

How to Master Reporting on Microsoft SCOM

A White Paper by NiCE IT Management Solutions

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Understanding the Basics

System Center Operations Manager (SCOM) reporting offers organizations a powerful toolset for monitoring and managing their IT infrastructure. The benefits of SCOM reporting include real-time performance monitoring, historical analysis for trend identification, customizable dashboards, and the ability to conduct compliance audits. These features empower administrators to proactively address issues, optimize resource allocation, and maintain compliance with industry regulations. However, challenges such as the complexity of data, customization demands, and the learning curve associated with SCOM reporting tools may pose obstacles. Navigating these challenges is crucial for organizations seeking to unlock the full potential of SCOM reporting and ensure the efficiency and reliability of their IT operations.

In the next sections we will explore the technical background, the basic set up steps, as well as the overall benefits and challenges in SCOM Reporting.

Microsoft SCOM Reporting Technical Aspects

System Center Operations Manager (SCOM) reporting works by leveraging a combination of components and technologies. Here is an explanation of the technical aspects:

Data Collection

SCOM agents are deployed on monitored servers and devices. These agents collect performance, event, and alert data based on the configured management packs. The collected data is sent to the SCOM Management Server.

Management Server

The SCOM Management Server processes the incoming data, performs monitoring logic, and stores the data temporarily in its operational database. This database is primarily used for real-time monitoring and alerting.

Data Warehouse

SCOM also has a separate component called the Data Warehouse. The Data Warehouse is a long-term storage repository designed for historical reporting and trend analysis. It stores aggregated and summarized data from the operational database.

SQL Server Reporting Services (SSRS)

SCOM leverages [SQL Server Reporting Services \(SSRS\)](#) for creating, managing, and delivering reports. SSRS is a server-based reporting platform from Microsoft.

Reporting Components

During the SCOM installation process, reporting components are installed on the SSRS server. These components include report definitions, data sources, and other necessary elements.

Data Flow for Reporting

When a report is generated, SSRS queries the SCOM Data Warehouse to retrieve the required data. The Data Warehouse provides centralized and optimized storage for historical data.

Data Storage

The Data Warehouse is typically implemented as an SQL Server database. It stores data in a structured manner, allowing for efficient retrieval and reporting. The schema includes tables that store data related to performance, alerts, events, and more.

Cubes for Analysis

SCOM also uses [SQL Server Analysis Services \(SSAS\)](#) to build [OLAP cubes](#). These cubes allow for multidimensional analysis of data, enabling users to drill down into different dimensions for more detailed insights.

Report Authoring Tools

Reports can be authored using tools like [SQL Server Data Tools \(SSDT\)](#) or [Report Builder](#). These tools allow for the creation of both standard and custom reports based on the requirements of the organization.

Security

Security measures are in place to control access to the reports and data. SCOM integrates with Active Directory, and access to reports can be managed based on user roles and permissions.

In summary, SCOM reporting involves data collection by agents, processing by the Management Server, storage in the Data Warehouse, and retrieval for reporting using SSRS and SSAS. This architecture allows for both real-time monitoring and in-depth historical analysis of the IT environment.

Basics on Setting Up SCOM Reporting

System Center Operations Manager (SCOM) provides comprehensive monitoring and reporting capabilities for your IT infrastructure. Reporting in SCOM is typically done using SQL Server Reporting Services (SSRS) and the Operations Manager Data Warehouse. Here is a high-level overview of the process:

Install and Configure SCOM

Ensure that you have SCOM installed and properly configured in your environment.

Configure Data Warehouse

SCOM uses a Data Warehouse for long-term storage and reporting. Make sure the Data Warehouse is properly configured and synchronized with the Management Server.

Install SQL Server Reporting Services (SSRS)

SCOM relies on [SSRS](#) for reporting. Install and configure SSRS on a server in your environment.

Install Reporting Components

On the SSRS server, install the SCOM reporting components. This is typically done during the SCOM installation process.

Configure Reporting Services

Configure the Reporting Services integration in SCOM. This involves specifying the URL of the SSRS server and other related settings.

Data Warehouse Jobs

Ensure that the SCOM Data Warehouse jobs are running successfully. These jobs are responsible for populating the Data Warehouse with data from the Management Server.

Create and Run Reports

Once the infrastructure is set up, you can use the SCOM console or the web interface to create and run reports. Reports can be generated on various aspects of your IT environment, including performance, availability, security, and more.

Custom Reports

SCOM comes with a set of built-in reports, but you may also need to create custom reports based on your specific requirements. You can use [SQL Server Data Tools](#) or [Report Builder](#) for creating custom reports.

Subscription and Scheduling

SCOM supports report subscriptions, allowing you to [schedule reports](#) to be generated at specific intervals and delivered to specified recipients.

Troubleshooting

If you [encounter issues with reporting](#), check the event logs, SCOM console, and SSRS logs for error messages. Ensure that data is being properly collected and processed by the Data Warehouse.

Security Considerations

Ensure that proper security measures are in place to control access to reports and sensitive data.

Remember, the specifics of these steps may vary based on the version of SCOM you are using, and it is always a good idea to refer to the official Microsoft documentation for the version you have to ensure accurate and up-to-date information.

Benefits of Microsoft SCOM Reporting

System Center Operations Manager (SCOM) reporting provides several key benefits for organizations:

Performance Monitoring

SCOM reporting allows organizations to monitor the performance of their IT infrastructure in real-time. Through customizable dashboards and reports, administrators can quickly identify performance bottlenecks, anomalies, and trends, enabling proactive management.

Historical Analysis

SCOM retains historical data, allowing organizations to perform trend analysis and identify patterns over time. Historical reporting helps in understanding long-term performance trends, forecasting capacity needs, and troubleshooting recurring issues.

Alerts and Notifications

SCOM generates alerts based on predefined thresholds and conditions. Reporting on these alerts provides insights into system health, helping administrators to prioritize and address critical issues promptly. Customizable notifications ensure that the right personnel are informed of potential problems.

Capacity Planning

SCOM reporting facilitates capacity planning by providing data on resource utilization, trends, and historical performance. This enables organizations to make informed decisions about infrastructure scaling, hardware upgrades, and resource allocation.

Customizable Dashboards

SCOM allows the creation of customizable dashboards, providing a consolidated view of critical performance metrics. This feature enables administrators and stakeholders to have a real-time overview of the health and performance of their IT environment.

Compliance and Auditing

SCOM reporting supports compliance monitoring by providing reports on system configurations, security settings, and adherence to predefined policies. These reports aid in auditing processes and help organizations maintain compliance with regulatory requirements.

Root Cause Analysis

SCOM reporting assists in root cause analysis by providing detailed information on incidents, alerts, and events. Administrators can drill down into the data to identify the underlying causes of issues, speeding up the resolution process.

Cross-Platform Monitoring

SCOM supports cross-platform monitoring, allowing organizations to monitor and report on both Microsoft and non-Microsoft environments. This capability is crucial for heterogeneous IT environments where various operating systems and applications coexist.

Service Level Monitoring

SCOM reporting enables organizations to monitor and report on service-level agreements (SLAs). This ensures that IT services meet predefined performance standards, helping organizations maintain service quality and meet business expectations.

Resource Optimization

By analyzing SCOM reports, organizations can identify underutilized or overburdened resources. This information allows administrators to optimize resource allocation, improving efficiency and reducing operational costs.

Custom Reporting

SCOM provides tools for creating custom reports, allowing organizations to tailor reporting capabilities to their specific needs. This flexibility ensures that reporting aligns with unique business requirements and operational priorities.

Proactive Issue Resolution

SCOM reporting enables proactive issue resolution by identifying potential problems before they impact system performance. Administrators can use the data to implement preventive measures, reducing downtime and enhancing system reliability.

By leveraging these benefits, organizations can enhance their overall IT management capabilities, improve system reliability, and ensure the optimal performance of their IT infrastructure.

Challenges in Reporting on Microsoft SCOM

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Reporting on Microsoft System Center Operations Manager (SCOM) comes with its share of challenges that stem from the intricacies of the platform.

Firstly, the **complexity of the data** collected by SCOM from diverse sources poses a challenge in **filtering, analyzing, and presenting** coherent information in reports. The vast array of monitoring capabilities provided by SCOM adds to the complexity, requiring **customized reports** to meet specific organizational needs. Unfortunately, achieving this customization can be challenging due to potential limitations in flexibility and user-friendly tools for report creation.

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Moreover, there is a **learning curve** associated with SCOM reporting, demanding administrators, and report creators to gain proficiency in understanding the SCOM infrastructure, management packs, and the elements under surveillance.

Scalability and performance considerations are critical, as generating reports from large SCOM environments can impact system performance. Additionally, **integrating SCOM data with external tools** for comprehensive reporting may require additional effort, highlighting the need for seamless integration.

3

Balancing **historical data** retention against storage limitations and performance considerations is an ongoing challenge.

Configuring **user access and permissions** for SCOM reports presents complexity, necessitating fine-tuning of access controls for security and compliance. Automated **report scheduling**, a valuable feature, may pose challenges in implementation, requiring additional scripting or **third-party tools**.

Lastly, the availability of adequate documentation and training resources for SCOM reporting is essential to facilitate smoother reporting processes.

To address these challenges, organizations can explore a multifaceted approach, including leveraging SCOM's built-in reporting capabilities, utilizing third-party reporting tools, and investing in comprehensive training and documentation to enhance the skills of personnel responsible for reporting in the SCOM environment. This strategic combination can contribute to overcoming the complexities associated with reporting in SCOM and ensure more effective utilization of its monitoring and management capabilities. In the upcoming section, we will delve

into a detailed exploration of mastering reporting in Microsoft System Center Operations Manager (SCOM).

Master SCOM Reporting

Overcoming challenges in SCOM reporting requires a strategic approach that addresses key areas of complexity. To tackle the intricacies of data management, SCOM admins can focus on streamlining reports, utilizing targeted management packs, and mastering customizations.

For the challenge of customization and flexibility, administrators should explore SCOM's built-in customization features, employ PowerShell for automation, and consider third-party tools for enhanced adaptability.

Overcoming the learning curve involves investing in training, hands-on practice in a lab environment, and collaborative learning through online resources and community forums. To address challenges related to performance and scalability, SCOM admins should optimize database performance, distribute reporting workloads, and implement efficient data retention policies.

By adopting these targeted strategies, organizations can navigate SCOM reporting challenges effectively and harness the full potential of this robust monitoring solution.

Complexity of Data

SCOM collects a vast amount of data from various sources, making it complex to filter, analyze, and present meaningful information. Creating clear and concise reports from this diverse set of data can be challenging.

To overcome the challenge of complexity in SCOM data for reporting, SCOM admins can follow these concise technical tips:

Focus on Key Metrics

Identify the critical performance indicators and metrics that align with business goals. Concentrate on these key data points to avoid overwhelming reports with unnecessary details.

To effectively tackle the challenge of focusing on key metrics in SCOM reporting, administrators should start by aligning their reporting objectives with overarching business goals. Identify critical performance indicators that directly contribute to organizational success and streamline reports to emphasize these key metrics.

This approach ensures that reports provide actionable insights without unnecessary complexity. For additional guidance on SCOM reporting best practices, Microsoft's official documentation, available at [Microsoft SCOM documentation](#), offers comprehensive insights and references.

Use Targeted Management Packs

Utilize specific management packs that pertain to your organization's infrastructure. This helps filter out irrelevant data and ensures that the collected information is directly related to your monitoring needs.

To address the challenge of managing diverse data sources in SCOM reporting, administrators can best tackle it by employing targeted management packs aligned with their organization's infrastructure. Selecting and implementing specific management packs tailored to the IT environment aids in filtering out irrelevant data, focusing on critical aspects, and streamlining the reporting process.

Customize Views and Dashboards

Take advantage of SCOM's ability to create custom views and dashboards. Tailor these interfaces to display only the most relevant information for different user roles, making it easier to consume essential data.

Effectively addressing the challenge of customizing views and dashboards in SCOM reporting involves leveraging the platform's built-in capabilities. Administrators should focus on creating custom views and dashboards that cater to the specific needs of different user roles within the organization. This approach ensures that stakeholders can easily access and consume pertinent information.

Implement Grouping and Filtering

Group related elements together and apply filters to organize data logically. This simplifies the process of analyzing specific sets of data and allows for more efficient reporting on targeted areas of the infrastructure.

In System Center Operations Manager (SCOM), implementing grouping and filtering is essential for efficient data organization and analysis. By grouping related elements together, such as servers or devices with similar functions, administrators can gain a holistic view of specific segments of their infrastructure. Applying filters further refines this process, enabling users to focus on relevant data sets and streamline their analysis.

This not only simplifies the monitoring experience but also enhances the precision of reporting, as administrators can tailor their reports to target specific areas of interest within the IT environment. Overall, the ability to group and filter elements in SCOM facilitates a more streamlined and effective approach to infrastructure management and reporting.

Define Clear Objectives for Reports

Before creating reports, clearly define the objectives and the audience. Understand what insights stakeholders need, and design reports accordingly. This ensures that reports deliver actionable information rather than overwhelming data.

In System Center Operations Manager (SCOM), defining clear objectives for reports is crucial for delivering actionable insights. Before creating reports, it is essential to identify the specific goals and the intended audience. By understanding the needs of stakeholders, administrators can tailor reports to provide relevant and meaningful information. This strategic approach ensures that reports focus on key metrics and deliver insights that are directly aligned with organizational objectives. By avoiding the presentation of overwhelming data and instead concentrating on actionable information, SCOM reports become powerful tools for informed decision-making and effective IT infrastructure management.

Regularly Review and Refine Reports

Continuously review existing reports and seek feedback from users. Regularly refine and update reports to align with changing business requirements, ensuring that the reports remain focused on delivering meaningful insights.

Utilize SCOM Data Warehouse

Leverage the SCOM Data Warehouse for historical data analysis. This allows admins to generate reports over longer periods without impacting real-time monitoring, providing a more comprehensive view of trends and patterns.

Invest in Reporting Training

Ensure that SCOM administrators responsible for reporting undergo training specifically focused on creating effective reports. Familiarity with SCOM's reporting tools and features enhances the ability to extract valuable information.

Explore Third-Party Reporting Tools

Consider using third-party reporting tools that integrate with SCOM. These tools often offer advanced features, visualization options, and enhanced customization capabilities to simplify the reporting process.

Document Reporting Best Practices

Establish and document best practices for SCOM reporting within your organization. Share these guidelines with administrators to promote consistency and efficiency in creating meaningful reports.

By implementing these technical tips, SCOM admins can streamline the reporting process, enhance the relevance of generated reports, and provide actionable insights to stakeholders.

Customization and Flexibility

SCOM provides a wide range of monitoring capabilities, and organizations often have unique requirements. Creating customized reports that cater to specific needs can be challenging, especially if there is a lack of flexibility or user-friendly tools for report customization.

To address the challenge of customization and flexibility in SCOM reporting, SCOM admins can follow these concise technical tips:

Master SCOM Management Pack Authoring

Invest time in understanding and mastering SCOM Management Pack authoring. This skill enables you to create custom monitoring solutions tailored to the unique needs of your organization, enhancing the flexibility of your monitoring infrastructure.

Leverage SCOM Report Authoring

Explore SCOM's built-in report authoring capabilities. Learn to create custom reports using tools like SQL Server Reporting Services (SSRS) to tailor reports to specific requirements, providing flexibility in data presentation.

Utilize Overrides for Customized Monitoring

Take advantage of SCOM overrides to customize monitoring settings on a per-object or per-group basis. This allows you to fine-tune monitoring parameters to align with specific requirements without affecting the entire infrastructure.

Implement PowerShell for Automation

Use PowerShell scripts to automate custom monitoring tasks and report generation. PowerShell integration with SCOM enables admins to create dynamic solutions that adapt to changing requirements and provide a high degree of flexibility.

Explore Community Management Packs

Check for and leverage community-developed Management Packs. The SCOM community often shares custom Management Packs that address specific needs. By adopting these, admins can benefit from pre-built solutions and customize them further if necessary.

Customize Views and Dashboards

Maximize the flexibility of SCOM views and dashboards. Customize these interfaces to present relevant information in a way that suits the preferences and requirements of different user roles within the organization.

Regularly Review and Update Customizations

Periodically review and update customizations to ensure they align with evolving business needs. Regularly validating and adjusting custom monitoring solutions helps maintain flexibility and responsiveness to organizational changes.

Document Customization Processes

Document the processes for creating and updating customizations. This documentation serves as a knowledge base for the SCOM team, ensuring consistency and providing guidance for future customization efforts.

Collaborate with Stakeholders

Engage with stakeholders to understand their specific requirements. Collaboration with teams across the organization ensures that customizations address real business needs, enhancing the relevance and effectiveness of monitoring solutions.

Consider Third-Party Extensions

Explore third-party extensions and tools that integrate seamlessly with SCOM. These tools often provide additional customization options, user-friendly interfaces, and advanced features to meet specific reporting requirements.

By adopting these technical tips, SCOM admins can enhance the customization and flexibility of their monitoring infrastructure, ensuring that it aligns closely with the unique needs of their organization.

Learning Curve

Reporting on SCOM may require a good understanding of the SCOM infrastructure, management packs, and the various components being monitored. There can be a learning curve for administrators and report creators to become proficient in using SCOM reporting tools.

To address the learning curve associated with SCOM reporting, SCOM admins can follow these concise technical tips:

Invest in SCOM Training

Prioritize training for SCOM administrators and report creators. Attend [Microsoft SCOM training](#) courses to build a solid foundation in SCOM infrastructure, management packs, and reporting tools.

Hands-On Practice in a Lab Environment

Set up a lab environment to gain hands-on experience with SCOM. Practice creating and customizing reports in a controlled setting to build confidence and proficiency without impacting the production environment.

Explore Online Resources and Documentation

Take advantage of online resources and official documentation provided by Microsoft. Online forums, blogs, and community discussions can offer valuable insights, troubleshooting tips, and best practices for SCOM reporting.

Collaborate with Experienced Peers

Foster collaboration with experienced SCOM administrators. Engage with peers, attend user groups, and participate in forums to exchange knowledge, seek guidance, and learn from the experiences of others.

Start with Basic Reports

Begin with basic SCOM reports and gradually progress to more complex ones. Master the fundamentals of report creation, data analysis, and customization before tackling advanced reporting features.

Use SCOM Reporting Templates

Take advantage of pre-built reporting templates provided by SCOM. These templates can serve as starting points for creating reports, helping administrators understand the structure and components of SCOM reports.

Attend Webinars and Conferences

Attend webinars, conferences, and workshops focused on SCOM. These events often feature expert speakers and in-depth sessions that provide practical insights and advanced techniques for SCOM reporting.

Document Best Practices and Workflows

Create internal documentation that outlines best practices and workflows for SCOM reporting. This documentation serves as a reference for administrators and report creators, streamlining processes and promoting consistency.

Stay Informed About Updates and New Features

Keep abreast of SCOM updates, patches, and new features. Regularly review release notes and documentation to stay informed about enhancements to reporting tools, ensuring that you leverage the latest capabilities.

By following these technical tips, SCOM admins can reduce the learning curve associated with reporting, build proficiency in using SCOM tools, and enhance their ability to extract meaningful insights from the monitoring data.

Performance and Scalability

Generating reports from a large SCOM environment can impact the performance of the system. Ensuring that reports are scalable and do not overly tax the SCOM infrastructure is crucial to maintain optimal performance.

To address the challenge of performance and scalability in SCOM reporting, SCOM admins can follow these concise technical tips:

Optimize SCOM Database Performance

Regularly optimize the performance of the SCOM database. Ensure proper indexing, database maintenance, and tuning to enhance the efficiency of data retrieval for reporting purposes.

Distribute Reporting Workloads

Distribute reporting workloads across multiple reporting servers if possible. This helps prevent a single server from bearing the entire burden, improving overall scalability, and reducing the impact on performance.

Schedule Reports During Off-Peak Hours

Schedule resource-intensive reports to run during off-peak hours to minimize the impact on SCOM infrastructure during critical monitoring periods. This ensures that real-time monitoring activities are not compromised.

Limit Data Range for Historical Reports

When generating historical reports, limit the data range to specific periods of interest. This reduces the amount of data being processed, improving report generation times, and minimizing strain on the SCOM infrastructure.

Implement Report Caching

Utilize report caching mechanisms to store and reuse frequently accessed reports. This reduces the need for repeated data processing and enhances the scalability of report generation by serving cached results when applicable.

Scale Reporting Infrastructure Vertically or Horizontally

Consider scaling the reporting infrastructure either vertically (upgrading hardware resources) or horizontally (adding more servers). This allows the SCOM environment to manage increased reporting demands more effectively.

Fine-Tune Data Retention Policies

Adjust data retention policies to strike a balance between historical data needs and performance considerations. Implementing a tiered approach to data retention can help manage database size and optimize reporting performance.

Optimize SCOM Server Configuration

Optimize the configuration of SCOM management servers. Adjust settings such as thread counts, cache sizes, and memory allocation based on the size and demands of the SCOM environment to improve overall performance.

Consider Distributed Reporting Services

Explore distributed reporting services architecture, separating the reporting component from the SCOM management server. This can enhance scalability by dedicating resources specifically for reporting tasks.

Regularly Monitor and Analyze Performance

Implement proactive monitoring of SCOM infrastructure performance. Regularly analyze performance metrics, identify bottlenecks, and make adjustments to configurations or infrastructure as needed to maintain optimal performance.

By implementing these technical tips, SCOM admins can optimize the performance and scalability of their reporting infrastructure, ensuring that the generation of reports does not adversely impact the real-time monitoring capabilities of the SCOM environment. To address the challenge of performance and scalability in SCOM reporting, SCOM admins can follow these concise technical tips:

Integration with External Tools

Organizations may use other monitoring or reporting tools alongside SCOM. Integrating SCOM data with external tools for more comprehensive reporting may require additional effort, and ensuring seamless integration can be a challenge.

To address the challenge of integration with external tools in SCOM reporting, SCOM admins can follow these concise technical tips:

Utilize SCOM Connectors and APIs

Leverage SCOM connectors and APIs to facilitate integration with external tools. SCOM provides APIs that enable the extraction of monitoring data, making it accessible for integration with third-party reporting or analysis tools.

Explore Management Pack Extensions

Check for management pack extensions or connectors designed to integrate SCOM with common external tools. These extensions can simplify the integration process and enhance interoperability with other monitoring or reporting solutions.

Implement PowerShell for Automation

Use PowerShell scripts to automate data extraction and formatting for integration purposes. PowerShell's flexibility allows SCOM admins to create custom scripts that export data in a format compatible with external tools.

Standardize Data Formats

Standardize data formats when integrating with external tools. Ensure that SCOM data is transformed into a format that aligns with the requirements of the external tools, facilitating seamless data exchange.

Establish Clear Data Mapping

Clearly define and document data mapping between SCOM and external tools. Understand the data structure and schema of both systems to ensure accurate and meaningful integration of monitoring data.

Explore Third-Party Integration Solutions

Investigate third-party solutions designed to streamline integration between SCOM and external tools. These solutions often provide pre-built connectors or interfaces that simplify the integration process.

Customize SCOM Reports for Export

Customize SCOM reports for easy export and compatibility with external tools. Ensure that the generated reports can be exported in commonly used formats (e.g., CSV, XML) for smooth integration with external reporting platforms.

Implement Data Warehouse for External Reporting

Utilize the SCOM Data Warehouse for external reporting needs. Extract data from the Data Warehouse, as it provides a more structured and optimized dataset for reporting, reducing the impact on the SCOM infrastructure.

Establish Scheduled Data Exports

Schedule regular exports of SCOM data to align with external reporting requirements. Implement automation to ensure timely and consistent data transfers between SCOM and external tools.

Collaborate with External Tool Vendors

Engage with vendors of external tools to explore any native integrations or recommended practices for combining SCOM data with their solutions. Vendor collaboration can provide insights and support for effective integration.

By following these technical tips, SCOM admins can enhance the integration of SCOM data with external tools, ensuring a seamless flow of monitoring information between SCOM and other reporting or analysis platforms.

Historical Data Retention

Managing and reporting on historical data can be challenging, especially if there are strict retention policies. Balancing the need for historical data with storage limitations and performance considerations is an ongoing challenge.

To address the challenge of historical data retention in SCOM reporting, SCOM admins can follow these concise technical tips:

Optimize Data Warehouse Retention Settings

Fine-tune the retention settings in the SCOM Data Warehouse. Adjust the retention periods based on organizational needs, ensuring a balance between historical data availability and storage requirements.

Implement Data Grooming Strategies

Develop and implement grooming strategies to remove unnecessary data. Regularly review and clean up obsolete or irrelevant historical data to prevent unnecessary strain on storage and reporting resources.

Define Tiered Retention Policies

Establish tiered retention policies based on the importance of data. Prioritize critical data for longer retention periods while adopting shorter retention for less critical data. This approach optimizes storage usage while preserving key historical information.

Utilize Aggregation and Summarization

Implement aggregation and summarization techniques for historical data. Instead of storing raw data indefinitely, aggregate or summarize data over time, reducing storage requirements while still preserving essential trends.

Leverage Archiving Mechanisms

Explore archiving mechanisms to store historical data offline or in less frequently accessed storage tiers. Archiving helps manage storage costs and maintains accessibility to historical data when needed.

Implement Purge and Archive Procedures

Develop and document procedures for purging and archiving historical data. Clearly define the criteria for data removal or archiving and establish regular processes to execute these actions in a controlled manner.

Automate Data Cleanup Tasks

Automate data cleanup tasks using scheduled scripts or maintenance jobs. Automation ensures consistency and helps prevent data retention issues by regularly purging outdated data according to predefined criteria.

Collaborate with Storage Administrators

Collaborate with storage administrators to understand storage limitations and capabilities. Work together to optimize storage configurations, explore compression techniques, and implement storage solutions that align with historical data retention needs.

Educate Stakeholders on Retention Policies

Educate stakeholders on the importance of data retention policies. Establish clear communication channels to align with business units on historical data requirements and gain support for retention policies that balance storage constraints.

Regularly Monitor Storage Utilization

Implement proactive monitoring of storage utilization for historical data. Regularly analyze trends and forecast storage growth to stay ahead of potential capacity issues and make informed decisions about data retention policies.

By implementing these technical tips, SCOM admins can effectively manage historical data retention, ensuring a balance between preserving essential information and optimizing storage resources.

User Access and Permissions

Configuring user access to SCOM reports and ensuring that users have the appropriate permissions to view specific data can be a complex task. Fine-tuning access controls and permissions is crucial for security and compliance.

To address the challenge of user access and permissions in SCOM reporting, SCOM admins can follow these concise technical tips:

Leverage SCOM Role-Based Security

Utilize SCOM's role-based security features to assign roles and permissions based on user responsibilities. Create custom roles if needed to align with specific reporting requirements and restrict access to sensitive data.

Define Clear User Groups

Establish clear user groups with specific roles and responsibilities. Group users based on their reporting needs, and assign permissions accordingly to ensure that individuals have access only to the data relevant to their roles.

Regularly Review and Update Permissions

Conduct regular reviews of user permissions and update them as needed. Ensure that access controls align with organizational changes, staff movements, and evolving reporting requirements to maintain a secure environment.

Implement Report-Level Security

Explore report-level security options within SCOM. Configure reports to display only the relevant data for each user or user group, limiting access to specific elements of the infrastructure based on their reporting needs.

Audit User Access and Activities

Enable auditing features to track user access and activities. Regularly review audit logs to identify any unauthorized access attempts or potential security risks, maintaining a proactive approach to user access management.

Integrate with Active Directory (AD)

Integrate SCOM with Active Directory for streamlined user authentication and authorization. Leverage AD groups to manage SCOM user memberships, simplifying the process of assigning and revoking access based on AD roles.

Educate Users on Access Policies

Provide training to users on access policies and guidelines. Educate them on the importance of adhering to security practices and the implications of accessing sensitive data without proper authorization.

Implement Two-Factor Authentication (2FA)

Consider implementing two-factor authentication for SCOM access. Adding an extra layer of authentication enhances security, especially for users with elevated permissions to sensitive monitoring data.

Regularly Test Access Controls

Conduct regular testing of access controls to ensure their effectiveness. Verify that users can only access the data and reports assigned to their roles, and promptly address any discrepancies or security vulnerabilities.

Collaborate with IT Security Teams

Collaborate with IT security teams to align SCOM access controls with broader organizational security policies. Ensure that SCOM permissions adhere to regulatory requirements and contribute to a comprehensive security posture.

By following these technical tips, SCOM admins can strengthen user access controls and permissions, ensuring that sensitive monitoring data is only accessible to authorized individuals while maintaining compliance with security and privacy standards.

Automated Report Scheduling

While SCOM offers reporting features, some organizations may find it challenging to automate the scheduling and distribution of reports. Implementing automated reporting processes may require additional scripting or third-party tools.

To address the challenge of automated report scheduling in SCOM, admins can follow these concise technical tips:

Utilize SCOM Subscriptions

Leverage SCOM subscriptions to automate report delivery. Create subscription rules to specify report parameters, recipients, and delivery schedules, enabling automated distribution of reports via email or file share.

Explore PowerShell Automation

Use PowerShell scripts to automate SCOM reporting tasks. Develop scripts that generate and distribute reports at scheduled intervals, providing a flexible and customizable solution for automated reporting processes.

Investigate Third-Party Automation Tools

Explore third-party automation tools that integrate with SCOM for scheduled reporting. These tools often offer advanced scheduling features, report customization options, and user-friendly interfaces to streamline the automation process.

Schedule SSRS Reports

If using SQL Server Reporting Services (SSRS) for SCOM reporting, take advantage of SSRS scheduling capabilities. Configure report subscriptions within SSRS to automate the generation and distribution of reports according to a specified schedule.

Set Up Scheduled Tasks

Create scheduled tasks on the SCOM server to trigger PowerShell scripts or command-line operations for report generation and distribution. Ensure that these tasks are configured with appropriate security credentials.

Integrate with Data Warehouse

Leverage the SCOM Data Warehouse for scheduled reporting. Generate reports from the Data Warehouse, which is optimized for historical data analysis, and schedule automated processes to extract and distribute this information.

Implement Centralized Reporting Server

Consider setting up a dedicated reporting server for SCOM. Centralizing reporting tasks on a separate server can improve performance and facilitate more efficient scheduling and distribution of reports.

Document Automated Processes

Document the automated reporting processes for reference and troubleshooting. Clearly outline the steps involved, scheduled intervals, and dependencies to ensure the continuity of automated reporting tasks.

Regularly Test Scheduled Processes

Conduct regular testing of scheduled reporting processes to verify their reliability. Ensure that reports are generated and distributed correctly, and promptly address any issues that may arise during automated tasks.

Stay Informed About SCOM Updates

Stay informed about SCOM updates and new features related to reporting and automation. Regularly review release notes and documentation to incorporate the latest enhancements into automated reporting workflows.

By implementing these technical tips, SCOM admins can establish reliable and efficient automated reporting processes, ensuring that critical monitoring information is regularly delivered to stakeholders in a timely and organized manner.

Documentation and Training

Adequate documentation and training resources for SCOM reporting may be limited. Ensuring that administrators and report creators have access to comprehensive documentation and training materials can facilitate smoother reporting processes.

To overcome the challenge of limited documentation and training resources for SCOM reporting, admins can follow these concise technical tips:

Create Internal Documentation

Develop internal documentation specific to your organization's SCOM reporting processes. Document best practices, workflows, and customized configurations to serve as a comprehensive reference for administrators and report creators.

Utilize Microsoft Documentation

Leverage official Microsoft documentation for SCOM reporting. Stay updated on Microsoft's documentation portal for SCOM, which provides valuable resources, guides, and references to enhance understanding and proficiency in reporting.

Explore Online Communities

Participate in online SCOM communities, forums, and user groups. Engage with the SCOM community to exchange knowledge, seek advice, and access insights shared by experienced administrators and report creators.

Establish In-House Training Sessions

Conduct in-house training sessions for SCOM administrators and report creators. Tailor these sessions to cover specific reporting functionalities, best practices, and any customizations made within the organization.

Document Custom Report Configurations

Document custom report configurations and modifications. Detail the steps taken to create or customize reports, including data sources, parameters, and any scripting or advanced configurations, to facilitate knowledge transfer.

Encourage Cross-Training

Promote cross-training among SCOM administrators. Encourage administrators to gain proficiency in both monitoring and reporting aspects, ensuring a more holistic understanding of the SCOM environment.

Create Video Tutorials

Develop video tutorials for key SCOM reporting tasks. Visual aids can be effective for demonstrating specific actions, report generation processes, and troubleshooting techniques, making learning more accessible.

Investigate Third-Party Training Programs

Explore third-party training programs focused on SCOM reporting. Consider external training courses or certifications that offer structured learning paths and additional insights from industry experts.

Collaborate with Vendor Support

Engage with vendor support, especially if using third-party reporting tools integrated with SCOM. Leverage vendor support resources, training materials, and knowledge bases to address specific challenges related to reporting.

Establish a Knowledge Sharing Culture

Foster a culture of knowledge sharing within the SCOM team. Encourage team members to document their experiences, challenges, and solutions, creating a shared knowledge repository for continuous learning.

By implementing these technical tips, SCOM admins can enhance documentation and training efforts, ensuring that administrators and report creators have the resources needed for effective SCOM reporting practices.

Top 20 Reports to Consider

The choice of the top twenty reports for SCOM administrators can vary based on the specific needs and priorities of their IT environment. However, here is a list of commonly valuable reports that SCOM administrators find useful:

1. **Overall Health Summary:** Provides a high-level overview of the health status of monitored objects.
2. **Performance Trend Analysis:** Analyzes performance data trends over time for key metrics.
3. **Alert Volume and Trends:** Examines the volume and trends of alerts to identify patterns.
4. **Top Alert Sources:** Identifies the top sources generating the most alerts in the environment.
5. **Availability Overview:** Offers insights into the availability of critical systems and applications.
6. **Top Monitored Objects:** Lists the most critical or frequently monitored objects in the environment.
7. **Performance Baseline Deviation:** Highlights deviations from established performance baselines.
8. **SLA Compliance:** Assesses the compliance of monitored systems with Service Level Agreements.
9. **Configuration Changes:** Tracks and reports on changes made to monitored configurations.
10. **Capacity Planning:** Provides insights into resource usage to support capacity planning efforts.
11. **Top Response Time Issues:** Identifies systems or applications with performance response time issues.
12. **Security Overview:** Summarizes security-related events and incidents.
13. **Database Health and Performance:** Monitors and reports on the health and performance of databases.
14. **Network Utilization:** Analyzes network usage and identifies potential bottlenecks.
15. **Web Application Performance:** Reports on the performance of web applications.
16. **Active Directory Health:** Assesses the health and status of Active Directory components.
17. **Backup and Recovery Status:** Monitors the status of backup and recovery processes.
18. **Patch Compliance:** Evaluates the compliance of systems with the latest security patches.
19. **Virtualization Resource Usage:** Reports on resource usage in virtualized environments.
20. **User Activity and Logon Trends:** Tracks user activity and logon trends for security and optimization purposes.

Keep in mind that the relevance of reports can change based on the organization's specific goals, infrastructure, and industry. It is advisable to tailor the reports to meet the unique requirements of your environment and regularly reassess them as your IT landscape evolves.

Top 3 Microsoft SCOM Report by Audience

The choice of top SCOM reports for users can vary based on the specific needs and responsibilities of individuals within an organization. However, here are ten types of users who might benefit from specific SCOM reports:

IT Operations Managers

May benefit from overall health summary reports to quickly assess the state of the IT environment.

Overall Health Summary: Provides a high-level overview of the health status of the entire IT environment.

Alert Volume and Trends: Offers insights into the volume and trends of alerts, helping managers understand the overall system stability.

SLA Compliance: Assesses how well the IT infrastructure aligns with established Service Level Agreements.

System Administrators

Could use performance trend analysis and alert volume reports to identify and troubleshoot issues.

Performance Trend Analysis: Helps administrators identify performance trends and proactively address potential issues.

Top Alert Sources: Pinpoints the sources generating the most alerts, aiding administrators in prioritizing troubleshooting efforts.

Configuration Changes: Tracks and reports on changes made to monitored configurations, assisting in change management.

Network Administrators

May find network utilization and top response time issues reports useful for monitoring and optimizing network performance.

Network Utilization: Analyzes network usage and identifies potential bottlenecks, aiding in network optimization.

Top Response Time Issues: Pinpoints systems or applications with performance response time issues, facilitating troubleshooting.

Availability Overview: Provides insights into the availability of critical systems and applications.

Database Administrators

Could benefit from database health and performance reports for managing and optimizing database systems.

Database Health and Performance: Monitors and reports on the health and performance of databases, aiding in optimization.

Configuration Changes: Tracks changes to database configurations, helping in managing and securing databases.

Backup and Recovery Status: Monitors the status of backup and recovery processes to ensure data integrity.

Security Analysts

May use security overview reports to identify and respond to security-related events and incidents.

Security Overview: Summarizes security-related events and incidents, providing a comprehensive view for analysis and response.

Active Directory Health: Assesses the health and status of Active Directory components, crucial for security.

User Activity and Logon Trends: Tracks user activity and logon trends for security monitoring and threat detection.

Application Owners

Could leverage web application performance reports to ensure optimal performance of critical applications.

Web Application Performance: Reports on the performance of web applications, ensuring optimal user experience.

Overall Health Summary: Provides a quick overview of the health of applications and supporting infrastructure.

Top Monitored Objects: Lists the most critical or frequently monitored objects related to applications.

Capacity Planners

May rely on capacity planning reports to analyze resource usage and plan for future needs.

Capacity Planning: Offers insights into resource usage to support capacity planning efforts and avoid performance bottlenecks.

Performance Trend Analysis: Helps identify trends in resource utilization, aiding in long-term planning.

Virtualization Resource Usage: Reports on resource usage in virtualized environments, assisting in optimizing virtualized infrastructure.

Compliance Managers

Could use patch compliance reports to ensure systems are up to date with the latest security patches.

Patch Compliance: Evaluates the compliance of systems with the latest security patches, crucial for maintaining security standards.

Configuration Changes: Tracks changes to configurations, ensuring compliance with established policies.

SLA Compliance: Assesses the alignment of IT systems with Service Level Agreements, providing a measure of compliance.

Virtualization Administrators

May find virtualization resource usage reports valuable for managing and optimizing virtualized environments.

Virtualization Resource Usage: Reports on resource usage in virtualized environments, aiding in capacity planning.

Overall Health Summary: Offers a quick overview of the health status of virtualized systems.

Top Alert Sources: Identifies sources generating the most alerts, helping prioritize virtualization-related issues.

Business Stakeholders

Could benefit from SLA compliance and availability overview reports to understand the impact of IT on business operations.

SLA Compliance: Provides insights into how well IT services align with established Service Level Agreements, impacting business operations.

Availability Overview: Offers a high-level view of the availability of critical systems and applications, impacting business continuity.

Overall Health Summary: Gives a quick snapshot of the overall health of the IT environment, directly affecting business operations.

It is important to tailor reports to the specific requirements of each user group, ensuring that the information presented aligns with their responsibilities and goals. Regular communication with stakeholders can help identify and refine the reports that are most valuable to each user type.

Resources

Microsoft Documentation

How to Create Reports

<https://learn.microsoft.com/en-us/system-center/scom/manage-reports-create-reports?view=sc-om-2022>

Microsoft Report Builder

<https://learn.microsoft.com/en-us/sql/reporting-services/install-windows/install-report-builder?view=sql-server-ver16>

Reports for network monitoring in Operations Manager

<https://learn.microsoft.com/en-us/system-center/scom/manage-monitor-networkdevice-reports?view=sc-om-2022>

Reports Library

<https://learn.microsoft.com/en-us/system-center/scom/manage-reports-installed-during-setup?view=sc-om-2022>

Using Reports

<https://learn.microsoft.com/en-us/system-center/scom/manage-using-reporting-workspace?view=sc-om-2022>

Troubleshooting

Add Object Wizard in Operations Manager displays only 500 objects even if more exist

<https://learn.microsoft.com/en-us/troubleshoot/system-center/scom/add-object-wizard-displays-only-500-objects>

Operations Manager reports fail to deploy

<https://learn.microsoft.com/en-us/troubleshoot/system-center/scom/cannot-deploy-operations-manager-reports>

Service Level Tracking Summary report may be empty if Today isn't selected for the TO date

<https://learn.microsoft.com/en-us/troubleshoot/system-center/scom/empty-service-level-tracking-summary-report>

System Center Operations Manager ACS reports return no more than 42 days of data

<https://learn.microsoft.com/en-us/troubleshoot/system-center/scom/acs-reports-return-no-more-than-42-days-data>

Troubleshooting Blank Report

<https://learn.microsoft.com/en-us/troubleshoot/system-center/scom/troubleshoot-blank-reports>

Community Blogs & Tutorials

Error while installing SCOM 2019 Reporting by Blake Drumm, June 2022

<https://blakedrumm.com/blog/fix-install-bug-scom-2019-reporting/>

How To Enable SQL Server Reporting for System Center Operations Manager by Brien Posey, October 2020

<https://redmondmag.com/articles/2020/10/26/sql-server-reporting-for-scom.aspx>

How to make Reporting console part of high Availability in SCOM by Sourav Mahato, July 2023

<https://www.souravmahato.com/how-to-make-reporting-console-part-of-high-availability-in-scom/>

How to Monitor SQL Server with SCOM and SQL Server Management Packs by SquaredUp and ViaCode, June 2020

<https://www.youtube.com/watch?v=3NSinW0a7us>

Microsoft System Center Tech Community

<https://techcommunity.microsoft.com/t5/system-center/ct-p/SystemCenter>

Retired Management Server hinders Reporting by Kevin Holman, January 2017

<https://kevinholman.com/2017/01/23/i-retired-a-management-server-now-scom-reporting-doesnt-work/>

Running with SCOM Reporting (SCOM 2012, 2016, 2019) by Louis TechViews October 2020

<https://www.youtube.com/watch?v=rdnqA4L075A>

SCOMathon – Everything SCOM

<https://scomathon.com/>

SCOMathon Coffee Break: Management Pack Authoring for Beginners by Bruce Cullen and Dushon Walsham, July 2021

<https://www.youtube.com/watch?v=xKLDwTVMzWM>

SCOM Certification Training by TopQore

<https://topqore.com/topqore-scom-certification-path-overview/>

SCOM Channel on Reddit

<https://www.reddit.com/r/scom/search/?q=report>

SCOM Community Management Pack Catalog by SquaredUp

<https://github.com/MPCatalog/scom-community-catalog>

SCOM Reporting by Rudresh Reddy, July 2023

https://www.youtube.com/watch?v=Incy8oI_30&list=PL0ancEmdTq3vipVXZqky9fcvDzIPDX4Pn&index=13

SCOM Reporting is not working? by Rudresh Reddy, July 2023

<https://www.youtube.com/watch?v=rqtcyfoaZCA>

SCOM Reporting Series by TopQore, June 2020

<https://blog.topqore.com/scom-reporting-series-home/> and <https://topqore.com/scom-reporting-ebook/>

SCOM Reporting Services Part I & II: Installation & Configuration by Maher Islaieh, July 2020

<https://www.net-pioneers.com/5446/scom-reporting-services-part-i-introduction/> and <https://www.net-pioneers.com/5450/scom-reporting-services-part-ii-installation-configuration/>

SCOM Training by Bechtle

<https://www.bechtle.com/de-en/training/EDU428421-system-center-operations-manager-scom>

SCOM Training by Walsham Solutions Ltd

<https://www.walshamsolutions.com/training>

SCOM Uptime Availability Report by Blake Drumm, August 2022

<https://blakedrumm.com/blog/scom-uptime-availability-report/>

Third Party Solution Vendors & Service Providers

Atlassian Opsgenie Integration

<https://support.atlassian.com/opsgenie/docs/integrate-opsgenie-with-microsoft-scom/>

NiCE Management Packs & Services

<https://www.nice.de/all-solutions/> and <https://www.nice.de/nice-services-for-microsoft-system-center/>

SquaredUP – Reporting on SCOM MI

<https://squaredup.com/blog/scom-mi-reporting-new-squaredup-plugin/>

TopQore

<https://topqore.com>

Walsham Solutions Ltd

<https://www.walshamsolutions.com/reports-dashboard-solutions>



NiCE Services for Microsoft System Center

NiCE IT Management Solutions is a dedicated Microsoft Partner, specializing in cutting-edge solutions for Microsoft System Center and Azure Monitor. Our commitment lies in providing comprehensive services and solutions that empower organizations to optimize their IT infrastructure and enhance operational efficiency.

Consulting for System Center Operations Manager, Configurations Manager, and Service Manager

At NiCE, our suite of services for Microsoft System Center is designed to meet the unique needs of businesses relying on System Center Operations Manager, Configurations Manager, and Service Manager. We bring a wealth of expertise to the table, offering tailored consulting services that include SCOM Health Assessments. These assessments are a strategic component of our approach, ensuring that your System Center environment operates at peak performance and aligns seamlessly with your business objectives.

Provisioning of Third-Party SCOM Tools

In addition to our consulting services, NiCE is at the forefront of delivering advice and provisioning for third-party SCOM tools, expanding the capabilities of your System Center deployment. We understand the diverse nature of IT environments and recognize the importance of integrating complementary tools to achieve a holistic and robust monitoring solution.

Custom and Standard Management Packs

Our focus extends beyond conventional monitoring to encompass SCOM-centric solutions for monitoring various business elements. This includes applications, databases, operating systems, services, and custom applications. By leveraging the power of Microsoft System Center, NiCE enables organizations to gain granular insights into their IT landscape, ensuring proactive issue identification and resolution.

Azure Monitor and Microsoft SCOM Managed Instance

As a Microsoft Partner, NiCE is also deeply involved in Azure Monitor, harnessing the capabilities of the Azure cloud platform to deliver advanced monitoring solutions. Our expertise in Azure

Monitor allows us to provide seamless integration with Microsoft System Center, creating a unified monitoring ecosystem that spans on-premises and cloud environments.

NiCE IT Management Solutions stands as a reliable partner for organizations seeking to maximize the potential of Microsoft System Center and Azure Monitor. Our integrated approach, encompassing consulting services, third-party tool integration, and SCOM-centric monitoring solutions, positions us as a leader in the ever-evolving landscape of IT optimization.

About NiCE

NiCE Services for Microsoft System Center encompass consulting services tailored to System Center Operations Manager, Configurations Manager, and Service Manager. Our offerings include SCOM Health Assessments, advice and provisioning for third-party SCOM tools, as well as SCOM-centric monitoring solutions for business elements such as applications, databases, operating systems, services, and custom applications.

NiCE Management Packs for SCOM and Azure Monitor SCOM Managed Instance (SCOM MI) are available for AIX, Azure AD Connect, Entra ID, Citrix VAD & ADC, Custom Applications, HCL Domino, IBM Db2, IBM Power HA, Linux on Power Systems, Log Files, Microsoft 365, Microsoft Teams, Microsoft SharePoint, Microsoft Exchange, Microsoft OneDrive, Mongo DB, Oracle, Veritas Clusters, VMware, VMware Horizon, and zLinux.

Our commitment

1. Ongoing development, incl. latest version support
2. Top required metrics come out-of-the-box
3. Integrated source knowledge to solve issues faster
4. Custom development & coaching
5. Highly responsive support team
6. Easy onboarding & renewals
7. Largest set of Microsoft SCOM Management Packs

About Microsoft System Center Operations Manager (SCOM)

Microsoft System Center Operations Manager (SCOM) is a powerful IT management solution designed to help organizations monitor, troubleshoot, and ensure the health of their IT infrastructure. SCOM provides comprehensive infrastructure monitoring, offering insights into the performance, availability, and security of applications and workloads across on-premises, cloud, and hybrid environments. With its robust set of features, SCOM enables IT professionals to proactively identify and address potential issues before they impact the business, improving overall operational efficiency and reducing downtime. By leveraging SCOM, businesses can achieve greater control over their IT environment, ensuring a seamless user experience and enhancing the reliability of their services.

Take advantage of all the benefits of advanced monitoring using NiCE Management Packs for Microsoft System Center Operations Manager. Contact us at solutions@nice.de (EMEA, APAC), or solutions@nice.us.com (US, LATAM) for a quick demo, and a free 30 days trial.

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