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SIG Talk: IT Operations - SiteScope & OMi May 17, 2018



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Hosted By



Rocky Pisto
Vivit Engage Coordinator
Vivit Worldwide

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Today's Presenters



Nels Hoenig
Software Quality Architect
PNM Resources



Bogdan Vosnjak
Technical Consultant
S&T Slovenija d.d.

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Tweet Your Questions



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House Keeping

- This “LIVE” session is being recorded
Recordings are available to all Vivit members
- Session Q&A:
Please type questions in the Questions Pane

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Webinar Control Panel

Toggle View Window
between Full
screen/window mode.

Questions



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COMMUNITY



Surviving OMW to OMi migration

The Good, the Bad and the Ugly

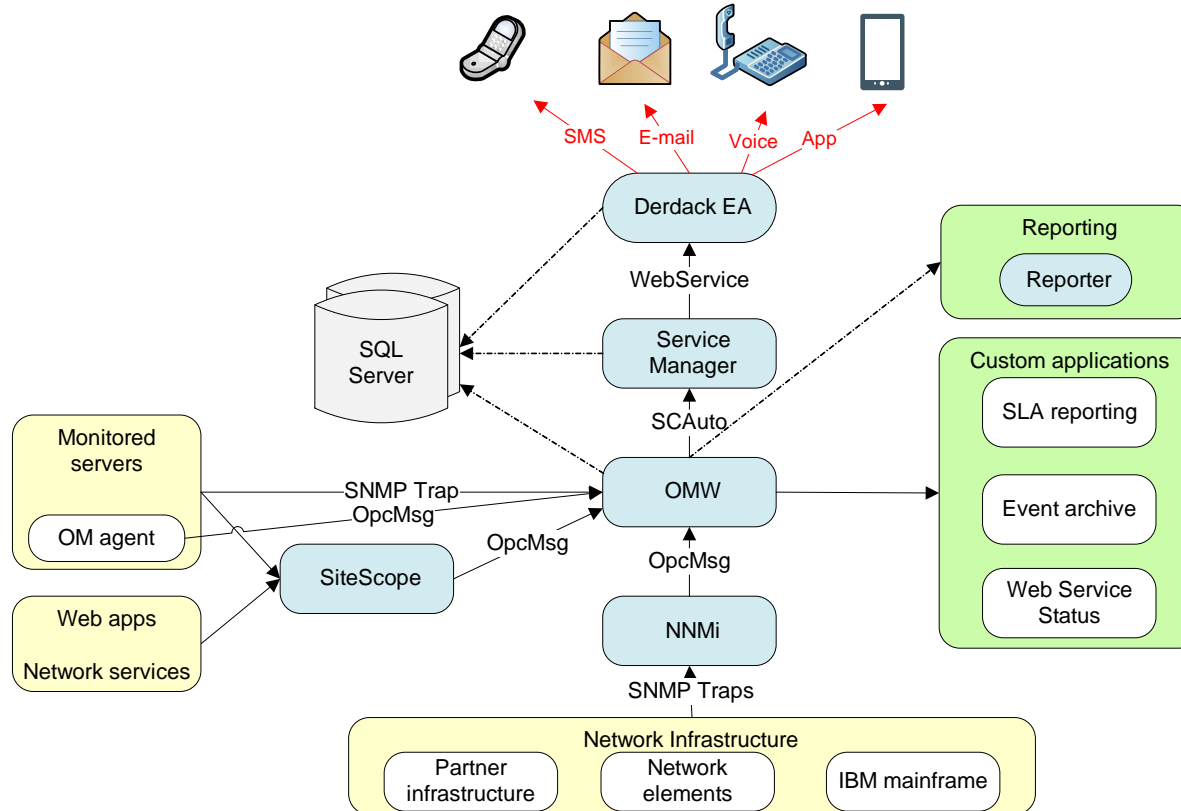
Bogdan Vošnjak, 17.5.2018

Agenda

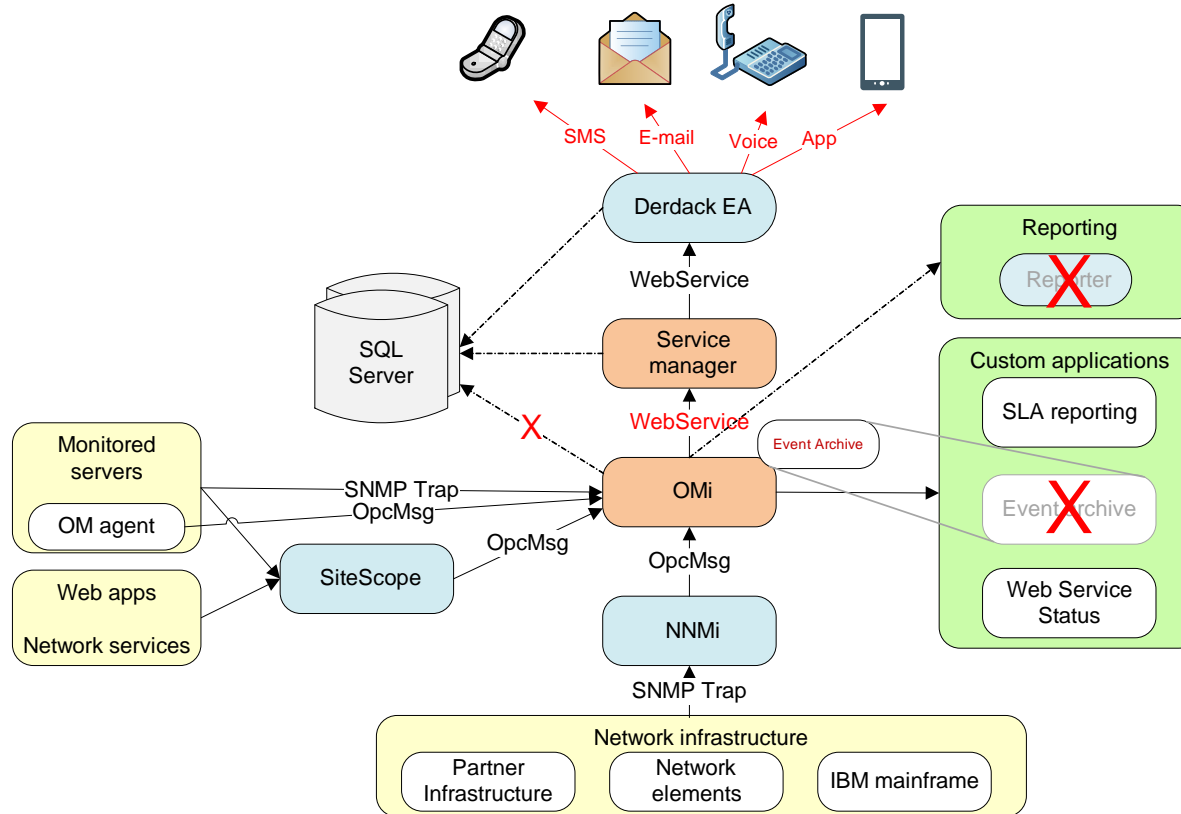


1. The Environment
2. The challenge
3. The plan
4. Execution
5. The aftermath

The Environment



The Environment

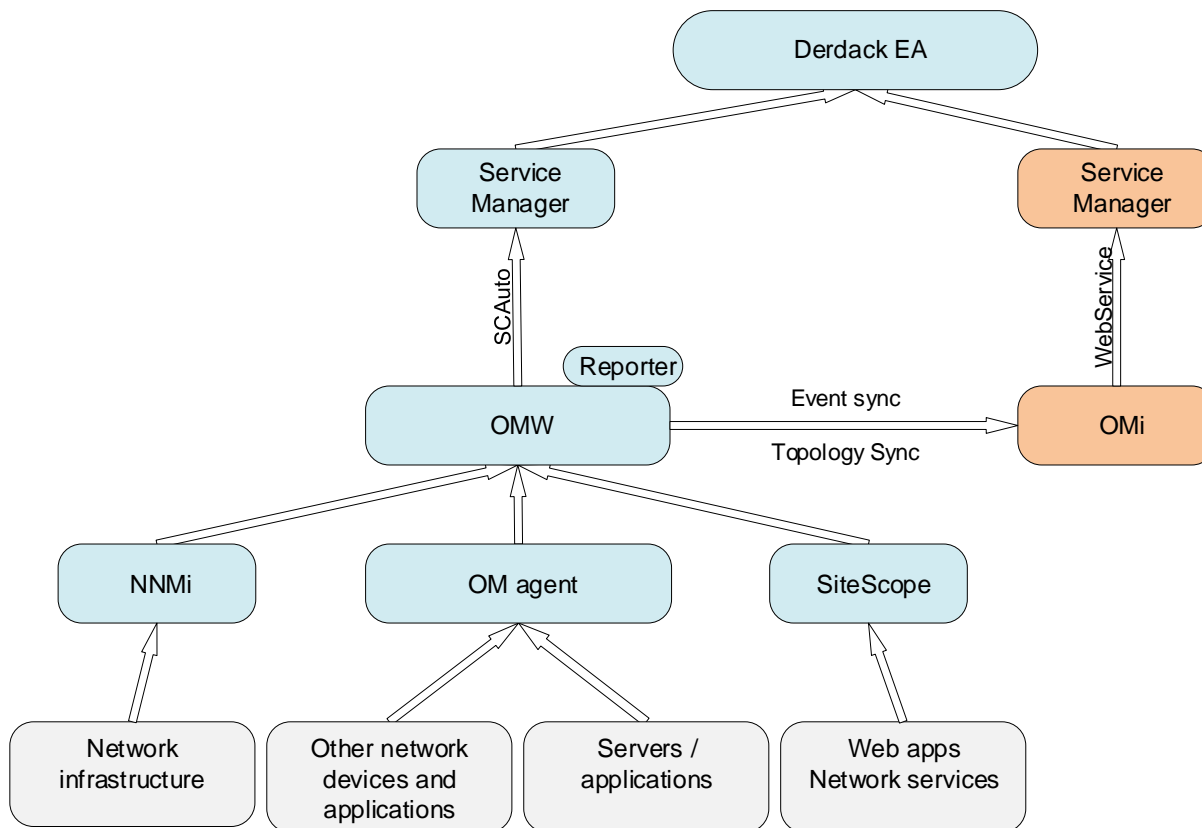


The challenge

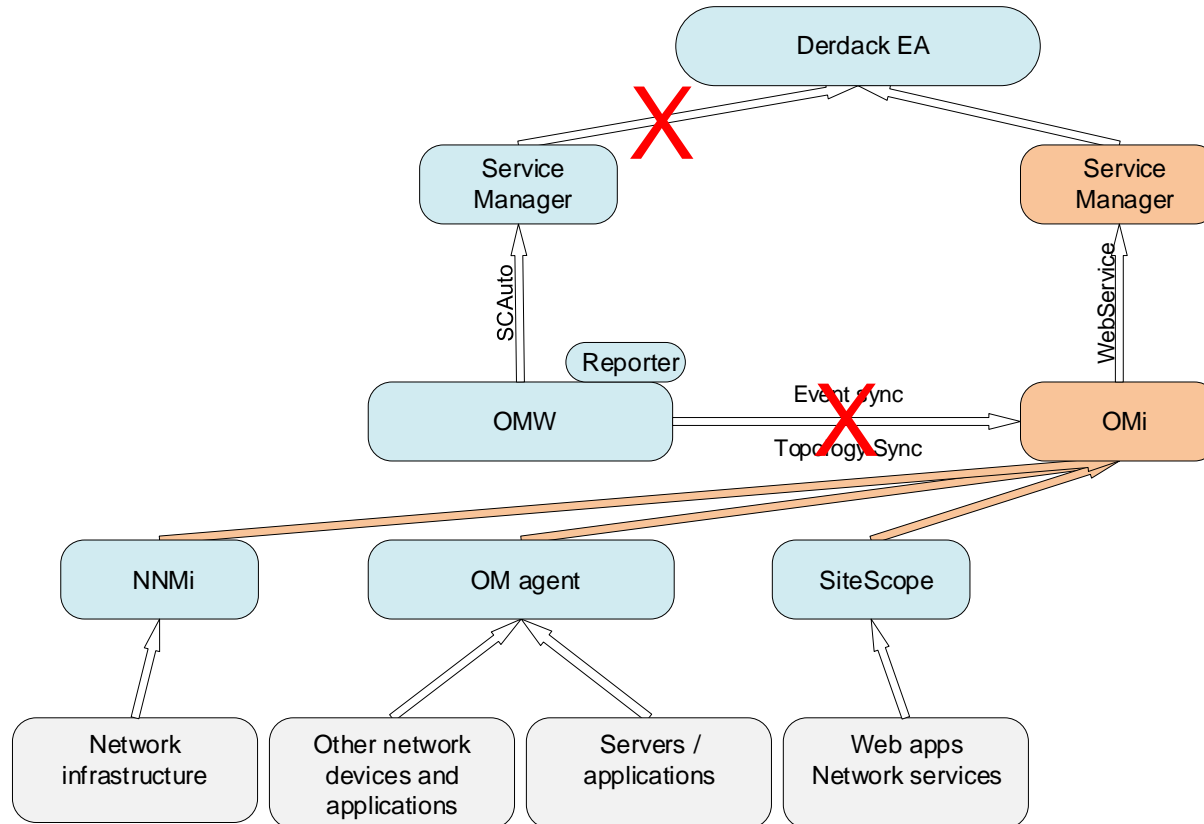


- Migration of event sources (OM agents, SNMP Trap sources, NNMi, Sitescope)
- Migration of Event-generating Policies
- Migration of Service models with complex propagation/calculation rules
- Migration of customized ticketing integration (Service Manager)
- Migration of custom applications
- Upgrade Service Manager to the latest version
- New reporting solution
- Minimum downtime during migration
 - Possibility of fallback if migration fails

The Plan: Phase 1

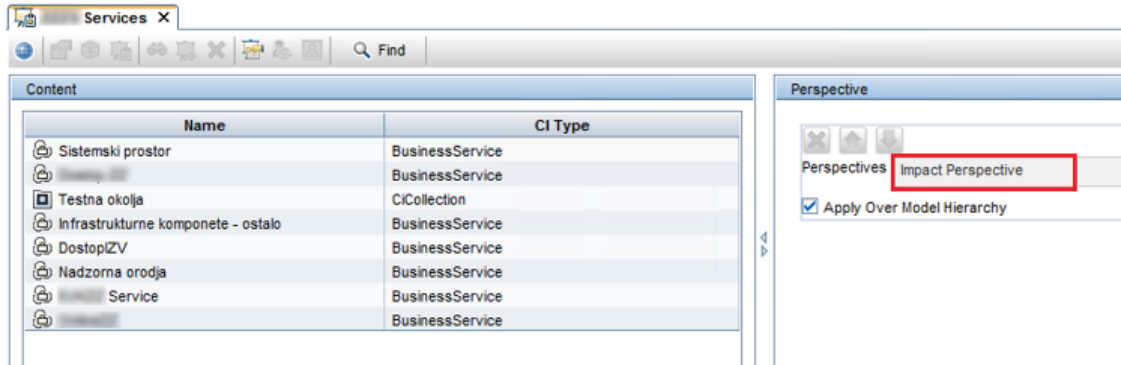


The Plan: Phase 2



- From OMW objects to CIs, KPIs and status calculation
 - KPI status source=Events (Unresolved & Unassigned)
 - Event KPI status propagation is disabled by default!
- Service Model
 - OMW topology sync transferred only Nodes
 - Which CI types to use?
 - Solution: Top level services=Business Service
 - all other=CI Collection,
 - exceptions for special propagation/calculation

Execution: Objects and Service Models

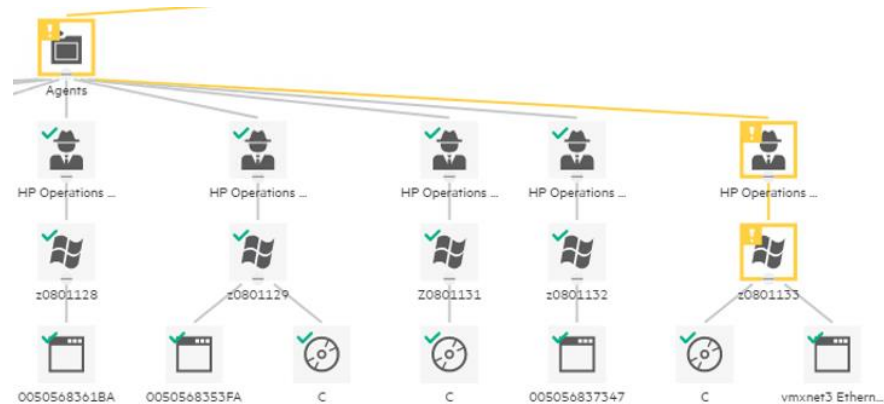


The screenshot shows a software interface with a 'Services' window. The 'Content' pane on the left contains a table with two columns: 'Name' and 'CI Type'. The 'Perspective' pane on the right shows a list of perspectives, with 'Impact Perspective' highlighted by a red rectangle. Below the list, there is a checkbox labeled 'Apply Over Model Hierarchy' which is checked.

Name	CI Type
Sistemiški prostor	BusinessService
Testna okolja	BusinessService
Infrastrukturne komponente - ostalo	CICollection
Dostop/ZV	BusinessService
Nadzorna orodja	BusinessService
Service	BusinessService
	BusinessService

Service View:

- Perspective=Impact Perspective











Execution: Status calculation



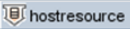
- Status Calculation and propagation rules
 - Multi-threshold Calculation rules do not exist in OMi
 - Propagation rules do not exist in OMi
 - Solution: New CI types + Groovy script

```
def use_self_kpi = true
def thresholds = [0.1, 0.1, 0.1, 0.1, 0.1]
def severity_map = ["Major", "Major", "Major", "Major", "Normal"]
```

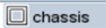
	DNS		0.75
	DNS1		1
	DNS2		1
	DNS3		1

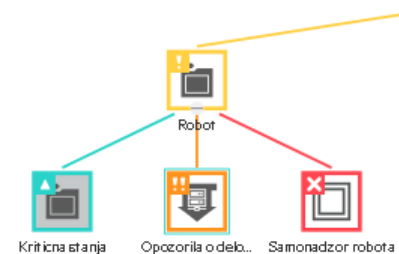
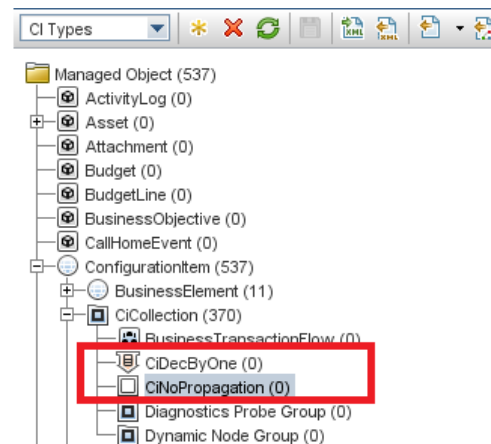
New CI types

CiDecByOne

Attribute	Value
Name	baDecByOne
Display name	CiDecByOne
Description	CI Type with N-1 status propagation
Identification: by key attributes	name
CI Type Qualifiers	MODELING_ENABLED
CI Type Main Icon	hostresource 

CiNoPropagation

Attribute	Value
Name	baNoPropagation
Display name	CiNoPropagation
Description	CI Type with "no Propagation" propagation rule
Identification: by key attributes	name
CI Type Qualifiers	MODELING_ENABLED
CI Type Main Icon	chassis 



Policy migration



- InfraSPI -> Management Pack for System Infrastructure
 - New template: Essential OS monitoring
 - Aspects:
 - Essential OS Resources
 - System Infrastructure Discovery
 - User Logins
- Custom monitoring
 - SNMP policies
 - Sitescope alerts
 - Service/Process policies
- Policies with attached instrumentation folder could not be edited
 - Solution: copy of raw data into new policy on OMi

Service Manager integration



- Mapping of OMi CIs to SM Services
 - Infrastructure settings
- Customization of Groovy script
 - Out-of-the-box script would not open Incident
 - Resolved Incident -> Close event in OMi
- Delay with incident creation
 - Solution: Time-based event automation
- Mapping SM server failure event to correct CI

„Event Forwarding Gateway server is unable to reach server SM ...“

Related CI hint: `SMOMiIntegrUser:ConnectedServer:BSM@@server.domain.si`

Property	Value
Name	OMI_SM_INTEGRATION
Type	running_software
Display Label	OMi-SM Integration
User Label	OMi-SM Integration
Application Category	ConnectedServer
DiscoveredProductName	SMOMiIntegrUser

Custom applications



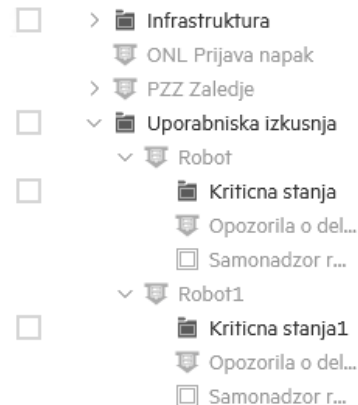
- Event Archive
 - OMi has a better DB (Postgres), so no need for external solution
- SLA reporting & Service Status portal
 - OMW used Custom „epoch“ timestamp from WMI – not available in OMi
 - Solution: replacement with true „epoch“ timestamp + report modification
 - OMW used DB access for Service status
 - OMi CI Status Alert - unreliable
 - Solution: polling via OMi Webservice API

- No unplanned downtime
 - Solution: Planned downtime set 1 minute in the future
- No downtime for top-level service
 - Solution: preset downtime templates with dates far in the future
- Cannot select custom CI types for downtime

- Solution:

<OMi Home>\conf\downtime\downtime-ci-types.xml

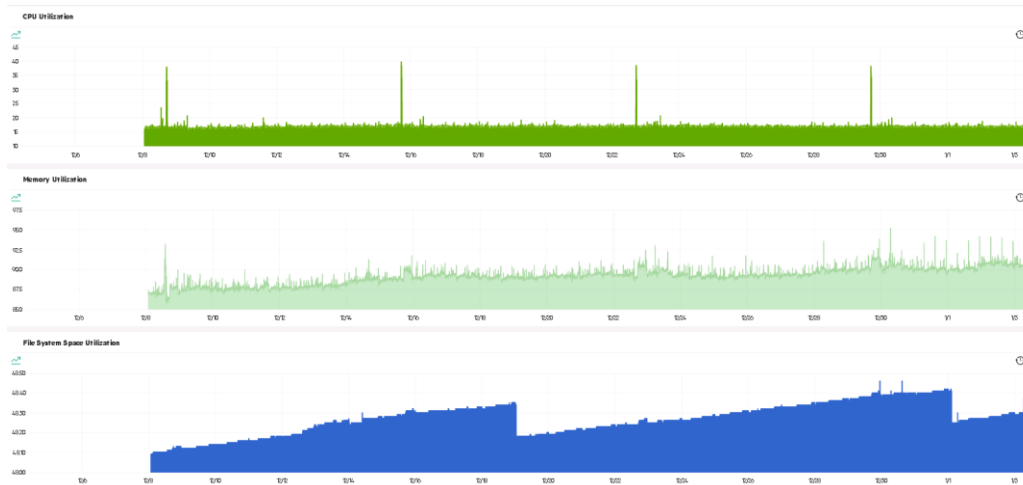
For CiCollection subtypes: change "false" to "true"



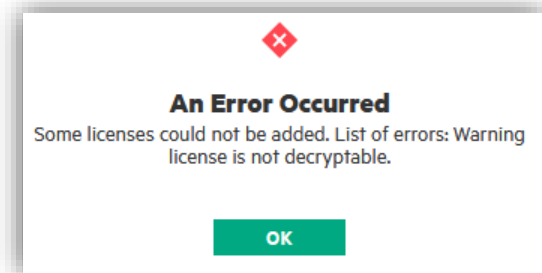
New reporting solution



- Reporting on system resources for agent-based monitored servers
 - Disk, Memory, File System Utilization
 - Solution: OMi Performance Perspective
 - Downside: manual graph extract



- Lengthy process of migration licenses with MicroFocus
 - HPE introduced a „Simplified“ license model
 - Simplified for new customers
 - Quite complex for migrations
 - Finding a compromise between what customer has and what they need
 - Must understand how licenses are used
- License installation
 - Example: Management Pack License – unable to install
 - Solution: install at least one licensed management pack
 - Removing temporary licenses:
 - Running query against OMi database



User Interface



HP Operations Manager

File Action View Favorites Window Help

Operations Manager: HPPOVO/Services

View in display: Contains or Uses

Support
Systems
Network Infrastructure
Applications

Services

Systems Infrastructure
Windows

Applications
Network Infrastructure
Microsoft Windows

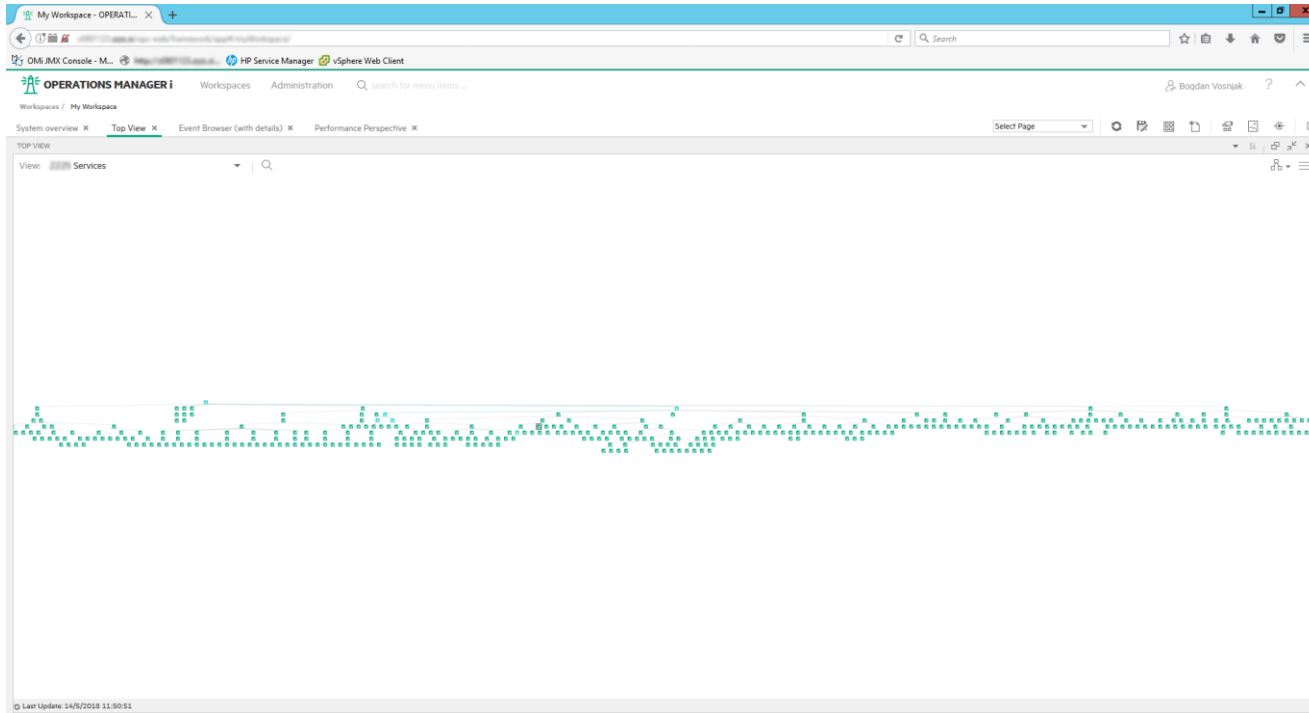
Testno okolje
Upravljanje
Posredniška infrastruktura
Posredniška infrastruktura

Severity Duplicates S U I A O N Received Created Service Node Application Object Text

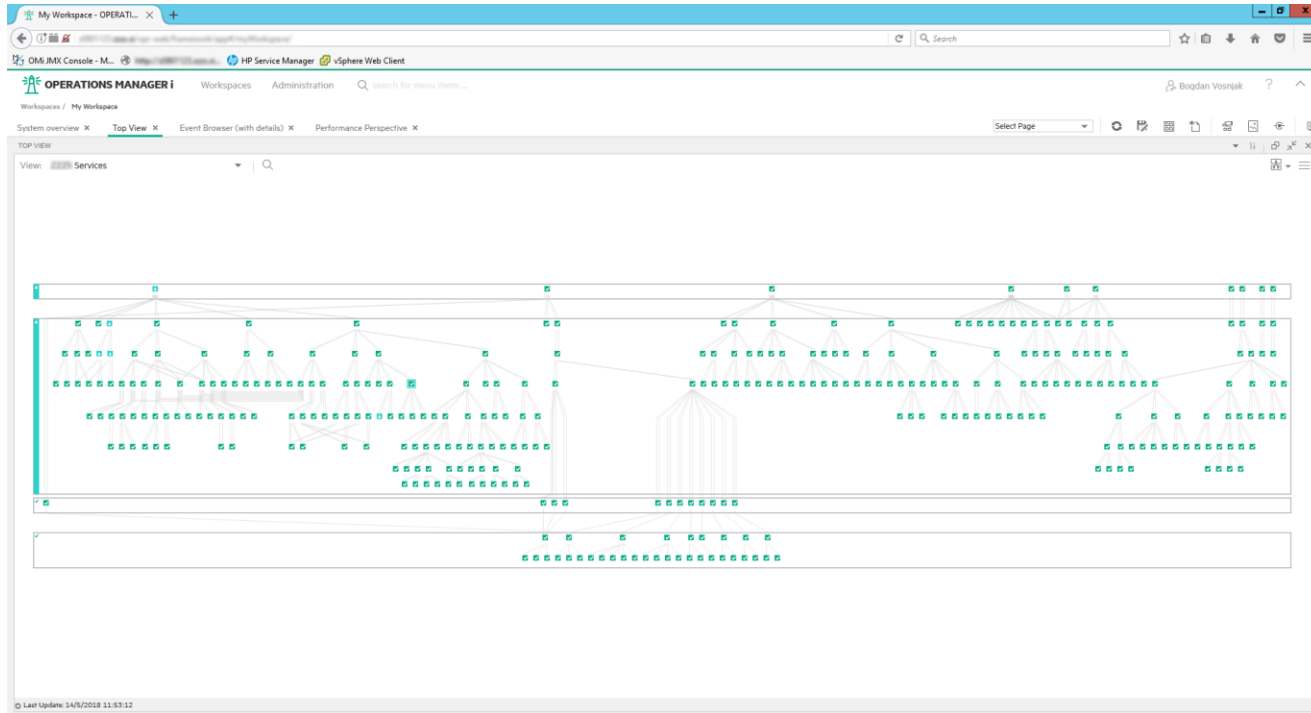
Warning	55	-	-	-	-	-	13.10.2010 15:28:20	13.10.2010 8:22:56	XML-PRI	ozz-xml-fw-pri...			DP001_NEVELJAVNA_XML...
Warning	76	-	-	-	-	-	13.10.2010 15:23:58	13.10.2010 8:04:47	XML-PRI	ozz-xml-fw-pri...			PODALJSAN_OOZIVNI_CAS...
Warning	5	-	-	-	-	-	13.10.2010 15:22:09	13.10.2010 10:29:10	XML-SEC	ozz-xml-fw-sec...			POVEZAVA_NI_USPELA: V2...
Warning	30	-	-	-	-	-	13.10.2010 15:17:12	13.10.2010 8:11:43	XML-PRI	ozz-xml-fw-pri...			PODALJSAN_OOZIVNI_CAS...
Warning	5	-	-	-	-	-	13.10.2010 15:08:01	13.10.2010 8:16:31	OZZ-XML-FW	test-ozz-xml-fw...			PODALJSAN_OOZIVNI_CAS...
Warning	37	-	-	-	-	-	13.10.2010 14:59:59	13.10.2010 8:03:31	XML-SEC	ozz-xml-fw-sec...			PODALJSAN_OOZIVNI_CAS...
Warning	37	-	-	-	-	-	13.10.2010 14:53:49	13.10.2010 8:07:50	XML-SEC	ozz-xml-fw-sec...			DP001_NEVELJAVNA_XML...
Warning	1	-	-	-	-	-	13.10.2010 14:23:50	13.10.2010 8:32:24	XML-PRI	ozz-xml-fw-pri...			TIMEOUT_ZALEDNA_SIS...
Warning	33	-	-	-	-	-	13.10.2010 14:08:46	13.10.2010 11:58:10	XML-SEC	ozz-xml-fw-sec...			TIMEOUT_ZALEDNA_SIS...
Warning	2	-	-	-	-	-	13.10.2010 13:49:37	13.10.2010 9:27:14	XML-PRI	ozz-xml-fw-pri...			POVEZAVA_NI_USPELA: V2...
Warning	20	-	-	-	-	-	13.10.2010 13:42:43	13.10.2010 8:17:47	XML-SEC	ozz-xml-fw-sec...			PODALJSAN_OOZIVNI_CAS...
Warning	4	-	-	-	-	-	13.10.2010 13:32:17	13.10.2010 8:32:16	OZZ-XML-FW	test-ozz-xml-fw...			PODALJSAN_OOZIVNI_CAS...
Warning	1	-	-	-	-	-	13.10.2010 13:25:30	13.10.2010 13:25:29	XML-SEC	ozz-xml-fw-sec...			POVEZAVA_NI_USPELA: AI...
Warning	2	-	-	-	-	-	13.10.2010 12:59:46	13.10.2010 9:42:07	XML-SEC	ozz-xml-fw-sec...			PODALJSAN_OOZIVNI_CAS...
Warning	1	-	-	-	-	-	13.10.2010 12:30:15	13.10.2010 8:59:06	XML-DDT	ozz-xml-fw-sec...			PODALJSAN_OOZIVNI_CAS...

0 0 0 17 0 0 0 17

User Interface



User Interface



User Interface



My Workspace - OPERATI... x

OMi JMX Console - M...

OPERATIONS MANAGER i Workspaces Administration search for menu items ... svchpom ?

Workspaces / My Workspace

System overview x Top View x 360° View x

EVENT BROWSER WITH DETAILS SERVICES

Sev ID Time Received Title Related CI Node Category

1	17/11/17 13:15:12	Odstvni cas 1994.918.2224.41 389 vecji od 10 sekund (<roundTripTime>)	CI716	APP1+CI716	LDAP
1	17/11/17 08:32:44	Odgovor zalednega sistema. ni bil pridobljen v pricakovanem/zahtevanem casu. (Funkcija: NOLIM4)	WAS-IPOT	WAS-IPOT	Vstopnatocka
1	17/11/17 08:01:54	Odgovor zalednega sistema. ni bil pridobljen v pricakovanem/zahtevanem casu. (Funkcija: NOLIM2)	WAS-IPOT	WAS-IPOT	Vstopnatocka
1	17/11/17 02:17:50	Odgovor zalednega sistema. ni bil pridobljen v pricakovanem/zahtevanem casu. (Funkci...	APP2	WAS-IPOT	Vstopnatocka

Items: 4 of 0 (0)

General Additional Info Source Info Actions Annotations Custom Attributes Related Events History Resolver Hints Instructions Forwarding

ID: -- Severity: -- Lifecycle State: Open Priority: Highest Assigned Group: -- Assigned User: -- Category: -- Subcategory: -- Control Transferred: --

Related CI: -- Node: -- Source CI: -- Time Created: -- Time First Received: -- Time Received: -- Time State Changed: -- Event Type Indicator: -- Duplicate Count: --

Title:

HIERARCHY

Services public: file

Name	Status	System
Services		Unresolved Events
OnlineZZ		
App Vstopna tocka		0.5
APP2		
Infrastruktura		
Podporni servisi		
Digitalna potrdila		
CI716		1
Testna okolja		
OnlineZZ Testno okolje		
WAS		0.33
WAS-IPOT		2

© Last Update: 17/11/2017 13:15:40

- Correct date/time
 - Web browser language: Slovenian – ignored!
 - Expected format: 9.5.2017 10:12:47
 - End Result: 09/05/2017 10:12:47

<https://community.saas.hpe.com/t5/Application-Perf-Mgmt-BAC-BSM/In-BSM-9-23-How-we-can-Change-OMi-Message-format-from-12-hours/td-p/242370>

We support german, spanish, french, japanese, korean, russian, chinese and english.

For those locales also the format of the displayed dates can be customized.

When having for example dutch or norwegian locale set in the browser, it will fall back to english.

- Solution: English/Australian

- Status calculation
 - New business rule set to KPI „Unresolved events“ breaks status calculation
 - Solution: hotfix
 - After OMi restart all CIs have status „Unknown“
 - Solution: upgrade to OMi 10.61
 - Groovy script editor dies if script contains >3964 characters
 - Solution: upgrade to OMi 10.61
- Performance Graphs
 - Will not show history >7 days from OM agents
 - Solution: hotfix
- Downtime management
 - GUI uses UTC/GMT
 - Solution: upgrade to OMi 10.61

The aftermath



- Two weeks of smooth running
- Service Manager Integration is randomly dying
 - Affected functionality:
 - Incident creation
 - Notifications
 - Solution: hotfix
- Postgres DB bottlenecks
 - CI status via WS API sometimes unavailable
 - Affected functionality:
 - SLA reporting
 - Service status Web portal
 - Solution:
 - Postgres startup config
 - Clearing of DB objects
 - vacuumlo + vacuumdb

Bottom line



- System is stable and running smoothly
- Customer is happy with migration
 - They like the new look
 - Some custom features are now implemented within OMi
- Most defects are resolved in the latest version
 - Expect migration to take longer than planned!

Thank you!



BOGDAN VOŠNJAK
TECHNICAL CONSULTANT

S&T Slovenija d.d.
Leskoškova cesta 6
SI-1000 Ljubljana
Slovenia
t: +386 1 5855 500
m: +386 41 372 585
bogdan.vosnjak@snt.si
www.snt.si

Backup slides



The Environment



- „Demo“ environment
 - 10 OM agents
 - 30 SNMP event sources
 - 50 network devices
 - 50 sitescope monitors
- Low scale, but high complexity

Event-generating policies



- Event sources:
 - SNMP trap sources
 - OM agents
 - Sitescope (Agent-based alerts – opcMsg)
 - NNMi (Agent-based integration – SNMP traps)
- Policy types
 - OS SPI
 - Custom monitoring
 - SNMP policies
 - Sitescope alerts
 - Service/Process policies

- Complex status calculation and propagation rules
 - Propagation
 - N-1
 - No-Propagation
 - Status calculation
 - Multiple threshold calculation rule

Rule Name	Settings	Child CI count	CI	Observes Own CI status
ISP_2	Critical: 0,1=Critical Major: 0,66=Critical Minor: 0,66=Critical Warning: 0,1=Minor Normal: 1=Normal	2	INET-GW1 INET-GW2	Yes Yes
DNS_3	Critical: 0,1=Major Major: 0,1=Major Minor: 0,1=Major Warning: 0,1=Major Normal: 1=Normal	3	PARTNER-GW	Yes

Customized ticketing integration







- Two-way integration
- Incidents are only created for Major and Critical events
- Heavily-customized SCAuto script
 - Mapping between CI and impacted service
 - Time delay (for filtering noisy event sources)
 - 90 seconds during working hours
 - 5 minutes outside of working hours
 - Exceptions: Different delay settings for specific services (test environment)
 - Ability to suppress incident creation for specific services

Custom applications



- Event archive
 - Poor performance for history messages in OMW database
 - Custom export of old messages into custom SQL DB
- SLA reporting (Service availability)
 - Service status for 4 top-level objects, exported into custom SQL DB
 - Custom built reporting from SQL DB
- Service status web portal (24/7)
 - Shows status for 4 top-level objects

<u>Timestamp</u>	07.05.2018 15:40:03
<u>Main data access</u>	 <u>Operational</u>
Partner 1	 <u>Operational</u>
Partner 2	 <u>Operational</u>
Partner 3	 <u>Operational</u>

New reporting solution



- Reporting on system resources for agent-based monitored servers
 - Disk, memory, File System utilization
- OpsBridge Reporter hardware requirements!
 - CPU: 24 cores
 - RAM: 96GB
 - Disk: 1300GB
- OBR = No Go!



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Solving production issues using testing tools

Nels Hoenig CSQE, PMP



Solving production issues using testing tools

Nels Hoenig PNMR, Albuquerque NM

- **Responsible for the MF suite of tools in use (LR, ALM, UFT and SiS)**
- **He has been at PNMR for 8 years**
- **Certifications include CSQE, PMP**
- **Has been published multiple times**

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The Issue

- No easy way to ensure a website was actually serving customers including login and post login pages
- Customer complaints would alert us to the issue
- Existing OPS tools could ping the site and verify it was responding but could not tell if users could really get in

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The Solution (SiS)

- We had used LoadRunner (LR) to load test the site, so we had the knowledge of how it was supposed to work
- Create a LR Script to run in SiS WebScript Monitor Protocol

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WebScript Monitor

- Part of SiteScope
- Allows a LR script to be run against a site without a LR Controller or VuGen install
- Can include text validations
- Can generate alerts when triggered by your rules
- Runs 24x365
- Collects Logs for review

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1. LR Script

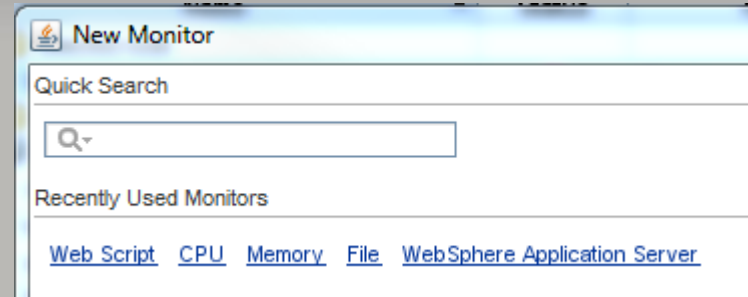
- **Must be HTML**
- **Can support SSL pages**

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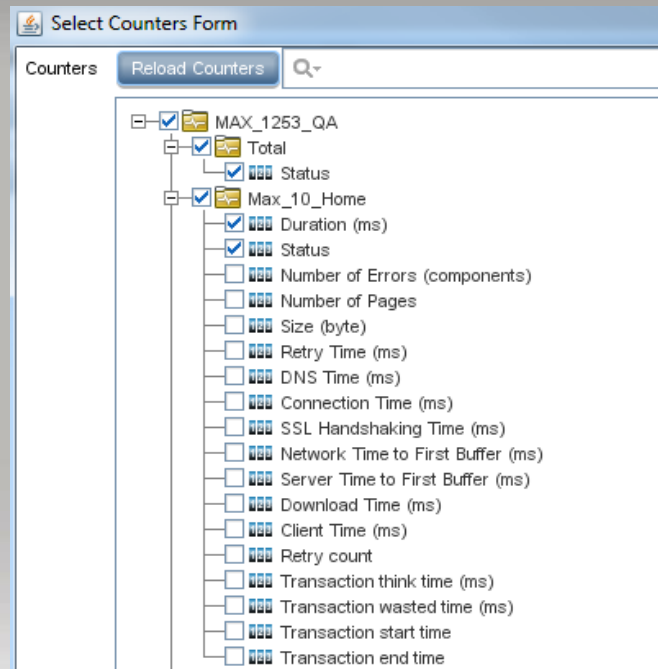
2. Create the Web Script Monitor

- Your LR and SiS version need to be in sync (ask your support vendor for help)
- Bring over the required files in a .zip file



3. Select your Counters

- Your Script and Webpages determine what counters are eligible to be measured.
- Each Counter selected uses an SiS Point



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4. Create your Alert Rules

- Now that you have your counters, YOU need to define what the rules are

Counters (8 out of 8)				
counters in error	✓			0
MAX_1253/Max_10_Home/Duration (ms)	?			90
MAX_1253/Max_10_Home/Status	?			0
MAX_1253/Max_20_Login/Duration (ms)	?			266
MAX_1253/Max_20_Login/Status	?			0
MAX_1253/Max_30_Logout/Duration (ms)	?			30
MAX_1253/Max_30_Logout/Status	?			0
MAX_1253/Total/Status	?			0

Alert Rules in Place

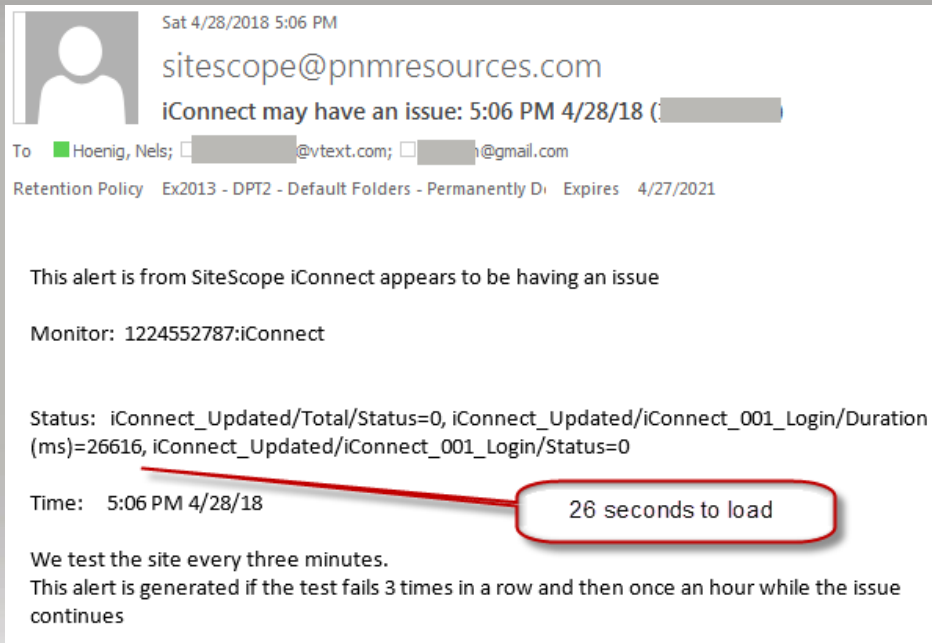
- Your rules determine when things are not “right”

Name		Status	
Selected node					
Maximo		✓ ↗	W	...	MAX_1
Counters (8 out of 8)					
counters in error		✓			0
MAX_1253/Max_10_Home/Duration (ms)		✓			95
MAX_1253/Max_10_Home/Status		✓			0
MAX_1253/Max_20_Login/Duration (ms)		✓			390
MAX_1253/Max_20_Login/Status		✓			0
MAX_1253/Max_30_Logout/Duration (ms)		✓			24
MAX_1253/Max_30_Logout/Status		✓			0
MAX_1253/Total/Status		✓			0

Status: Good

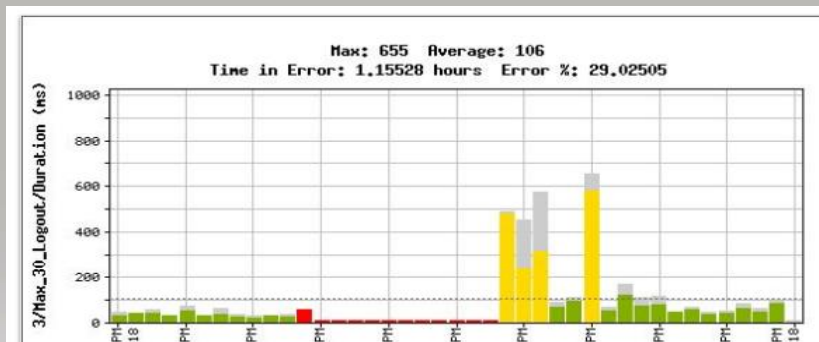
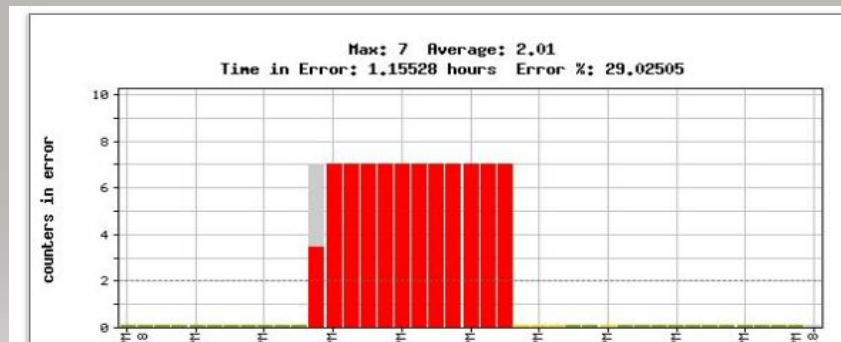
5. Alerts Email or IM or Others

- You customize the header and subject



Logs and Reports

- You can set up to get logs and generate reports to see what



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Final Notes

- The more logs you save, the more space you need
- False alarms are bad, make sure it is really down (Fail three times before the alert)

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Questions & Answers

Please type your questions in the questions pane

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Upcoming Vivit Webinars

May 22, 2018

SIG Talk: Quality and Testing - Tips & Tricks

9:00 - 10:00 AM PDT (Los Angeles), 12:00 - 1:00 PM EDT (New York), 18:00 - 19:00 CET (Frankfurt)

<http://www.vivit-worldwide.org/events/EventDetails.aspx?id=1089251&group=>

May 29, 2018

Project and Portfolio Management: What is new 9.50

8:00 - 9:00 AM PDT (Los Angeles), 11:00 AM - 12:00 PM EDT (New York), 17:00 - 18:00 CET (Frankfurt)

<http://www.vivit-worldwide.org/events/EventDetails.aspx?id=1089221&group=>

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Thank You

- Complete the short survey
- To speak on a future Vivit SIG Talk or to recommend a speaker, please complete the survey:
<https://www.surveymonkey.com/r/36V5XXH>

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Thank You
vivit-worldwide.org

