

Zabbix for Global UCaaS Company

Dmitry Shchemelinin, PhD

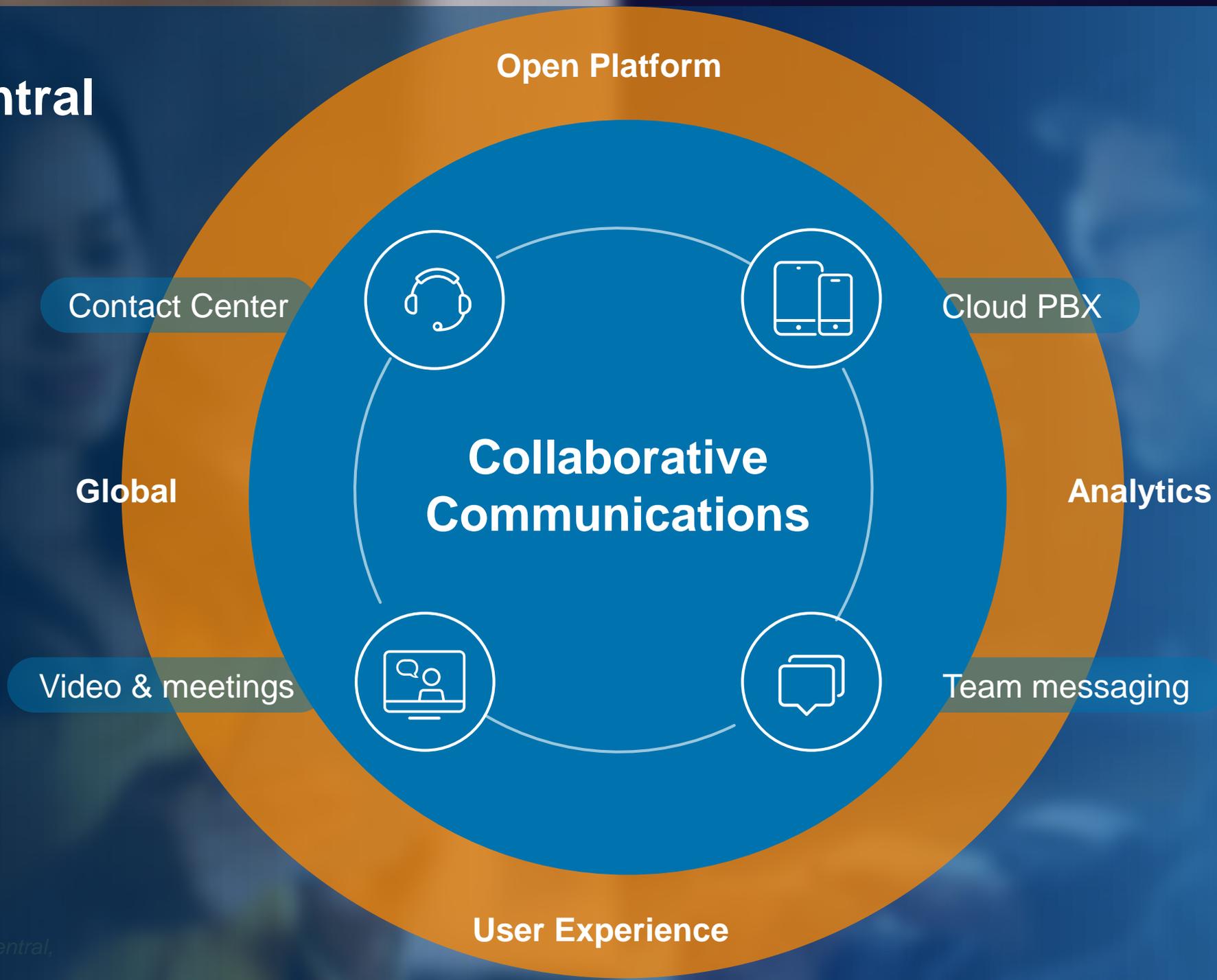
Yuri Ardulov

RingCentral[®]

Zabbix@RingCentral



RingCentral Product



Our Journey

2018

2017

2016

2015

2014

2008

RingCentral
Office



Office for
Enterprise &
Video Meetings



Contact Center,
Team Messaging
& Open Platform



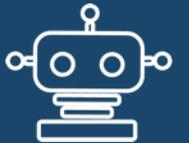
Collaborative
Communications
& Global Office



Analytics
& Quality of
Service



Collaborative
Meetings,
Collaborative
Contact Center
& Pulse





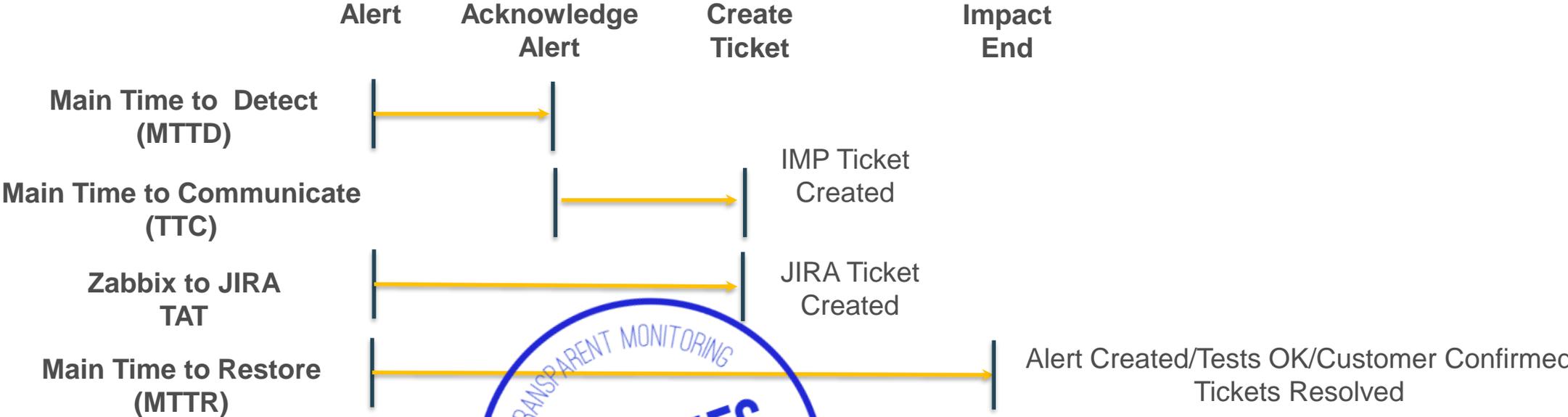
New technology?



Google Cloud Platform

UPTIME
BALANCING
UNSCHEDULED
SCHEDULED
MAINTENANCE
REDUNDANCY
HIGH
SLA
SYSTEM
LOAD
NINES
AVAILABILITY
FAILOVER
RELIABILITY
ACCESS
DOWNTIME
FAILURE
SERVICES

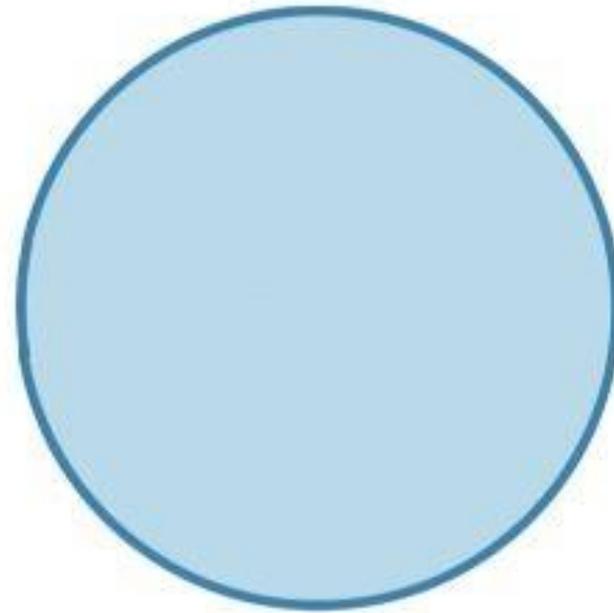
KPIs



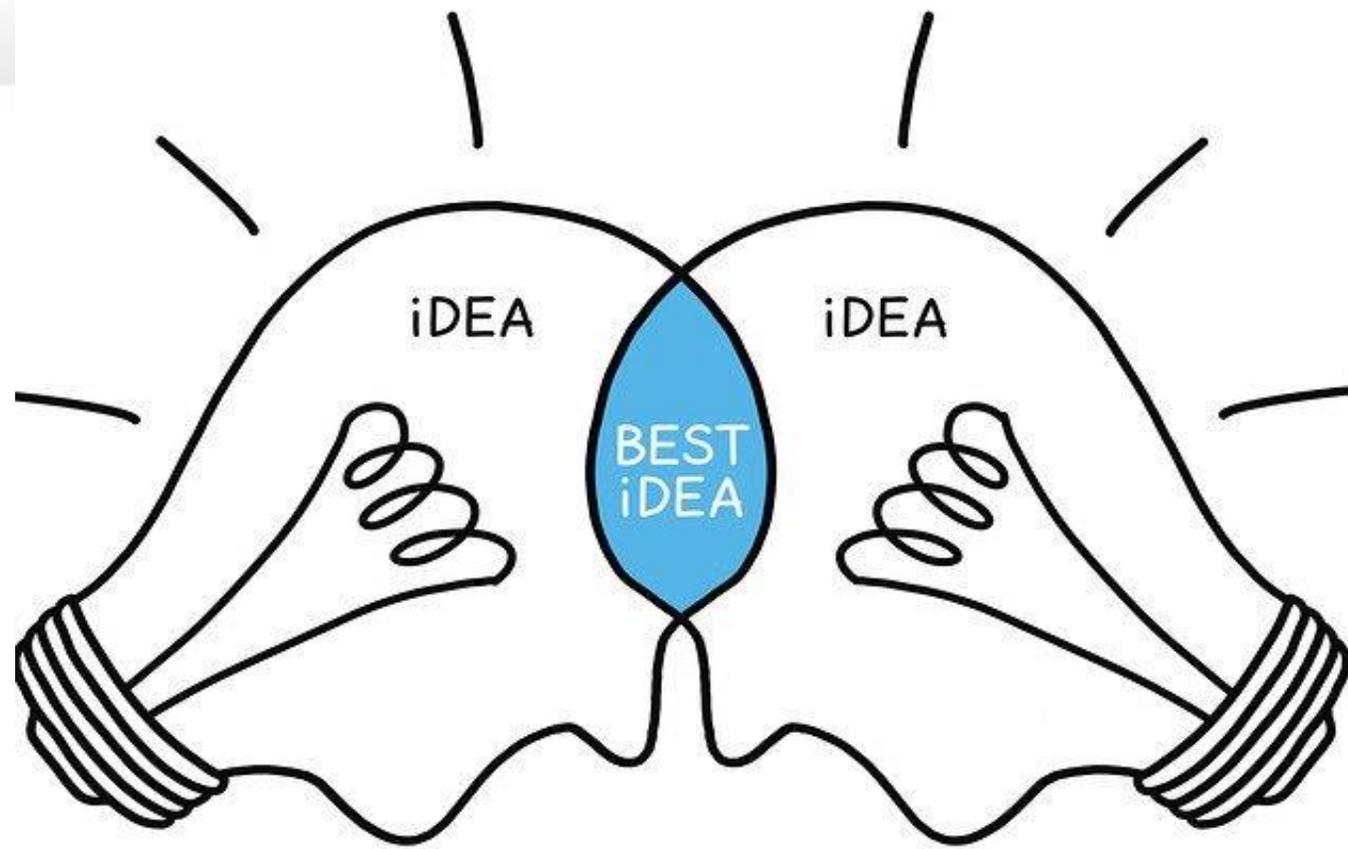
2008



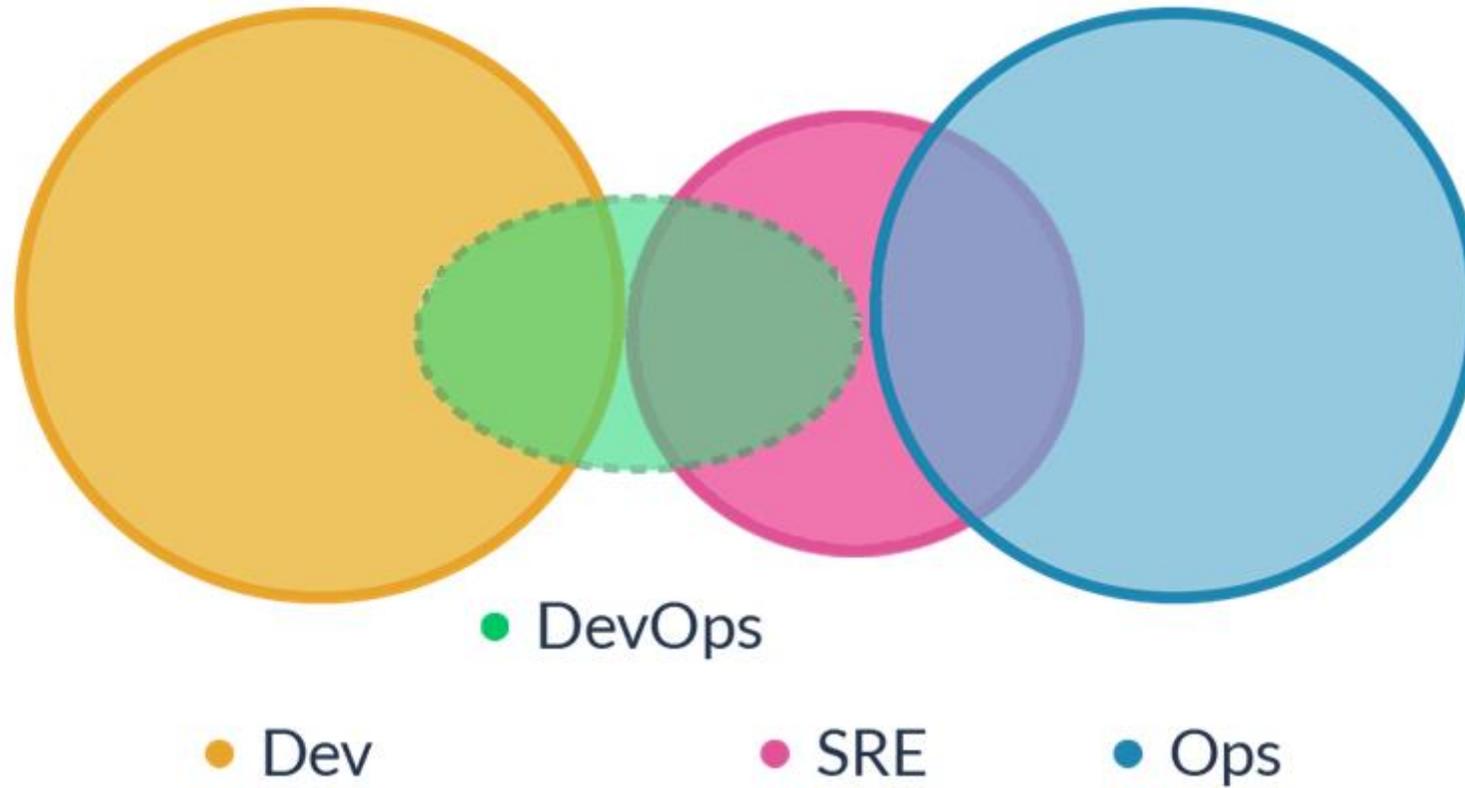
• Dev



• Ops



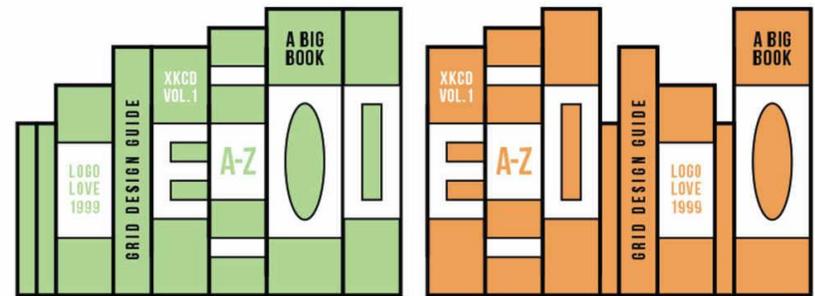
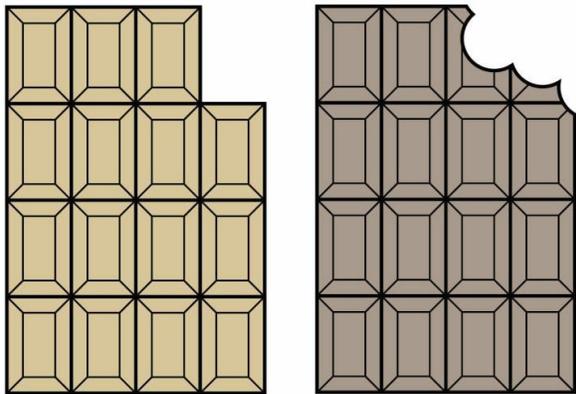
2018



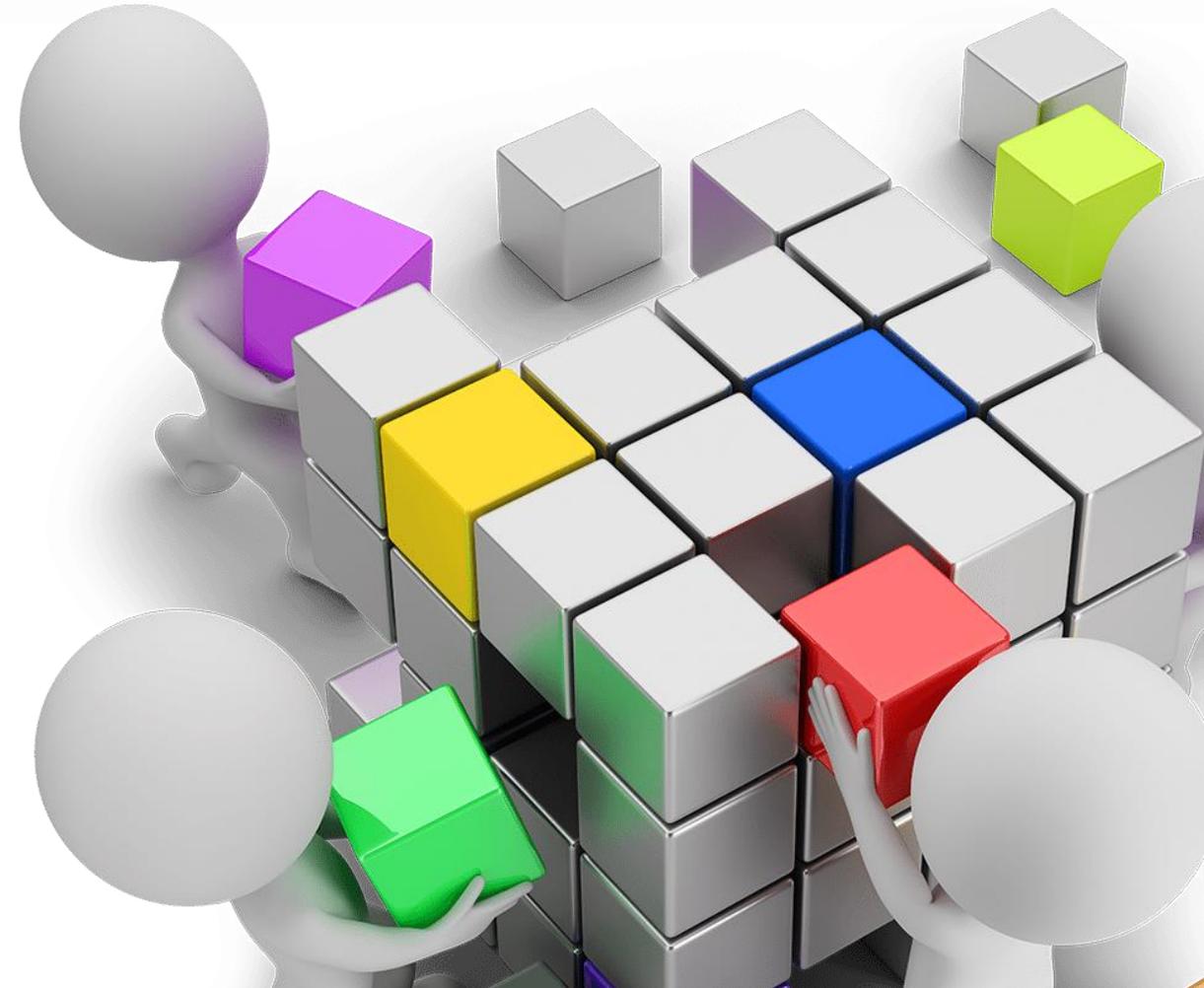
Do-It-Yourself (DIY) Mentality



People do things differently



DCIM & CMDB



filters

and or

- Asia
 - NRT01 (2)
 - SIN02 (2)
 - SYD01 (2)
- C01 (3)
- Europe
 - AMS01 (12)
 - LHR01 (1)
 - ZRH01 (8)
- Hardware environment (11)
- GIG01 (2)
- North America
 - DFW01 (3)
 - IAD01 (43)
 - IAD02 (2)
 - JFK01 (3)
 - LAX01 (2)
 - ORD01 (7)
 - SEA01 (3)
 - SJC01 (45)
- RC-PRO (2)
- RCLEC (7)

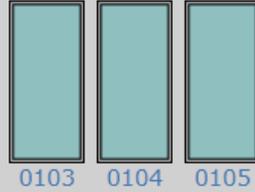
(no predicates to show)



AMS5-AMS01 - Zone 4 (Z4H)



AT2-ATL01 - (50020)



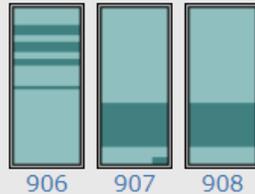
CH1:05:000740



CH2-ORD01 - (02194)



DA3-DFW01 - (20460)



- View
- Properties
- Log
- Rackspace
- Ports
- IPv4
- Tags
- Files
- 802.1Q order
- Monitoring

iad01-p10-vhs04 Monitoring

- General
- Items
- Triggers

Monitoring Status: visible to NOC
Latest data: [Open in Zabbix](#)
Active triggers: [Open in Zabbix](#)



iad01-p10-vhs04 Monitoring

Name	Update interval	Status	Zabbix history
Overall DELL chassis status	3 seconds	monitored	Open in Zabbix
Number of VHS in unit	1 second	monitored	Open in Zabbix
ICMP ping sec	1 minute 30 seconds	monitored	Open in Zabbix
ICMP packet loss	20 seconds	monitored	Open in Zabbix

View Properties Log Rackspace Ports IPv4 Tags Files **802.1Q order** Monitoring

iad01-p10-vhs04 Monitoring

General

Items

Triggers

Description	Expression	Status	Comments
DELL server overall status is critical	{iad01-p10-vhs04:drsGlobalSystemStatus.last(0)}=5	enabled	DELL server overall status is critical, please escalate to ArchOps.
DELL server overall status is warning	{iad01-p10-vhs04:drsGlobalSystemStatus.last(0)}=4	enabled	DELL server overall status is warning, please escalate to ArchOps.
No SNMP data from iDRAC	{iad01-p10-vhs04:drsGlobalSystemStatus.nodata(600)}=1	enabled	No data received from iDRAC during 10 minutes Escalate to ArchOPS
ICMP packet loss > 75%	{iad01-p10-vhs04:icmppingloss[,10].sum(#6)}>=450 and {iad01-p10-vhs04:icmppingloss[,10].min(#3)}<>100	enabled	Average ICMP packet loss percentage within the past 5 minutes is greater than 20%.
ICMP ping lost	{iad01-p10-vhs04:icmppingloss[,10].min(#3)}=100	enabled	Average ICMP packet loss percentage within the past 5 minutes is greater than 100%.
ICMP packet loss > 50%	{iad01-p10-vhs04:icmppingloss[,10].sum(#6)} >= 300 and {iad01-p10-vhs04:icmppingloss[,10].sum(#6)} <450	enabled	
ICMP RTT > 100msec	{iad01-p10-vhs04:icmppingsec.avg(#5)}>100	enabled	

Components list

Actions

Abbr	Name	Type	Layer	HW Type	HA Type	Owner	ADS Ready	HWE	SWE	Subsystem
ABE	Archiver Back End application service	RC Application	CL	Amazon EC2 Instance	Standalone	Unknown	✗ not yet			
ABR	[decommissioned] Address Book sync Router	RC Application	CL	Virtual Machine	F5 VIP Pool	Sys-Ops	✗ not yet	Lin-M2-Log	UNIX66-STD.066	
ABS	[decommissioned] Address Book Sync Server	RC Application	POD	Virtual Machine	F5 VIP Pool	Sys-Ops	✓ ready	Lin-M2-Std	SWE/IIS.064	
ACE	Access Control Engine	RC Application	CL	Docker instance	HLB VIP pool	Sys-Ops	✓ ready	L4	CentOS 6.8 based docker image	
ACM	Account client manager	RC Application	CL	Docker instance	Standalone	Sys-Ops	✓ ready	Lin-M2		
ACT	AMD Configuration Tool	RC Application	CL	Docker instance	HLB VIP pool	Sys-Ops	✗ not yet	Lin-L4-Sml	CNT72-JDK8.084	
ADB	Account Database	RC Application	POD	Dell Server	Standalone	DBA-Ops	✗ not yet			
ADC	Active directory Domain Controller	Infrastructure	CL POD	Virtual Machine	Standalone	Sys-Ops	✓ ready	Win-L4-Std, Win-L8-Std, Win-M4-Std	W2K16-STD.094, W2K8-ADC.080, W2K8-ADC.092	
ADF	Active Directory Federation Services	Infrastructure	CL	Virtual Machine	F5 VIP Pool	Sys-Ops	✗ not yet	Win-M4-Std	W2K16-STD.094, W2K8-ADC.092	

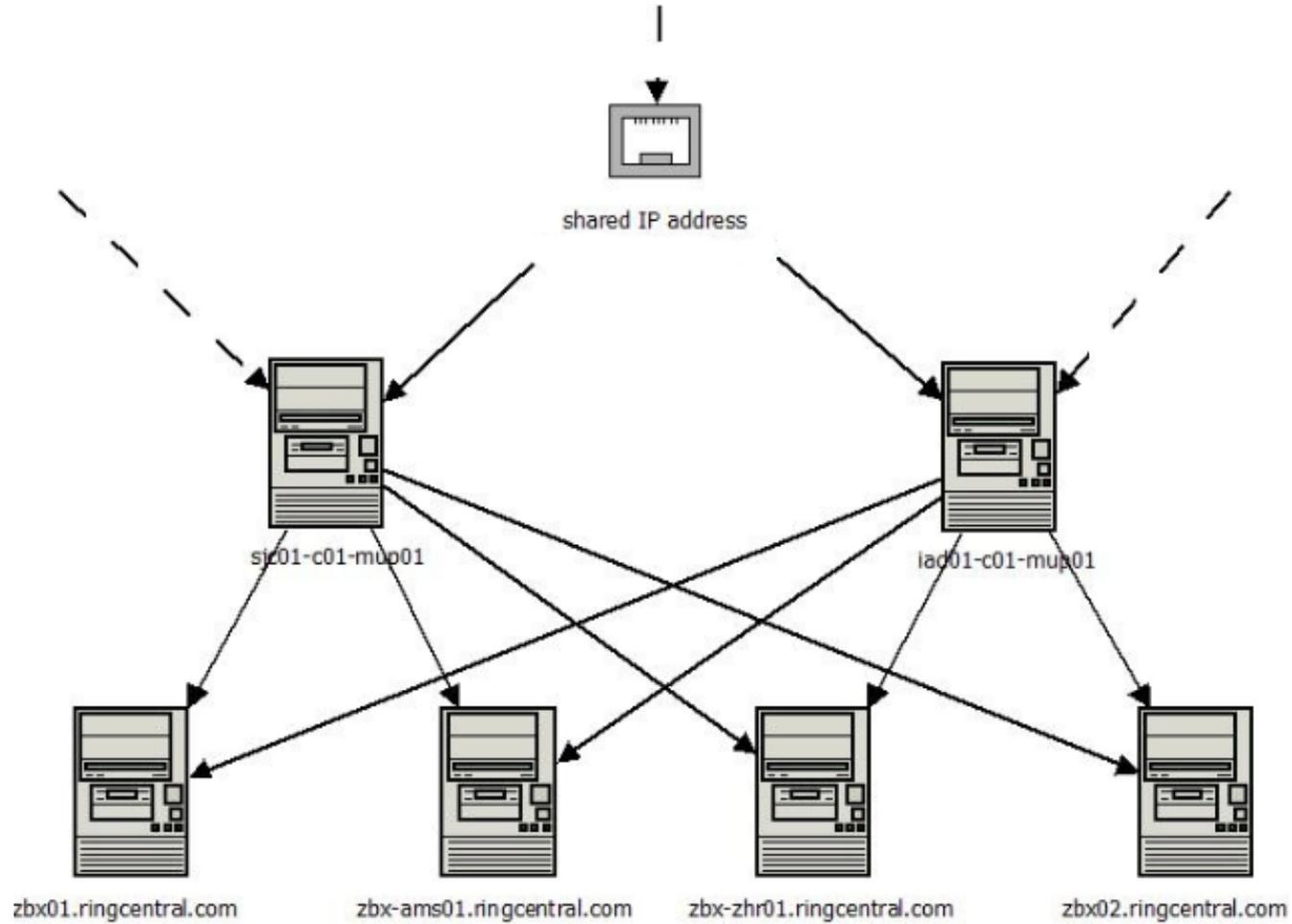
JIRA

ZABBIX

CMDB



Multilocation alert distributed system



MUP Features

1. Put host or group of hosts in maintenance mode
2. Setup maintenance timeframe
3. Add instance into monitoring
4. Remove instance from monitoring
5. Show/Hide host on NOC Console
6. Setup tag for monitoring version
7. Setup interfaces for the host
8. Adjust monitoring parameters

Problem Management

All active

Export to Excel Logs

ID	Status	Name	Component	JIRA ticket	JIRA status	JIRA Assignee	JIRA age	Last update	Next update	Events/Week	Patterns	
248	Waiting for deploy	Hide POD18 alarms for pod deployment + LBR	LBR	SRE-687	Open	Clint Tjerkstra	0 d	2018-10-05	2018-10-20	0 (0)	2 / 2	
247	Open	"Subscription lookup failed." (SJC01 IAD01).	CNS	SRE-684	Open	Clint Tjerkstra	1 d	2018-10-04	N/A	684 (+684)	0 / 1	
246	Waiting for deploy	SJC01[CCM]: Mesos-cluster capacity redundancy degradation for mem		OPS-112279	Open	SysOPS Endilog	3 d	2018-10-02	2018-10-05	3 (+3)	0 / 1	
245	Investigation SRE	Suppress Citrix alarm per Clint Mojzes.NOC - 113777	RTR	SRE-680	Open		4 d	2018-10-01	N/A	2 (0)	2 / 2	
243	Open	Issue with blacklisting RCV upstream sjc01-c04-rcv-10_13_138_53-8788 from sjc01-c04-hlb31		RCV-11253	Open	Alexander Boudry	6 d	2018-09-29	2018-10-03	0 (0)	0 / 1	
239	Open	Suppression of BGP alerts from BT per Clint's request.		NOC-113700	Resolved	Yash Khan	8 d	2018-09-27	N/A	2 (0)	2 / 2	
240	Open	ASW memory utilization alerts suppression	ASW	SRE-673	Open		8 d	2018-10-05	N/A	98 (+98)	12 / 12	
241	Waiting for deploy	Not all members in /Common/cnv_80 are up.	LBR	SRE-675	Open		8 d	2018-09-28	N/A	1280 (+722)	1 / 1	
221	Investigation OPS	sjc01-c01-cnv(33 46 36 51) alarm at a disproportionately high rate	CNV	OPS-111756	Open	DT Queue	9 d	2018-09-27	2018-09-28	43 (-55)	0 / 3	
238	Investigation SRE	Suppress Alerts on Linkdown notice per Narendra manaldalapu	ASW LVS	SRE-672	Open		9 d	2018-09-26	N/A	51 (+39)	5 / 5	



Support Call Queues AT&T: 0 AU: 0 BT: 0 Canada: 0 Europe: 0 North America: 1 Telus: 0 UK: 0 VAR: 0

Warning **26**
Critical **39**
Outage **0**
Disaster **0**
Acknowledged **64 / 65**
ADS Restarts **0 / 0 / 0**

Count	Trigger	Ack	Jira	KE	Esc	PM	First seen	Last seen	Location
1	sjc01-c01-rng66: Zabbix Agent is not available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		22s	22s	SJC
1	aws01-g01-mis06: outbound_email_server lost access to Redis Cache	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		1m 43s	1m 43s	AWS
1	aws01-g01-mis05: inbound_email_server workers dying rate is high	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	lurii		1m 45s	1m 45s	AWS
4	Drop of SIP registrations > 5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>				41m 8s	2m 57s	NRT
	Trigger	Ack		KE	Esc	PM	Seen	JIRA	CMP
C01	sin02-c01-sbc01b: Drop of SIP registrations > 5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		2m 57s		
	sin02-c01-sbc01a: Drop of SIP registrations > 5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		2m 59s		
	nrt01-c01-sbc01b: Drop of SIP registrations > 5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		40m 8s		
	nrt01-c01-sbc01a: Drop of SIP registrations > 5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		41m 8s		
3	GLIP-19715: MIS CPU load exceeds 80% due to glip-today	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				27m 54s	6m 13s	AWS
1	aws01-g01-mis: ALL outbound_email_server lost critical dependencies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		7m 39s	7m 39s	AWS
2	NOC-112460: MA: 2xAWS01[ELB](Warning): One or more targets are out of service on GASInternalALB - GASInternalALBHTTPS/0dab208f2e405638, One or more targets are out of service on GASInternalALB - GASInternalALBHTTP/4c7af31369333560	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				23m 32s	23m 31s	AWS

Report for 2018-09-06 - 2018-10-06

Overall Date Frame SLA: 99.999%

BT Date Frame SLA: 100.000%

AT&T Date Frame SLA: 100.000%

TELUS Date Frame SLA: 100.000%

Report By Date:

Date	Daily %	7 Days Running, %	30 Days Running, %	90 Days Running, %	Quarter to date, %	Rolling Year to date, %	Total Duration, minutes	Customers Impacted	Overall Impact, c*min	BT Customers Impacted	BT Impact, c*min	BT 30 Days Running %	AT&T Customers Impacted	AT&T Impact, c*min	AT&T 30 Days Running, %	TELUS Customers Impacted	TELUS Impact, c*min	TELUS 30 Days Running, %
2018-09-06	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.935
2018-09-07	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.935
2018-09-08	100.000	100.000	99.999	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-09	100.000	100.000	99.999	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-10	99.962	99.995	99.998	99.998	99.998	99.995	75	2922	219150	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-11	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-12	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-13	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-14	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-15	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-16	100.000	99.995	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-17	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-18	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-19	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969
2018-09-20	100.000	100.000	99.998	99.998	99.998	99.995	0	0	0	0	0	100.000	0	0	100.000	0	0	99.969

THANK YOU

RingCentral[®]

