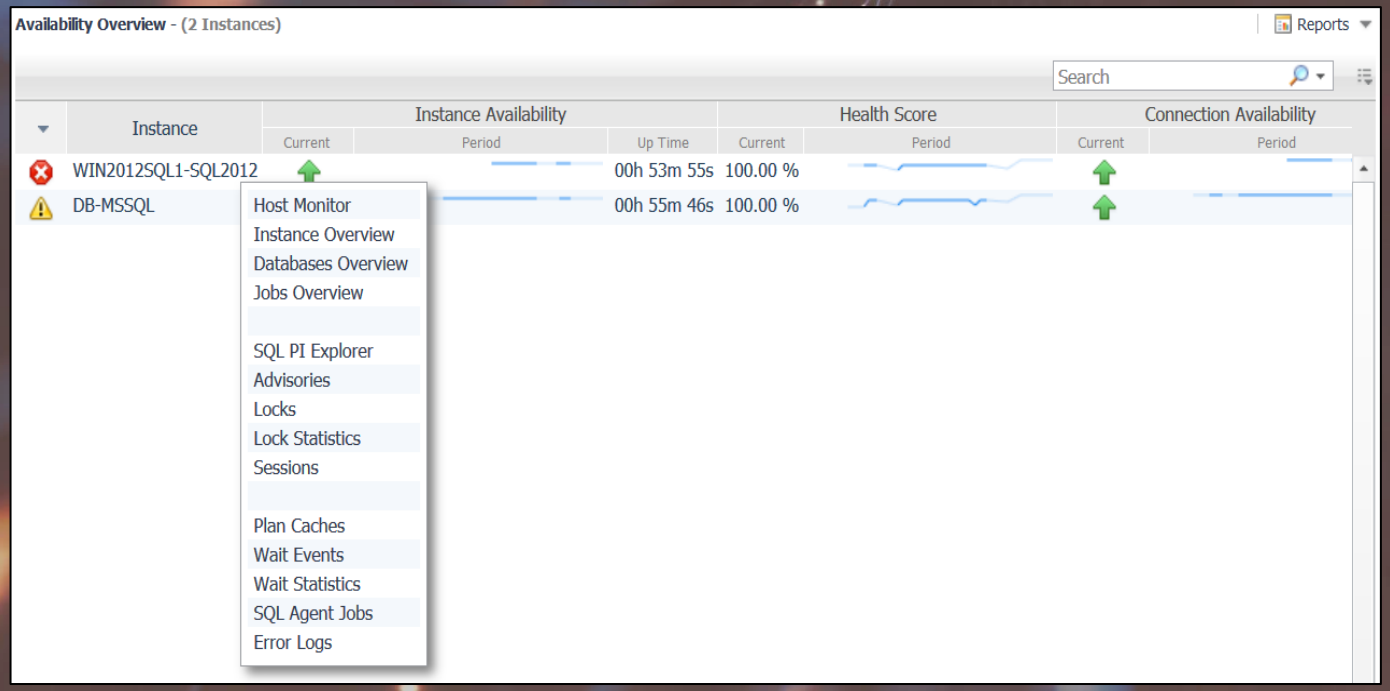
Availability Overview



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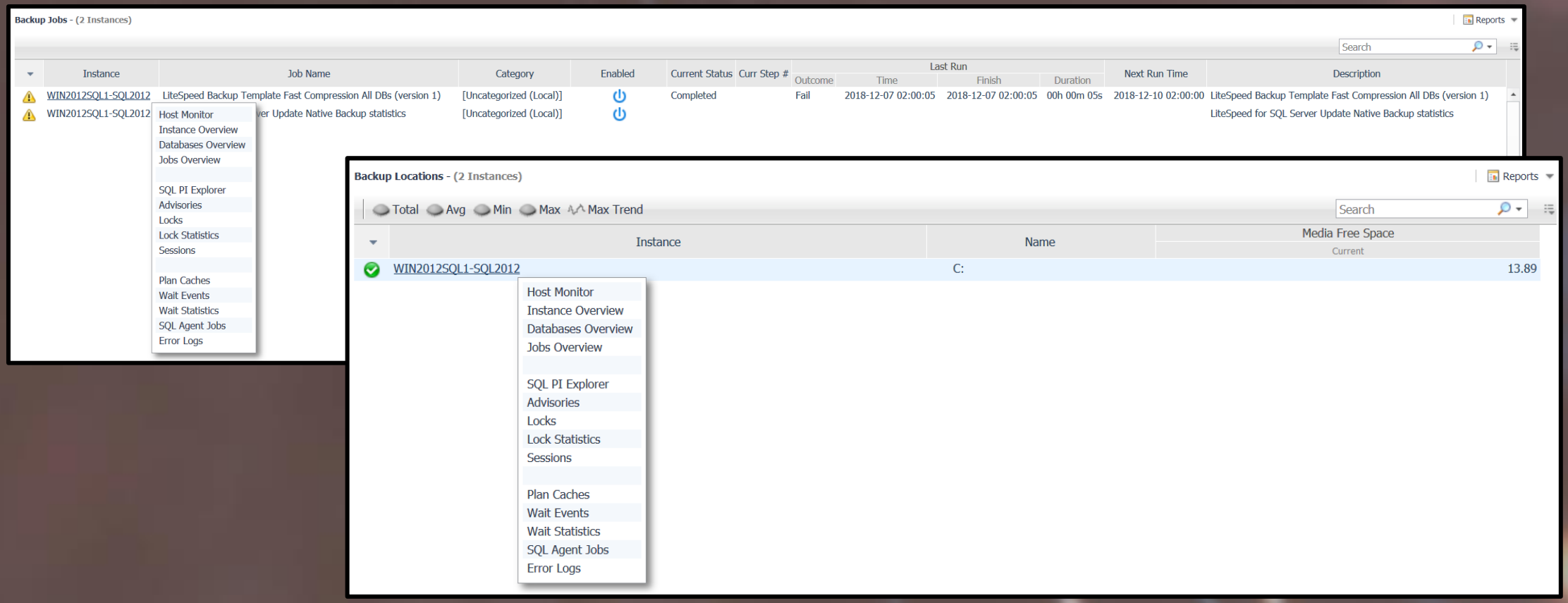
MSSQL/PI Power Pack – **Backup Jobs / Locations**



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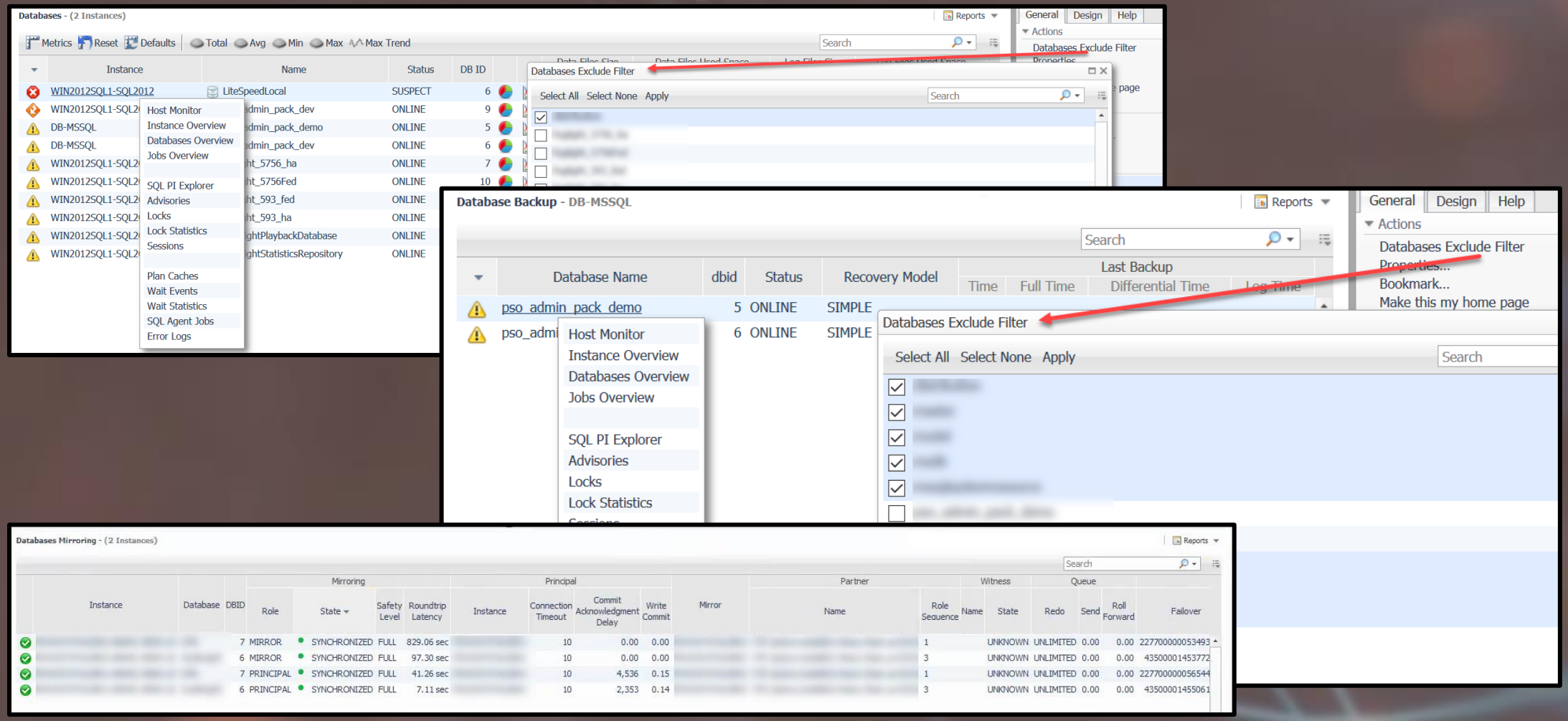
MSSQL/PI Power Pack

Databases / Backup / Mirroring



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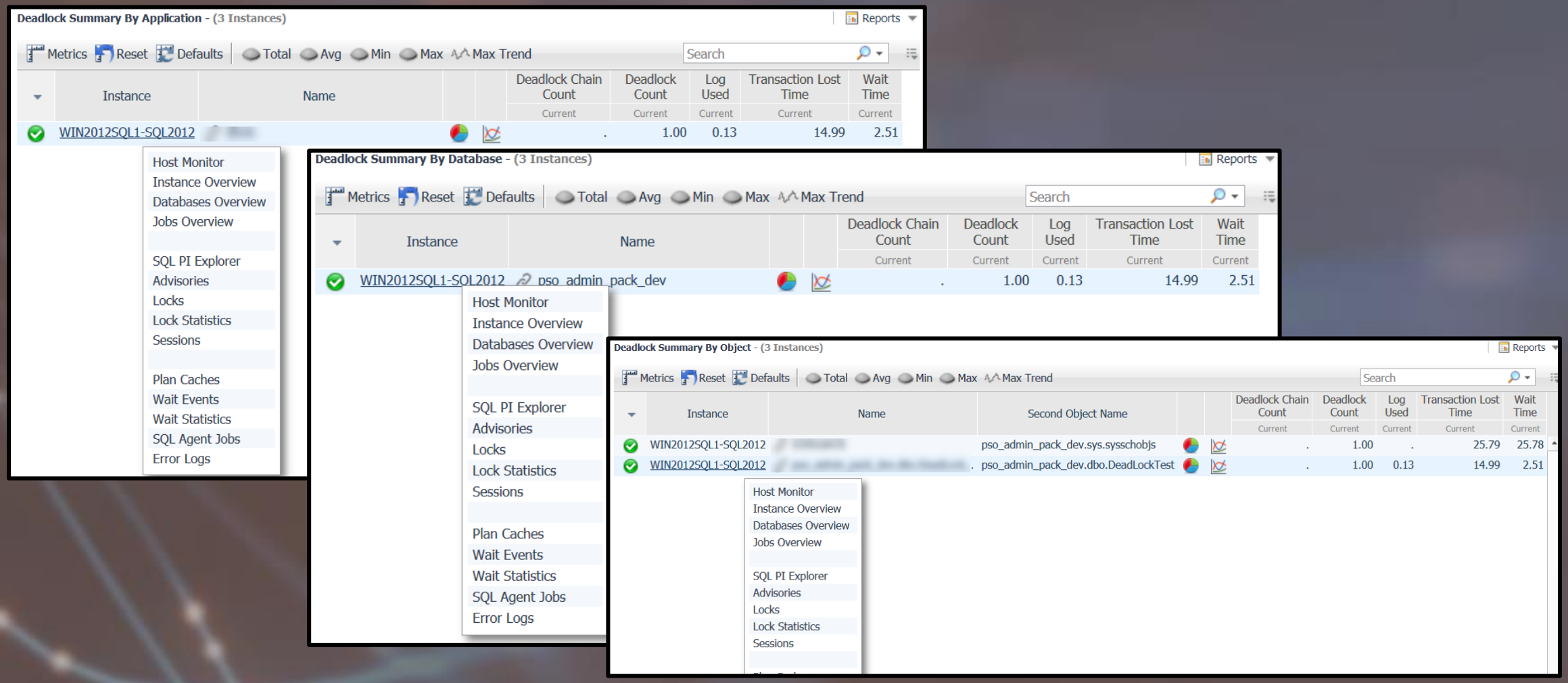
MSSQL/PI Power Pack – **Deadlock Summary**



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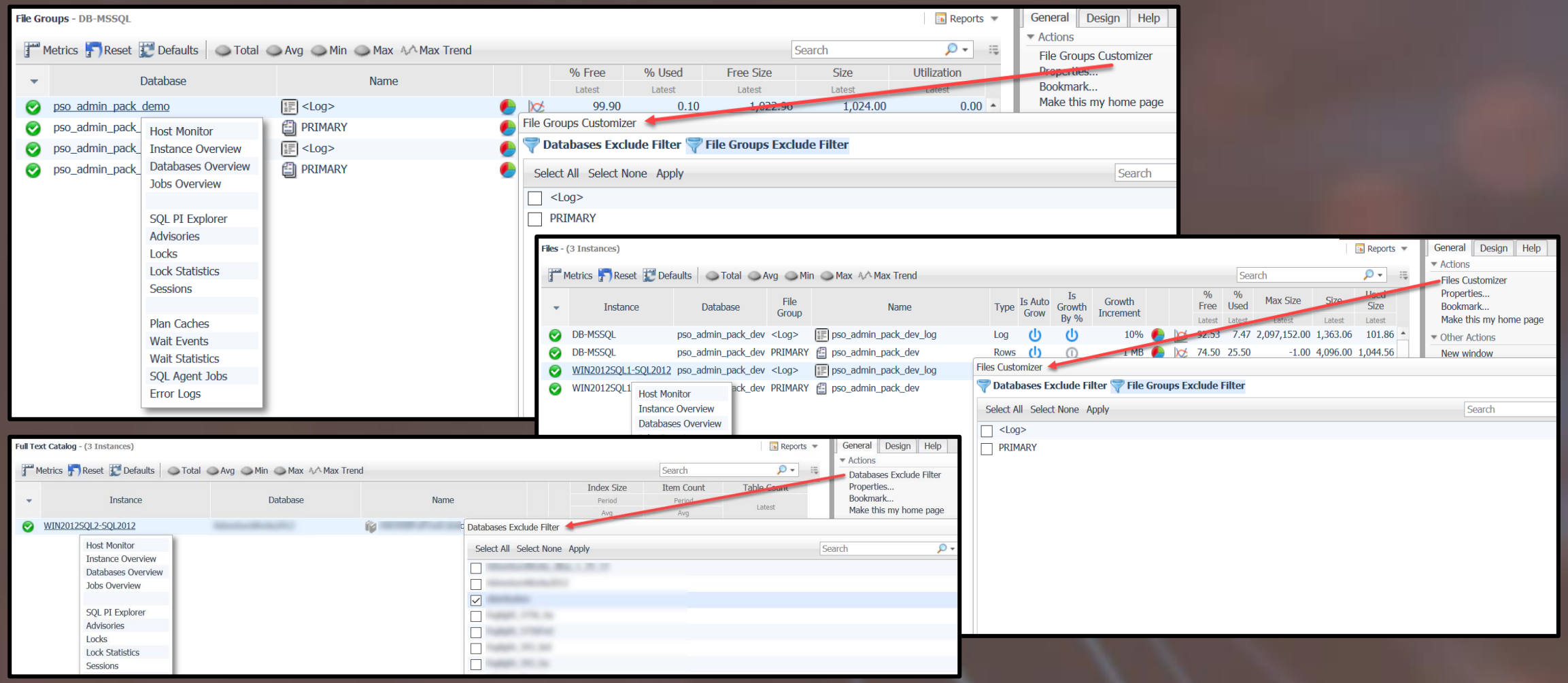

MSSQL/PI Power Pack

File Groups / Files / Full Text Catalog

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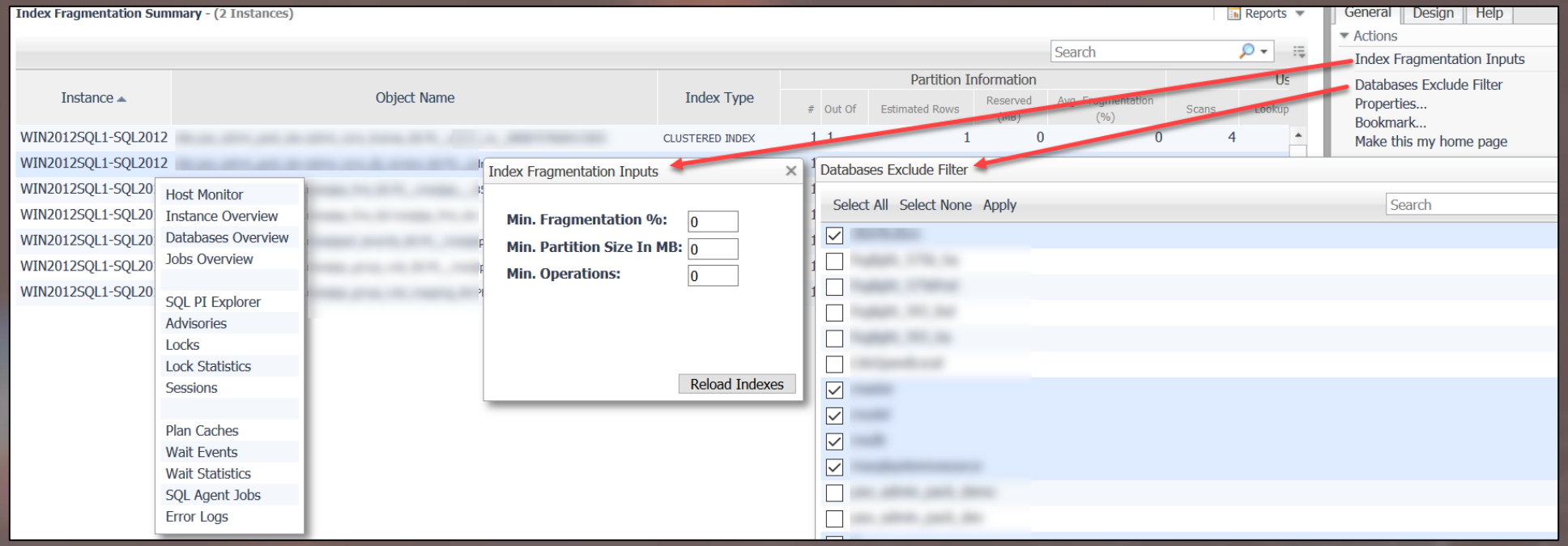
MSSQL/PI Power Pack

Index Fragmentation Summary



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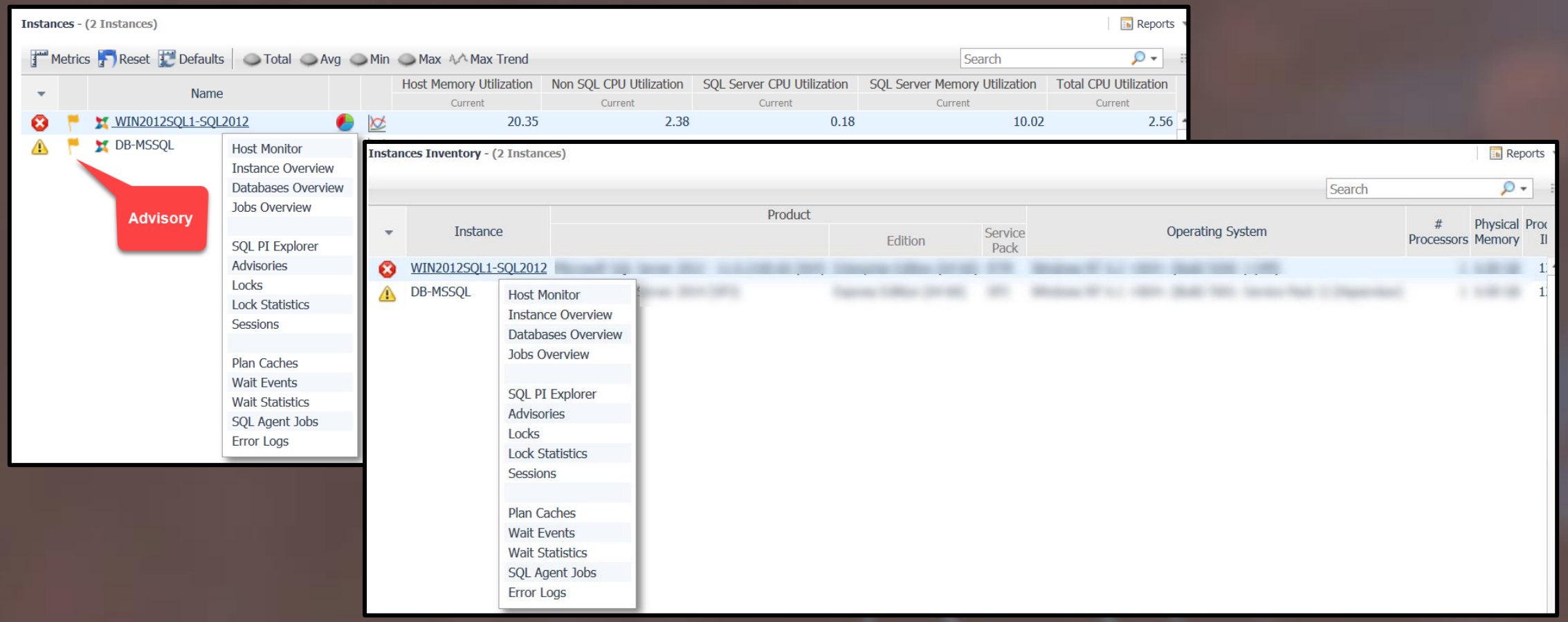

MSSQL/PI Power Pack – **Instances / Inventory**

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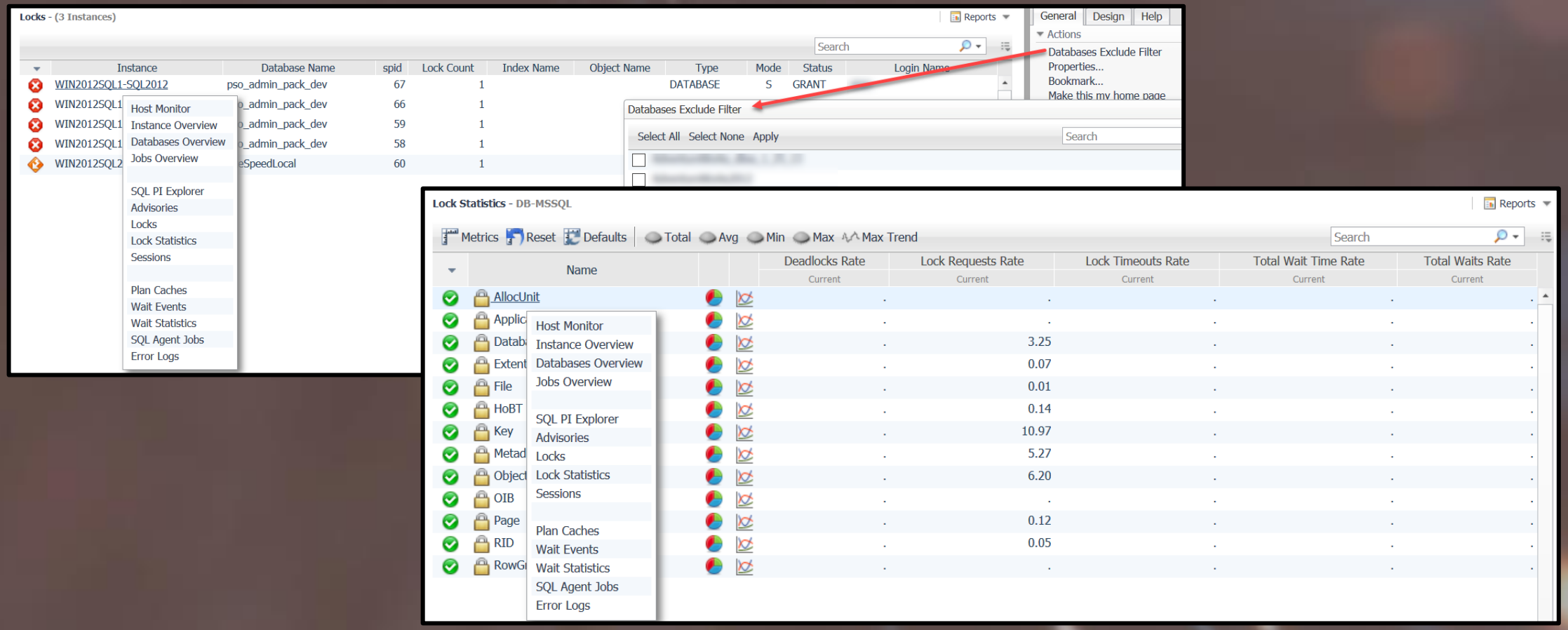
MSSQL/PI Power Pack – **Locks / Statistics**



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MSSQL / PI Power Pack

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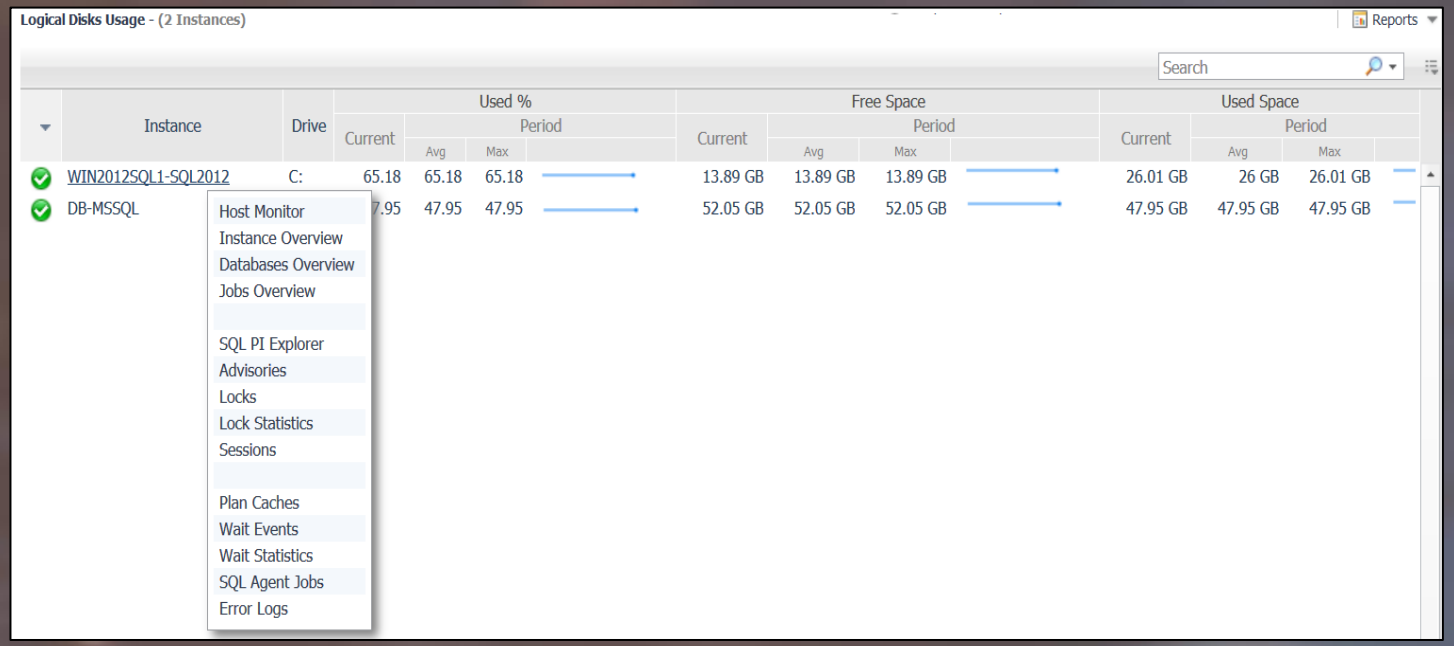
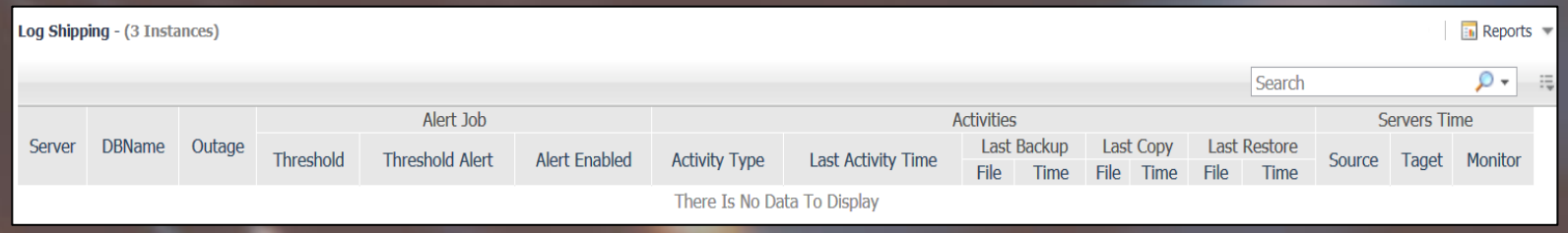
Logical Disks / Log Shipping





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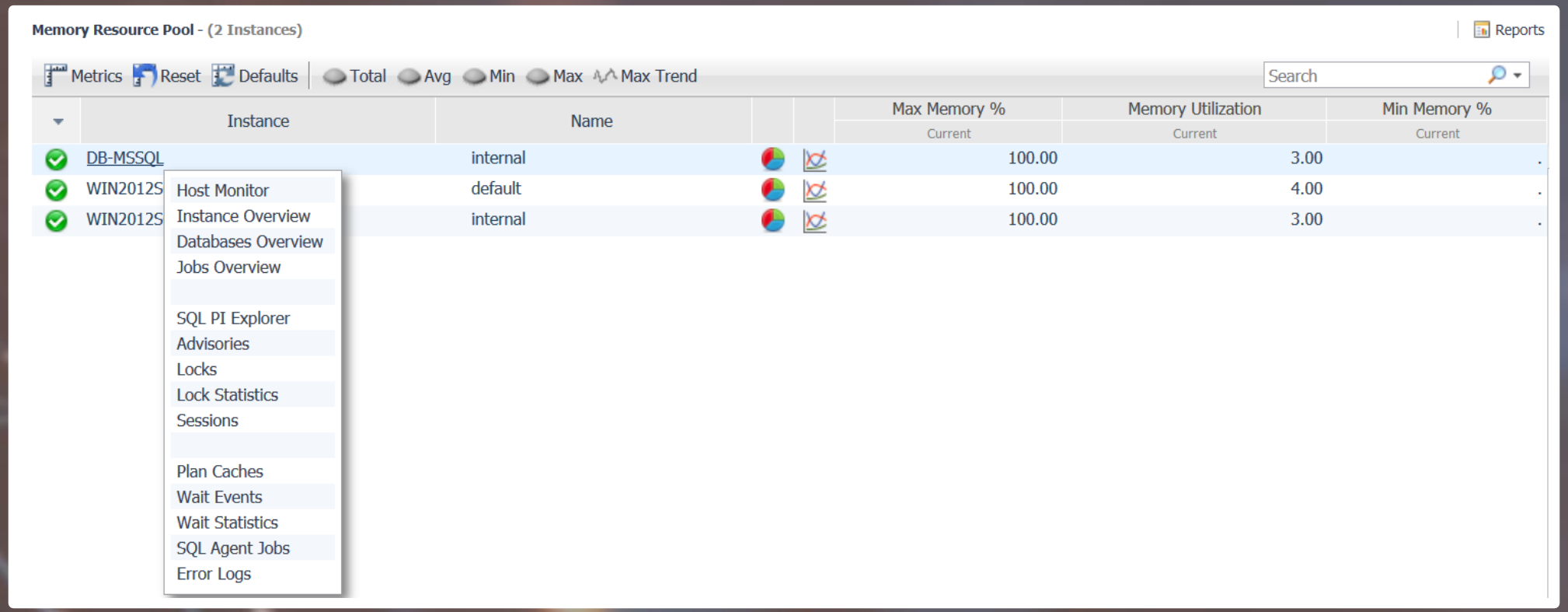

MSSQL/PI Power Pack – **Memory Resource Pool**

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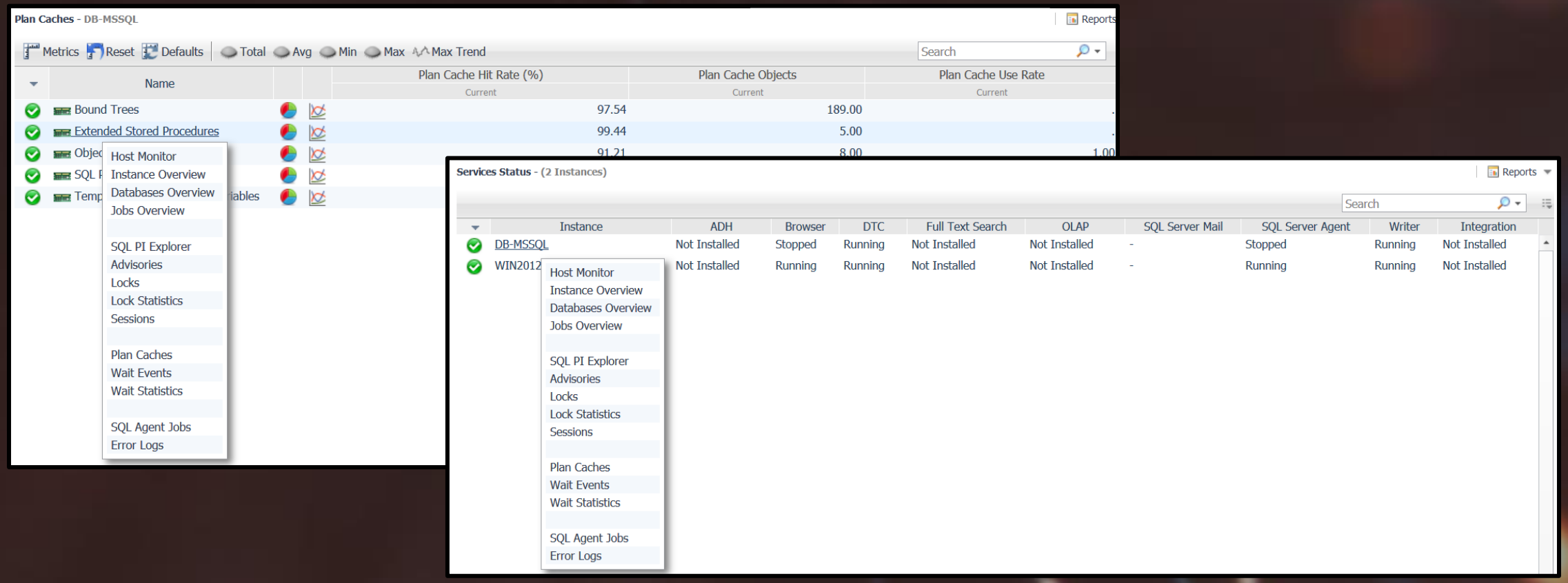
MSSQL/PI Power Pack – **Plan Caches / Services Status**



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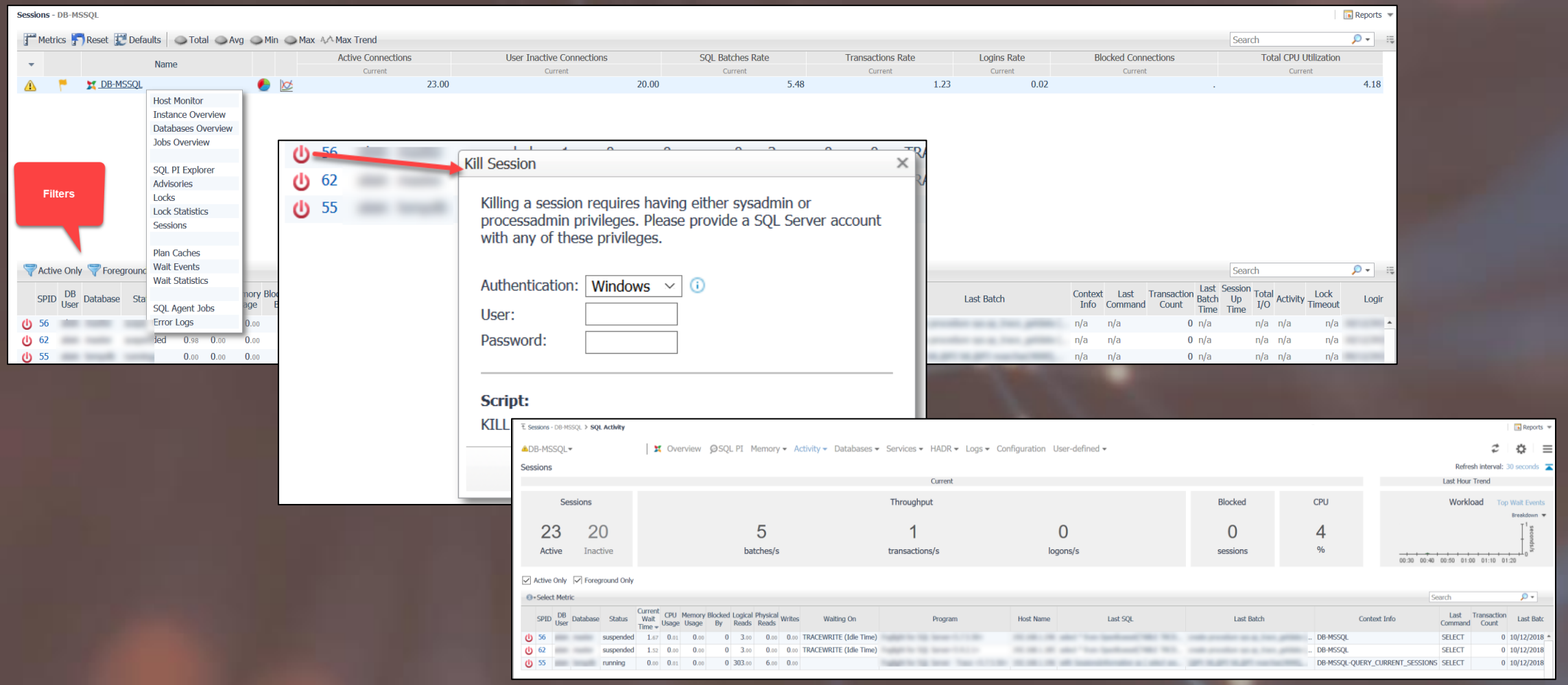
MSSQL/PI Power Pack – **Sessions**



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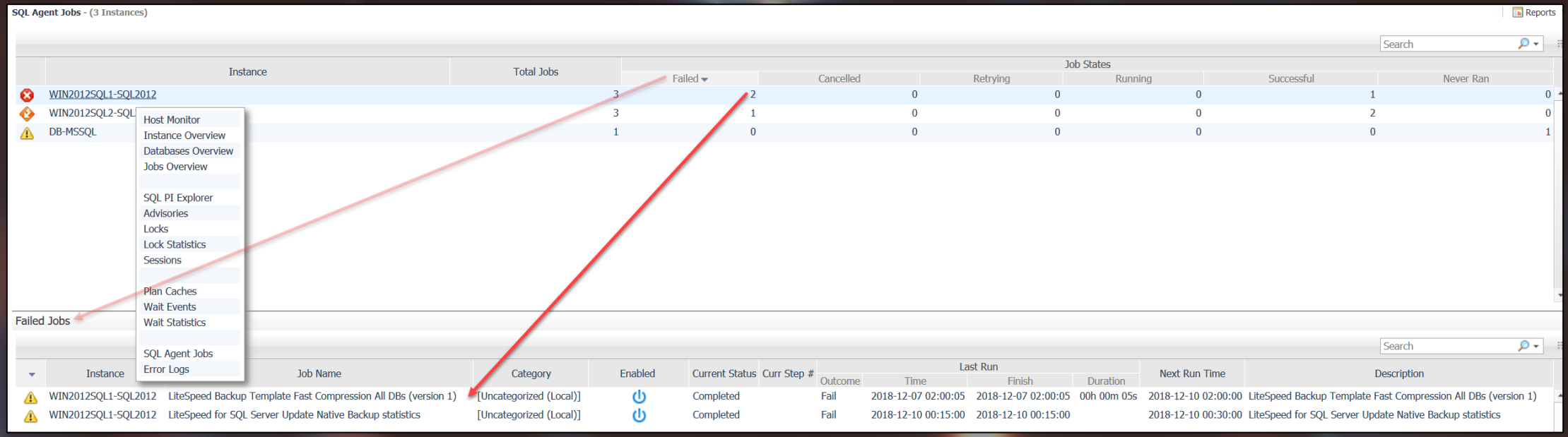
MSSQL/PI Power Pack

SQL Agent Jobs



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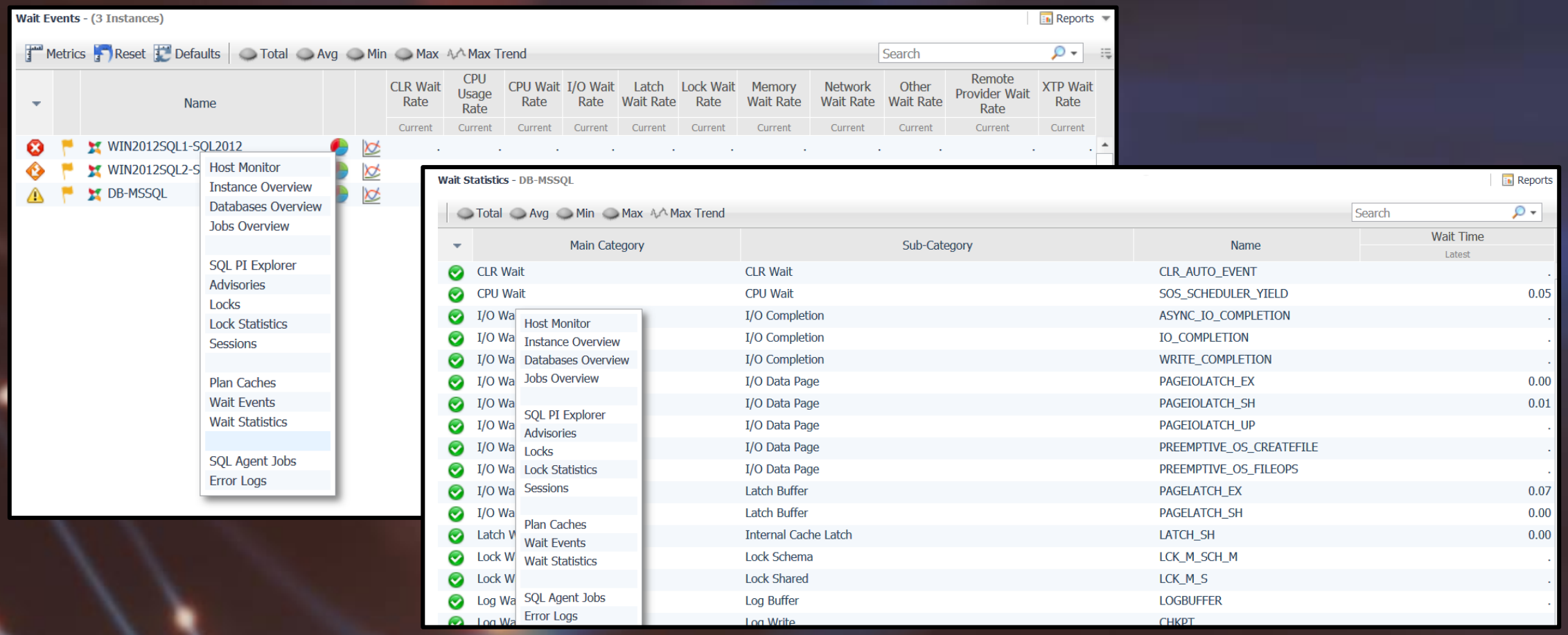

MSSQL/PI Power Pack – **Wait Events / Wait Statistics**

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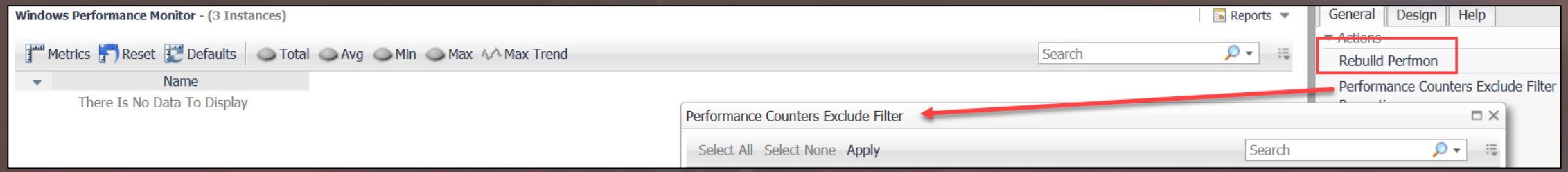
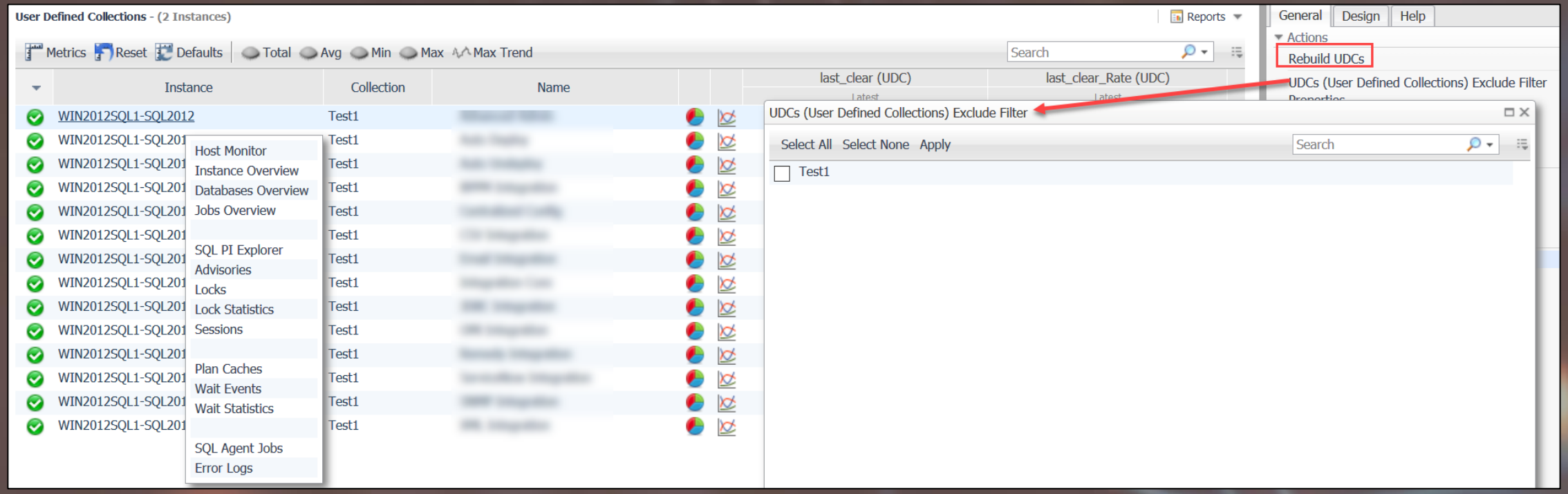
MSSQL/PI Power Pack – **Perfmon / UDC**





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MSSQL/Power Pack - **Analytics**

24 Hour Window View

Get Insight into how a resource is utilized within a 24-hour day based on historical data

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Advanced Analytics Using

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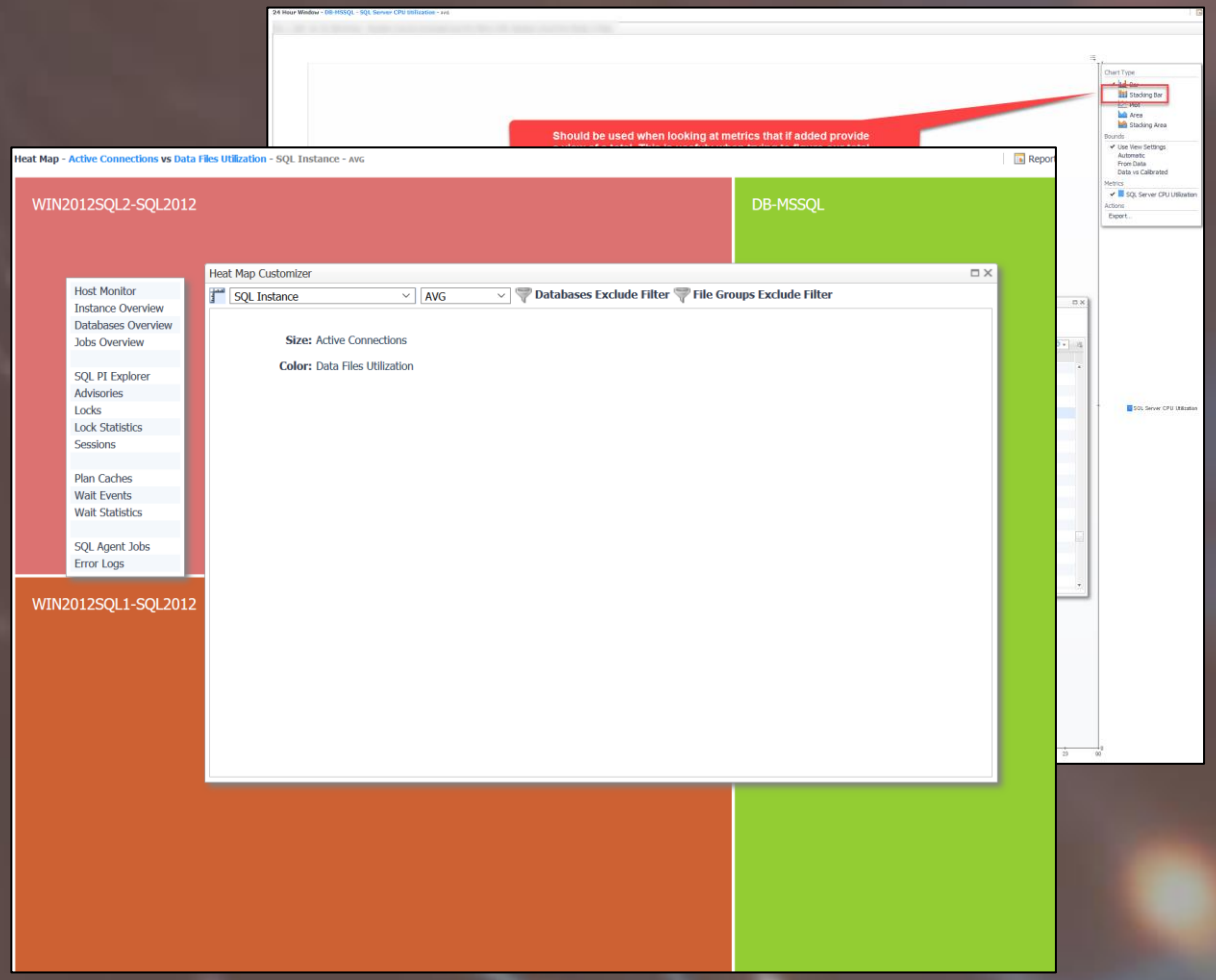

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MSSQL / PI Power Pack

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Drag & Drop

All the views can be dragged

1. Directly from the 'Views' Tab
2. One or more instances can be moved dragging
3. Drag a service
4. Drag a group

Advanced customizers allow for the selection and application of filters when appropriate by

*Instances
*Groups
*Services
*Metrics

Some filters have defaults defined in the registry variables but can be overridden using the customizers

MSSQL / PI Power Pack

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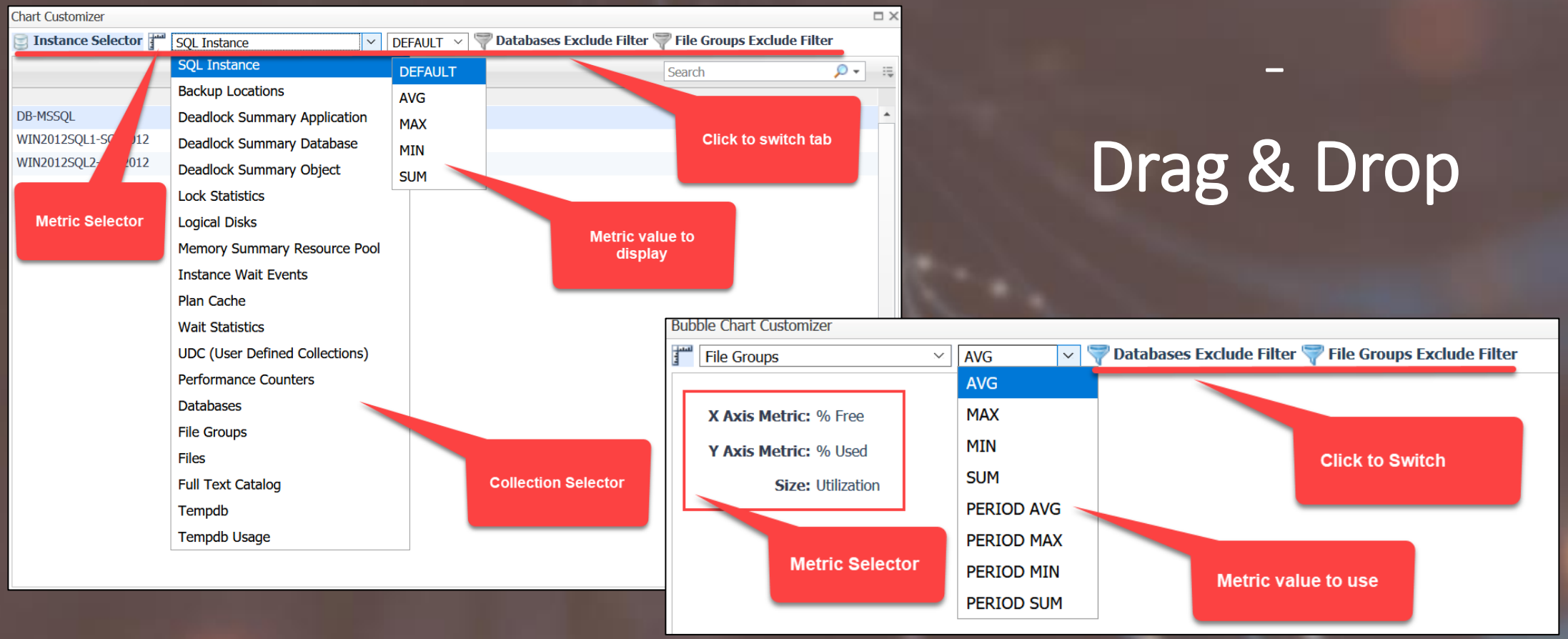
Drag & Drop



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MSSQL/PI Power Pack – **Report**

Maximum flexibility for reporting

Specify printing preferences with these parameters

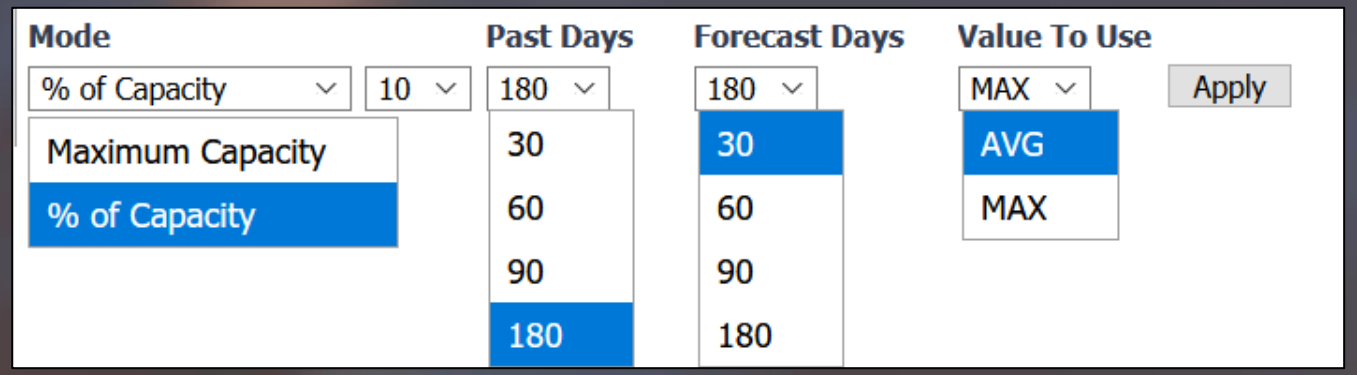
- Which views (All views available for output – No Analytics)
- Time Range
- Group, Service and/or list of Instances
- Order in which to print the views
  - Specify which metrics to display per view
- Exclude Filters for:
  - Databases
  - File Groups
  - Jobs

MSSQL/PI Power Pack – Capacity Planning

3 distinct

‘Capacity Planning’ Sections

- Days to Full
- Trends
- Value in N Days



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MSSQL / PI Power Pack - Capacity Planning Days To Full

Indicates the number of days it would take before the resource is exhausted

The respective icon the toolbar provides the ability to view number of days to reach 70%, 80% and 90% capacity.

Views available for

- Databases
- File Groups
- Files
- Instances
- Logical Disks

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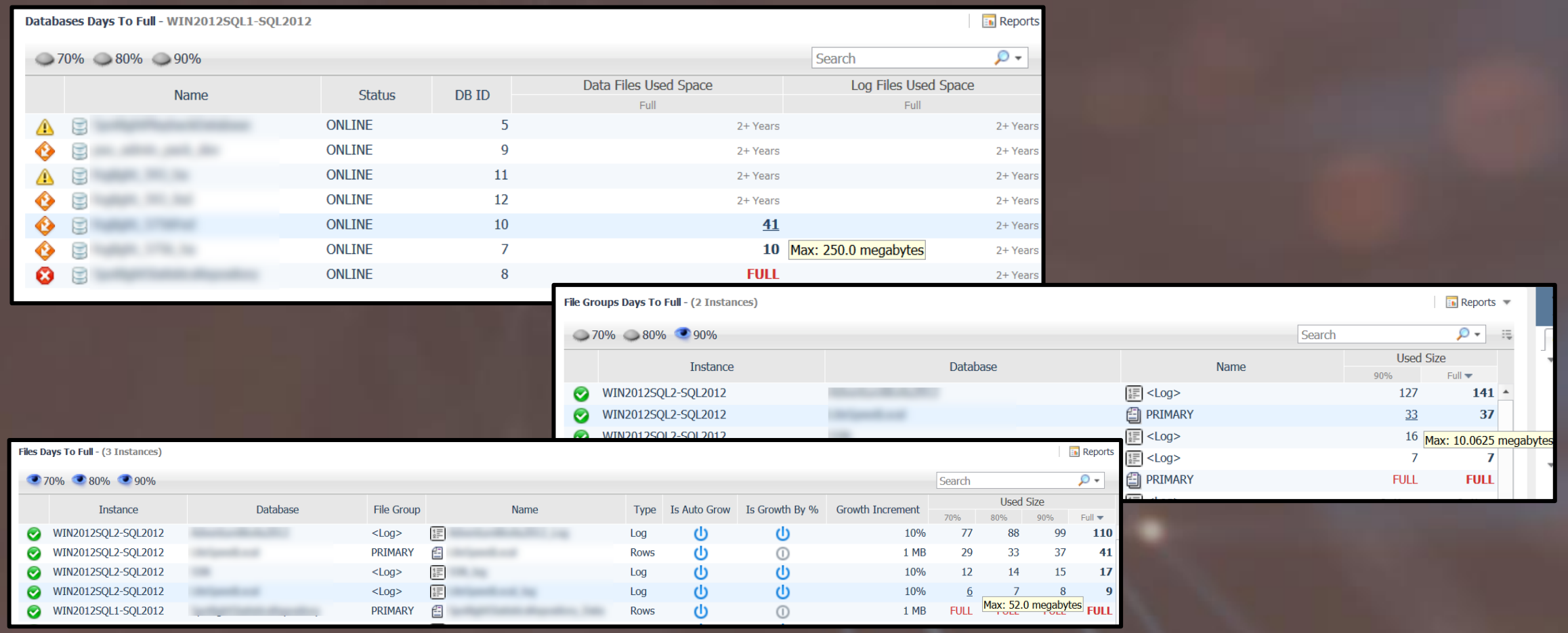

MSSQL / PI Power Pack

Capacity Planning – Days To Full

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MSSQL/PI Power Pack – **Capacity Planning** – Trends

Trending	Views available for:
Provides a graph indicating past data, future data and the maximum capacity (red dotted line)	Databases File Groups Files Instances Logical Disks

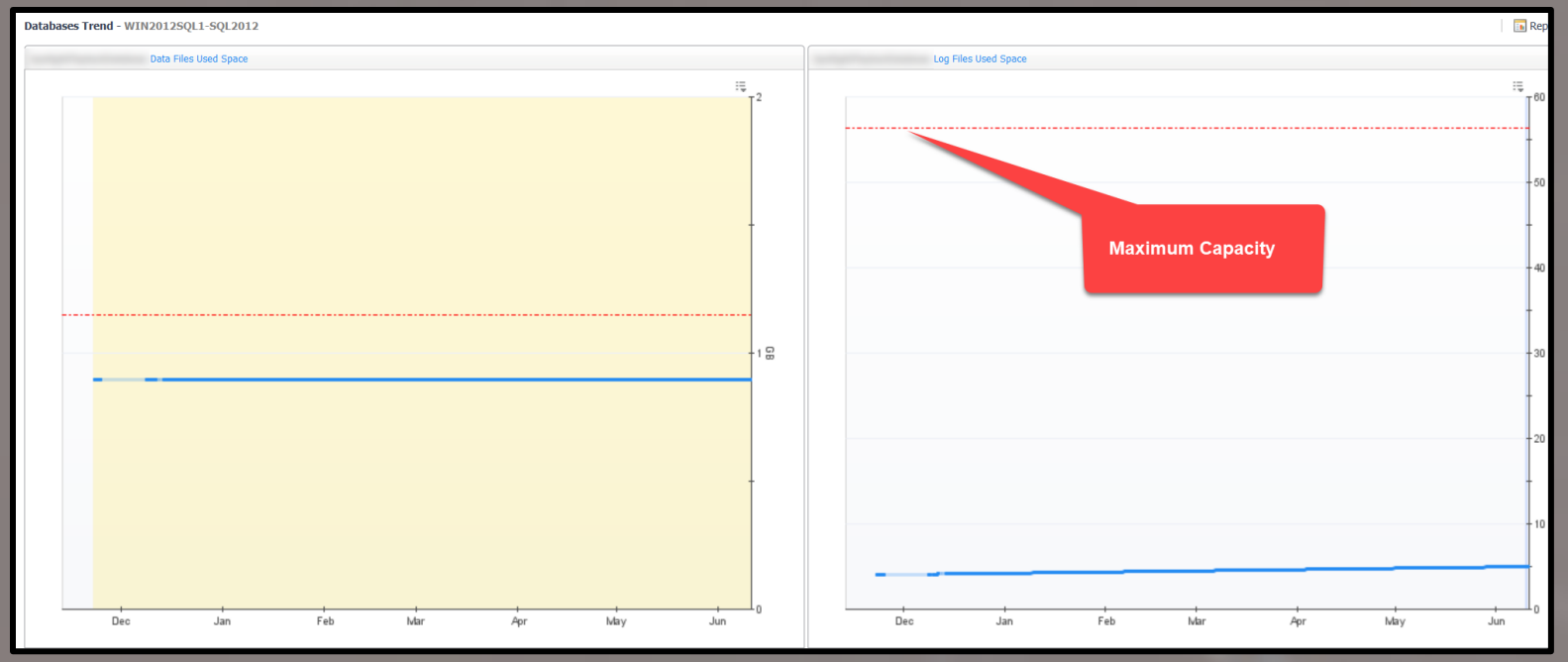
Section closest to the maximum is highlighted:

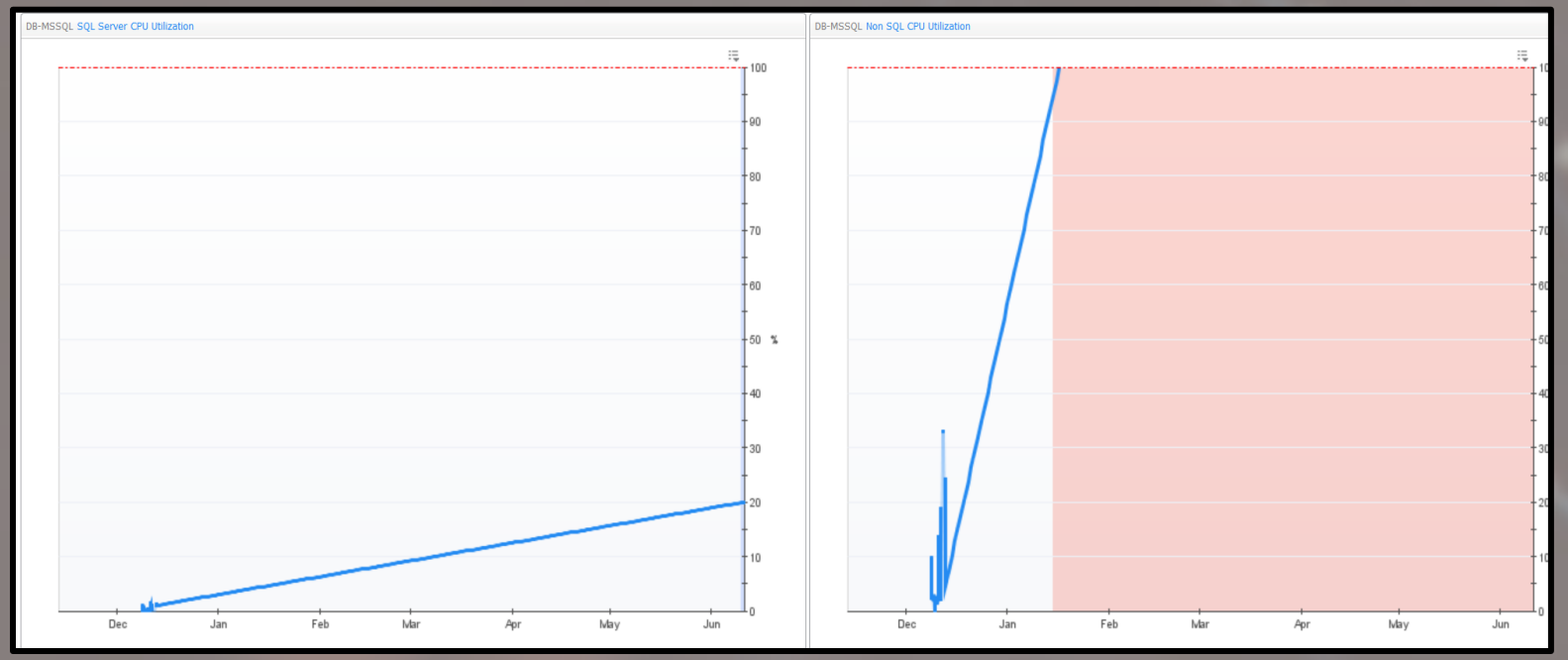
>= 95% Red

>= 85% Orange

>= 75% Yellow

< 75% Blue





MSSQL/PI Power Pack – Capacity Planning Trends

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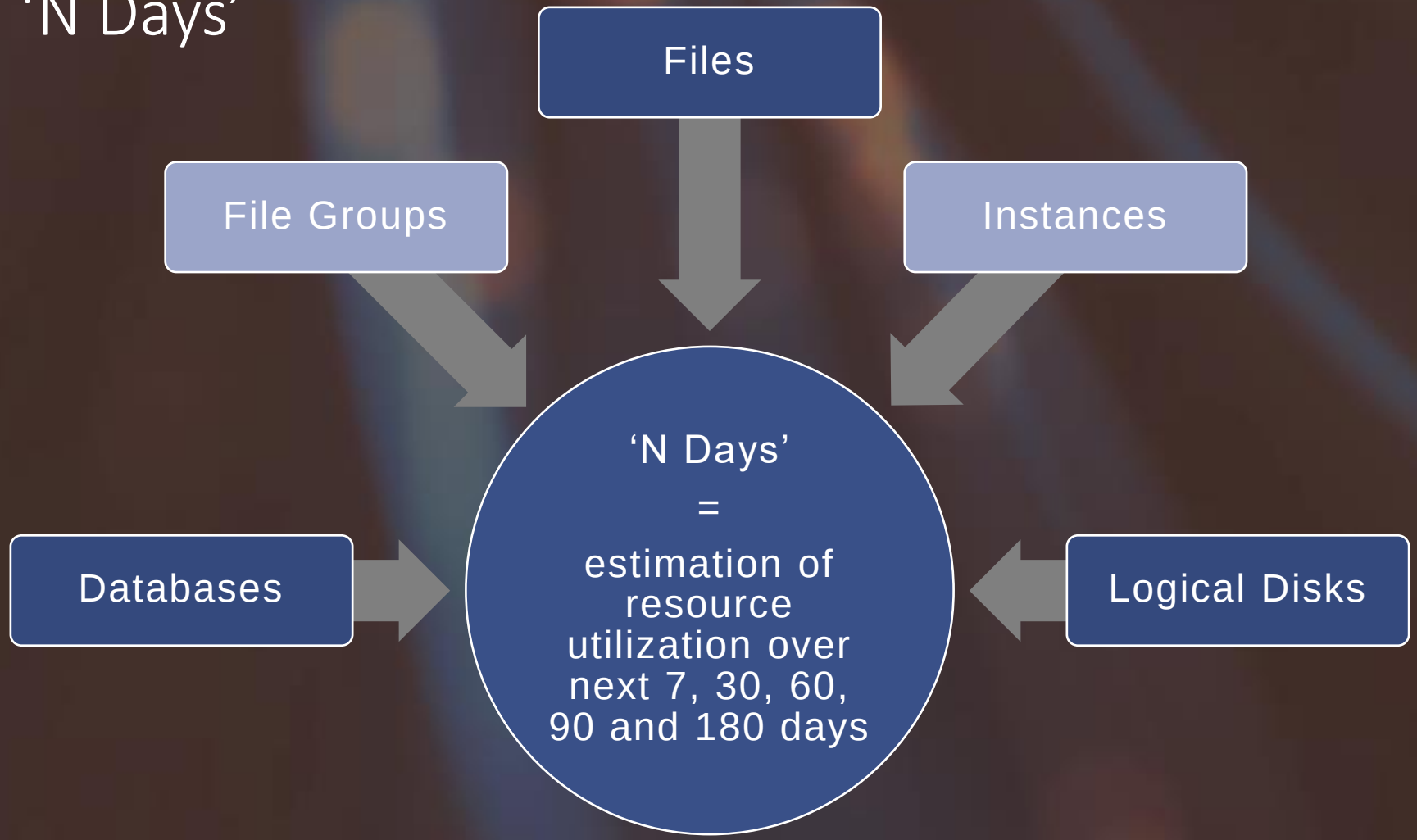
MSSQL/PI Power Pack – **Capacity Planning**

Value in ‘N Days’



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MSSQL / PI Power Pack – **Capacity Planning**

Value in ‘N Days’

Databases Value In N Days - WIN2012SQL2-SQL2012

Reports

7 Days | 30 Days | 60 Days | 180 Days

Search

Name	Status	DB ID	Data Files Used Space			Log Files Used Space		
			7	90	180	7	90	180
[redacted]	ONLINE	6	.	.	.	.	.	.
[redacted]	ONLINE	5	.	.	.	.	.	.
[redacted]	ONLINE	10	.	.	.	1.47	FULL	FULL
[redacted]	ONLINE	7	9.28	FULL	FULL	51.42	FULL	FULL
[redacted]	ONLINE	8	.	.	.	0.38	0.68	FULL
[redacted]	ONLINE	9	.	.	.	.	.	.

Value: 9.281431889784802 megabytes
Max: 10.0625 megabytes

Instances Value In N Days - (3 Instances)

Reports

7 Days | 30 Days | 60 Days | 180 Days

Search

Name	Host Memory Utilization			SQL Server Memory Utilization			SQL Server CPU Utilization			Non SQL CPU Utilization			Total CPU Utilization		
	7	90	180	7	90	180	7	90	180	7	90	180	7	90	180
DB-MSSQL	45.94	FULL	FULL	.	.	.	1.65	10.41	19.92	28.87	FULL	FULL	30.55	FULL	FULL
WIN2012SQL1-SQL2012	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
WIN2012SQL2-SQL2012	.	.	.	.	.	.	0.51	3.06	5.84	.	.	.	.	.	.

Value: 45.938429760713106 %
Max: 100

Logical Disks Value In N Days - (3 Instances)

Reports

7 Days | 30 Days | 60 Days | 180 Days

Search

Instance	Name	Disk Utilization		
		7	90	180
DB-MSSQL	C:	49.57	61.77	75.01
WIN2012SQL1-SQL2012	C:	65.20	65.21	65.21
WIN2012SQL2-SQL2012	C:	.	.	.

Value: 65.20282478461665 %
Max: 100

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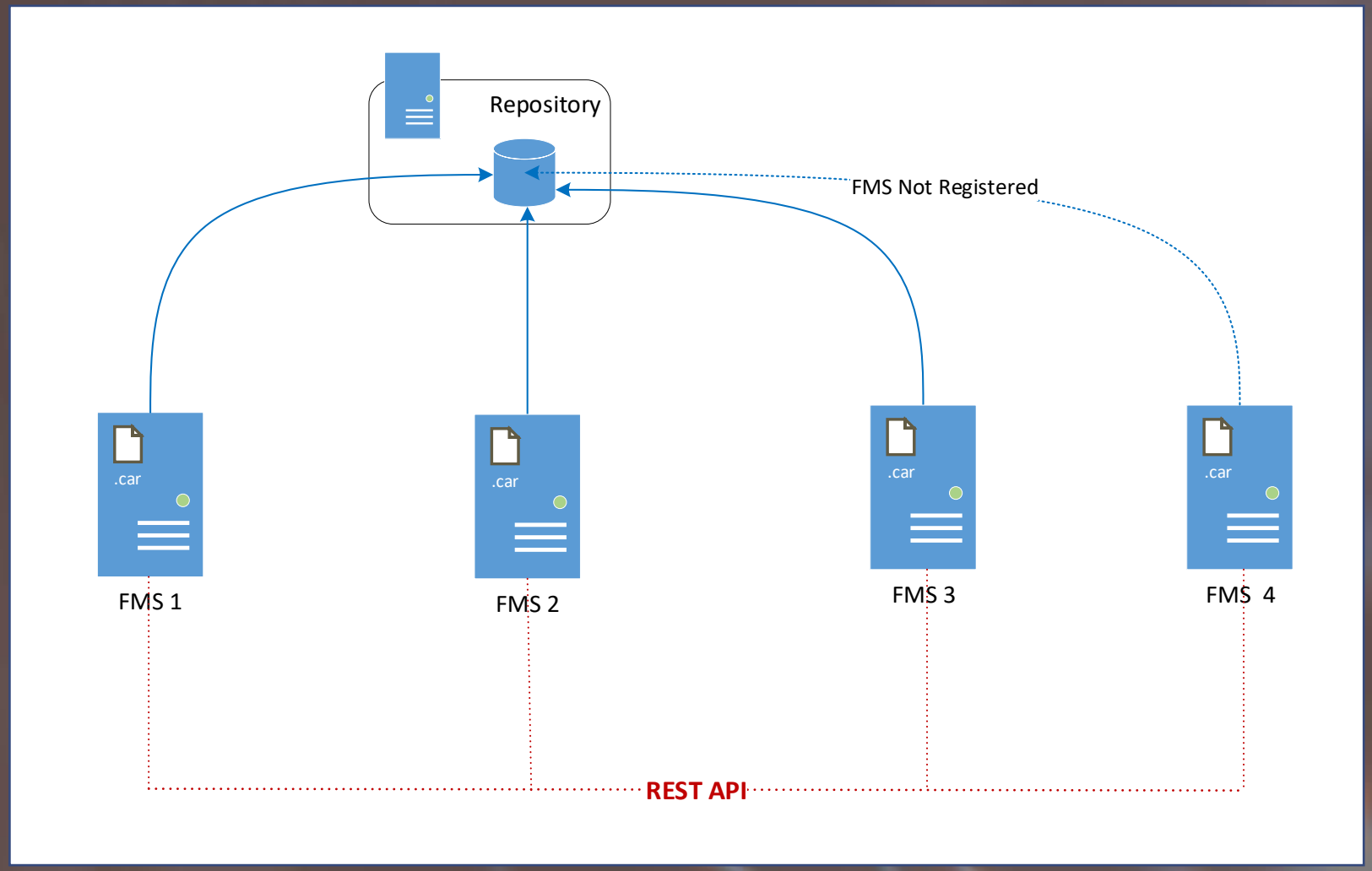
Log Alerting



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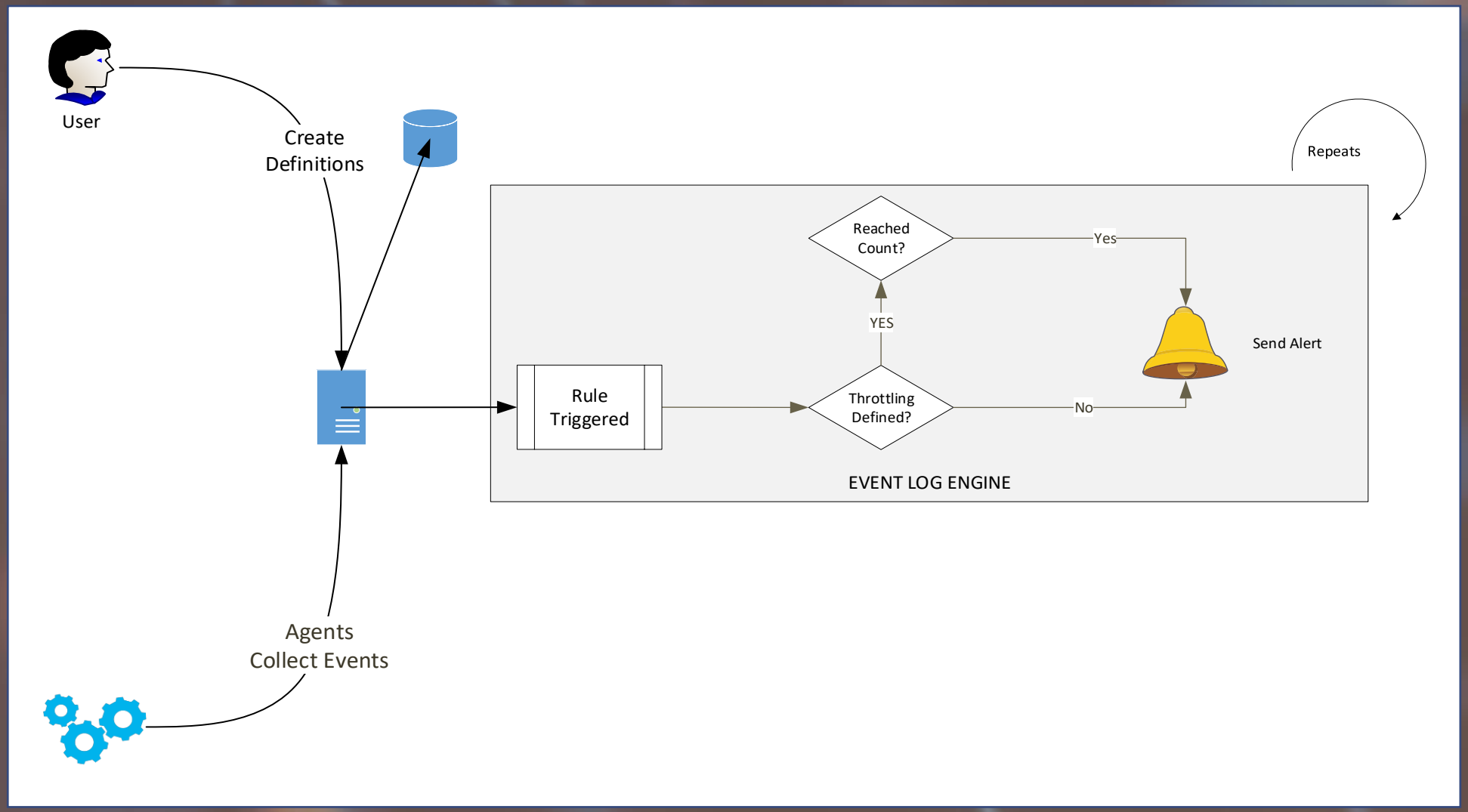
MSSQL/PI Power Pack - **Log Alerting Flow**



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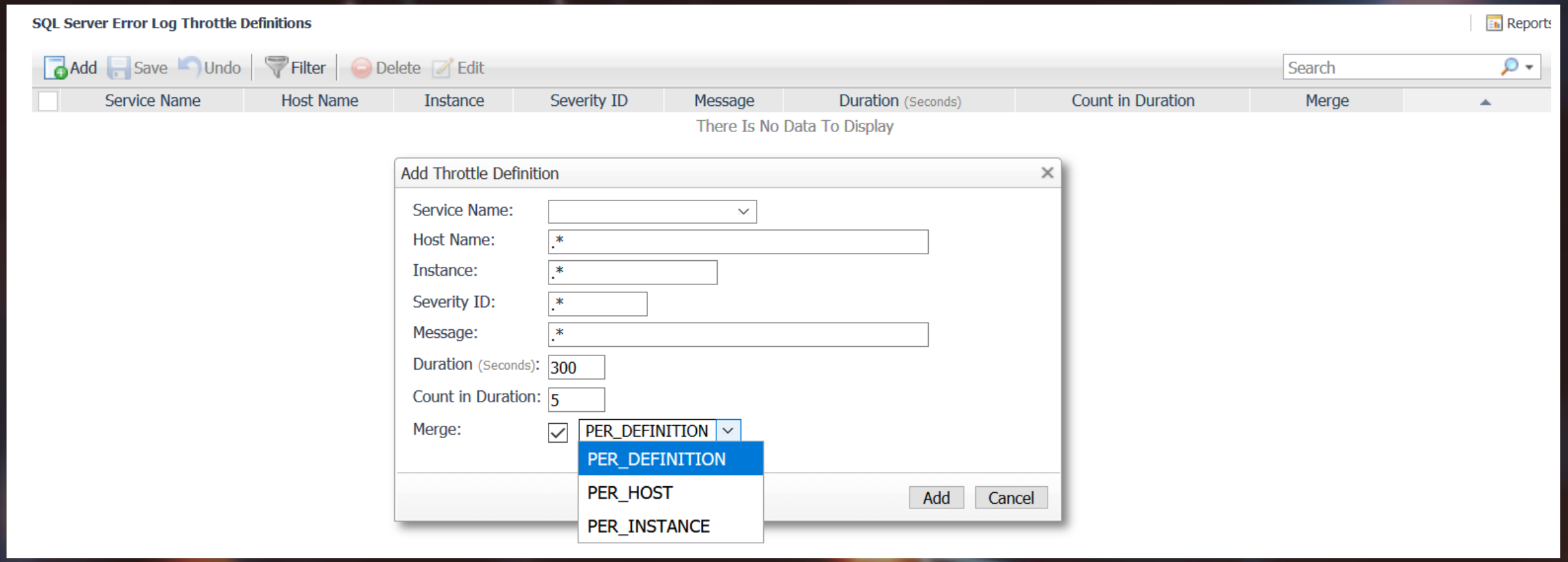
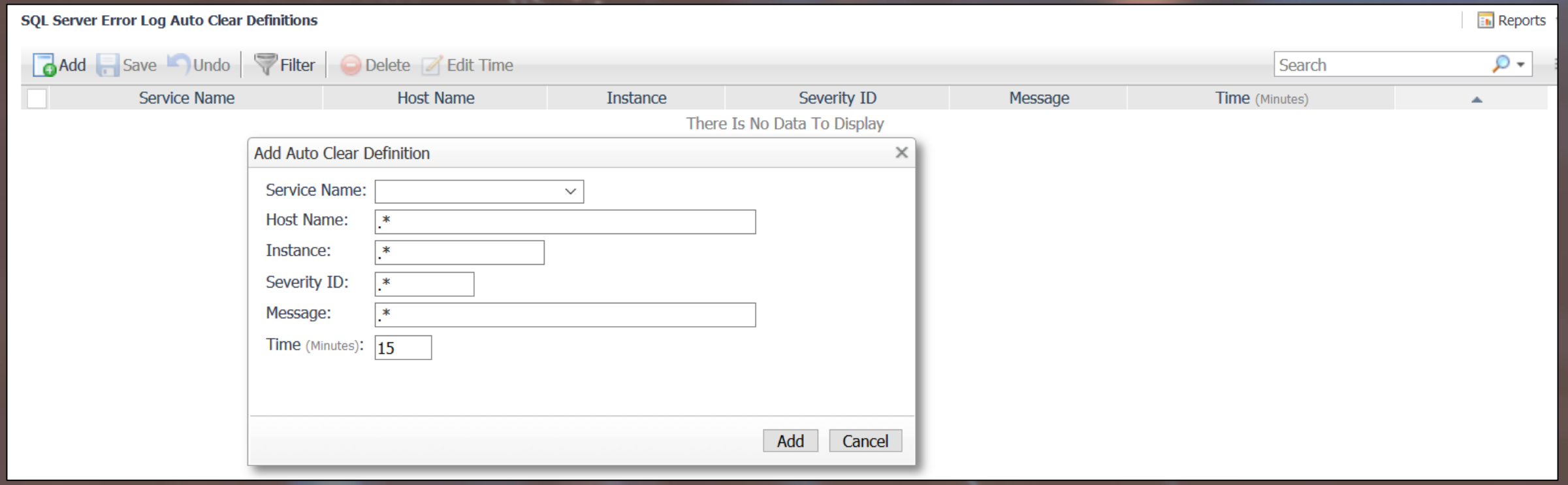


File Event Log – Throttling Definition

File Event Log – Auto Clear Definition



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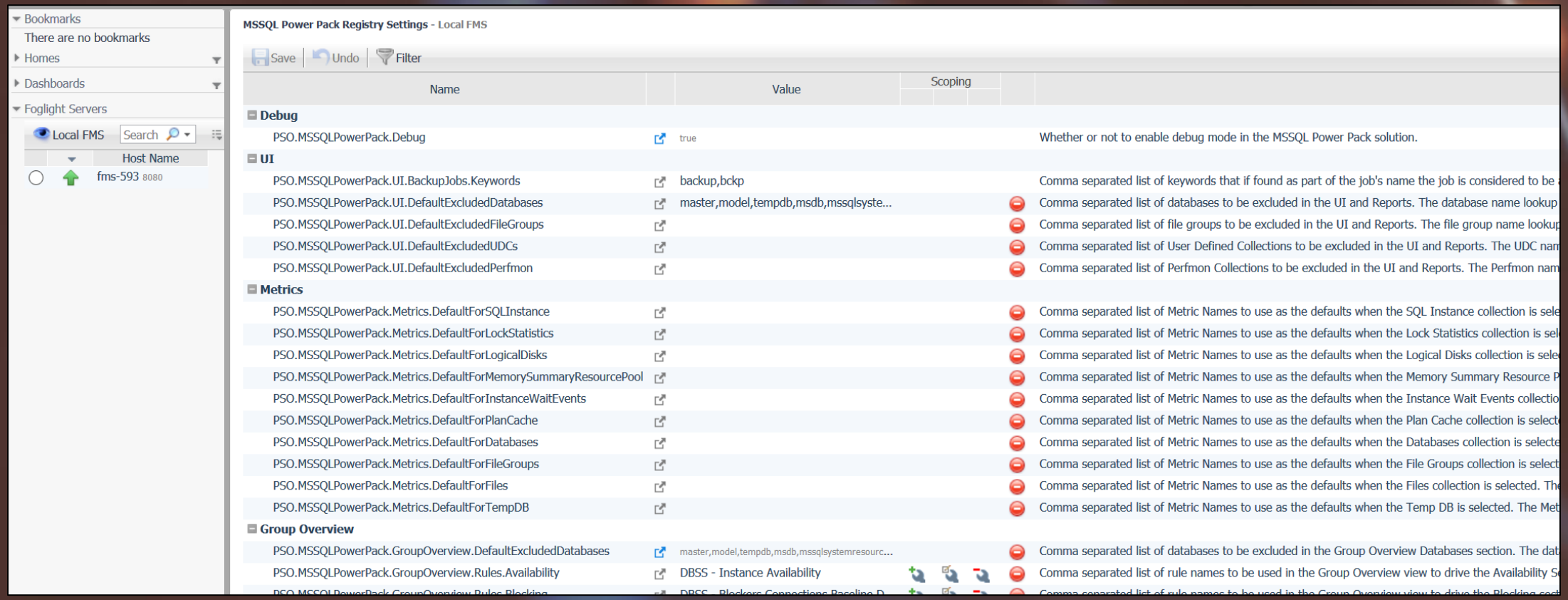
MSSQL/PI Power Pack - **Changing Settings**



Remote Administration of the solution across servers

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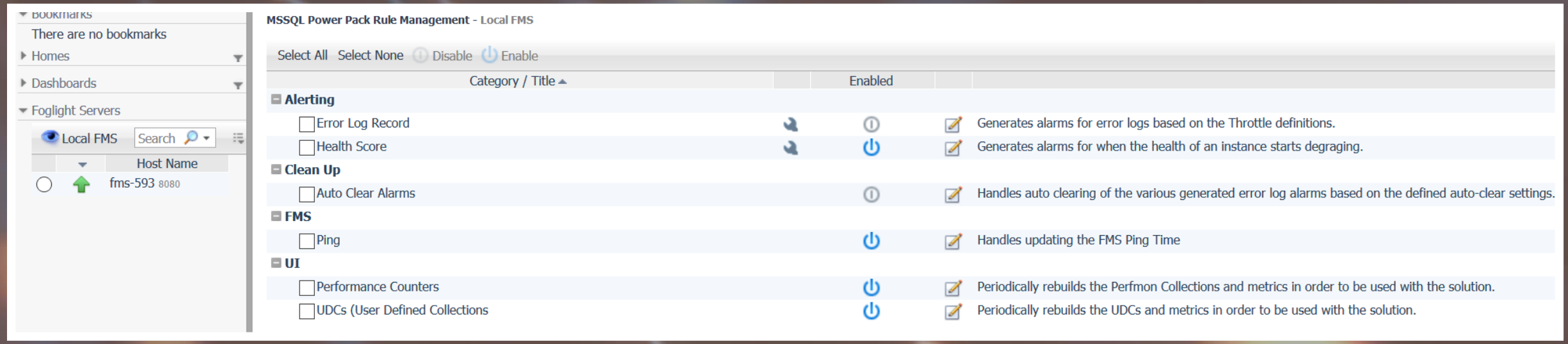

MSSQL/PI Power Pack – **Rule Management**

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MSSQL Power Pack Integration – System Requirements

Minimum required FMS version: 5.9.3

Supported Database Minimum Version		
	MS SQL	2008 v 10.0.1600 or later
	Oracle	9i R2
	MySQL	5.1.45
	PostgreSQL	9.4.0

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