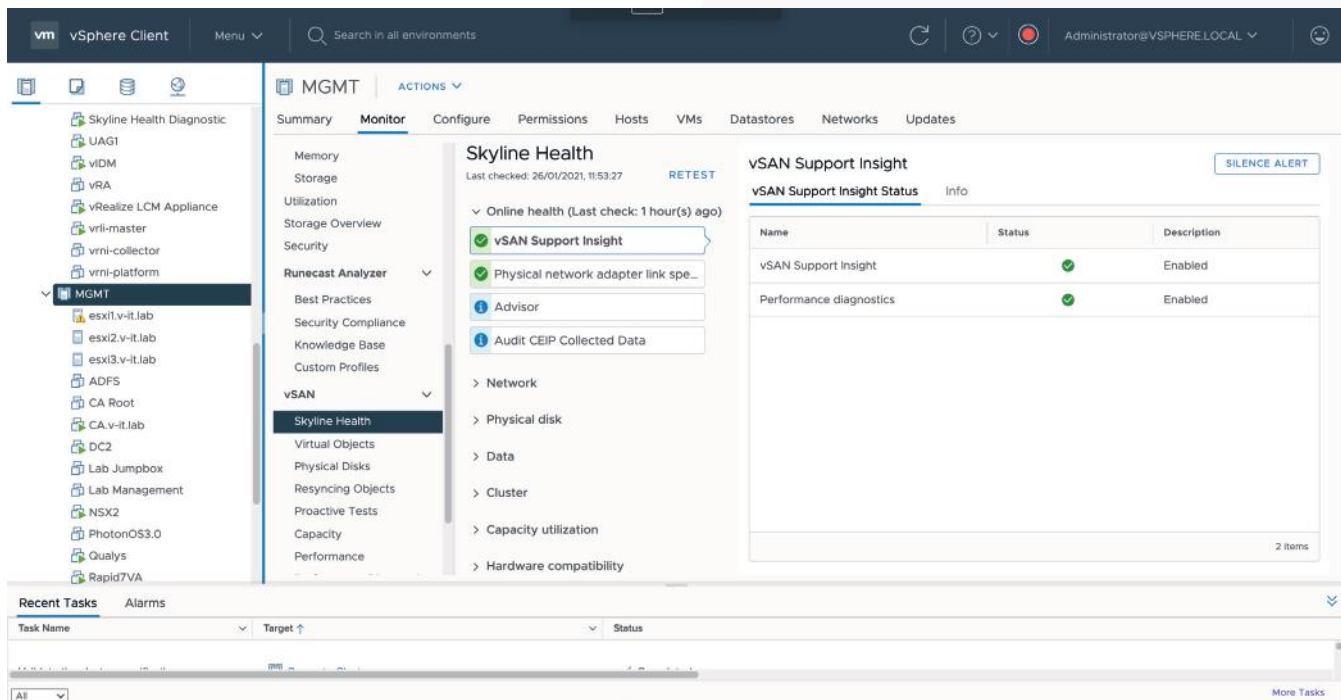


# Runecast Analyzer & VMware Skyline: Compare & Contrast

One of our most frequently asked questions is where the crossover lies between Runecast Analyzer and VMware’s Skyline offerings, so we pulled together this document to explain. First, let’s break down VMware Skyline into its constituent parts, as it is a suite of products or features and not a single product.

## Summary

Firstly: Skyline Health. This feature was previously known as vSphere Health, a part of the vSphere Client from vSphere 6.7. This feature runs a small set of health checks (51 at the time of writing, though over time more tests are added from the VMware Analytics Cloud service) from the vCenter Server and displays the results in the vSphere Client. You can find this in the Monitor tab of the vSphere Client, and it looks something like this.

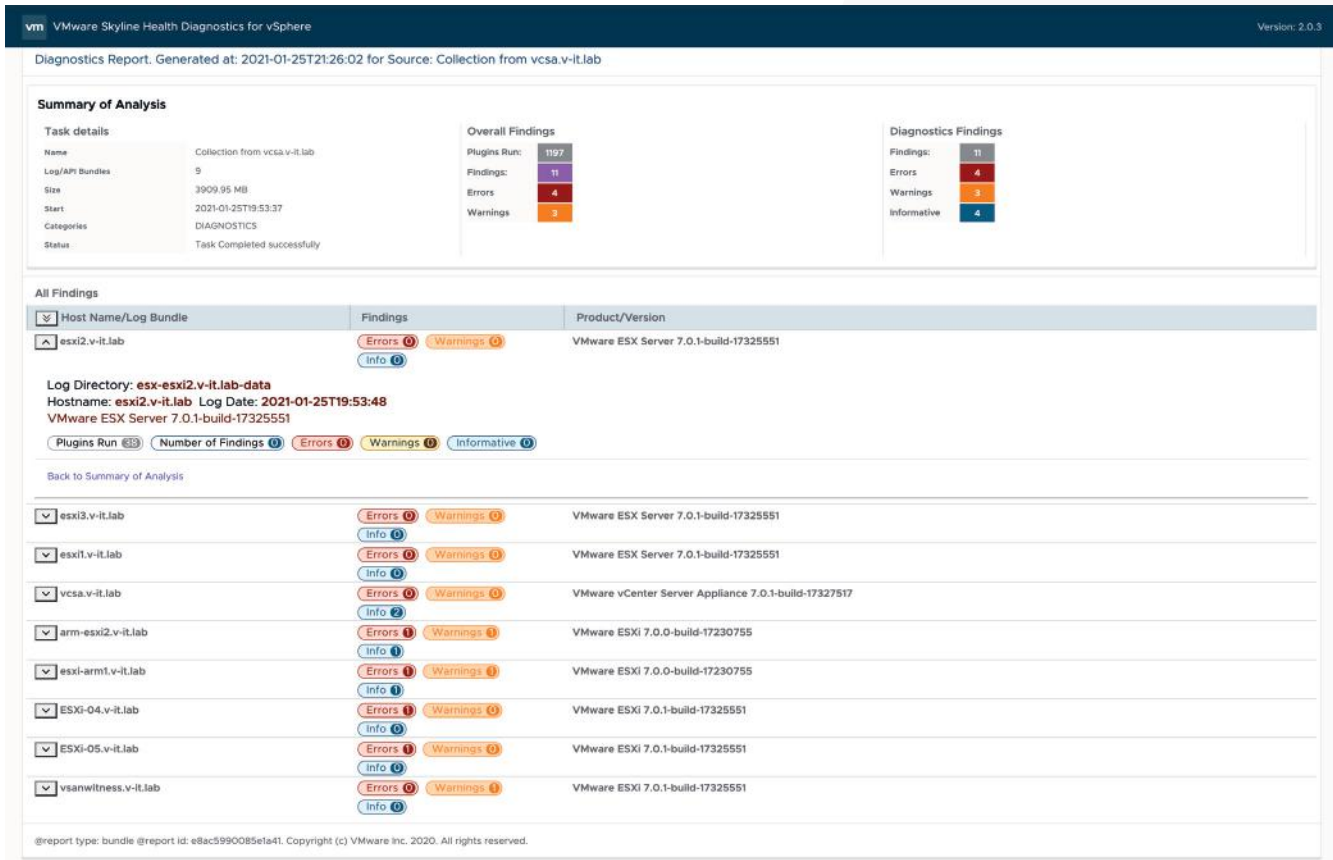


Skyline Health requires that you enable the Customer Experience Improvement Program (CEIP), and sends the payload data for this to <https://vcsa.vmware.com>. VMware details the types of data collected under this program at <https://www.vmware.com/solutions/trustvmware/ceip.html>.

Beyond the requirement for CEIP, Skyline Health is available to all customers running vSphere 6.7 or higher, regardless of your SnS (Support & Subscription) status with VMware.

# Skyline Health Diagnostic

Skyline Health Diagnostic is an offering available to customers without requiring a VMware Cloud account. It requires that you build a VM (4vCPU, 16Gb RAM, 150Gb disk), install PhotonOS to the VM, attach it in ISO file, and run a script from there. This tool is a reactive tool, designed to generate and gather logs from an on-premises vCenter server, analyse those logs and provide recommendations based on errors seen in those logs.



VMware Skyline Health Diagnostics for vSphere | Version: 2.0.3

Diagnostics Report. Generated at: 2021-01-25T21:26:02 for Source: Collection from vcsa.v-it.lab

### Summary of Analysis

Task details		Overall Findings		Diagnostics Findings	
Name	Collection from vcsa.v-it.lab	Plugins Run:	1197	Findings:	11
Log/API Bundle	9	Findings:	11	Errors:	4
Size	3909.95 MB	Errors:	4	Warnings:	3
Start	2021-01-25T19:53:37	Warnings:	3	Informative:	4
Categories	DIAGNOSTICS				
Status	Task Completed successfully				

### All Findings

Host Name/Log Bundle	Findings	Product/Version
esxi2.v-it.lab	Errors 4, Warnings 0, Info 1	VMware ESX Server 7.0.1-build-1732551
Log Directory: esx-esxi2.v-it.lab-data Hostname: esxi2.v-it.lab Log Date: 2021-01-25T19:53:48 VMware ESX Server 7.0.1-build-1732551 Plugins Run 33, Number of Findings 11, Errors 4, Warnings 0, Informative 4		
esxi3.v-it.lab	Errors 0, Warnings 0, Info 1	VMware ESX Server 7.0.1-build-1732551
esxi1.v-it.lab	Errors 0, Warnings 0, Info 1	VMware ESX Server 7.0.1-build-1732551
vcsa.v-it.lab	Errors 0, Warnings 0, Info 2	VMware vCenter Server Appliance 7.0.1-build-17327517
arm-esxi2.v-it.lab	Errors 1, Warnings 1, Info 1	VMware ESXI 7.0.0-build-17230755
esxi-arm1.v-it.lab	Errors 1, Warnings 1, Info 1	VMware ESXI 7.0.0-build-17230755
ESXI-04.v-it.lab	Errors 1, Warnings 0, Info 1	VMware ESXI 7.0.1-build-1732551
ESXI-05.v-it.lab	Errors 1, Warnings 0, Info 1	VMware ESXI 7.0.1-build-1732551
vsanwitness.v-it.lab	Errors 0, Warnings 1, Info 1	VMware ESXI 7.0.1-build-1732551

@report type: bundle @report id: e8ac5990085e1e41. Copyright (c) VMware Inc. 2020. All rights reserved.

Additionally, SHD can scan hardware against the VMware Configuration Guide (also known as the HCL) and make recommendations for firmware, BIOS and driver updates. We compared the outputs from Runecast Analyzer’s Hardware Compatibility feature with this. We noticed several anomalies, including servers on the HCL that were deliberately running outdated/unsupported firmware shown by SHD to be compliant. It would appear that SHD analyses only drivers, and while the firmware is displayed, it does not form a part of the analysis.

VMware Skyline Health Diagnostics for vSphere Version: 2.0.3

VMware ESXi 7.0.1-build-17325551

Plugins Run Number of Findings Errors Warnings Informative

### VCG/vSAN HCL Validation Summary

Device	Description	VCG Status	Driver Status	Current Driver/Version	VCG Driver	Current Firmware	VCG Firmware	Forward Support
Server	Supermicro SYS-E300-9D-8CN8TP	Supported	N/A	N/A	N/A	1.3a (5.14)	American Megatrends Inc. 1.3a UEFI Mode (Boot Mode:UEFI)	7.0 UI
vmnic0	i350 Gigabit Network Connection	Supported	Supported	igbn 1.4.11.0-IOEM.700.1.0.15525992	1.4.1		1.63.0	7.0 UI
vmnic1	i350 Gigabit Network Connection	Supported	Supported	igbn 1.4.11.0-IOEM.700.1.0.15525992	1.4.1		1.63.0	7.0 UI
vmnic2	i350 Gigabit Network Connection	Supported	Supported	igbn 1.4.11.0-IOEM.700.1.0.15525992	1.4.1		1.63.0	7.0 UI
vmnic3	i350 Gigabit Network Connection	Supported	Supported	igbn 1.4.11.0-IOEM.700.1.0.15525992	1.4.1		1.63.0	7.0 UI
vmnic4	Ethernet Connection X722 for 10GBASE-T	Supported	Supported	i40en 1.10.9.0-IOEM.700.1.0.15525992	1.10.9.0		4.11	7.0 UI

**Description:** Ethernet Connection X722 for 10GBASE-T (8086:3742 15d9:3742)

**VCG/HCL Model:** Intel(R) Ethernet Connection X722 for 10GBASE-T

**Driver/Firmware:** i40en - 1.10.9.0-IOEM.700.1.0.15525992

**Devices:** vmnic4(Up), vmnic5(Up)

**VCG Entry:** <https://www.vmware.com/resources/compatibility/detail.php?deviceCategory=io&productId=43700>

**VCG Status:** Found 6 entries for VMware ESXi 7.0 Update 1. (Listing only recent 5)

- OK Current Driver i40en-1.10.9.0-IOEM.700.1.0.15525992 is part of supported list.

Release	Driver	Version	Firmware	Features
ESXi 7.0 UI	i40en	1.10.9.0	4.11	GENEVE-Offload   IPv6   NetDump   RSS   RSSv2   SR-IOV
ESXi 7.0 UI	i40en	1.10.6	4.10	GENEVE-Offload   GENEVE-RxFilter   IPv6   NetDump   RSS   RSSv2   SR-IOV   VXLAN-Offload   VXLAN-RxFilter
ESXi 7.0 UI	i40en	1.9.5	4.10	GENEVE-Offload   GENEVE-RxFilter   IPv6   NetDump   SR-IOV   VXLAN-Offload   VXLAN-RxFilter
ESXi 7.0 UI	i40en	1.8.6	4.10	GENEVE-Offload   GENEVE-RxFilter   NetDump   SR-IOV   VXLAN-Offload   VXLAN-RxFilter
ESXi 7.0 UI	i40en	1.8.1123-txw	N/A	GENEVE-Offload   GENEVE-RxFilter   IPv6   SER   IWARP   RSS   SR-IOV   VXLAN-Offload   VXLAN-RxFilter

**VCG Support:** ESXi 7.0 UI, ESXi 6.7 U3, ESXi 7.0, ESXi 6.7 U2, ESXi 6.7 UI, ESXi 6.7, ESXi 6.5 U3, ESXi 6.5 U2, ESXi 6.5 UI, ESXi 6.5, ESXi 6.0 U3, ESXi 6.0 U2, ESXi 6.0 UI, ESXi 6.0

**VCG Notes:** Firmware versions listed are the minimum supported versions. Refer to <http://kb.vmware.com/kb/2030818> for additional information on other supported driver and firmware combinations

**VCG DB Status:** IO Device:2021-01-25T05:19:25 | CPU Series:2021-01-25T05:20:34 | Server:2021-01-25T05:18:36 | vSAN HCL:2021-06-25T06:06:00 | Last Updated: 2021-01-25T20:02:45

Runecast Analyzer gives granular checks against the VMware online HCL, with links for every server or component checked. In addition to this, analysis across multiple vCenters is as simple as analysing a single host. Runecast Analyzer allows you to quickly assess your entire estate against the HCL for a newer version of VMware's vSphere product, highlighting where you could reuse hardware. It also shows where your components need either firmware or driver upgrades, and also where later versions of vSphere will not support the hardware.

**HW Compatibility** | 16 hosts | Only hosts with issues | Only hosts with overrides | Export

Host	Partner	Model	CPU	ESXi release	BIOS
antares-esxi65-1.outer.space	Dell Inc.	PowerEdge R730	Intel(R) Xeon(R)	6.5.0, 5146846	Dell 2.7.1
antares-esxi65-2.outer.space	Dell Inc.	PowerEdge R730	Intel(R) Xeon(R)	6.5.0, 5146846	Dell 2.7.1
antares-esxi65-3.outer.space	Dell Inc.	PowerEdge R730	Intel(R) Xeon(R)	6.5.0, 5146846	Dell 2.8.0
deneb-esxi60-01.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.7.0, 10764712	HP P8 9
deneb-esxi60-02.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.7.0, 10764712	HP P8 9
deneb-esxi60-03.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.7.0, 10764712	HP P8 9
deneb-esxi60-04.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.7.0, 10764712	HP P8 9
vega-esxi-dr-01.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.5.0, 5969303	HP P8 9
vega-esxi-dr-02.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.5.0, 5969303	HP P8 9
vega-esxi-dr-03.outer.space	HP	ProLiant DL360	Intel(R) Xeon(R)	6.5.0, 5969303	HP P8 9
vega-esxi67-1.outer.space	Dell Inc.	PowerEdge R730	Intel(R) Xeon(R)	6.7.0, 13996283	Dell 2.8.0

**antares-esxi65-3.outer.space** | Press 5 to show/hide this panel

Configuration is possibly incompatible | Override | HCL online

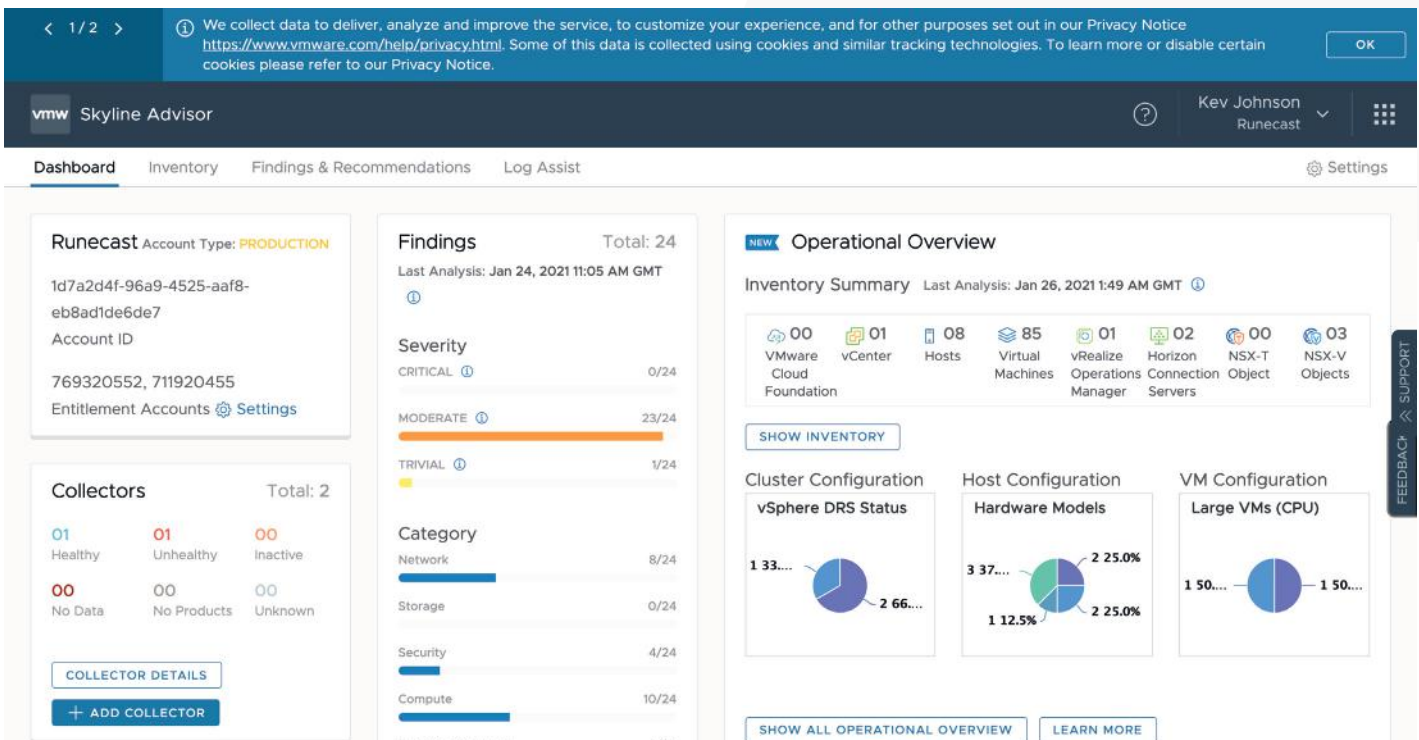
Host data	HCL data
Partner: Dell Inc.	DELL
Model: PowerEdge R730	PowerEdge R730
CPU series: Intel(R) Xeon(R) CPU E5-2698 v4 @ 2.20GHz	Intel Xeon E5-2600-v4 Series
Sockets: 2	2
ESXi release: 6.5.0, 5146846	ESXi 6.5
BIOS: Dell 2.8.0	Not found in HCL

List of supported BIOSes:

- Dell Inc. 2.7.1 UEFI Mode (Boot Mode:UEFI)
- Dell Inc. 2.7.1
- Dell Inc. 2.5.5 UEFI Mode (Boot Mode:UEFI)

# Skyline Advisor

Skyline Advisor is a cloud-based, self-service, proactive support offering through VMware Cloud Services. Skyline Advisor provides a more comprehensive set of checks, covering VMware vSphere, NSX-V, NSX-T, vSAN, Horizon View, vRealize Operations Manager and VMware Cloud Foundation. It requires support coverage at either the Production or Premier level (if you operate an environment with either no official support subscription or the less expensive Basic support, you are not entitled to Skyline Advisor). It also requires that you enrol in the CEIP Enhanced data collection (again, see <https://www.vmware.com/solutions/trustvmware/ceip.html> for details as to what is collected). Skyline Advisor also involves deploying an extra appliance (the Skyline Collector) into your environment - this is relatively lightweight, consuming 2 vCPU, 8Gb of RAM and 120Gb of disk space.



The screenshot shows the Skyline Advisor dashboard interface. At the top, there is a navigation bar with the VMware logo and 'Skyline Advisor' text. Below this is a navigation menu with options like 'Dashboard', 'Inventory', 'Findings & Recommendations', and 'Log Assist'. The main content area is divided into several sections:

- Account Information:** Shows 'Runecast Account Type: PRODUCTION' and 'Account ID: 1d7a2d4f-96a9-4525-aaf8-eb8ad1de6de7'. It also displays 'Entitlement Accounts: 769320552, 711920455' and a 'Settings' link.
- Collectors:** A section titled 'Collectors Total: 2' showing a grid of status indicators (Healthy, Unhealthy, Inactive, No Data, No Products, Unknown) and buttons for 'COLLECTOR DETAILS' and '+ ADD COLLECTOR'.
- Findings:** A section titled 'Findings Total: 24' with 'Last Analysis: Jan 24, 2021 11:05 AM GMT'. It includes a severity breakdown: 'CRITICAL: 0/24', 'MODERATE: 23/24', and 'TRIVIAL: 1/24'. Below this is a 'Category' section with bar charts for 'Network: 8/24', 'Storage: 0/24', 'Security: 4/24', and 'Compute: 10/24'.
- Operational Overview:** A section titled 'Operational Overview' with 'Inventory Summary Last Analysis: Jan 26, 2021 1:49 AM GMT'. It features a grid of icons representing various VMware components: VMware Cloud Foundation (00), vCenter (01), Hosts (08), Virtual Machines (85), vRealize Operations Manager (01), Horizon Connection Servers (02), NSX-T Object (00), and NSX-V Objects (03). Below this are three configuration cards: 'vSphere DRS Status' (1 33..., 2 66...), 'Host Configuration Hardware Models' (3 37..., 1 12.5%, 2 25.0%), and 'VM Configuration Large VMs (CPU)' (1 50..., 1 50...).

If you meet these requirements and your corporate policies agree to the CEIP Enhanced collection, Skyline Advisor may fit you. What you get in exchange for this is a more comprehensive set of checks: rather than 50 or so from Skyline Health, there are currently 293 findings detected by Skyline Advisor. While the results appear automatically in the portal, they can take a couple of days to show up in the findings. You need to login to the Skyline Advisor cloud portal to read more about the findings (though email notification is possible, these are less verbose).

Dependent on the level of SnS that you have, you get various capabilities from the Skyline Advisor portal. KB79286 explains these capabilities, and at the time of writing this looks like the below.

## Access to Skyline Advisor

This capability gives you access to login to the Skyline Advisor service. This capability is open to all, including Limited Mode access for 60 days when you change your SnS tier.

## Dashboard

This capability provides access to the basic Skyline Advisor dashboard. Again, this is available to Limited Mode, Production and Premier support tiers. The dashboard breaks down the number of findings by severity, the types of objects under management, and the findings category, but does not provide insight into these findings.

As above, this is available to Limited Mode, Production & Premier Support tiers. Runecast Analyzer provides all of this data in a simple to read dashboard that runs on the Runecast Analyzer appliance within your datacenter. No need to send any data to the cloud!

## Collector Health Details

This section of the portal provides insights into the Skyline Collector appliances' health required for your data to be gathered and submitted to the VMware Analytics Cloud for analysis.

As above, this is available to Limited Mode, Production & Premier Support tiers. As Runecast Analyzer runs within your datacenter, there is no requirement for a collector.

## Inventory

The Inventory view shows the monitored systems' details by the type of systems (vSphere, NSX, Horizon etc.). Similarly, Runecast Analyzer has the Inventory View, which allows you to explore these systems' inventory and Kubernetes clusters, VMware Cloud Director systems, and AWS public cloud accounts. Due to our busy development pipeline and customer-driven approach, more features and also security standards are added to Runecast Analyzer all the time.

As above, this is available to Limited Mode, Production & Premier Support tiers.

## Findings

This tab shows the findings of the checks that Skyline Advisor covers for the systems detailed. As mentioned above, at the time of writing, there are 293 findings discovered by Skyline Advisor. That's a great start but bear in mind that while new checks do get added, Runecast Analyzer continually monitors the VMware Knowledge Base and other data sources to identify new KBs and the like. At present, there are almost 29,000 articles published in the English language alone on the VMware knowledge base, and all changes are detected by the Runecast AI Knowledge Automation engine (also known as RAIKA - part of the Runecast secret sauce) within hours. Anything requiring an update or new check is available to Runecast customers as a part of our weekly updates. Every finding detailed in Runecast Analyzer includes details for remediation.

Findings are typically available in Skyline Advisor within 72 hours, whereas Runecast Analyzer can provide visibility as soon as the analysis completes - typically minutes.

Basic findings (those recommended to be self-service) are available to Production Support accounts, with Advanced findings available to Premier support customers only.

## Upgrade Recommendations

Skyline Advisor will periodically make recommendations as to when you should upgrade the components in your environment, highlighting where there might be security vulnerabilities in the product versions you run. Runecast Analyzer extends on this by enabling you to validate your existing hardware against the VMware Configuration Guide (also known as the HCL) to ensure that you're running supported hardware, BIOS, drivers and firmware. Your environment is kept in line with the relevant HCLs now and with any planned upgrades. It is a fact that planning upgrades of vSphere can be problematic when it comes to identifying which hardware needs to be replaced, which hardware will be fine as-is, and which hardware will be fine with a little attention.

Upgrade Recommendations in VMware Skyline are available to Limited Mode, Production and Premier support accounts.

## OSR Library (Operational Summary Report)

The Operational Summary Report is available to Premier support accounts only. It includes a summary of the Skyline findings at the point that the report is generated, including recommendations. By contrast, Runecast Analyzer retains the details of all findings every time an analysis occurs - typically this will be daily. As this data is stored securely on the Runecast Analyzer appliance, you can check the historical state of your environments at any point in time, including details of compliance with any selected security standards. Due to this rich dataset, you can quickly see when new risks arrive in an environment, or when an environment starts to drift out of compliance with your desired security posture.

## Log Assist

Log Assist is a feature that helps gather and upload diagnostic logs from your environment for attention by a VMware Global Support Services technician for reactive troubleshooting. Log Assist can reduce time to resolution when troubleshooting an ongoing issue. Runecast Analyzer extends on this in a couple of ways: firstly, by highlighting the risks in your environment and detailing remediation actions. Secondly, host Syslog can be analysed in realtime within your datacenter, immediately correlated against the VMware Knowledge Base and providing you with the fix, often before you know that there is an issue.

Log Assist is available to Limited Mode, Production and Premier Support accounts.

## In Summary

The offerings under the Skyline banner are many and varied in both capabilities and requirements. At Runecast, many customers are using these services where their security policies can allow this. Still, they choose to extend these capabilities with the native features in a single appliance that runs within their datacenter. Beyond the scope of this document, but also covered by Runecast Analyzer are the areas of best practices, security standards (including the capability to monitor based on your internal standards), customisable reporting and products outside of the VMware ecosystem, like the AWS public cloud, Kubernetes etc. Finally - Runecast Analyzer provides all of this functionality from a single, easy to drive interface.

If you'd like to learn more about Runecast Analyzer, then we'd love to chat - reach out to us at [roi@runecast.com](mailto:roi@runecast.com).

