# HP IT Executive Scorecard

Software Version: 9.50
Windows ® operating system

## Content Reference Guide for the Integration with HP Storage Essentials

Document Release Date: February 2015
Software Release Date: June 2014



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# SE Data Source - Integration, Associated Contexts, KPIs, Metrics and Data Lineage

This document describes the integration, contexts, KPIs, Metrics, data lineage, and reports associated with the integration with the HP Storage Essentials data source.

The HP Storage Essentials (SE) application management server enables you to obtain the latest information about your applications, such as Microsoft Exchange and Oracle. HP Storage Essentials software is a central console for managing all aspects of storage operations—assets, configuration, topology,capacity optimization, performance management, chargeback, provisioning, compliance and more. HP Storage Essentials enables you to manage complexity and growth, improve storage utilization and reduce cost, and align storage service to business needs. By integrating the tasks involved in storage management, it enables you to better align IT with your business needs

**Note:** Information about the ALT data source and more general content issues are detailed in the *IT Executive Scorecard Content Reference Guide for the Integration of Alternate Data Sources*.

**Data Lineage**

For details on how to understand the data lineage graph, see Data Lineage in the *IT Executive Scorecard Content Reference Guide*

# SE Data Source

The purpose of the integration of SE as a data source is to bring quality management information into the Data Warehouse.

**To access:**

Select **Admin > Data Source Management** then click **Add data source** and select **SE** to activate the integration processes for the **SE** data source.




## Learn More

### Content Packs and their functionality

To learn about Content Packs and their functionality, see Data Source Management in the *IT Executive Scorecard Administrator Guide*.

### Important Information

- **FBI Integration:** An extractor using the File Based Integration mechanism that extracts entities from the source and generates corresponding flat files. For details. see File Based Integration (FBI) in the *IT Executive Scorecard Administrator Guide*.
- All fields are case-sensitive.

## Tasks

### Activate the Integration

1. **Prerequisite:**
   - The SE data source can only have only the Oracle Server type.
   - The integration of XS with SE is via the Storage Essentials (SE) Report Database (RD) instance SID **report**, not the SE database SID **appiq**.

     The connection to Report Database SID: 'report' is via TNS on the default port:**1521** using the built-in account **report_user** with a default password of **appiq**.

     Storage Essentials (SE) and Report Database (RD)/Report Optimizer (RO) can be deployed together on a single "shared" server (SE/RD/RO), or preferably in a dual "dedicated" server configuration with SE on a separate server from RD/RO.

     In the case of a shared "single" server environment, the Oracle database hosts 2 instances, **appiq** for SE and **report** for RD.

In a dual “dedicated” server environment, the SE server Oracle database will host the **appiq** instance, the RD/RO server Oracle database will host the **report** instance.

If there are multiple SE servers setup in RD as sources, XS will integrate details from all SE servers.

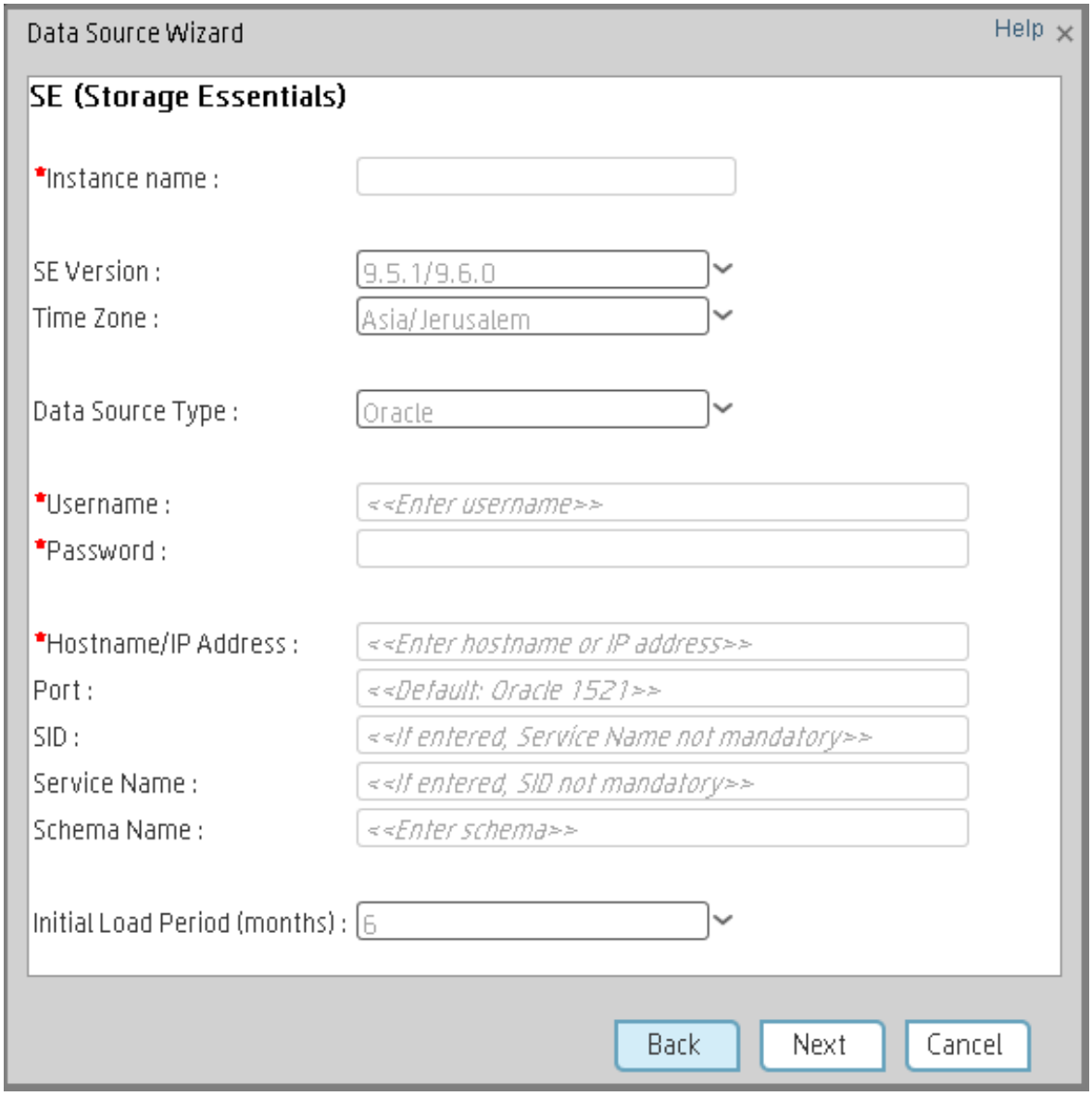
The SE Content Pack supports multiple instances.

2. Select **Admin** > **Data Source Management** then click **Add data source**.
3. The Add Data Source page opens. Select the **SE** data source type.
4. Select or enter the configuration parameters.
5. Click **Next** to proceed to the validation page.

**Note:** To perform configuration and activation tasks using the Automation tool, see The Automation Tool in the *IT Executive Scorecard Administrator Guide*.

# UI Description

## SE Activation Page



User interface elements are described below:

Mandatory fields are marked with a red asterisk.

The Oracle database can have both Server ID (SID) and Service Name properties, but the user should specify only one. If you define the SID, then the SID is used, and if you define Service Name, then Service Name is used. If you define both in the UI, only SID is used.

| UI Element | Description |
|---|---|
| **Instance name** | Enter a name for the data source instance you are activating. |
| **SE Version** | Select the relevant SE version. For details, see the *IT Executive Scorecard Support Matrix*. |
| **Time Zone** | Select the time zone for the data source. |
| **Data Source Type** | SE can be run only on Oracle. |
| **Username** | Enter your username used to log on to the Storage Essentials (SE) Report Database (RD). (Default: **report_user**.) |
| **Password** | Enter the password corresponding to the report_user user used to log on to the SE Report Database. (Default: **appiq**.) |
| **Hostname/IP Address** | Enter the SE Report Optimizer/Report Database server hostname or IP address. |
| **Port** | Port for database connections. (Default: **1521**) |
| **SID** | Enter the unique name of the database. (Default: **report**) |
| **Service Name** | Enter the alias used when connecting. This is optional and not necessary when you have entered the SID. |
| **Schema Name** | Enter the name of the Schema. |
| **Initial Load Period (months)** | Select the number of months from which you want the initial data loaded. |

# Reference

## List of Entities

List of Entities in Excel format

This document is available in the PDFs directory in the Installation DVD, is accessible from the Help Center page in the online Help Center (documentation library), or from the HP Software Product Manual Site (http://h20230.www2.hp.com/selfsolve/manuals).

# Storage Management Context

The HP Storage Essentials (SE) application management server enables you to obtain the latest information about your applications, such as Microsoft Exchange and Oracle. HP Storage Essentials software is a central console for managing all aspects of storage operations—assets, configuration, topology,capacity optimization, performance management, chargeback, provisioning, compliance and more. HP Storage Essentials enables you to manage complexity and growth, improve storage utilization and reduce cost, and align storage service to business needs. By integrating the tasks involved in storage management, it enables you to better align IT with your business needs

HP Storage Essentials is the data source used by the Storage Management Context (universe).

**To access:**

In Executive Scorecard, click **Admin > Semantic Layer > Semantic Layer**. In the Context Management page, click **Launch Context Designer**. In the Context Designer page, click **Open an existing context**, and select the Context.

Tasks | Reference

## Tasks

### Display the Context

1. In Executive Scorecard, click **Admin > Semantic Layer > Semantic Layer**. The Context Management page opens.
2. The list of out-of-the-box Contexts is displayed.
3. Click **Launch Context Designer**.
4. In the Context Designer page that opens, click **Open an existing context**.
5. Select the relevant Context.

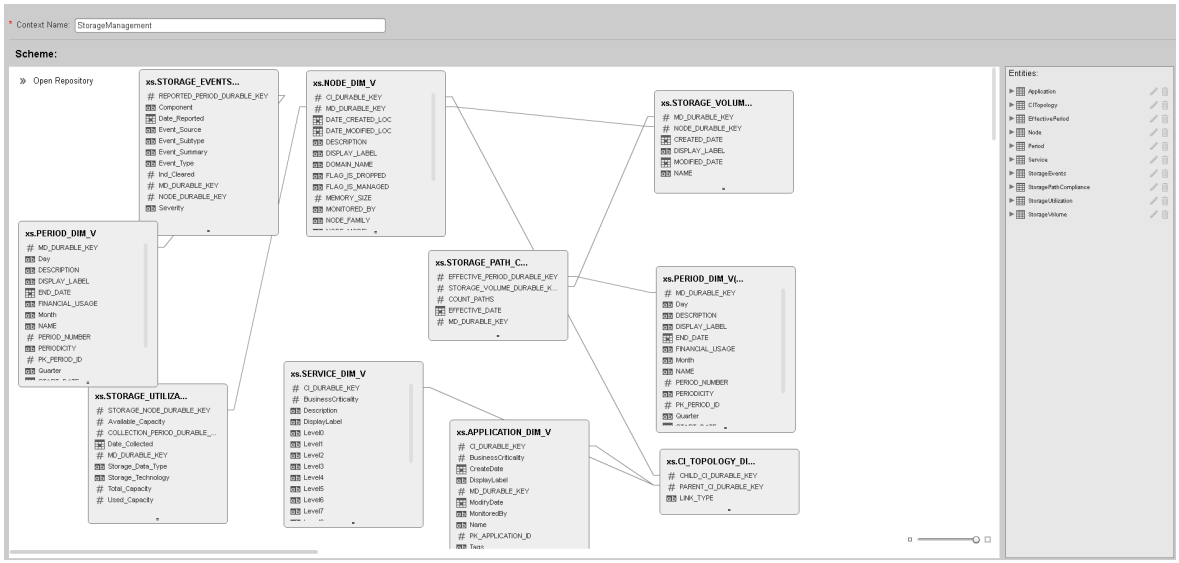
   The structure of the Context is displayed.

For additional details about Context Designer, see "Create and Manage Contexts Using Context Designer" in the *IT Executive Scorecard Administrator Guide*.

# Reference

## Context Tables and Structure

The context includes the following tables and relationships:




## Statistics

| Entity Count | Field Count | Table Count | Alias Count | Join Count |
|---|---|---|---|---|
| 10 | 91 | 10 | 1 | 8 |

## Model Structure

The table lists all the views and fields included in the model even when the corresponding objects have not been selected to be part of the corresponding Context.

| Table Name | Name | Type |
|---|---|---|
| xs.APPLICATION_DIM_V | ApplicationID | numeric |
| xs.APPLICATION_DIM_V | CI_DURABLE_KEY | numeric |
| xs.APPLICATION_DIM_V | MD_DURABLE_KEY | numeric |
| xs.APPLICATION_DIM_V | MonitoredBy | nvarchar |
| xs.APPLICATION_DIM_V | Name | nvarchar |
| xs.CI_TOPOLOGY_DIM_V | CHILD_CI_DURABLE_KEY | numeric |

| Table Name | Name | Type |
|---|---|---|
| xs.CI_TOPOLOGY_DIM_V | LINK_TYPE | nvarchar |
| xs.CI_TOPOLOGY_DIM_V | PARENT_CI_DURABLE_KEY | numeric |
| xs.NODE_DIM_V | CI_DURABLE_KEY | numeric |
| xs.NODE_DIM_V | DATE_CREATED_LOC | datetime |
| xs.NODE_DIM_V | DATE_MODIFIED_LOC | datetime |
| xs.NODE_DIM_V | DESCRIPTION | nvarchar |
| xs.NODE_DIM_V | DISPLAY_LABEL | nvarchar |
| xs.NODE_DIM_V | DOMAIN_NAME | nvarchar |
| xs.NODE_DIM_V | FLAG_IS_DROPPED | nvarchar |
| xs.NODE_DIM_V | FLAG_IS_MANAGED | nvarchar |
| xs.NODE_DIM_V | MD_DURABLE_KEY | numeric |
| xs.NODE_DIM_V | MEMORY_SIZE | numeric |
| xs.NODE_DIM_V | MONITORED_BY | nvarchar |
| xs.NODE_DIM_V | NODE_FAMILY | nvarchar |
| xs.NODE_DIM_V | NODE_MODEL | nvarchar |
| xs.NODE_DIM_V | NODE_NAME | nvarchar |
| xs.NODE_DIM_V | NODE_ROLE | nvarchar |
| xs.NODE_DIM_V | OS | nvarchar |
| xs.NODE_DIM_V | OS_VENDOR | nvarchar |
| xs.NODE_DIM_V | TIME_ZONE | nvarchar |
| xs.NODE_DIM_V | VENDOR | nvarchar |
| xs.PERIOD_DIM_V | Day | nvarchar |
| xs.PERIOD_DIM_V | DESCRIPTION | nvarchar |
| xs.PERIOD_DIM_V | DISPLAY_LABEL | nvarchar |
| xs.PERIOD_DIM_V | END_DATE | datetime |
| xs.PERIOD_DIM_V | FINANCIAL_USAGE | nvarchar |
| xs.PERIOD_DIM_V | MD_DURABLE_KEY | numeric |

| Table Name | Name | Type |
|---|---|---|
| xs.PERIOD_DIM_V | Month | nvarchar |
| xs.PERIOD_DIM_V | NAME | nvarchar |
| xs.PERIOD_DIM_V | PERIODICITY | nvarchar |
| xs.PERIOD_DIM_V | PERIOD_NUMBER | numeric |
| xs.PERIOD_DIM_V | Quarter | nvarchar |
| xs.PERIOD_DIM_V | START_DATE | datetime |
| xs.PERIOD_DIM_V | Week | nvarchar |
| xs.PERIOD_DIM_V | Year | nvarchar |
| xs.PERIOD_DIM_V | Year_Number | numeric |
| xs.SERVICE_DIM_V | BusinessCriticality | numeric |
| xs.SERVICE_DIM_V | CI_DURABLE_KEY | numeric |
| xs.SERVICE_DIM_V | Description | nvarchar |
| xs.SERVICE_DIM_V | DisplayLabel | nvarchar |
| xs.SERVICE_DIM_V | Level0 | nvarchar |
| xs.SERVICE_DIM_V | Level1 | nvarchar |
| xs.SERVICE_DIM_V | Level2 | nvarchar |
| xs.SERVICE_DIM_V | Level3 | nvarchar |
| xs.SERVICE_DIM_V | Level4 | nvarchar |
| xs.SERVICE_DIM_V | Level5 | nvarchar |
| xs.SERVICE_DIM_V | Level6 | nvarchar |
| xs.SERVICE_DIM_V | Level7 | nvarchar |
| xs.SERVICE_DIM_V | Level8 | nvarchar |
| xs.SERVICE_DIM_V | Level9 | nvarchar |
| xs.SERVICE_DIM_V | MANAGER_DURABLE_KEY | numeric |
| xs.SERVICE_DIM_V | MD_DURABLE_KEY | numeric |
| xs.SERVICE_DIM_V | Name | nvarchar |
| xs.SERVICE_DIM_V | State | nvarchar |

| Table Name | Name | Type |
|---|---|---|
| xs.SERVICE_DIM_V | Type | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Component | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Date_Reported | datetime |
| xs.STORAGE_EVENTS_FACT_V | Event_Source | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Event_Subtype | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Event_Summary | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Event_Type | nvarchar |
| xs.STORAGE_EVENTS_FACT_V | Ind_Cleared | numeric |
| xs.STORAGE_EVENTS_FACT_V | MD_DURABLE_KEY | numeric |
| xs.STORAGE_EVENTS_FACT_V | NODE_DURABLE_KEY | numeric |
| xs.STORAGE_EVENTS_FACT_V | REPORTED_PERIOD_DURABLE_KEY | numeric |
| xs.STORAGE_EVENTS_FACT_V | Severity | nvarchar |
| xs.STORAGE_UTILIZATION_FACT_V | Available_Capacity | float |
| xs.STORAGE_UTILIZATION_FACT_V | COLLECTION_PERIOD_DURABLE_KEY | numeric |
| xs.STORAGE_UTILIZATION_FACT_V | Date_Collected | datetime |
| xs.STORAGE_UTILIZATION_FACT_V | MD_DURABLE_KEY | numeric |
| xs.STORAGE_UTILIZATION_FACT_V | Storage_Data_Type | nvarchar |
| xs.STORAGE_UTILIZATION_FACT_V | STORAGE_NODE_DURABLE_KEY | numeric |
| xs.STORAGE_UTILIZATION_FACT_V | Storage_Technology | nvarchar |
| xs.STORAGE_UTILIZATION_FACT_V | Total_Capacity | float |
| xs.STORAGE_UTILIZATION_FACT_V | Used_Capacity | float |
| xs.STORAGE_PATH_COMPLIANCE_FACT_V | MD_DURABLE_KEY | NUMERIC |
| xs.STORAGE_PATH_COMPLIANCE_FACT_V | STORAGE_VOLUME_DURABLE_KEY | NUMERIC |
| xs.STORAGE_PATH_COMPLIANCE_FACT_V | EFFECTIVE_PERIOD_DURABLE_KEY | NUMERIC |

| Table Name | Name | Type |
|---|---|---|
| xs.STORAGE_PATH_COMPLIANCE_FACT_V | EFFECTIVE_DATE | DATE |
| xs.STORAGE_PATH_COMPLIANCE_FACT_V | COUNT_PATHS | NUMERIC |
| xs.STORAGE_VOLUME_DIM_V | MD_DURABLE_KEY | NUMERIC |
| xs.STORAGE_VOLUME_DIM_V | NODE_DURABLE_KEY | NUMERIC |
| xs.STORAGE_VOLUME_DIM_V | CREATED_DATE | DATE |
| xs.STORAGE_VOLUME_DIM_V | MODIFIED_DATE | DATE |
| xs.STORAGE_VOLUME_DIM_V | DISPLAY_LABEL | NVARCHAR |
| xs.STORAGE_VOLUME_DIM_V | NAME | NVARCHAR |

### Object List

The table lists all the entities and fields of the model that were selected to be part of the Context.

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| Application | ApplicationID | xs.APPLICATION_DIM_V | | ApplicationID | NUMERIC |
| Application | MonitoredBy | xs.APPLICATION_DIM_V | | MonitoredBy | STRING |
| Application | Name | xs.APPLICATION_DIM_V | | Name | STRING |
| CITopology | LinkType | xs.CI_TOPOLOGY_DIM_V | | LINK_TYPE | STRING |
| EffectivePeriod | Day | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Day | STRING |
| EffectivePeriod | DESCRIPTION | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | DESCRIPTION | STRING |
| EffectivePeriod | DISPLAY_LABEL | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | DISPLAY_LABEL | STRING |
| EffectivePeriod | END_DATE | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | END_DATE | DATE |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| EffectivePeriod | FINANCIAL_USAGE | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | FINANCIAL_USAGE | STRING |
| EffectivePeriod | MD_DURABLE_KEY | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | MD_DURABLE_KEY | NUMERIC |
| EffectivePeriod | Month | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Month | STRING |
| EffectivePeriod | NAME | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | NAME | STRING |
| EffectivePeriod | PERIODICITY | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | PERIODICITY | STRING |
| EffectivePeriod | PERIOD_NUMBER | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | PERIOD_NUMBER | NUMERIC |
| EffectivePeriod | Quarter | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Quarter | STRING |
| EffectivePeriod | START_DATE | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | START_DATE | DATE |
| EffectivePeriod | Week | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Week | STRING |
| EffectivePeriod | Year | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Year | STRING |
| EffectivePeriod | Year_Number | xs.PERIOD_DIM_V | xs.PERIOD_DIM_V1 | Year_Number | NUMERIC |
| Node | DateCreatedLoc | xs.NODE_DIM_V | | DATE_CREATED_LOC | DATE |
| Node | DateModifiedLoc | xs.NODE_DIM_V | | DATE_MODIFIED_LOC | DATE |
| Node | Description | xs.NODE_DIM_V | | DESCRIPTION | STRING |
| Node | DisplayLabel | xs.NODE_DIM_V | | DISPLAY_LABEL | STRING |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| Node | DomainName | xs.NODE_DIM_V | | DOMAIN_NAME | STRING |
| Node | FlagIsDropped | xs.NODE_DIM_V | | FLAG_IS_DROPPED | STRING |
| Node | FlagIsManaged | xs.NODE_DIM_V | | FLAG_IS_MANAGED | STRING |
| Node | MemorySize | xs.NODE_DIM_V | | MEMORY_SIZE | NUMERIC |
| Node | MonitoredBy | xs.NODE_DIM_V | | MONITORED_BY | STRING |
| Node | NodeFamily | xs.NODE_DIM_V | | NODE_FAMILY | STRING |
| Node | NodeModel | xs.NODE_DIM_V | | NODE_MODEL | STRING |
| Node | NodeName | xs.NODE_DIM_V | | NODE_NAME | STRING |
| Node | NodeRule | xs.NODE_DIM_V | | NODE_ROLE | STRING |
| Node | OS | xs.NODE_DIM_V | | OS | STRING |
| Node | OsVendor | xs.NODE_DIM_V | | OS_VENDOR | STRING |
| Node | TimeZone | xs.NODE_DIM_V | | TIME_ZONE | STRING |
| Node | Vendor | xs.NODE_DIM_V | | VENDOR | STRING |
| Period | Day | xs.PERIOD_DIM_V | | Day | STRING |
| Period | Description | xs.PERIOD_DIM_V | | DESCRIPTION | STRING |
| Period | DisplayLabel | xs.PERIOD_DIM_V | | DISPLAY_LABEL | STRING |
| Period | EndDate | xs.PERIOD_ | | END_DATE | DATE |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| | | DIM_V | | | |
| Period | FinancialUsage | xs.PERIOD_DIM_V | | FINANCIAL_USAGE | STRING |
| Period | Month | xs.PERIOD_DIM_V | | Month | STRING |
| Period | Name | xs.PERIOD_DIM_V | | NAME | STRING |
| Period | Periodicity | xs.PERIOD_DIM_V | | PERIODICITY | STRING |
| Period | PeriodNumber | xs.PERIOD_DIM_V | | PERIOD_NUMBER | NUMERIC |
| Period | Quarter | xs.PERIOD_DIM_V | | Quarter | STRING |
| Period | StartDate | xs.PERIOD_DIM_V | | START_DATE | DATE |
| Period | Week | xs.PERIOD_DIM_V | | Week | STRING |
| Period | Year | xs.PERIOD_DIM_V | | Year | STRING |
| Period | YearNumber | xs.PERIOD_DIM_V | | Year_Number | NUMERIC |
| Service | BusinessCriticality | xs.SERVICE_DIM_V | | BusinessCriticality | NUMERIC |
| Service | Description | xs.SERVICE_DIM_V | | Description | STRING |
| Service | DisplayLabel | xs.SERVICE_DIM_V | | DisplayLabel | STRING |
| Service | Level0 | xs.SERVICE_DIM_V | | Level0 | STRING |
| Service | Level1 | xs.SERVICE_DIM_V | | Level1 | STRING |
| Service | Level2 | xs.SERVICE_DIM_V | | Level2 | STRING |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| Service | Level3 | xs.SERVICE_DIM_V | | Level3 | STRING |
| Service | Level4 | xs.SERVICE_DIM_V | | Level4 | STRING |
| Service | Level5 | xs.SERVICE_DIM_V | | Level5 | STRING |
| Service | Level6 | xs.SERVICE_DIM_V | | Level6 | STRING |
| Service | Level7 | xs.SERVICE_DIM_V | | Level7 | STRING |
| Service | Level8 | xs.SERVICE_DIM_V | | Level8 | STRING |
| Service | Level9 | xs.SERVICE_DIM_V | | Level9 | STRING |
| Service | Name | xs.SERVICE_DIM_V | | Name | STRING |
| Service | State | xs.SERVICE_DIM_V | | State | STRING |
| Service | Type | xs.SERVICE_DIM_V | | Type | STRING |
| StorageEvents | Component | xs.STORAGE_EVENTS_FACT_V | | Component | STRING |
| StorageEvents | DateReported | xs.STORAGE_EVENTS_FACT_V | | Date_Reported | DATE |
| StorageEvents | EventSource | xs.STORAGE_EVENTS_FACT_V | | Event_Source | STRING |
| StorageEvents | EventSubtype | xs.STORAGE_EVENTS_FACT_V | | Event_Subtype | STRING |
| StorageEvents | EventSummary | xs.STORAGE_EVENTS_ | | Event_Summary | STRING |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| | | FACT_V | | | |
| StorageEvents | EventType | xs.STORAGE_EVENTS_FACT_V | | Event_Type | STRING |
| StorageEvents | IndCleared | xs.STORAGE_EVENTS_FACT_V | | Ind_Cleared | NUMERIC |
| StorageEvents | Severity | xs.STORAGE_EVENTS_FACT_V | | Severity | STRING |
| StoragePath Compliance | COUNT_PATHS | xs.STORAGE_PATH_COMPLIANCE_FACT_V | | COUNT_PATHS | NUMERIC |
| StoragePath Compliance | EFFECTIVE_DATE | xs.STORAGE_PATH_COMPLIANCE_FACT_V | | EFFECTIVE_DATE | DATE |
| StoragePath Compliance | EFFECTIVE_PERIOD_DURABLE_KEY | xs.STORAGE_PATH_COMPLIANCE_FACT_V | | EFFECTIVE_PERIOD_DURABLE_KEY | NUMERIC |
| StoragePath Compliance | MD_DURABLE_KEY | xs.STORAGE_PATH_COMPLIANCE_FACT_V | | MD_DURABLE_KEY | NUMERIC |
| StoragePath Compliance | STORAGE_VOLUME_DURABLE_KEY | xs.STORAGE_PATH_COMPLIANCE_FACT_V | | STORAGE_VOLUME_DURABLE_KEY | NUMERIC |
| StorageUtilization | AvailableCapacity | xs.STORAGE_UTILIZATION_FACT_V | | Available_Capacity | NUMERIC |
| StorageUtilization | DateCollected | xs.STORAGE_UTILIZATION_FACT_V | | Date_Collected | DATE |

| Entity Name | Field Name | Source Table Name | Alias Table Name | DB Column Name | Field Type |
|---|---|---|---|---|---|
| StorageUtilization | StorageDataType | xs.STORAGE_UTILIZATION_FACT_V | | Storage_Data_Type | STRING |
| StorageUtilization | StorageTechnology | xs.STORAGE_UTILIZATION_FACT_V | | Storage_Technology | STRING |
| StorageUtilization | TotalCapacity | xs.STORAGE_UTILIZATION_FACT_V | | Total_Capacity | NUMERIC |
| StorageUtilization | UsedCapacity | xs.STORAGE_UTILIZATION_FACT_V | | Used_Capacity | NUMERIC |
| StorageVolume | CREATED_DATE | xs.STORAGE_VOLUME_DIM_V | | CREATED_DATE | DATE |
| StorageVolume | DISPLAY_LABEL | xs.STORAGE_VOLUME_DIM_V | | DISPLAY_LABEL | STRING |
| StorageVolume | MD_DURABLE_KEY | xs.STORAGE_VOLUME_DIM_V | | MD_DURABLE_KEY | NUMERIC |
| StorageVolume | MODIFIED_DATE | xs.STORAGE_VOLUME_DIM_V | | MODIFIED_DATE | DATE |
| StorageVolume | NAME | xs.STORAGE_VOLUME_DIM_V | | NAME | STRING |
| StorageVolume | NODE_DURABLE_KEY | xs.STORAGE_VOLUME_DIM_V | | NODE_DURABLE_KEY | NUMERIC |

# % of Storage Utilization KPI

| | |
|---|---|
| **Component Type** | KPI |
| **Business Questions** | "The motivation for measuring this KPI is to receive an accurate measurement of the utilization rate of storage. If the storages are not utilized enough, it can provide a cost reduction opportunity. If they are over-utilized, it can imply that further investment is required.<br>This allows the CIO/VP to verify how much capacity is used for SAN attached storage. This allows seeing quickly where capacity can be reassigned, where new storage needs to be purchased, where storage is growing rapidly, etc. |
| **Business Objective** | Reduce Cost |
| **Description** | The total storage system capacity that is in use relative to the total storage system capacity. |
| **Context** | StorageManagement |
| **Data source** | SE |
| **Formula** | PERCENTAGE_MATH( SUM( StorageUtilization.UsedCapacity , Node.FlagIsDropped='N' ), SUM( StorageUtilization.TotalCapacity , Node.FlagIsDropped ='N'),0) |
| **KPI Formula Filter** | N/A |
| **Unit Type** | % |
| **Time Period** | Daily |
| **Direction** | Maximize |
| **Thresholds** |  |
| **Release** | 9.31 |

# Average Number of Storage Paths Metric

| | |
|---|---|
| **Component Type** | Metric |
| **Business Questions** | |
| **Business Objective** | N/A |
| **Description** | The average number of storage volume paths in the environment. In addition:<br>1. Both the host side (mounted) and the storage side (not mounted) are included in the calculation.<br>2. Storage volumes for devices connected in a DAS configuration are not included in the calculation.<br>3. If any of the path elements (switch, hosts or array) is missing in SE Discovery,the paths information is not provided |
| **Context** | StorageManagement |
| **Data source** | SE |
| **Formula** | AVG( StoragePathCompliance.COUNT_PATHS , StorageVolume.DISPLAY_LABEL = 'Storage Volume' and Node.FlagIsDropped = 'N' and Node.MonitoredBy = 'Storage Essential' ) |
| **KPI Formula Filter** | N/A |
| **Unit Type** | # |
| **Time Period** | Monthly |
| **Direction** | N/A |
| **Thresholds** | N/A |
| **Release** | 9.31 |

# Number of Critical Storage Events KPI

| | |
|---|---|
| **Component Type** | KPI |
| **Business Questions** | This use case would allow the CIO/VP to see what critical issues need urgent attention. This may allow doing some high level event analysis to see the impact of downtime, or service interventions needed. The customer can define the criteria for the alarm levels, and which alarm levels they want to monitor, for instance critical only, major and above, minor and above, warning and above. A drill-down into the details is offered as well:<br>• If # of Critical + major events shows greater than or equal to 10, the status shows red.<br>• If # of Critical + major events shows between 5 and 10, the status shows yellow.<br>• If # of Critical + major events shows less than or equal to=5, the status shows green. |
| **Business Objective** | Reduce Risk |
| **Description** | List of storage events from storage devices with critical or major severity. |
| **Context** | StorageManagement |
| **Data source** | SE |
| **Formula** | COUNT( StorageEvents.Component , StorageEvents.DateReported IN_PERIOD And (StorageEvents.Severity = 'critical' Or StorageEvents.Severity = 'major' )) |
| **KPI Formula Filter** | N/A |
| **Unit Type** | # |
| **Time Period** | Monthly |
| **Direction** | Maximize |

| | |
|---|---|
| **Thresholds** | 0 to 5 \| 5 to 10 \| >10 |
| **Release** | 9.31 |

# Storage Path Compliance KPI

| | |
|---|---|
| **Component Type** | KPI |
| **Business Questions** | This allows verifying data redundancy/availability in the SAN. |
| **Business Objective** | Reduce Risk |
| **Description** | The total storage volume paths in the environment where the paths to a particular storage volume meet the minimum standard relative to the total storage volume paths in the environment. In addition:<br>1. The default path compliance is 2, but you can customize it in the KPI formula.<br>2. Both the host side (mounted) and the storage side (not mounted) are included in the calculation.<br>3. Storage volumes for devices connected in a DAS configuration are not included in the calculation.<br>4. If any of the path elements (switch, hosts or array) is missing in SE Discovery,the paths information is not provided. |
| **Context** | StorageManagement |
| **Data source** | SE |
| **Formula** | PERCENTAGE( StoragePathCompliance, StoragePathCompliance.COUNT_PATHS >= 2 , * ,100) |
| **KPI Formula Filter** | N/A |
| **Unit Type** | % |
| **Time Period** | Monthly |
| **Direction** | Maximize |

| | |
|---|---|
| **Thresholds** | 0 to 40 \| 40 to 80 \| 80 to 100 |
| **Release** | 9.31 |

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