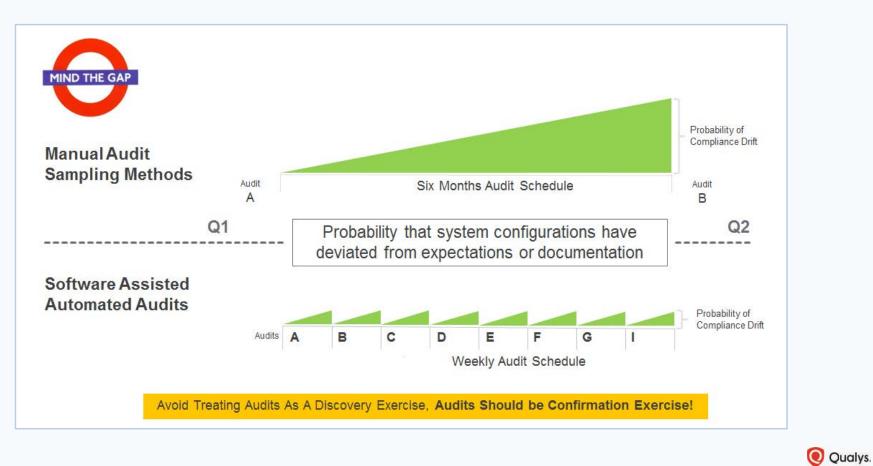


QUALYS SECURITY CONFERENCE 2020

Continuous Compliance in Hybrid Environment

Shailesh Athalye VP, Compliance Solutions, Qualys, Inc

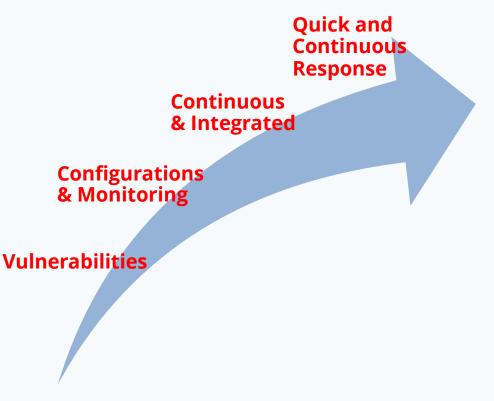
2014: Good Old Days of Compliance



2020: Matured Cybersecurity Risk Management

Performing vulnerability management with a context to reduce the "attack surface"

Quick continuous assessment and fix cycles before images are in production





Teams Speak Different Languages



Elastic, Kafka, custom web servers



Identify risk and compliance



Secure hosts, config/integrity/ vulnerability management

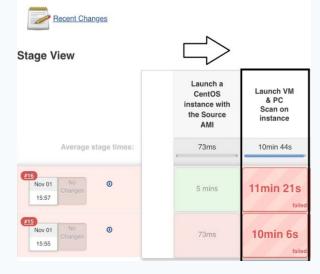
Security & Compliance assessment should be baked into DevOps



Start Compliant, Stay Compliant

🚷 Jenkins

Pipeline aws-golden-ami-pipeline



QUALYS POLICY COMPLIENCE RESULTS

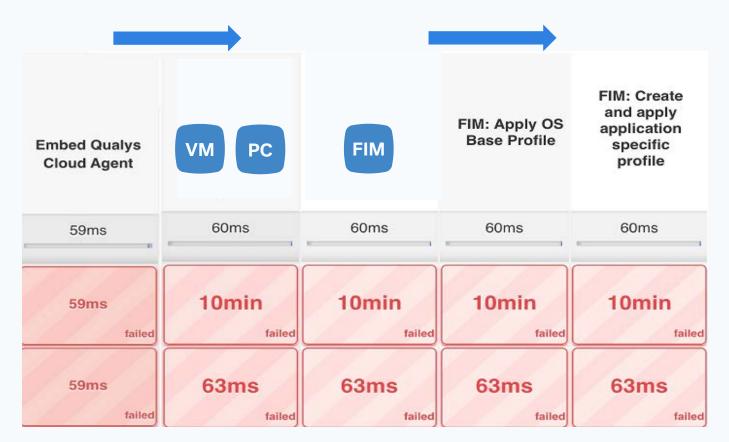
Show 10 \$ entries

_

CID	Title	Technology	Criticality
14602	Status of the 'nosuid' option for '/tmp' partition using 'mount' command	CentOS 7	4
10804	Status of the SELinux current mode (running configuration)	CentOS 7	4
10643	Status of iptables package	CentOS 7	4
12815	List of runtime audit rules for '/etc/passwd' file, using auditctl	CentOS 7	4
10664	Status of the 'OPTIONS' setting within '/etc/sysconfig/chronyd' file	CentOS 7	4
9473	Existence of the 'extraneous' files and directories (Sensitive files/Directori es)	Tomcat 8	3
9477	Status of 'X-Powered-By' setting within 'server.xml' file	Tomcat 8	4
9551	Status of the 'secure' attribute for each 'Connector' elements whose 'SSL Enabled' are set to 'true'	Tomcat 8	4
9605	Status of the command-line flag 'STRICT_SERVLET_COMPLIANCE' set for the Tomcat process	CentOS 7	4
9565	Status of the 'web server processes' which are not started with 'Security Manager'	CentOS 7	4



Monitor Critical Files From CD Phase





Discover and Assess Middleware Automatically

Discover unauthorized technologies based on host scans

*	Apa	ache	Tomcat 8.x			
	~	1. A	pacheTomcatControls PASS	80	0	0
		•	(1.1) 9505 Status of the 'permissions' within '\$CATALINA_HOME/webapps' directory	CRI	TICAL	
			1. Apache TC 8::/opt/apache-tomcat-8.0.18/apache-tomcat-8.0.18	Status	PASS	
			2. Apache TC 8::/opt/apache-tomcat-8.5.20	Status	PASS	
			3. Apache TC 8::/opt/apache-tomcat-8.5.20/apache-tomcat	Status	PASS	
			4. Apache TC 8::/opt/apache-tomcat-8.5.20/apache-tomcat1	Status	PASS	
		*	(1.2) 9602 Status of the 'manager application (webapps/manager)' setting	SEF	NOUS	
			1. Apache TC 8::/opt/apache-tomcat-8.5.20/apache-tomcat1	Status	PASS	
			2. Apache TC 8::/opt/apache-tomcat-8.0.18/apache-tomcat-8.0.18	Status	PASS	
			3. Apache TC 8::/opt/apache-tomcat-8.5.20/apache-tomcat	Status	PASS	
			4. Apache TC 8::/opt/apache-tomcat-8.5.20	Status	PASS	
		•	(1.3) 9603 Status of the 'manager application (manager.xml)' setting	SEF	NOUS	
		Þ	(1.4) 9606 Status of the command-line flag 'RECYCLE_FACADES' set for the Tomcat process	CRI	TICAL	
		۱.	(1.5) 9610 Status of the 'connectionTimeout' value within 'Connector' element in 'server.xml' file	SEF	NOUS	
		•	(1.6) 9611 Status of the 'maxHttpHeaderSize' value within 'Connector' element in 'server.xml' fil	SEF	RIOUS	

Security Control Validation (SCV)

Top five responsibilities of CISOs <u>https://www.bitsight.com/blog/ciso-roles-and-responsibilities</u>

Pre-requisites and configurations

Native security features

Reports		Control Vie	w					
		× pc	.control.catego	ry:"Ant	i-Virus/Malware"			
23 Total Control Inst		0	Actions (0) +				1 - 23 of 23	- 88 .C.C
CATEGORY Anti-Virus/Malws CRITICALITY SERIOUS CRITICAL URGENT POSTURE PASS			STATUS	CID	CONTROL	TECHNOLOGY/INSTANCE	ASSET NAME	LAST EVALUATION
CATEGORY			FAIL Apr 16 , 2019	9043	Status of the 'Default Protections for Internet Explorer' setting.	Windows Server 2012 R2 os	10.11.114.112 [1-6F91D	Apr 16 , 2019
	23	*	FAIL Jul 24, 2017	9043	Status of the 'Default Protections for Internet Explorer' setting.	Windows Server 2012 R2 os	win2012r2 10.10.35.201 WIN2012	Oct 07, 2017
ERIOUS	2 19	•	FAIL Apr 16 , 2019	9057	Status of the 'System ASLR' setting	Windows Server 2012 R2 os	10.11.114.112[1-6F91D	Apr 16, 2019
CRITICAL URGENT	2	•	FAIL Jul 24 , 2017	9057	Status of the 'System ASLR' setting	Windows Server 2012 R2 os	win2012r2 10.10.35.201 WIN2012	Oct 07, 2017
ASS	11	•	FAIL Apr 16, 2019	4156	Status of the 'Notify antivirus programs when opening attachments' Group Policy setting	Windows Server 2012 R2 os	10.11.114.112 1-6F91D	Apr 16, 2019
AIL	12	٠	FAIL Jul 24 , 2017	4156	Status of the 'Notify antivirus programs when opening attachments' Group Policy setting	Windows Server 2012 R2 os	win2012r2 10.10.35.201 WIN2012	Oct 07, 2017
		•	PASS Jul 24, 2017	8881	Status of the security patches and software updates	Mac OS X 10.x	10.10.10.37	Jul 24, 2017
		•	PASS Jul 24, 2017	8844	Status of the 'Automatically check for updates' setting	Mac OS X 10.x os	10.10.10.37	Jul 24, 2017
		•	FAIL Jul 24, 2017	8860	Status of the Gatekeeper feature	Mac OS X 10.x os	10.10.10.37	Jul 24, 2017
			FAIL	8861	Status of the safe download list's (XProtect) last	Mac OS X 10.x	10.10.10.37	Jul 24, 2017

Anti-virus | FIM Agents | Splunk | Kafka | Native Malware Protection | Jenkins



Qualys. Enterprise	
← Create New : Remed	iation
STEP 4 / 5 1 Basic Information 2 Select Assets 3 Select Controls 4 Schedule 5 Review and Confirm	Schedule the remediation job to run on demand or in the future on Demand Schedule Demediation Window You can configure a remediation windoe to run to Nore St Duration Note: Not setting the patch window will allow the cloud agent to take as much time as it needs to complete the job.
	Cancel Previous Next

New Policy Compliance UI

Security for Inaccessible & Exotic Hosts

Use APIs/UI and push data to Qualys

- Create custom assets
- Push command output, vulnerability, config data

Validate settings and data

Report vulnerabilities, security and misconfigurations

File + View + Help + **Detailed Results** 154.36.214.3 (hp-in01-prn02, HP-IN01-PRN02) HP FutureSmart 4 Tracking Method OCA. Last Scan Date 09/05/2019 at 11:12:12 (GMT+0530) 12 (100%) c9192ca4-tbf-454c-82fa-8c31003521fa Qualys Host ID: Failed Accel Tars: Error W HP FutureSmart 4.x 1. System Configuration + (1.1) 1116 Status of the 'File Transfer Protocol (FTP)' service + (1.2) 1861 Status of the 'telnet' service (1.3) <u>10270</u> Status of the SNMP community strings (1.4) 12413 Status of the 'AppleTalk' protocol (1.5) 13857 Status of version of firmware stored in boot PROM ▶ (1.6) 14039 Status of SNMP configuration of version SNMPv1

Qualys Out-of-Band Config Assessment (OCA)

New-Age File Integrity Monitoring

Built on the same Qualys Cloud Agent you use for VM, PC, Inventory

Real-time detection for high volume, high scale

Automated incident management and alerting

Out of the box PCI monitoring profiles for OS and applications

No infrastructure or data load for you to manage

12 QSC Conference, 2018

November 20-21, 2019



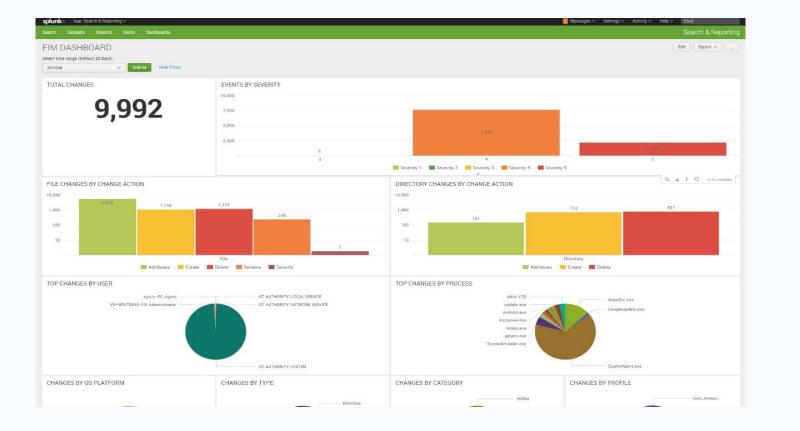
Authorized vs Unauthorized Changes

0

Incidents		All Incidents	Correlation Rules						
101 Total Incidents		× ruleId	:8fc42fcc-4028-45e8-88da-67225	4ed1493					=
			Assigned to me 101				Pendir 1	ıg	
TATUS								1 - 50 of 101	ed to o
CLOSED OPEN	100	CREATED	NAME	TYPE	STATUS	ASSIGNEE	DISPOSITION	CHANGE TYPE	APPROVAL
		21 hours ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	OPEN	quays_qd		*	*
		2 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA
		3 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA
		4 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA
		5 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA
		6 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA
		7 days ago 10:30:00 AM	Unauthorized Windows Patc	AUTOMATED	CLOSED	quays_qd	PATCHING	AUTOMATED	POLICY_VIOLA



Open APIs for Integration





Context of Changes in Cloud

Qualys. Enterprise						
Asset Details : i-076e	2369b896dfe3e					
INVENTORY Asset Summary System Information Network Information Open Ports Traffic Summary	File Integrity N	Ionitoring S3 FIM Events				
Cloud Information SECURITY Vulnerabilities Threat Protection Patch Management Indication of Compromise Certificates Secure Access Control SOAR		ON S3 BUCKET FROM INSTANCE (INSTAN Total Events 5.0K Authorized Unauthorized	4584 498			
COMPLIANCE Policy Compliance	TIME	TARGET	ACTION	ACTOR	EVENT STATUS	SEVERITY
File Integrity Monitoring	an hour ago 12:08:18 PM	bucketauditreports/ 636123215182/us-west-1	PutBucketPolicy	InstanceProfile/i-07f6 assumed-role	Acces	
Agent Summary Connector Summary	an hour ago 12:08:18 PM	bucketauditreports/t 636123215182/us-west-1	GetObject	InstanceProfile/i-07f6 assumed-role	Acces	
Passive Sensor Alert Notifications	an hour ago 12:08:18 PM	bucketauditreports/ec2 636123215182/us-east-1	DeleteObject	InstanceProfile/i-07f6 assumed-role	Unauthor 🛕	
	an hour ago 12:08:18 PM	bucketauditreports/RDS 636123215182/us-west-1	DeleteObject	InstanceProfile/i-07f6 assumed-role	Unauthor A	
	an hour ago 12:08:18 PM	bucketauditreports/tom 636123215182/us-west-1	DeleteObject	InstanceProfile/i-07f6 assumed-role	Unauthor 🛕	
	November	20-				

ualys Security Conference

21, 2010



Assess Vendor Security

Manage vendor risk per vendor criticality

Unify Vendor security and process compliance with technical security

Qualys Security Assessment Questionnaire (SAQ)

Ourselve -

shboard 🗸							
ast 30 days							
HE IN 2 WEEKS 20 Campaigns 6	GH RISK VENDORS	active 21	VENDOR CAMPAIGN	Ś			
MY ACTIVE CAMPAIGNS					VENDOR CAMPAIGN STATUS		
TITLE	PROGRESS	LAST	UPDATED	DUE DATE		Total	
Employee Half Yearly	93	I% Nov	2, 2018	Nov 20, 2018		53 view	
Finance Vendors Quarterly Check	64	% Oct 2	29, 2018	Nov 23, 2018		Active	21
APAC Office Vendors	47	% Nov	12, 2018	Nov 30, 2018		Inactive Complete	8 18
Contractors Quarterly Check	24	l% Aug	20, 2018	Oct 30, 2018		Canceled	6
IT Assets Management	18	1% Oct ⁻	12, 2018	Dec 20, 2018			
OVERALL CAMPAIGN AGING	VENDO	OR RISK ANALY	sis		TOP 5 VENDORS BY RISK		
			Total		CUSTOMER NAME CI	RITICALITY R	RISK
			28 vie	W	Zurich Softwares	Medium	Very High

SaaS Applications Challenges





SaaS Security and Compliance

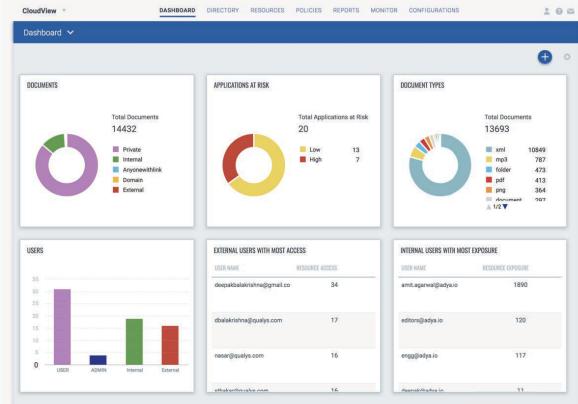
Inventory

Access

Exposure

Security Configurations

Office365, Google Suite, Salesforce GitHub, Okta, Slack



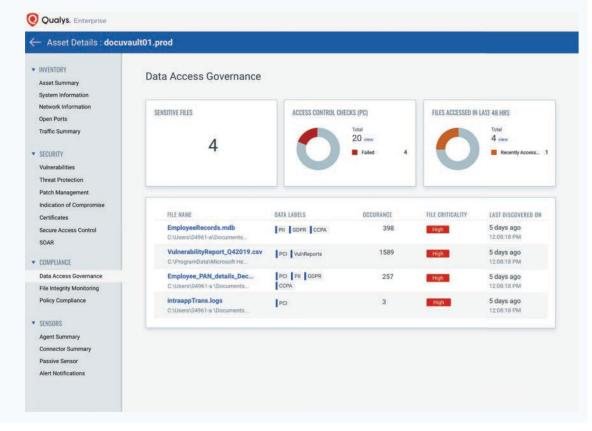
Sensitive Data Discovery and Security

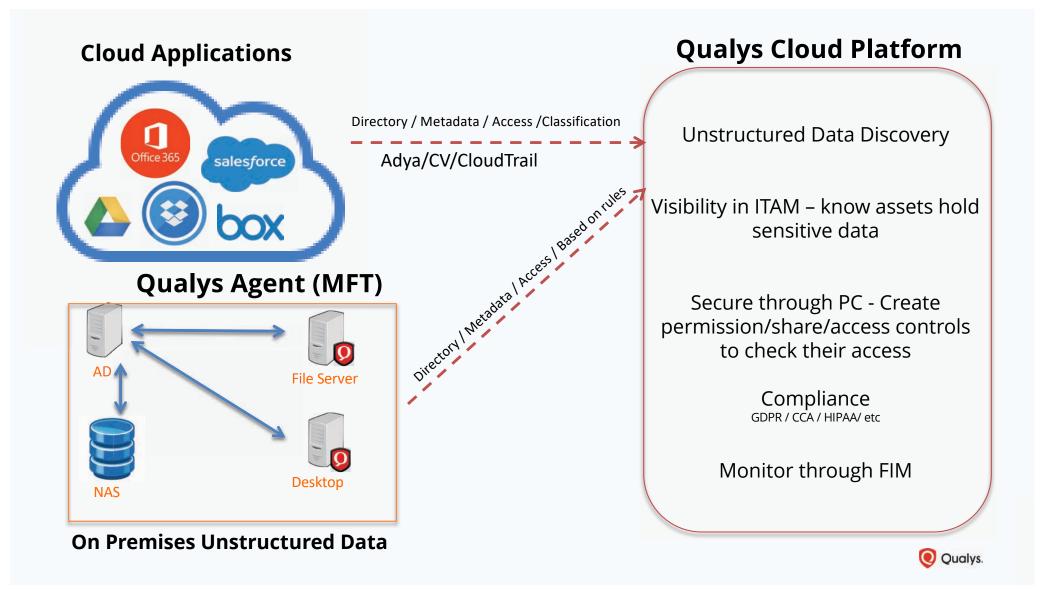
Discovery

Access Visibility

Activity Monitoring

Context for security









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Thank You

Compliance Team and Shailesh Athalye sathalye@qualys.com