



# SCOM FEATURES AND FUTURES

Bob Cornelissen | BICTT  
Managing Consultant  
[bob@bictt.com](mailto:bob@bictt.com)

Singha





► **Bob Cornelissen**

► Im using facebook though



► @Bob\_Cornelissen

**BICTT**



► 7 Year CDM MVP

► Managing Consultant and CTO  
of BICTT Group



► Fisheries Biologist -> Sysadmin  
-> MOM -> SCOM -> SCOMosaur



► SpareRibs, ice cream

# BIG QUESTION... WHAT SCOM DO YOU HAVE?

## Versions

MOM 2000 & SP1  
MOM 2005 & SP1  
SCOM 2007 RTM  
SCOM 2007 SP1  
SCOM 2007 R2  
SCOM 2012  
SCOM 2012 SP1  
SCOM 2012 R2  
SCOM 2016  
SCOM 1801  
SCOM 1807

## Release and updates

2001 - 2003  
2004 - 2005  
2007  
2008 - 2010  
2008 - 2013  
2011 - 2015  
2013 - 2015  
2014 - 2017  
2016 - Some time  
2018 - End July 2019  
2018 - End Jan 2020



Bo



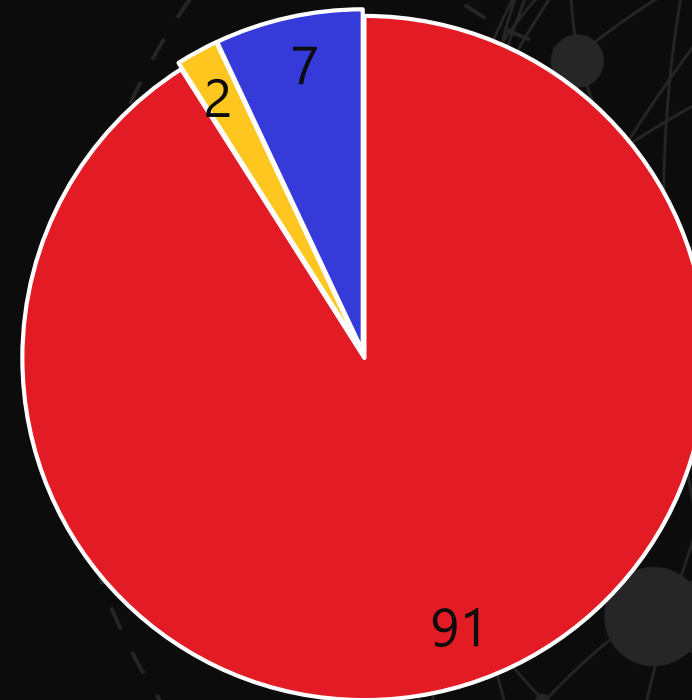
# Hybrid is the reality

67%

Two-thirds of organizations are using a hybrid cloud

RightScale 2017 State of the Cloud Report

## Hybrid cloud as a long-term viable strategy (n = 1000)



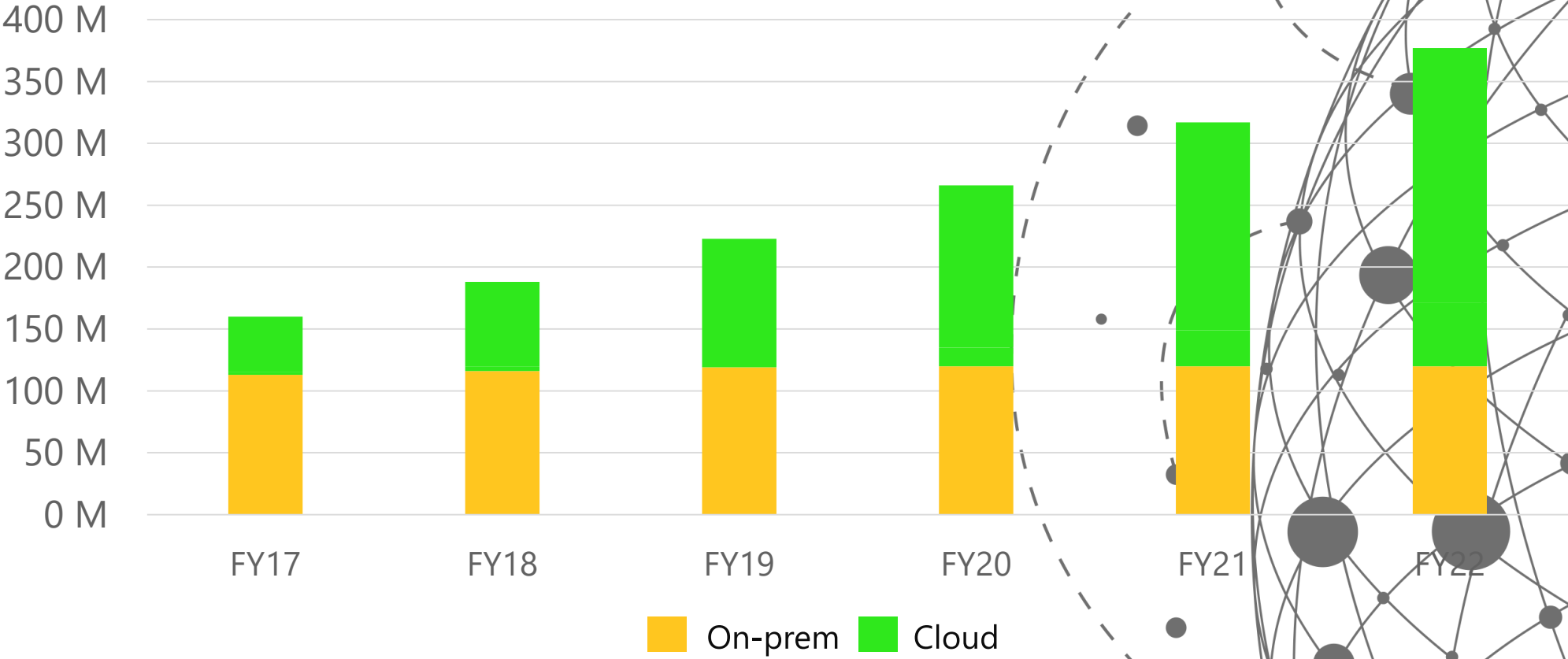
Yes May be No

# Cloud VM instance forecast



Saow

Market Instances (IB)



# Managing the hybrid cloud

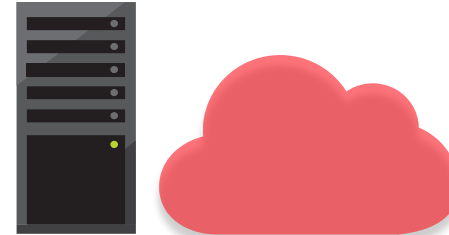
On-premises  
datacenter



System Center



Cloud and hybrid



Azure Security &  
Management

SC + Azure Security & Operations Management Services is our unified management story for the hybrid cloud





Tawan

# SYSTEM CENTER SEMI- ANNUAL CHANNEL





# Focus



Continue to support  
Windows Server



Improve fundamentals



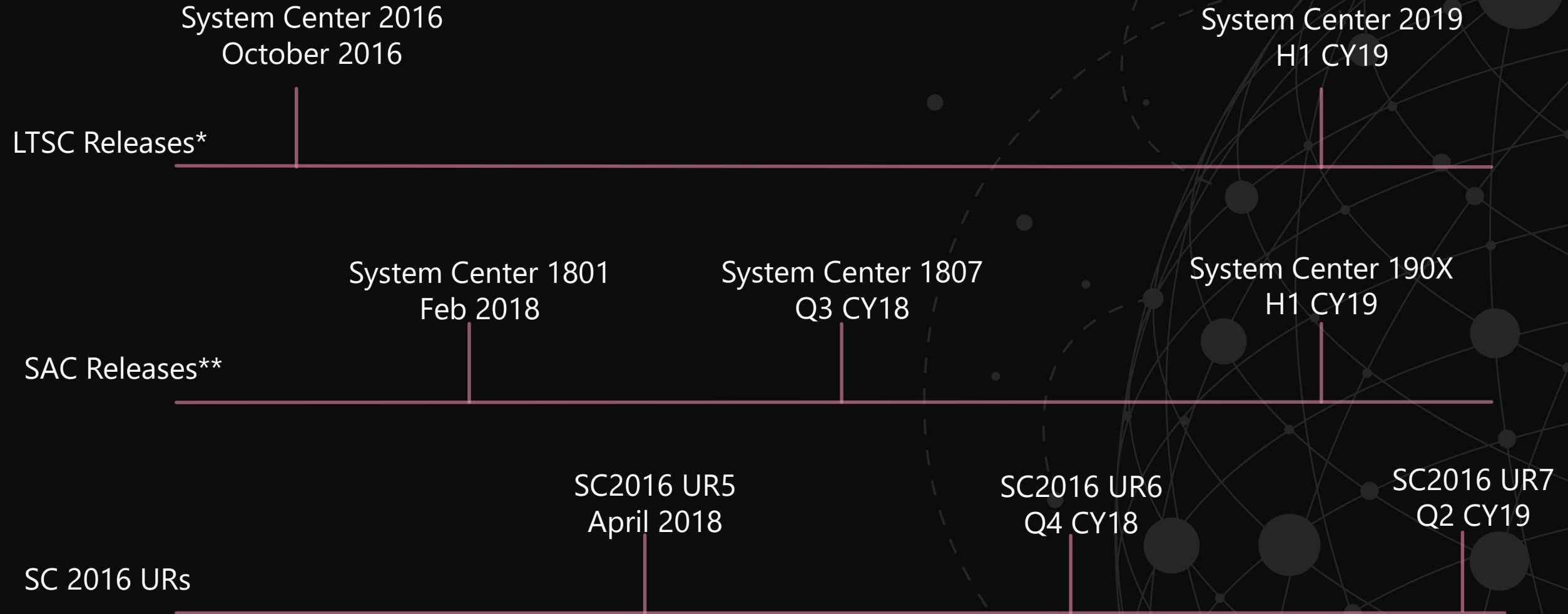
Address top customer  
and partner asks



Enable Azure attach



# SYSTEM CENTER RELEASE CADENCE



\* LTSC releases are supported for 5 year (mainstream) + 5 year (extended)

\*\* SAC releases are supported for 18 months



# WHAT'S IN SCOM RELEASE 2016?



Honda



# SCOM 2016 summary

- Integration with OMS
- Search & alert log correlations
- Security & audit collection
- SCOM health assessment

## Analytics

- Extensible network monitoring
- Nano server & workloads monitoring
- Windows Server 2016 innovations
- Upgrades to existing MPs (native & X-Plat)

## Monitoring Surface ++

## Monitoring Experience

- MP discoverability
- Data-driven alert management
- Schedule maintenance mode
- In-place upgrade

## Improved Fundamentals

- Scale improvements for X-Plat
- Performance improvements
- Improved UI responsiveness

Kamrai



# WHAT'S IN SCOM SEMI- ANNUAL CHANNEL RELEASE 1801?



# WHY SCOM 1801

S

*Integration with Azure Service Map*

Better with  
Azure

Monitoring  
Experience

*HTML 5 dashboards  
In-place upgrade  
Update license within Console*

*Linux Log file monitoring  
Kerberos support for Linux agent  
MP discoverability for 3<sup>rd</sup> party MP's  
VSAE support for Visual studio 2017  
Improvements to existing MPs*

Monitoring  
Surface ++

Improved  
Fundamentals

*Complete HTML Web Console  
Removed Silverlight dependencies  
Enhanced SDK Client performance,  
improved UI responsiveness with  
large number of MP's*



IT Service Reliability



Speeds Troubleshooting



Enterprise Scale



Extensible Platform

*Powerful monitoring solution for the worlds most complex IT environments*



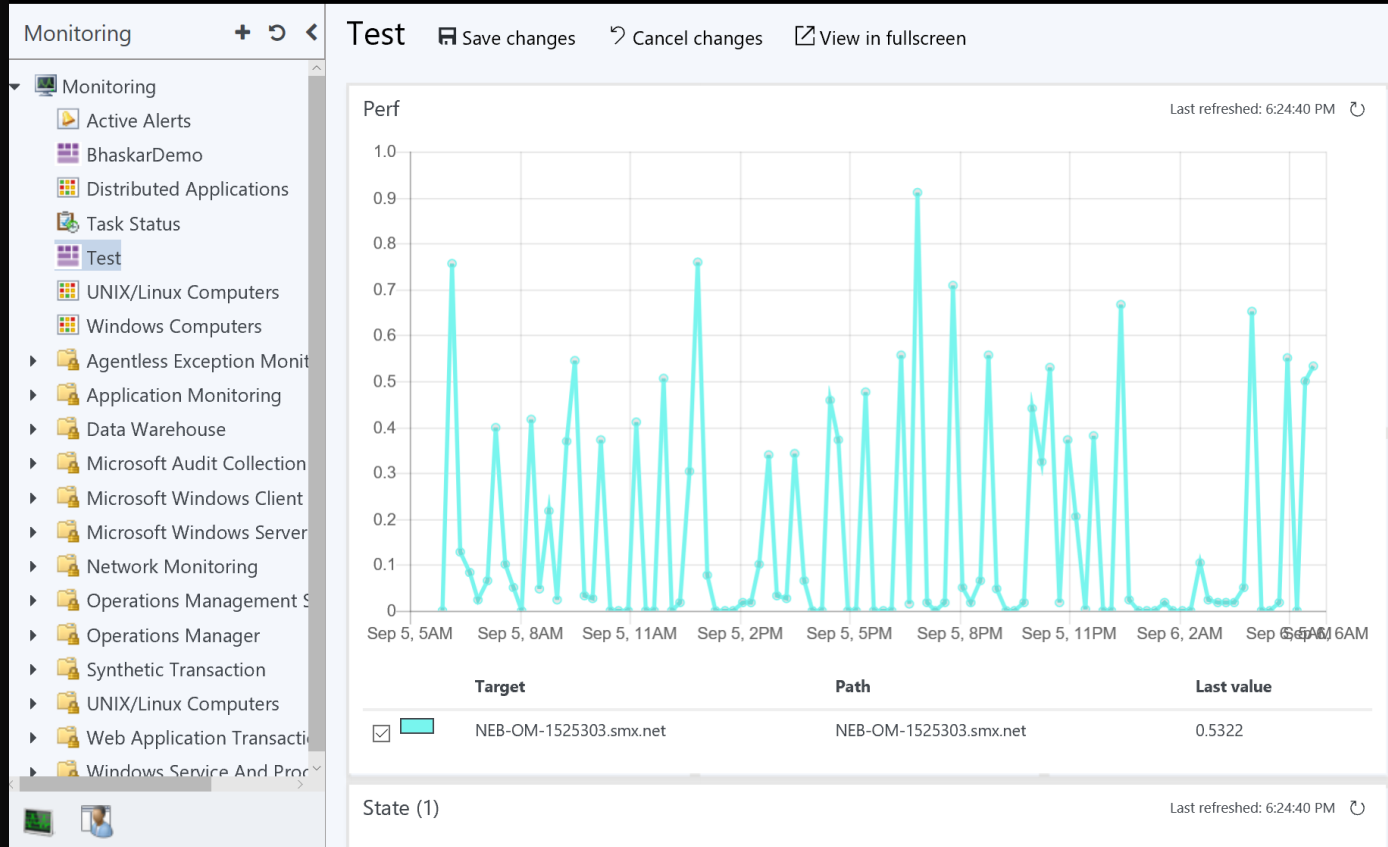
# HTML5 web console

- ▶ Multi-browser support – no Silverlight dependency  
No Java dependency
- ▶ Improved performance & UI responsiveness
- ▶ Widget extension support – custom/open-source charts
- ▶ Improved diagnostics/debugging experiences – drill-downs



Chod

## System Center Operations Manager





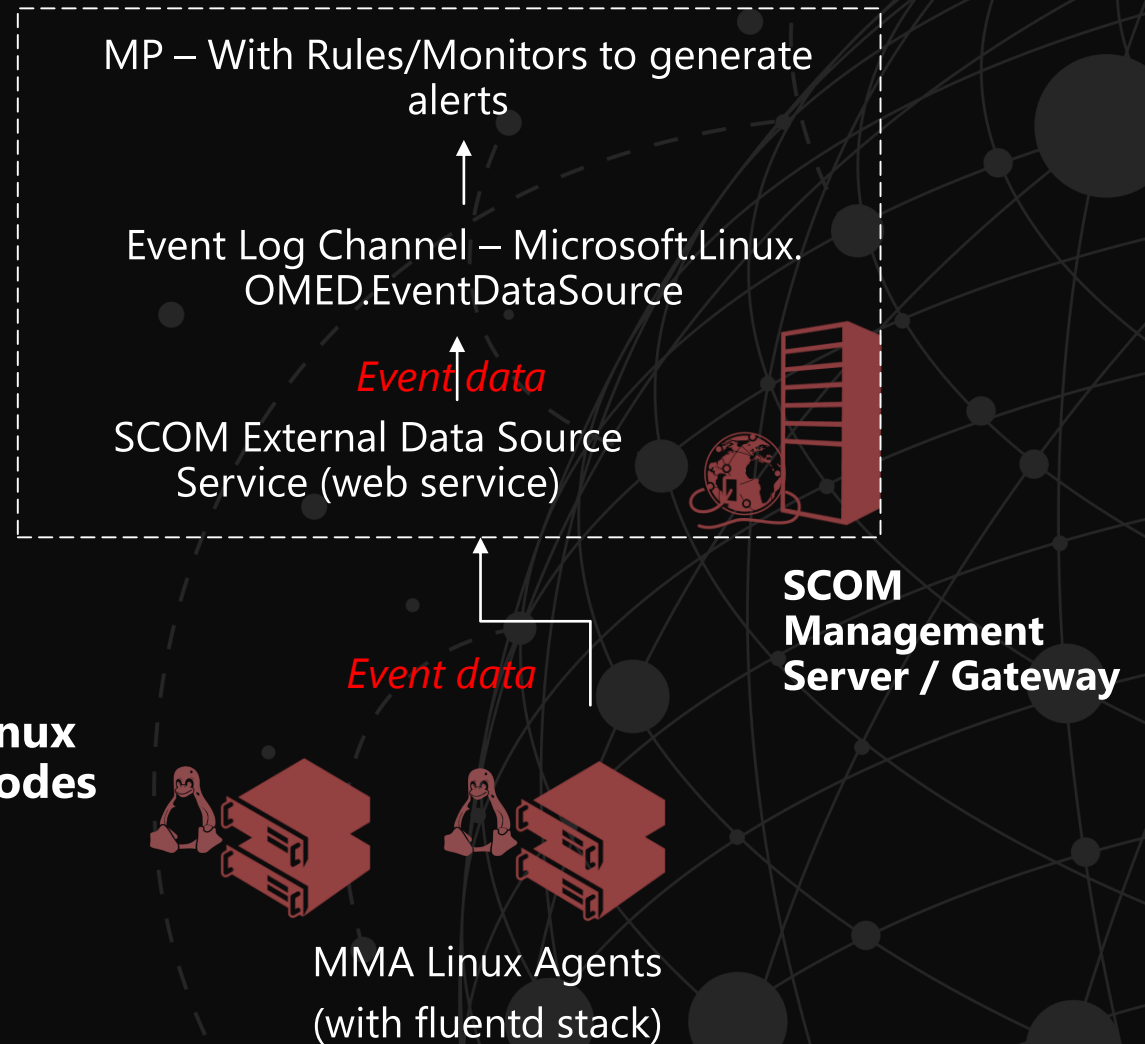
# Log file monitoring

- ▶ Common agent platform for monitoring & analytics
- ▶ Extensible log file monitoring (leveraging Fluentd & the eco-system)
- ▶ Granular log file monitoring capability for Linux, on par with Windows

Linux OS	Version Supported
RHEL	5,6,7 (x86/x64)
Cent OS	5,6 (x86/x64) and 7 (x64)
Ubuntu	12.04 LTS, 16.04, 14.04 (x86/x64)
Debian	6,7,8 (x86/x64)
Oracle Linux	5,6 (x86/x64) and 7 (x64)
SLES	11 (x86/x64) and 12 (x64)



Linux Nodes





# Log file monitoring – User scenarios

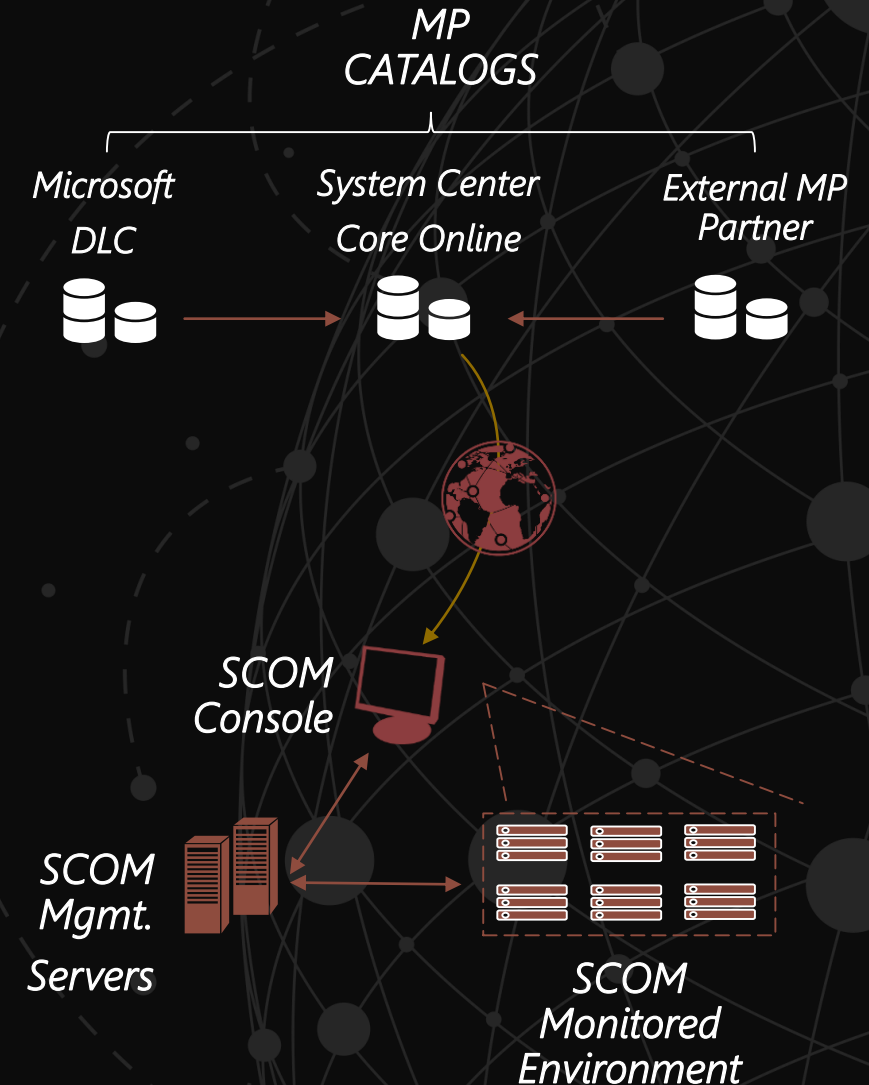


Maipai

Fluentd Plugins	Plugin Description	Usage
" <b>Exclusive Match</b> " filter plugin.	On match of Pattern A and absence of Pattern B in the same log record an event would be sent.	<b>Apache HTTP URL monitoring.</b> Example URL to be monitored: <a href="http://scomdemo.com/ignite">http://scomdemo.com/ignite</a> Log name : /var/log/apache2/access.log Pattern A : "GET /ignite HTTP/1.1", Pattern B : 200 Absence of success code "200" results in event beingsent
" <b>Repeated correlation</b> " filter plugin	If Pattern A occurs N number of times within T seconds then event would be sent.	<b>Authentication failure/Intrusion detection</b> Log name : /var/log/auth.log Pattern : Failed password for <username> Timer : 10 seconds, Number of occurrences : 5 Administrator alerted if user accesses machine with incorrect credentials 5 times in 10 seconds
" <b>Correlated match</b> " filter plugin	If there is a match for pattern A, and if pattern B occurs within time T then an event would be sent.	<b>Package installation failure</b> Log name : /var/log/syslog Pattern A : Reading package lists... Done Pattern B : Failed to fetch <package information> Timer: 5 seconds
Any Fluentd source plugin		<b>Rotating file paths:</b> Users can use wild card character in the log file name or path in the source directive of the Fluentd
" <b>Exclusive correlation match</b> " filter plugin	If there is a match for pattern A and pattern B does not occur within time T then an event would be sent.	<b>Failed to start Mongo DB:</b> Log name: /var/log/mongodb/mongodb.log Pattern A : MongoDB starting, Pattern B :Connection accepted Timer: 5 seconds

# MP updates and recommendations

- **Discovery** - Scans servers for workloads for which MPs exist. Suggests installation of missing MPs
- **MP updates** - Checks for updates periodically and suggests MP upgrade
- **MP dependencies** - Detects and suggests the dependent MPs to avoid partial MP import issues
- Currently 80+ Microsoft workloads are supported in this feature
- **Now available for 3<sup>rd</sup> party MPs. Targeting 56 partners with certified MPs**

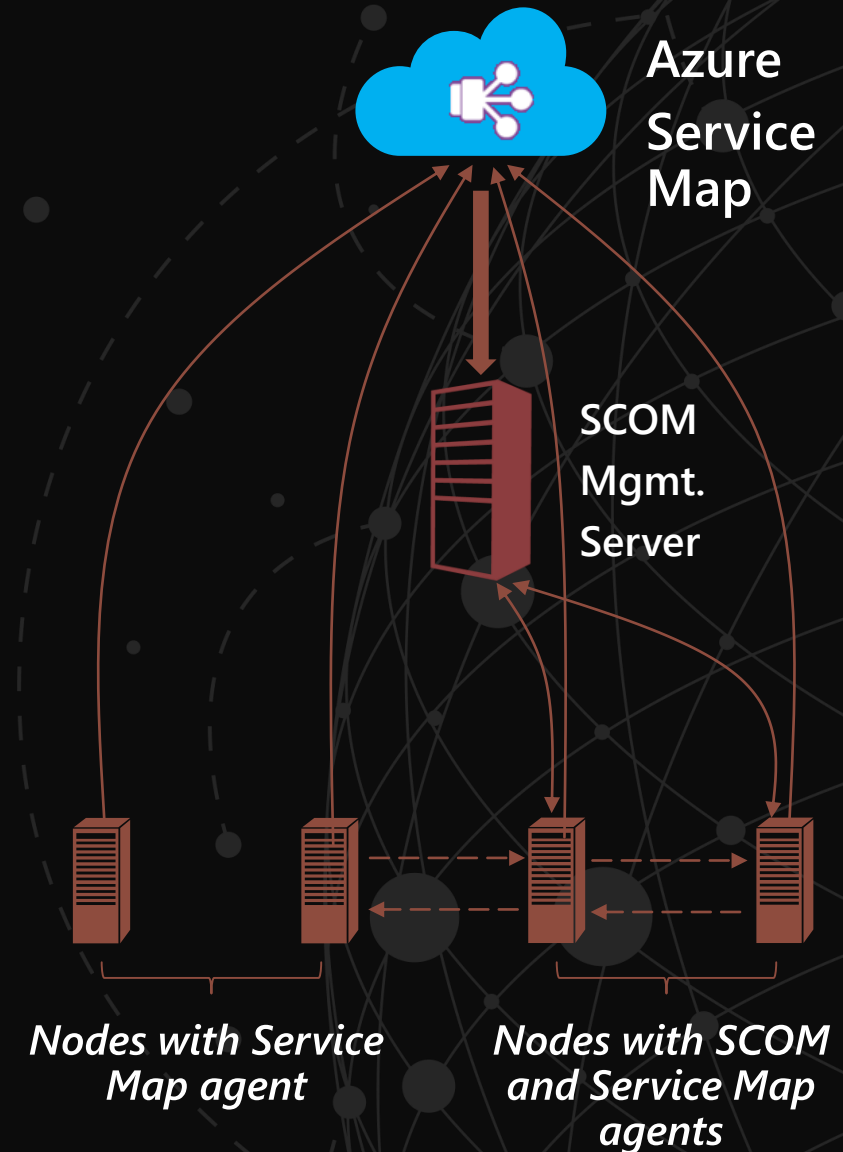


# Service Map integration

- Distributed Application Diagram function in SCOM is automatically updated with the application map deduced by Service Map.
- The deeper end-point monitoring from SCOM is surfaced in the diagram view for better diagnostics workflows.



Benji



# SCOM 1801 summary



## Enhanced Windows Server & Linux support

- Log file monitoring support for Linux at par with Windows
- Setup improvement for the Linux agent
- Linux Kerberos support
- Improvements to Linux MPs
- Improvements to Windows Server OS MP



## Fundamentals

HTML5 dashboards

Improved UI responsiveness  
with large number MPs

3rd party MP update and  
recommendation  
VS2017 support in VSAE



## Better with Azure

Service Map integration



Khaow Pong

# WHAT'S IN SCOM SEMI- ANNUAL CHANNEL RELEASE 1807?



# SCOM 1807

- SCOM 1807 is an update on top of 1801
- No clean install DVD to be downloaded
  - Creating and testing all possible install scenario's from a full-DVD install is too much for every 6 months
- Migration / Installation / Upgrade options all flow through the 1801 version



# SCOM agent and APM

- Issues since SCOM 2016 with APM component crashing some IIS Application pool instances. Some issues had been fixed in UR's 2,3,4.
- Workarounds were to remove APM from the SCOM agent; or to disable the rule turning on the RTIA profiler by default for all IIS.
- In SCOM 1807 the agent install and repair options from the SCOM console now have an additional checkbox where you can remove the APM component from the agent.
- Also the PowerShell cmdlets install-scomagent and repair-scomagent now have the -NoAPM switch so you can avoid or remediate any issues you may have.



2016 UR6 and anything after that has THE fix,  
or somebody is going to buy me cake!



# SQL 2017 Support

## LIMITED SQL 2017 Support

- No fresh install of 1801 on SQL 2017
- There is no fresh install of 1807
- After you have SCOM 1807 installed with a SQL 2016 instance
  - You can in-place upgrade the SQL 2016 to 2017

<https://docs.microsoft.com/en-us/system-center/scom/upgrade-sqlserver-2017-opsmgr-1807?view=sc-om-1807>



Dong

# SCOM X-plat agent

- The SCX cross-plat agent has rotating logs to avoid fill up of disk.
- For Linux platforms the older OpenSSL 0.9.8 support was dropped and support for OpenSSL 1.1.0 is added.
- Ubuntu 18 and Debian 9 support has been added.
- Unix/Linux the agent can detect pseudo file system dynamically and ignore enumeration.

<https://docs.microsoft.com/en-us/system-center/scom/release-notes-1807?view=sc-om-1807>

# SCOM and SCSM consoles

SCOM and SCSM consoles and PowerShell modules can now live together on the same machine (both 1807 version)



BoonRod

# SCOM Web Console



























- Create Maintenance Schedules from the web console, so you do not need the full console for that purpose.
- Users and Operators can create dashboards in My Workspace.
- A PowerShell widget has been added with more information on how to work with it listed here <https://docs.microsoft.com/en-us/system-center/scom/manage-create-web-dashboard-posh?view=sc-om-1807>.
- An effective configuration widget in the monitoring objects detail page showing the running rules and monitors and the override settings applied.

# WEB CONSOLE

## Server Monitoring

[+ Add widget](#) [Edit dashboard](#) [Delete dashboard](#) [View in fullscreen](#)

### Health

	Computer	Agent
	MGMNTSERVER1 	
	SQLSERVER01 	
	Agent1 	
	Agent2 	
	Agent3 	
	Agent4 	
	Agent5 	
	Agent6 	
	Agent7 	

### SCOM

2 Alerts

A

P

C

S

### Computers

4 Alerts

A

P

C

S

### Network

0 Alerts

A

P

C

S

### MS

0 Alerts

A









P

C

S

### Computer Alerts (4)

Filter by keyword

<input type="checkbox"/>		Sever	Source	Path	Name	Age
<input type="checkbox"/>			Agent10.smx.net	Agent10.smx.net	Power Shell Script failed to run	1 days, 12 hours
<input type="checkbox"/>			Agent4.smx.net	Agent4.smx.net	The Operations Manager agen	6 hours, 3 minute
<input type="checkbox"/>			C:	SQLServer01.smx.net	Logical Disk Free Space is low	1 days, 6 hours
<input type="checkbox"/>			C:	Agent4.smx.net	Logical Disk Free Space is low	1 days, 6 hours

# SCOM Web Console

- Network node and interface drill-down on a network device, same as SCOM console.
- Alert widget enhancements; improved layout & presentation of alert details. Can modify the resolution state and check monitoring object details page for the selected alert source.
- The monitoring tree can be hidden when a dashboard is integrated with SharePoint.
- Size of health icon can be changed in the Topology widget between small and large.



# WEB CONSOLE

## Server Monitoring

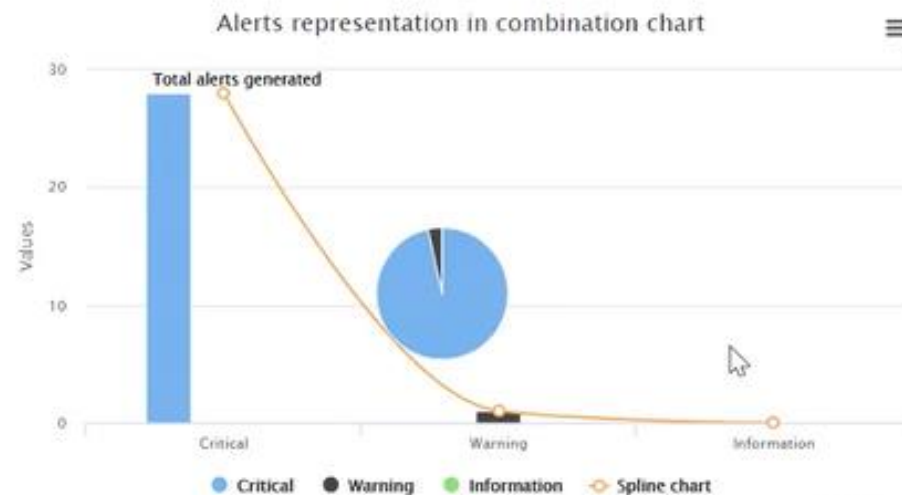
[+ Add widget](#)[Edit dashboard](#)[Delete dashboard](#)[View in fullscreen](#)

NaN	NaN	NaN	Agent5.smx.net
NaN	NaN	NaN	Agent4.smx.net
NaN	NaN	NaN	Agent3.smx.net
0.208042174577713	0	31.3809391428028	Agent7.smx.net
0.666437290608883	0	88.9568047557686	SQLServer01.smx.net
1.05203077755868	0	81.9526820541956	MGMNTSERVER1.smx.net
0.188076915685087	0	30.8904500415721	Agent2.smx.net
0.176440119510516	0	32.4264226327114	Agent6.smx.net
0.170542825013399	0	31.0873859995472	Agent9.smx.net
0.193051407113671	0	32.3680021330775	Agent8.smx.net

0.0002	MGMNTSERVER1.smx.net
0.001	Agent8.smx.net
0.0003	Agent7.smx.net
0.0007	Agent10.smx.net
0.0001	Agent4.smx.net
0.0004	Agent6.smx.net
0	Agent3.smx.net
0.0001	Agent2.smx.net
0.0017	SQLServer01.smx.net
0.0001	Agent9.smx.net

10842.9354	Agent5.smx.net
1164.8435	Agent1.smx.net
115949.5814	MGMNTSERVER1.smx.net
13354.1563	Agent8.smx.net
10649.0309	Agent7.smx.net
12700.1978	Agent10.smx.net
922.4363	Agent4.smx.net
7695.4543	Agent6.smx.net
1867.1055	Agent3.smx.net
3835.3032	Agent2.smx.net
90500.5123	SQLServer01.smx.net
5106.7693	Agent9.smx.net

### Visualization extensibility for alerts



### Average Sec/Transfer

Average value	Path
0.0235	MGMNTSERVER1.smx.net
0.0016	Agent7.smx.net
0.0168	Agent3.smx.net
0.0012	Agent9.smx.net
0.0009	Agent8.smx.net
0.0051	Agent4.smx.net
0.0097	Agent2.smx.net
0.0015	Agent6.smx.net
0.0109	Agent10.smx.net
0.0109	SQLServer01.smx.net



# SCOM 1807 what else

The list of fixed issues can be found in KB4133779 at

<https://support.microsoft.com/en-us/help/4133779/system-center-operations-manager-version-1807>

Too long a list to discuss today

Maai



# SCOM FUTURE



Euro



# SCOM whats coming

SCOM 1903 and 2019 are coming in a few months

First, let's guess:

- Windows 2019 Support
- SQL 2017 Support
- SCOM 2019 will contain every fix and feature released in 2016  
UR's, 1801, 1807, and 1903
- Upgrade path and clean install options
- APM issues solved

SCOM 2019 is LTSB, so 5+5 year support



# SCOM 2019



## Improved Fundamentals

No more Silverlight dependencies

Support for SQL Server 2017

Disable interactive Logon

Support OpenSSL 1.1.0 for Linux platforms

Kerberos support for Linux agent

Enhanced Agentless alerting during failover scenarios

Enhanced certificate validation for web application monitoring



## Monitoring Surface ++

Monitor Windows Server 2019

Monitoring latest application servers like Tomcat 9, WildFly 14, WebSphere 9.0 and Web Logic Server 12cR2

VSAE support for Visual studio 2017

Monitor Ubuntu 18 and Debian9

APM—enabled Client Side Monitoring (CSM) on Edge and Chrome browsers

APM—enabled monitoring support for SharePoint 2016

# HTML5 DASHBOARDS



No dependency



Extensibility



Inline actions



Easy access



Faster resolutions



Operator friendly

# SCOM 2019



## Monitoring Experience

HTML5 dashboards

Linux Log file monitoring

Enable/disable APM component during agent install/repair

MP discoverability for third-party MPs and Linux workloads

Enhanced notifications and subscriptions experience

Better alert management for monitors

Enhanced certificate validation for web application monitoring

Linux log rotation



## Hybrid

Integration with Azure Service Map

Enhancements to Azure MP





# NOTIFICATION AND SUBSCRIPTION ENHANCEMENT



Administrator

Notification  
email



Operators

Operator  
addresses issue



Alerts Details Page

Enhanced criteria builder  
with ability to perform "OR"  
and "Exclude" operations

Rich HTML email notification

Flexibility to customize  
HTML content

Easy access to relevant information about  
alert, alert source and rule/monitor

Trouble shoot / root cause the issue faster

Remediate issue or resolve alert  
from the alerts details page

Mon 9/24/2018, 2:19 AM  
You

**Critical / Monitor** Alert Name: **Logical Disk Free Space is low**  
Resolution State: **New** Owner: **Not Present**

**Source:** C:  
**Path:** Agent9.smx.net  
**Last modified by:** System  
**Last modified time:** 9/23/2018 1:48:38 PM  
**Alert description:** The disk C: on computer Agent9.smx.net is running out of disk space. The values that exceeded the threshold are 38.01% free space and 58775 free Mbytes.

**Notification subscription ID generating this message:** {56619847-C019-1BD9-B23D-2D287502D43A}

[View Alert](#) [View Alert Source](#) [View Monitor](#)

E-mail subject:  
`{1}/Context/DataItem/AlertName$ Resolution state: $Data[Default=Not Present]/Context/DataItem/ResolutionStateN`

☐ Generate subject line with no encoding (use if notification e-mails contain malformed subject lines)

☒ Enable HTML formatting for the email message

E-mail message:

```
<html>
<head>
<style>
header-0{background-color: #527DD2;color: white;} header-1{background-color: yellow;color: black;} header-2
{background-color: red;color: white;}span{display: none;} severity-$Data[Default=Not
Present]/Context/DataItem/Severity$(display: inline;text-decoration none;) monitor-$Data[Default=Not
Present]/Context/DataItem/CreatedByMonitor$(display: inline;text-decoration none;); cell{float: left;overflow:
hidden;text-overflow: ellipsis;white-space: nowrap; max-width: 100%;}
</style>
</head>
<body>
<div style="display: none;">$Data[Default=Not Present]/Context/DataItem/AlertName$ $Data[Default=Not
Present]/Context/DataItem/AlertDescription$</div><table class="header-$Data[Default=Not
```

Importance: Normal

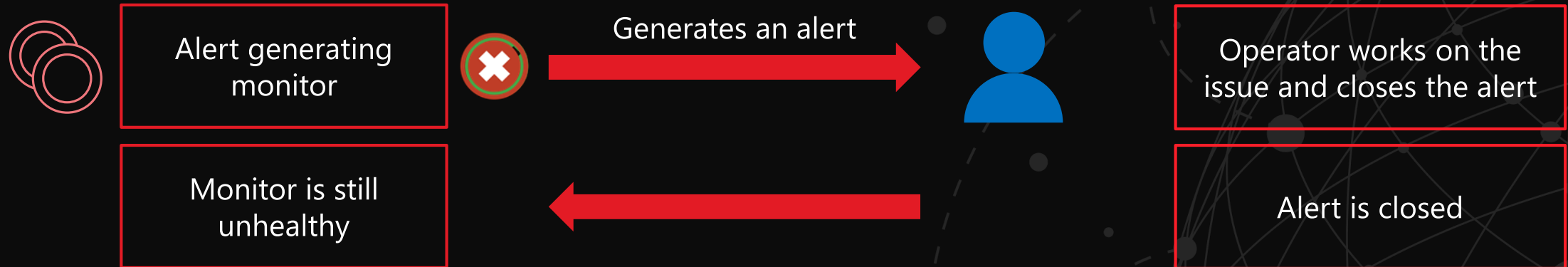
Copy Paste Prev



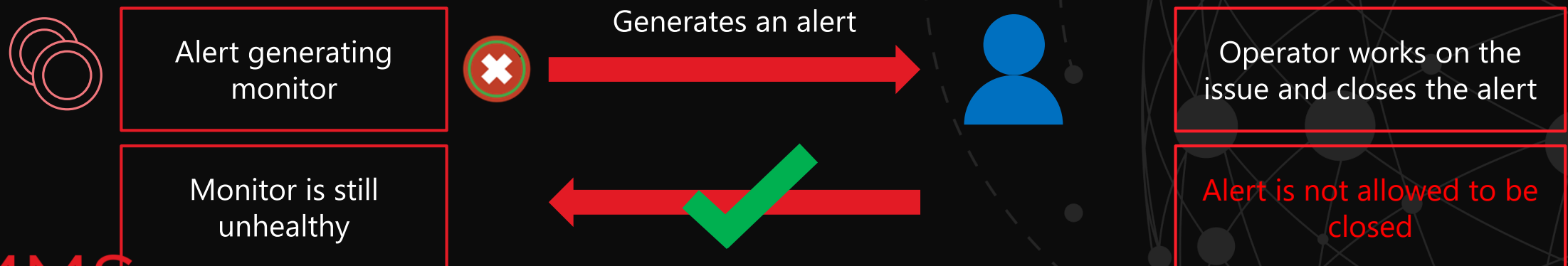


# ENHANCED ALERT MANAGEMENT FOR MONITORS

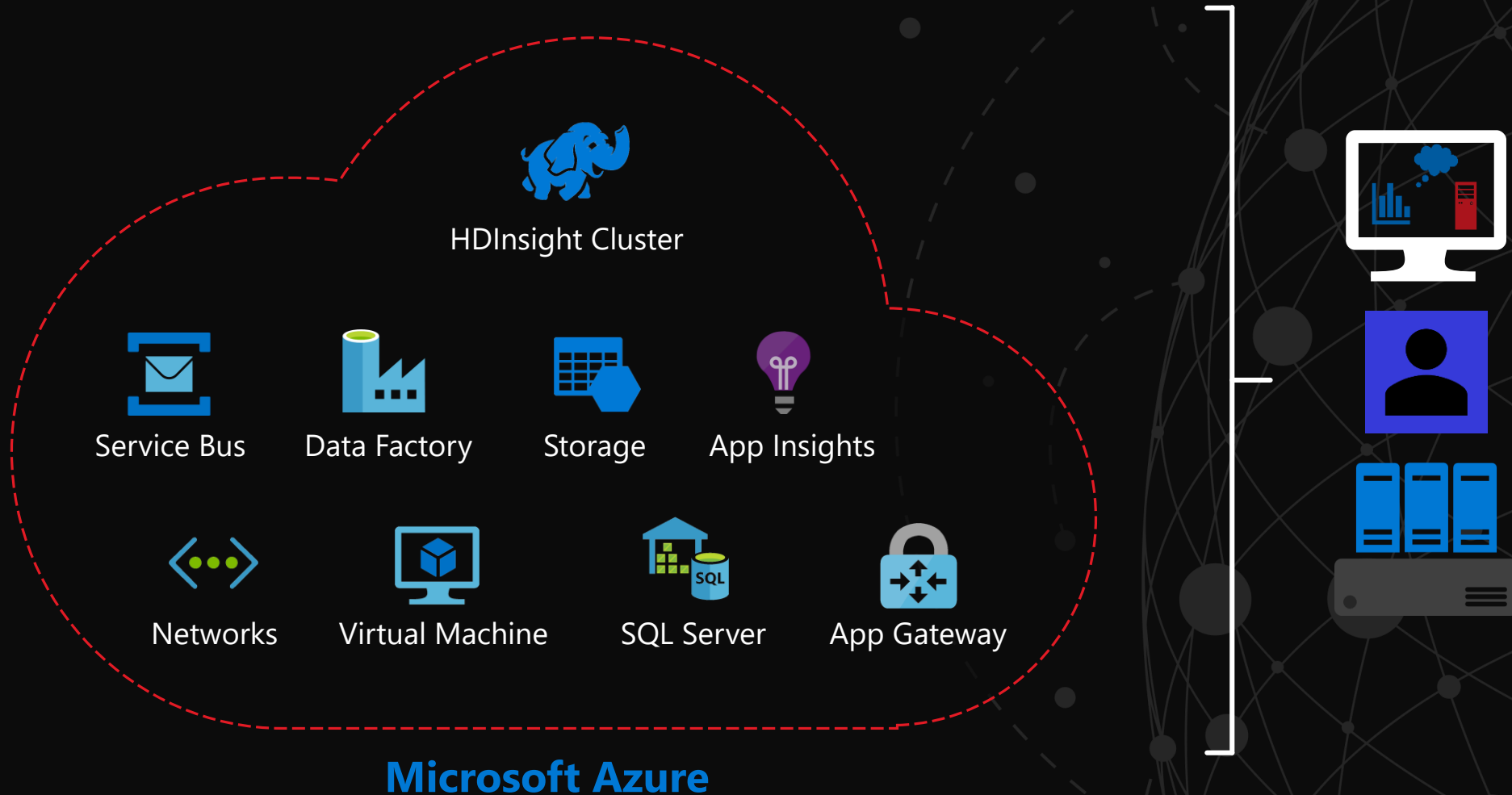
## Current behavior



## \*upcoming



# AZURE MANAGEMENT PACK FOR SCOM





# Charity!

Safety, food, water, health,  
blankets, shade, love, fun

**\$15 = 1 month food**

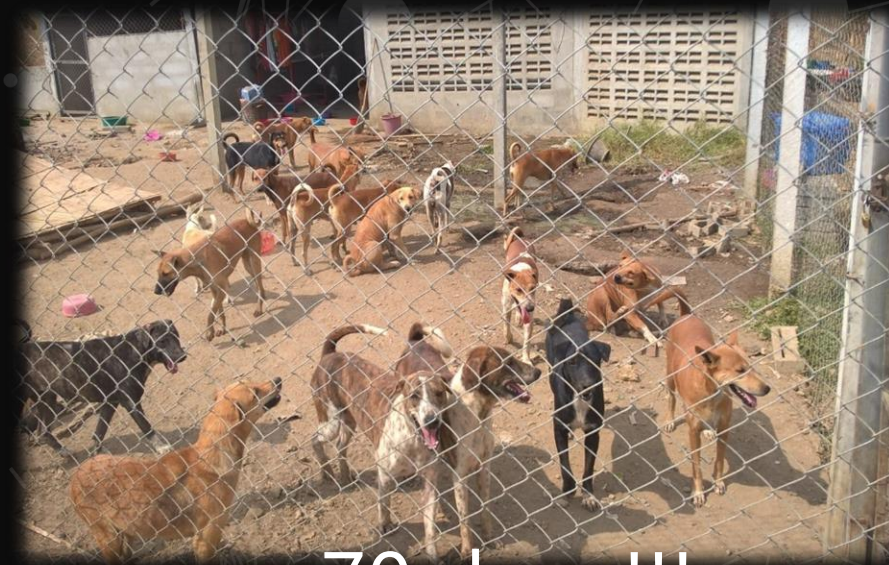


[www.houseoftails.org/support-us](http://www.houseoftails.org/support-us)

[www.facebook.com/sthouseoftails](http://www.facebook.com/sthouseoftails)

   [info@houseoftails.org](mailto:info@houseoftails.org)

Dutch bank IBAN: NL87INGB0006669920



70 dogs!!!



**#MMSGiveBack**