knowledge17

http://clabs.link/lab132008

WORK at LIGHTSPEED

Performance Analytics 302

Pieter Goris
Product Specialist Performance Analytics
ServiceNow

Paul Rice
Services Portfolio Manager for Performance Analytics
ServiceNow

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servicenow

Agenda

- Introductions
- Objectives, What You Will Learn
- Performance Analytics & Reporting
- Labs
- Teaser / Trailer - What to Expect From the Jakarta Release

Note: Start your Lab instance using the lab URL below

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Speaker Introduction



Name: Pieter Goris

Title: Product Specialist, Performance Analytics

Function: Performance Analytics Customer Success

Company: ServiceNow

Experience: 20 years Business Intelligence for ITSM, 4 years with ServiceNow, Performance Analytics

Expertise: Professional Services, ITIL, Reporting, Analytics (incl 10 years with Mirror42)

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Speaker Introduction



Name: Paul Rice

Title: Services Portfolio Manager for Performance Analytics

Function: Field Readiness for Professional Services

Company: ServiceNow

Experience: 9 years experience working with ServiceNow, 25 years experience in implementing enterprise applications.

Expertise: ITIL Expert, Certified ServiceNow Implementer, Accredited Instructor

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Objectives and What You Will Learn

Objectives

- Understand how to collect, protect and unleash the wealth of information available in the platform
- Learn which Performance Analytics and Platform techniques can be used to generate even more information to bring Continual Service Improvement to the next level!

What you will learn

- How historic scores collection are limited and how system properties affect scores collection
- How security in general, and breakdown element security in particular can help protect information
- How mixed signals from scores can be consolidated to see overall performance at a glance
- How platform features like database views and Metrics should be used to uncover the information needed to take the next steps in service improvements
- …and what's coming with the Jakarta release!

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Performance Analytics & Reporting

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Benefits of Being ‘In-Platform’



REAL-TIME

Make fast decisions with confidence

Because your data stays in-platform at all times, it retains its **integrity**. Your scorecards and dashboards show to-the-minute information, empowering you to adapt at the speed of business.



NATIVE

Make smart, data-driven actions

Out of the box content precisely tuned to and optimized for ServiceNow workflows; best-practice metrics developed in tandem with application teams; designed for teams to communicate and collaborate.



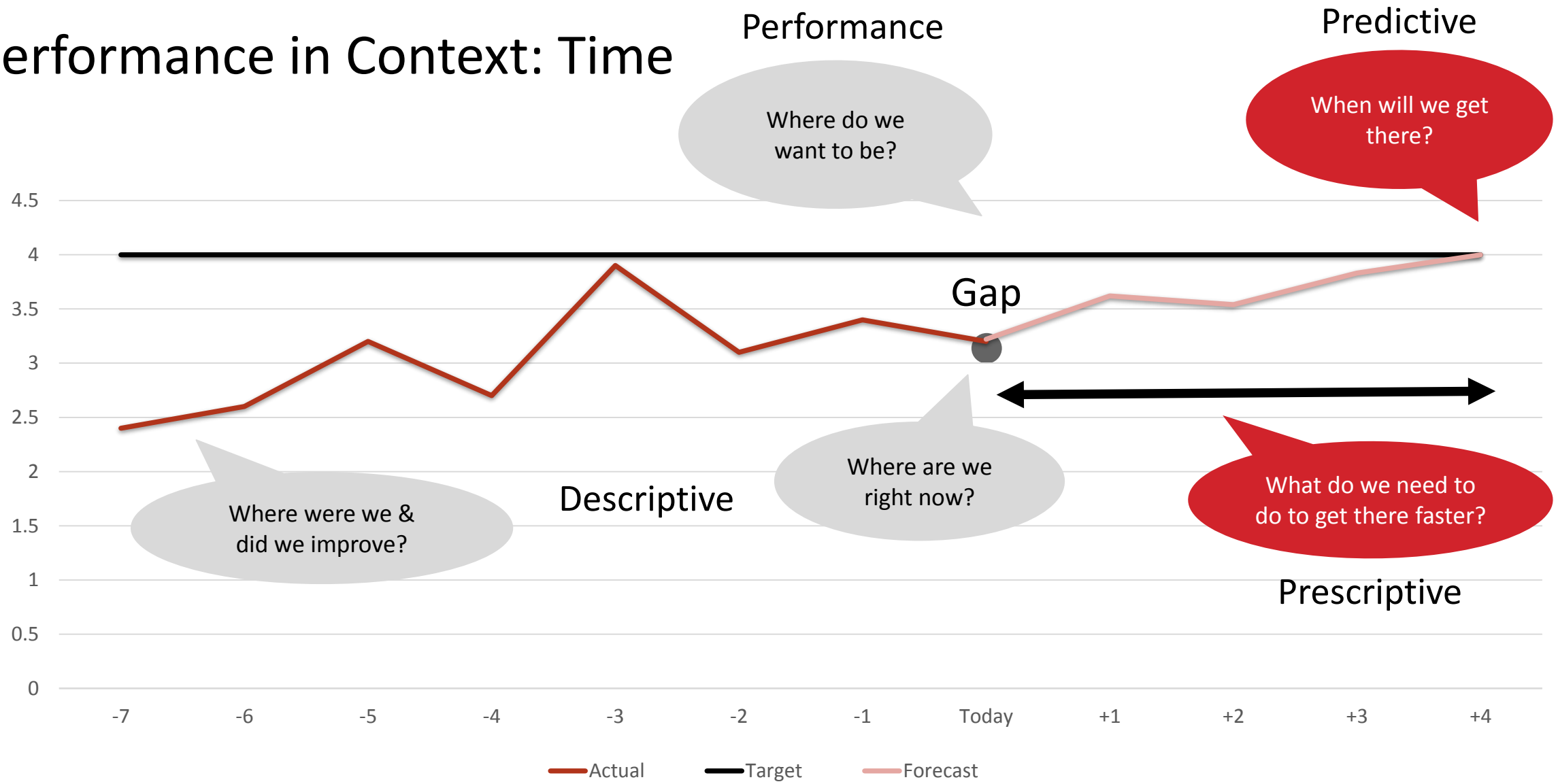
SECURE

Reduce cost and risk

No data is duplicated or leaves the secure ServiceNow enterprise cloud. Data is protected at all times by the same access control lists you implement across the platform.

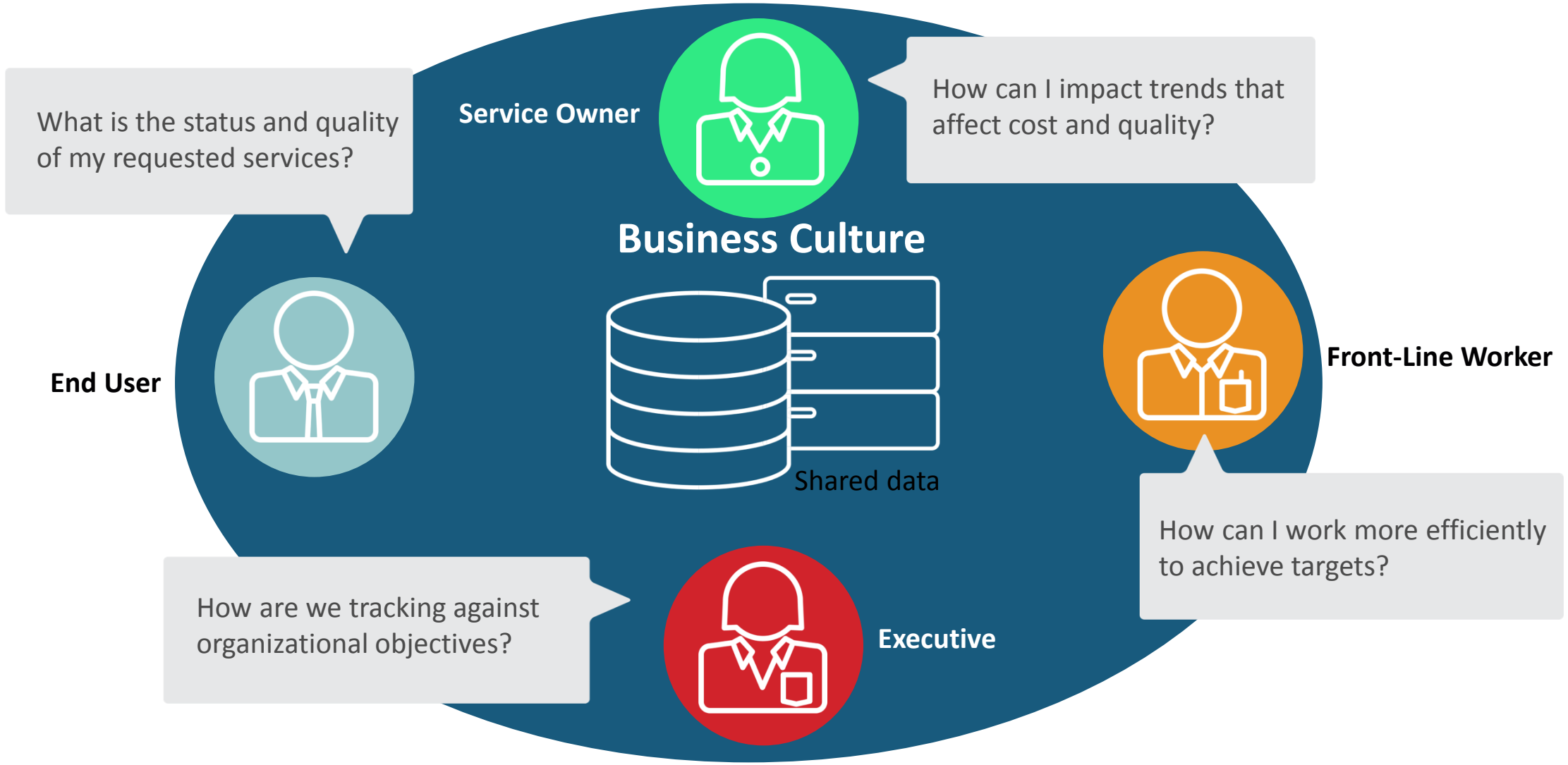
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Performance in Context: Time



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Performance in Context: People



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Performance in Context: Influence



"Data without context is just organized information."

– Albert Einstein

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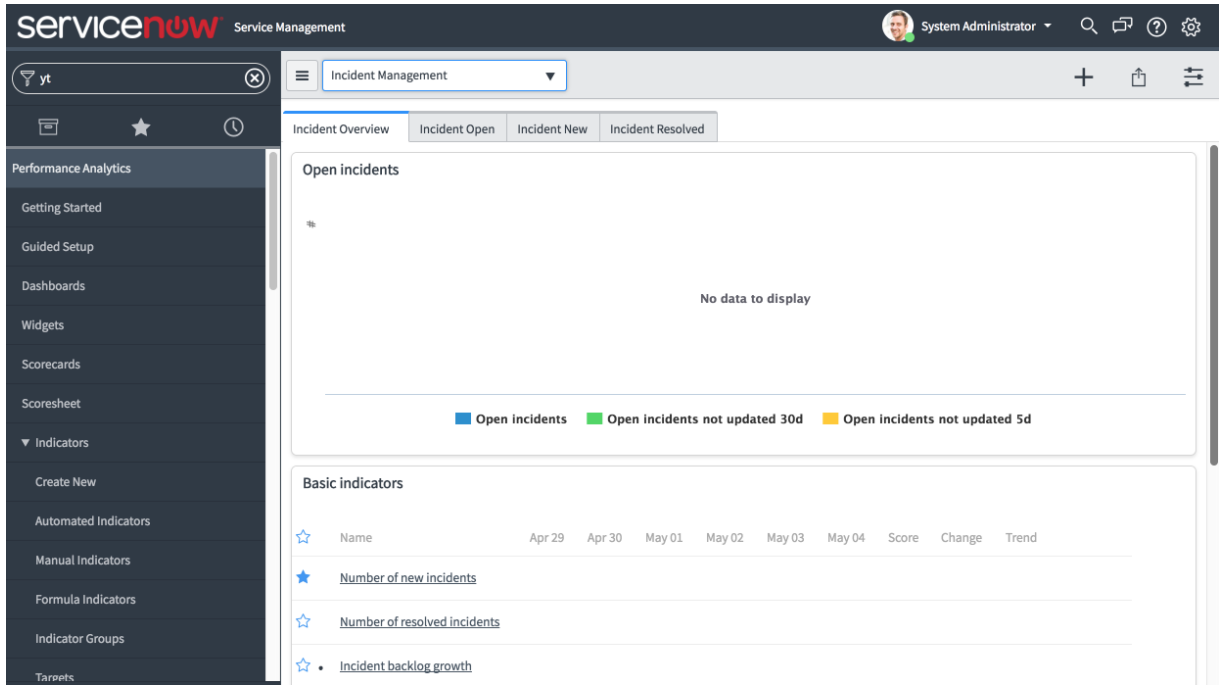
Labs

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Lab Instance

- The instance has:
  - ~9,500 incident records covering a period of the last 3 months
  - ~140,000 metric records related to the incidents
- The OOB content pack for Incident Management is activated but no scores are collected
- The OOB content pack configuration matches the ServiceNow configuration: no adjustments needed



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Lab 1 – Collect Scores

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Lab 1 – Collect Scores

Timebox:
5 minutes

Use case:

In this lab, we run two jobs to collect scores:

1. to collect scores for multiple periods (i.e., days in this lab) in the past
2. to collect scores from yesterday

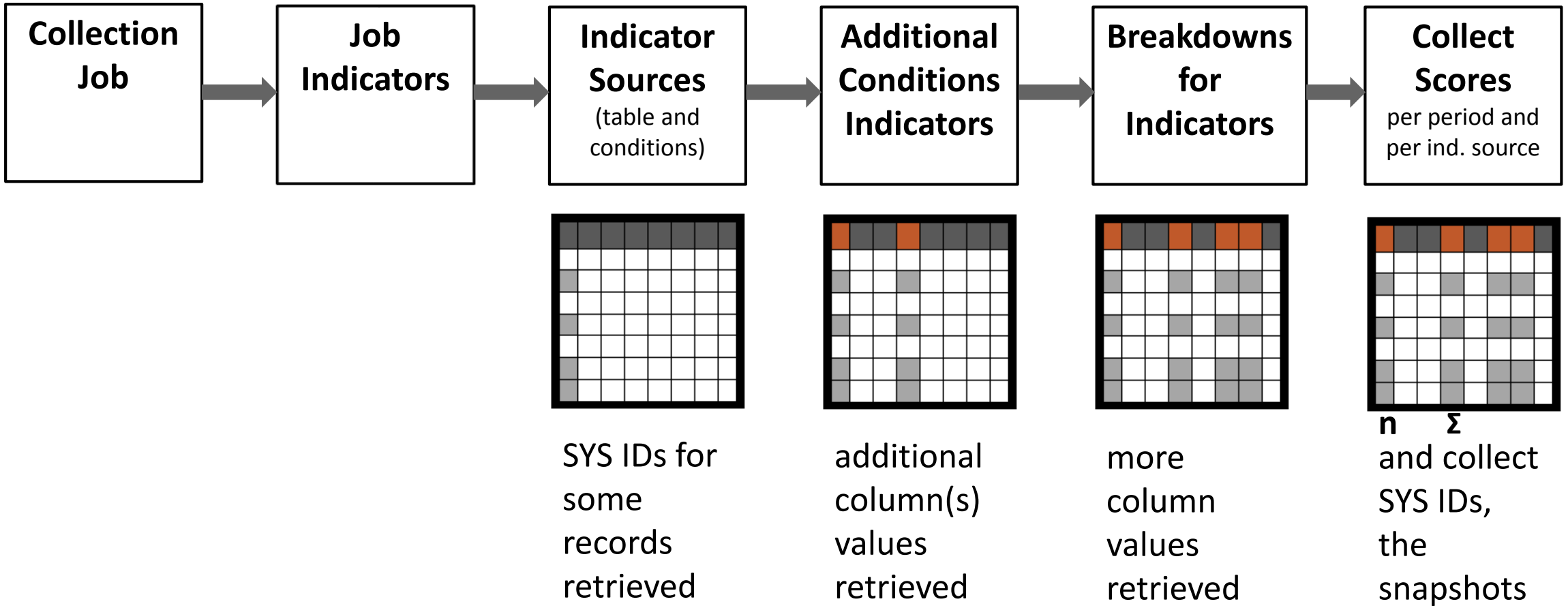
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Collect Scores – Technical Process

- Scores are collected and stored in separate tables in the ServiceNow database
- Scores are only **collected for automated** indicators, scores are **calculated for formula** indicators
- Scores collection runs in memory: a set of records is retrieved from the database and next the aggregates and SYS_IDs are retrieved and stored in the Performance Analytics tables

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Collect Scores – Technical Process



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Collect Scores – Properties

Properties that impact collection

(Performance Analytics > System > Properties)

- 7 properties, the 4 most important ones:
  - Maximum number of rows that are allowed to be fetched from an Indicator Source
    (*com.snc.pa.dc.max_row_count_indicator_source* *default value = 50,000*)
  - Maximum number of records that are stored during a data collection
    (*com.snc.pa.dc.max_records* *default value = 5,000*)
  - Maximum number of breakdown elements for a breakdown to be included in data collection
    (*com.snc.pa.dc.max_breakdown_elements_limit* *default value = 10,000*)
  - Maximum number of elements produced by combining two breakdowns to be included in data collection
    (*com.snc.pa.dc.max_breakdown_elements_level2_lim* *default value = 1,000,000*)

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Collect Scores – Historic Scores Collection









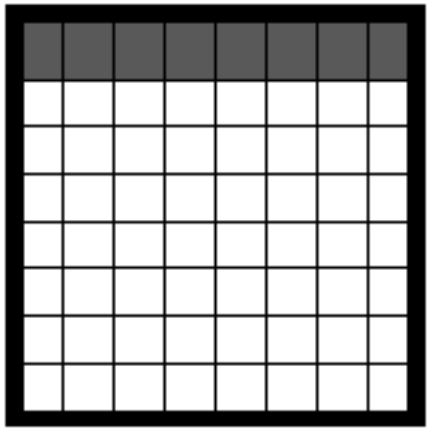

time

- 7 | - 6 | - 5 | - 4 | - 3 | - 2 | - 1 | today



Historic scores collection on incident table

current values only



Current values for all fields, including:

- last update date
- reassignment count
- state
- assignment group

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Collect Scores – Historic Scores Collection

Limitations of historic scores collection

It is not possible to retrieve **accurate** historic scores on **open records**

- for **indicators** that are based on **conditions** on fields for which the values will change during the lifecycle of the open record

  e.g. last update date, reassignment count, breached

- for **indicator-breakdown** combinations that have **breakdowns** on fields for which the values will change during the lifecycle of the open record

  e.g. assignment group, state

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Lab 2 – Breakdown Elements Security

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Security

- Application Menu Authorization
  - 7 OOB Performance Analytics roles: admin, data collector, power user, viewer, target admin, threshold admin, contributor

- Record Level Authorization
  - Dashboards
  - Indicators: if access is restricted, the indicator will not show in the scorecard list (widget)

    But when on a widget on a dashboard, the indicator will show.
  - Breakdown elements



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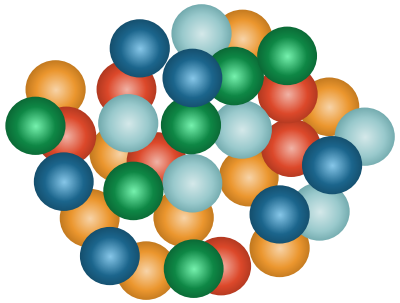
Security – Breakdown Element Security

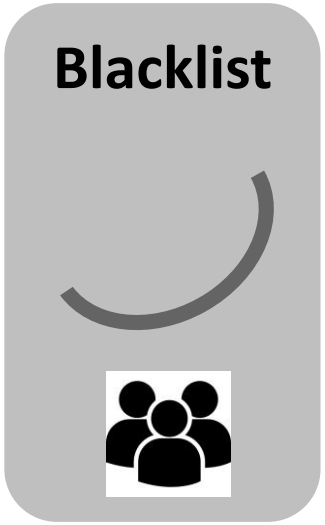
- A breakdown element security list combines one or more elements and one or more roles.
- Two types of lists: **Blacklist** and Whitelist

roles



elements





roles on the list have **no** access to the red elements → roles not on the list do **have** access

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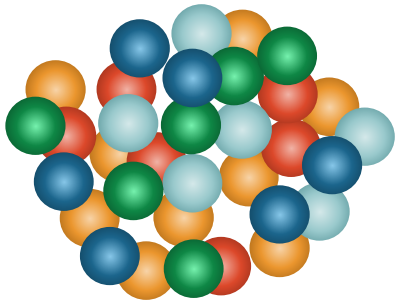
Security – Breakdown Element Security

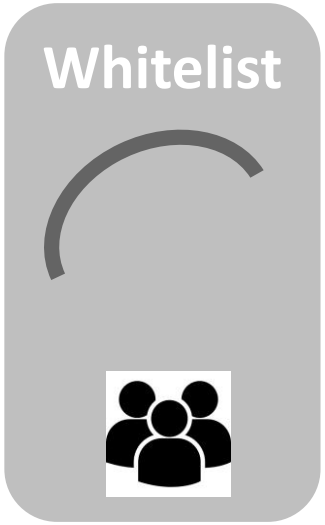
- A breakdown element security list combines one or more elements and one or more roles.
- Two types of lists: Blacklist and **Whitelist**

roles



elements





roles on the list **have** access to the red elements

roles not on the list do **not** have access

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Lab 2 – Breakdown Element Security

Timebox:
10 minutes

Use case:

In this lab, we will create a security list for the elements of the (assignment) Group breakdown source. The goal is to restrict the list of elements for some users so they can only see indicator scores of the groups they are a member of.

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Lab 3 – Index Indicators

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Highlight of 2 Formula Indicator Features

- Apply time series on result
- Allow formula component to not follow the breakdown
  (pre-Istanbul: curly **{}** braces in formula)

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Highlight of 2 Formula Indicator Features

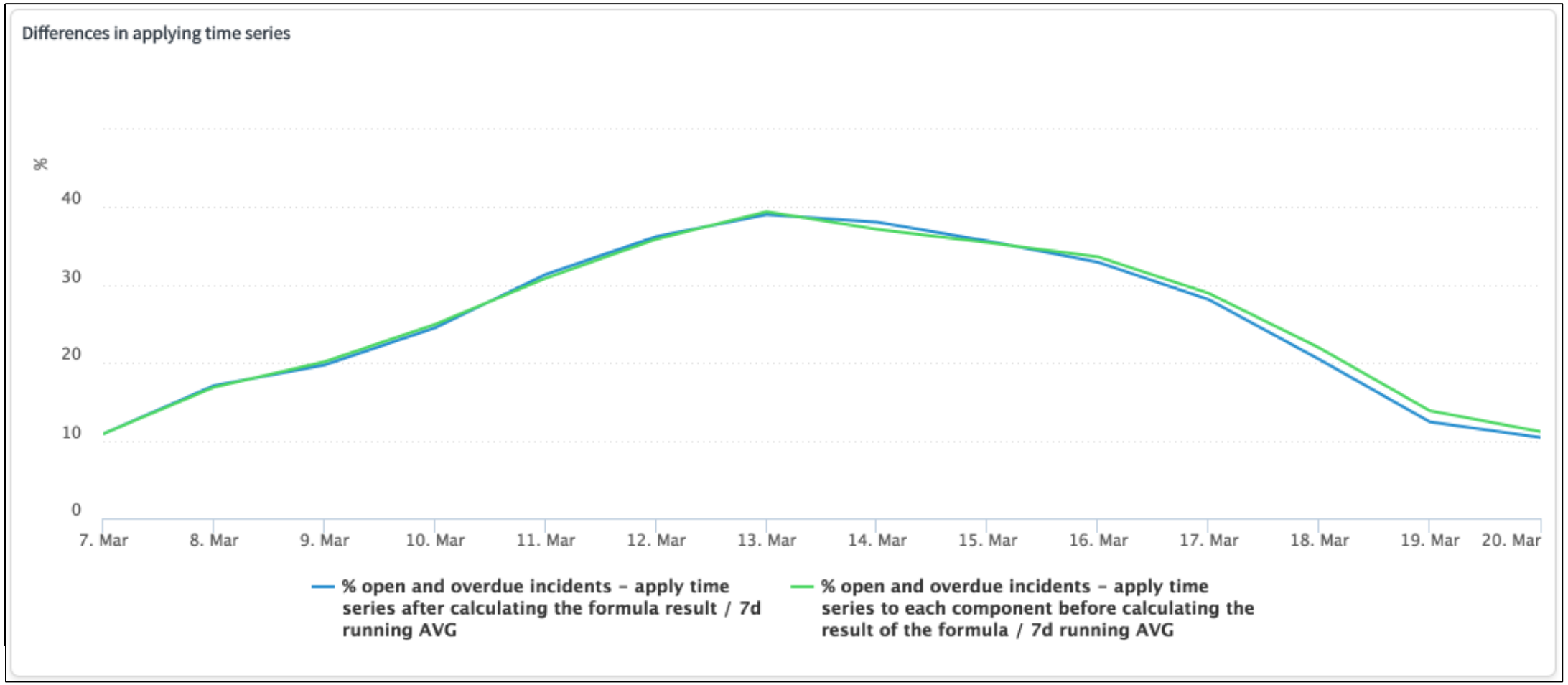
- Apply time series on result
  - Apply the time series after calculating the formula result, or
    apply the time series to each component before calculating the result of the formula.
  - The difference between the two shows with divisions/averages.
  - Example for 7 day running average
    - apply the time series after calculating the formula result:
      ([[Open and overdue incidents - day1]] / [[Open incidents - day1]]) * 100 +
      ([[Open and overdue incidents - day2]] / [[Open incidents - day2]]) * 100 +
      …
      ([[Open and overdue incidents - day7]] / [[Open incidents - day7]]) * 100 / 7

    - apply the time series to each component before calculating the result of the formula:
      [[Open and overdue incidents - 7d running AVG]] / [[Open incidents - 7d running AVG]] * 100

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Highlight of 2 Formula Indicator Features

- Apply time series on result - Result



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Highlight of 2 Formula Indicator Features

- Allow formula component to not follow the breakdown

  (pre-Istanbul: type curly **{}** braces in formula box directly)

  – Example for **% of new, critical incidents**

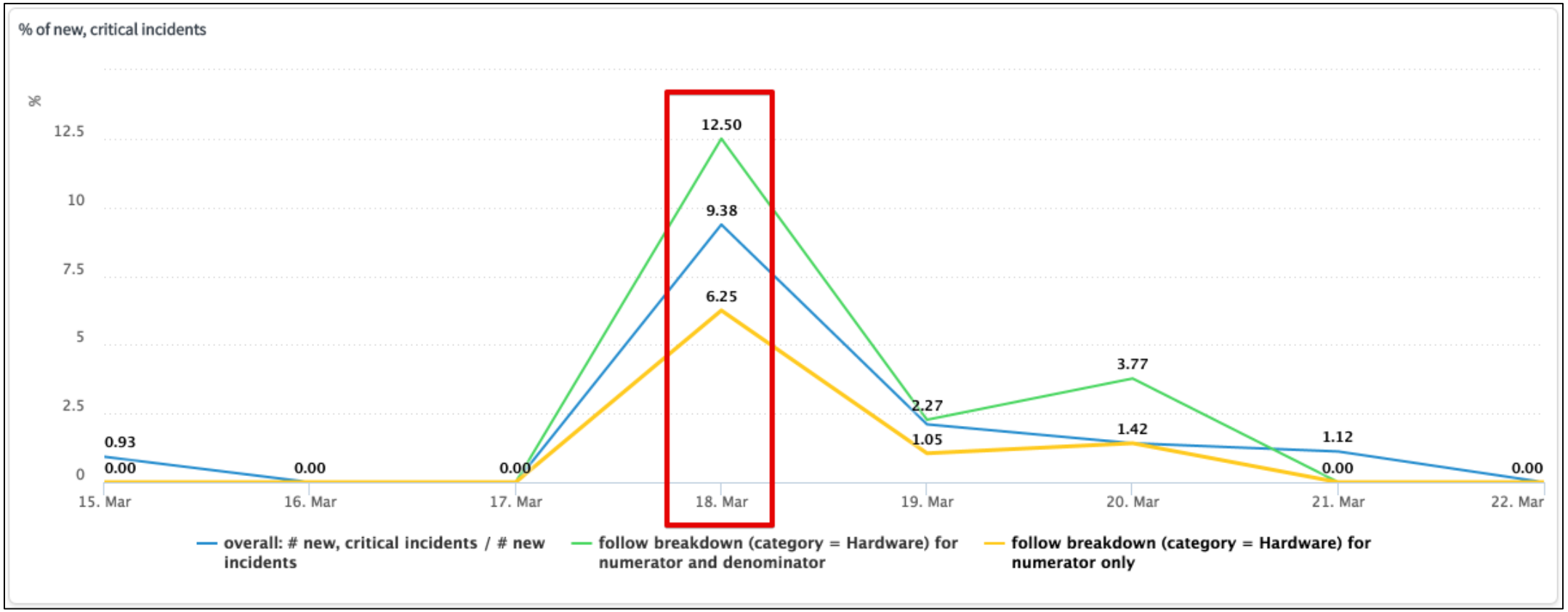
March 18	new critical incidents	new incidents
overall	3	32
category = Hardware	2	16

- Overall: [[**# new critical incident**]] **/** [[**# new incident**]] ***** 100 3 / 32 *100 = 9.38%
- Apply breakdown ‘category = Hardware’ to
  - » Numerator and denominator:
    [[**# new critical incident > cat = Hardware**]] **/** [[**# new incident > cat = Hardware**]] * 100 2 / 16 *100 = 12.50%
  - » Numerator only:
    [[**# new critical incident > cat = Hardware**]] / **{{**# new incident**}}** *100 2 / 32 *100 = 6.25%

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Highlight of 2 Formula Indicator Features

- Allow formula component to not follow the breakdown - Result
  (pre-Istanbul: curly {} braces in formula box)



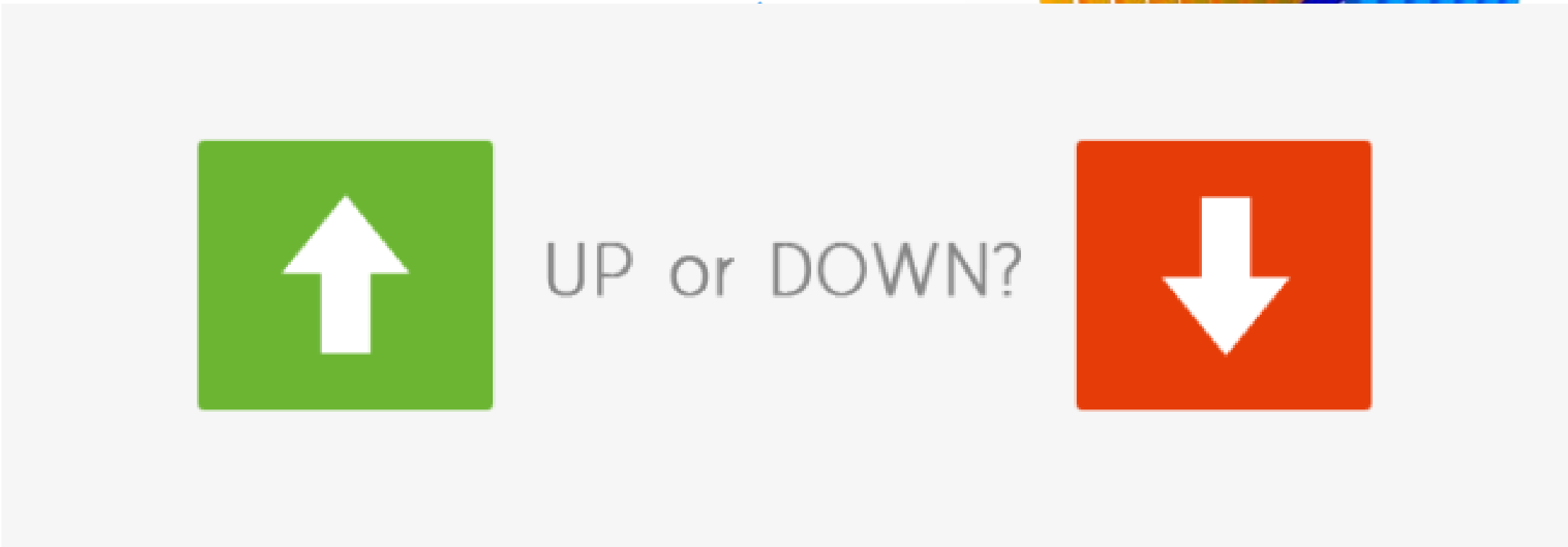
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Overall Performance of Service, Group, Process

- Usually the performance of a service, group, process is measured using multiple indicators.

  The overall picture can be confusing and ambiguous.





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Lab 3 – Index Indicators

Timebox:
25 minutes

Use case:

Performance of the Incident Management process is tracked and monitored using multiple indicators. When viewing and analyzing performance, the overall picture can be confusing and ambiguous:

- Some scores go up, some go down
- Some scores are above target, some are below

In this lab, we create a special formula indicator, the index indicator. With an index indicator, the scores of multiple indicators are consolidated into one score.

As with any indicator, the (single) score of the index indicator will tell if performance is good or not and if performance improved or not.

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Lab 4 – Indicators on Metrics

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Use Platform Features to Create Information

- Create database views if data from different tables should be combined in one report
  - A lot of database views already exist, including for SLAs and Metrics

- When a calculation is needed in a report, create it on the table to report on it, or create a separate table
  - It makes the info also available in list views and on forms
  - It makes the info also available to other platform features like Notifications
  - It makes the report easy to create, just select the column (and the same is true for the next report)
  - It makes the report easy to understand/verify

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Platform Feature: Metrics

- Metrics store events on how process records are worked
  - Examples: which groups (and for how long) have been assigned to records; in which state (and for how long) have records been in a state; what is the workload for groups based on assigned records
- Any change value of a field can be captured in a metric record



- Two elements with Metrics:
  - **Metric Definition** defines what should be measured
  - **Metric Instance** (usually shortened to metric) is the occurrence of what is defined in a Metric Definition

- For OOB processes (incident, problem, …) also an OOB Database View combines:
  - metric_definition
  - metric_instance
  - *[process table]*

  this makes reporting easy

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Lab 4 – Indicators on Metrics

Timebox:
3 * 15
minutes

Use case:

In this lab, we want to identify if some groups take more time to work on incidents than others.

Now maybe some groups could gain quick wins by applying a more responsive triage and dispatch process. So what percentage of the time an incident is assigned to the group but actually not assigned to a person?

But then again, some groups have simply a higher workload than others.

In this lab, we create indicators on Metrics to answer all these questions.

Scripts used in Lab 4.1 and 4.2 can be downloaded and copied from KB articles in your instance.

*Go to **Knowledge > Homepage***

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Lab 4 – Indicators on Metrics

Timebox:
3 * 15
minutes

Lab 4.1: Uses an OOB definition and a Performance Analytics script to determine which date should be used as end date for the duration calculation

Lab 4.2: Uses a business rule that generates an event that will be added to the queue for the metrics processor to process. The metric event needs to be created when potentially more than 1 field changes.

Next a non-OOB metric definition and a Performance Analytics script will process the event to generate metric instances.

Lab 4.3: The DB view is not needed as the indicators are about assignments and info from the incident table (the process table) is not needed.

Scripts used in Lab 4.1 and 4.2 can be downloaded and copied from KB articles in your instance.

*Go to **Knowledge > Homepage***

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Top Takeaways

1

Be cautious when collecting historic scores for **open records**

2

Use formulas to consolidate scores of multiple indicators

3

Understand the wealth of info in platform features like DB views and Metrics

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What to Expect from Jakarta?!

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Thank You

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