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Splunk IT Service Intelligence at Vodafone

Oliver Hoppe
Architect, Vodafone

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Referenced customers for ITSI product participated in a limited release software program that included items at no charge.

Motivation

“Without data you’re just another person with an opinion.”

W. Edwards Deming

Michael Connor / The Coca-Cola Company @ Splunk .conf 2014

About Vodafone

- World's second largest Telecommunications company
- Provides voice, messaging, data and fixed communications
- Operates in 30 countries and partners with networks in over 25 more
- >400 Million mobile customers and 12 million broadband customers



About Me

- Oliver Hoppe, Solution Architect & Integration Designer
- Involved with any kind of Operational Analytics at Vodafone
- Splunk champion & past user
- Big Data ambassador & pioneer



Goals

- **Respect & trust** your data
- Make your data **accessible**
- Create **comparable** data
- **Present** your findings
- **Improve** your Service



Agenda

- Service Description & Initial Condition
- Before Splunk IT Service Intelligence
- Splunk IT Service Intelligence at Vodafone
- Summary
- Vodafone Roadmap

Service Description & Initial Condition

Complexity vs. Visibility

Complexity



- 7 Oracle FMW Components
- Oracle RAC
- Infrastructure
- Enabler Services

Visibility



- Infrastructure Monitoring
- Network Monitoring
- Application Monitoring

- No end-to-end service view
- Missing incident prevention
- Lost in tickets

Before Splunk IT Service Intelligence

Alert Fatigue






- IT Operations team lacked visibility into health and performance of the service
- No reliable service performance and availability reports for management
- Monitoring Solutions generated thousands of remedy tickets
 - Prioritization difficulties
 - Affected performance of the service



Splunk IT Service Intelligence at Vodafone

Service selection & target definition

- Workforce Identity & Access Management Service selected for ITSI
- Collected ~50 KPIs from all Stakeholders to be implemented
- Clarification of data requirements → majority of data available

Target Service	
KPI Definition	
Data Requirements	
Data Onboarding	
Ready for ITSI Rollout	

Splunk IT Service Intelligence at Vodafone

Overview

- Automatic Event Consolidation
- Build Service dependencies
- Service Analyzer
- KPI presentation using deep dives and glass tables
- Multi-KPI Alerting

“Splunk IT Service Intelligence (ITSI) is a highly scalable IT monitoring and analytics solution that provides deep, actionable insight into the performance and behavior of your IT services.”

Splunk IT Service Intelligence at Vodafone

Automatic event consolidation

- Defining new KPIs
 - Based either on a data model or an ad-hoc search
 - Importance, Calculation method and search schedule
 - Threshold and severity
- KPIs are automatically scheduled for summarization

Service Definition

Service Info

KPI

Dependency

<

Save & Next >

Save & Exit

Key Performance Indicators

KPIs

import

New ▾

OIM out of threads

OIM max swap used

OIM daily self registered users

OIM daily disabled users

OIM daily added users

OIM daily deleted users

OIM logins per day

OIM unique daily schedulers

OIM unique daily successful schedulers

OIM average scheduler runtime

OIM min CPU

OIM max avg system load

OIM max memory used

Name

Name

OIM average scheduler runtime

Description

optional

Search

Search Type

Data Model

Ad hoc

Search

index=wiam_p tag=WIAM_OBI
sourcetype=wiam_scheduler_check
STATUS=SUCCESSSI eval
today=strftime(now(), "%d%m%y") | rex

Threshold Field

time_taken

Unit

s

Generated Search

index=wiam_p
tag=WIAM_OBI
sourcetype=wiam_scheduler_chec
k STATUS=SUCCESSSI eval
today=strftime(now(), "%d%m%y") |
rex field="START TIME" ?

Run Search ↵

Specify the unit of measurement to display in KPI visualizations. (For example "GB," "Mbps," "secs", etc.).

Splunk IT Service Intelligence at Vodafone

Service Dependencies

- Each Service can depend on other Services
- A dependency can be the overall healthscore or a set of different KPIs
- Service healthscore is influenced by dependencies

The screenshot displays the Splunk IT Service Intelligence (ITSI) interface. On the left, a dependency graph shows 'OIM' (Overall Impact Monitor) as a central yellow node. It is impacted by 'WAM' (Workload Activity Monitor) and depends on 'OHS' (Overall Health Score), 'OBI' (Overall Business Impact), and 'OSB' (Overall Serviceability). A table above the graph lists the services OIM depends on: OHS, OBI, and OSB, each with a count of 1. On the right, the 'OBI' configuration page is shown. It has a table with checkboxes for various KPIs that influence the OBI health score. The 'ServiceHealthScore' checkbox is checked, while others are unchecked. A hand cursor is pointing at the 'OBI max memory used' checkbox. At the bottom of the configuration page are 'Cancel' and 'Save' buttons.

OIM depends on	
3 Services	3 KPIs
OHS	1
OBI	1
OSB	1

OBI Configuration

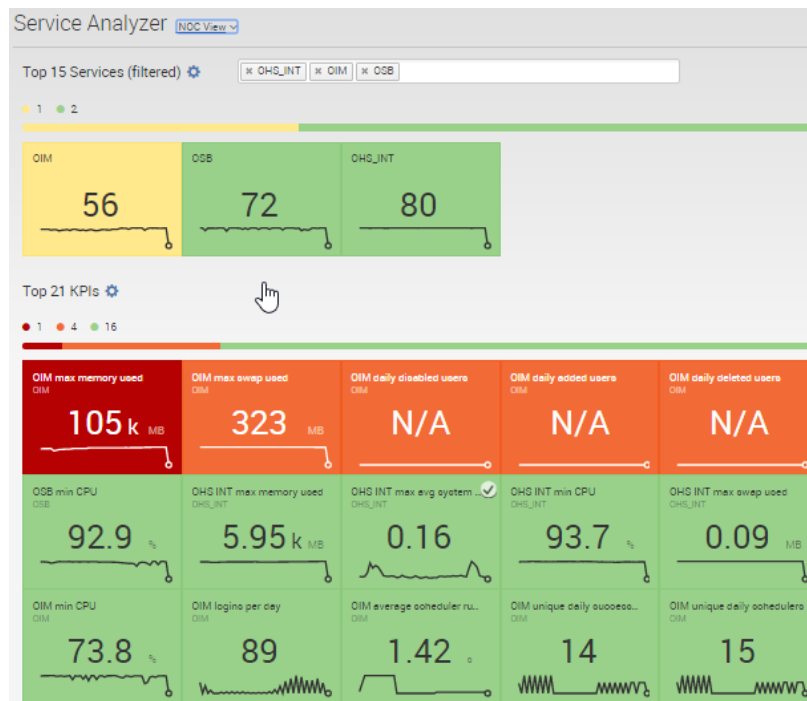
	Title
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	ServiceHealthScore
<input type="checkbox"/>	OBI min CPU
<input type="checkbox"/>	OBI max avg system load
<input type="checkbox"/>	OBI max memory used
<input type="checkbox"/>	OBI max swap used
<input type="checkbox"/>	OBI out of threads

Cancel Save

Splunk IT Service Intelligence at Vodafone

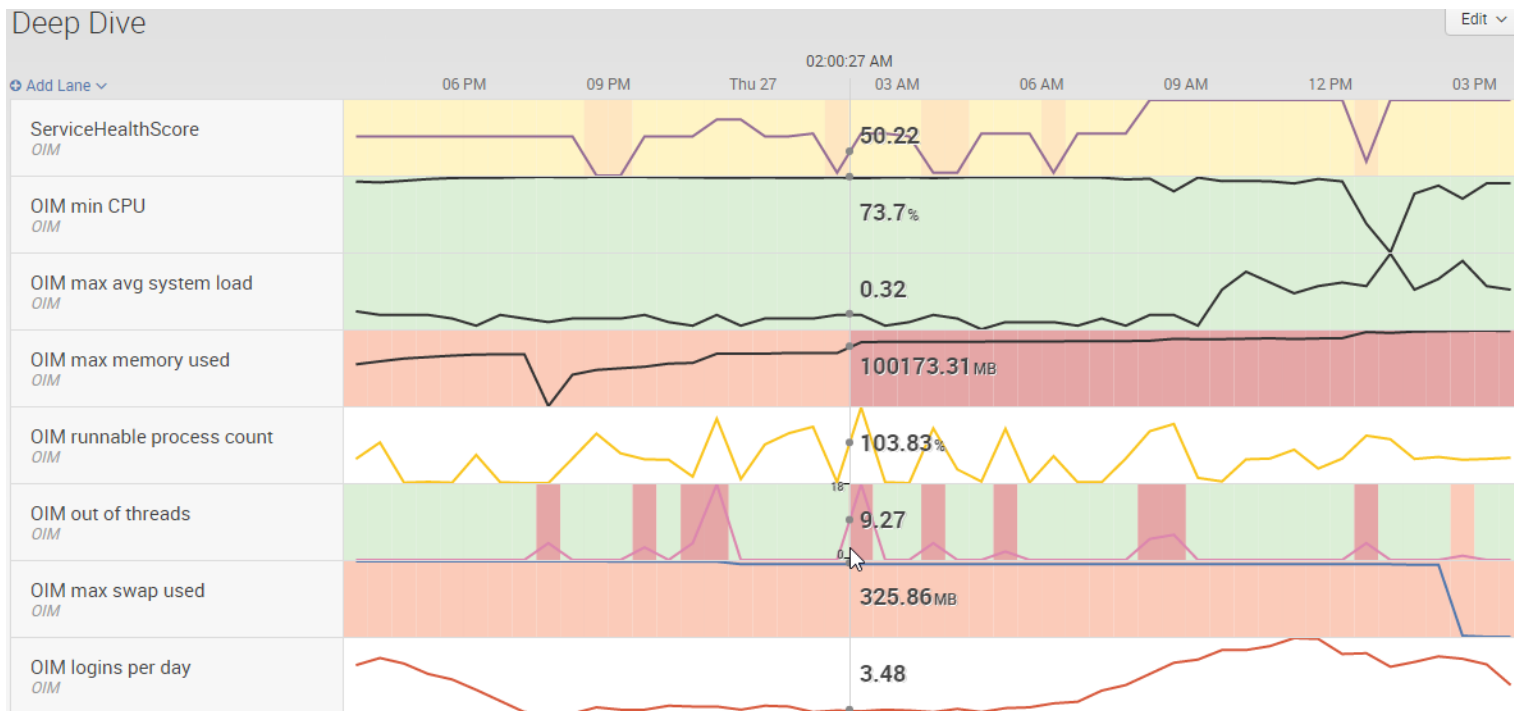
Service Analyzer

- Direct Service Overview
- Services Health Score Trends
- KPI Trends
- Drill down to Deep Dive
- Top Notable Events



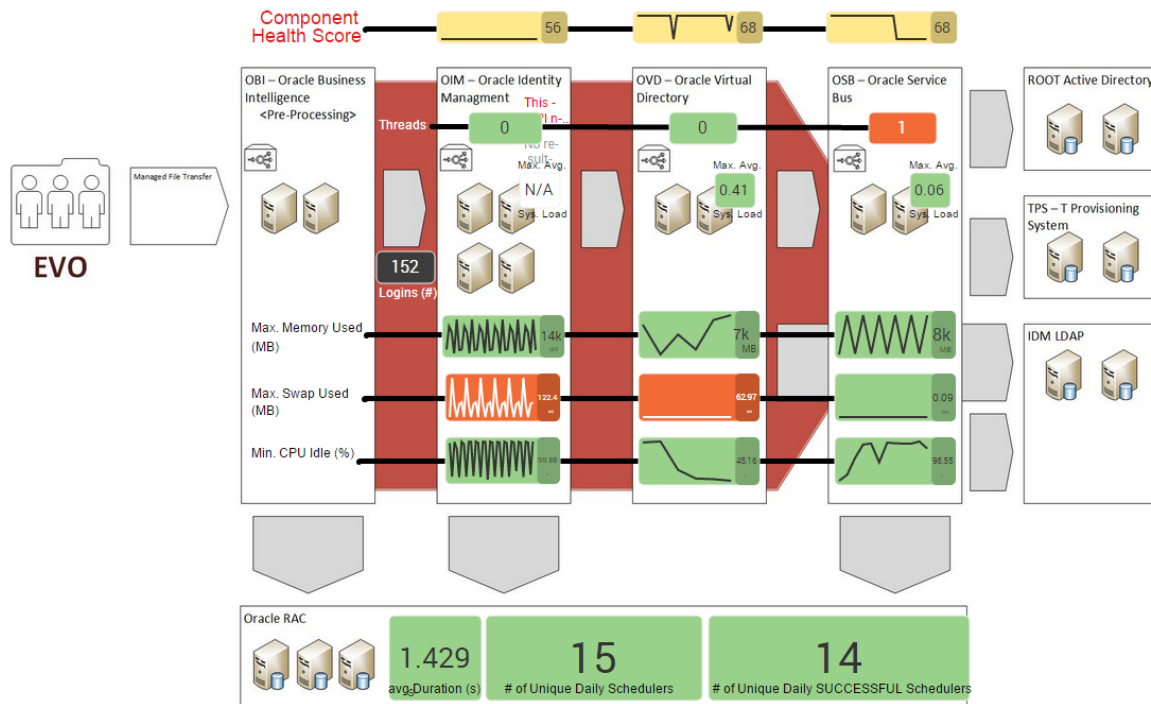
Splunk IT Service Intelligence at Vodafone

Deep Dive



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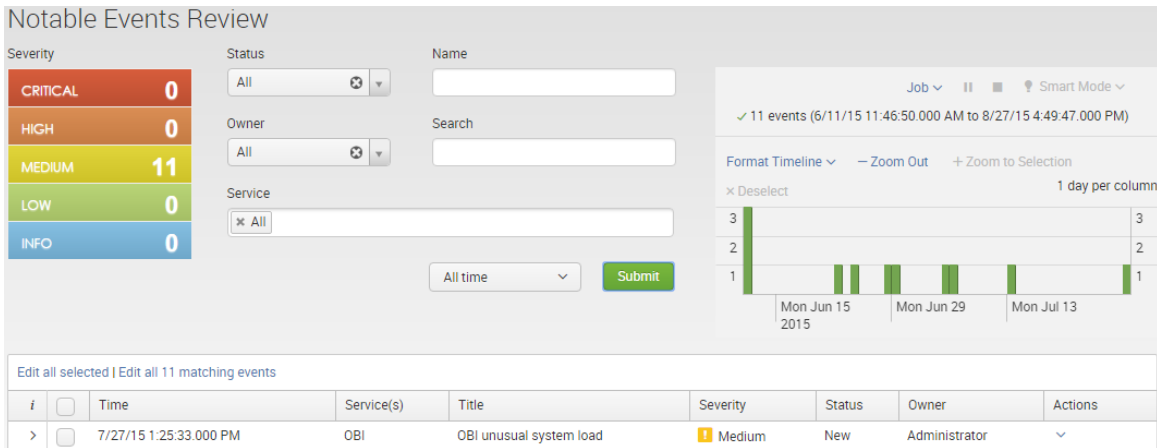
Glass Table



Splunk IT Service Intelligence at Vodafone

Multi-KPI Alerting

- Correlation of multiple violated KPIs
- Drill down into Deep Dives
- Create a Service Now Ticket



Conclusion

- Time-to-Market in 2 days
- Reduced MTTR
- Real-time session visibility
- Actionable insights in hours not days
- Increased audience
- Custom KPIs empower teams

“Building KPIs was
very, very easy!”

*MTTR = Mean Time To Recover

Vodafone Roadmap

- Extension of KPIs for the existing Integrations
- Roll out more services already in the queue
- Splunk ITSI as default scope element for any new Service rollout
- Standardization of data collection for performance KPIs
- Add capacity management capability
- Extend Splunk ITSI audience to Management, Business, and Security



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Questions!

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THANK YOU

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Keep On To Improve

“It is not enough to do your best; you must know what to do, and then do your best.”

W. Edwards Deming