H3C SeerAnalyzer

(Campus Scenario)

Release Date: July, 2021

New H3C Technologies Co., Limited

Product Overview

Traditional O&M faces great challenges as the network grows rapidly in scale and complexity and services are more demanding for network availability and minimized downtime. H3C SeerAnalyzer is developed at this right moment to deliver a big data and AI-powered analytics solution that enables automated and streamlined O&M.

Embracing Telemetry, big data technologies and big data distributed computing engines, expert knowledge, and scenario-based AI algorithms, H3C SeerAnalyzer automates network data collection and analytics and provides insights into the overall network conditions. It also helps identify root causes of issues and can predict failures for key components or modules. It has open APIs through which it provides the collected data and analytics results to the upper layer applications.

Incorporating the high-speed data acquisition and real-time fault identification capabilities of Telemetry and in combination with network O&M technologies and experiences of H3C accumulated in the last 20 years, SeerAnalyzer enables fast issue location and isolation, which minimizes the network downtime and ensures service continuity.

Architecture
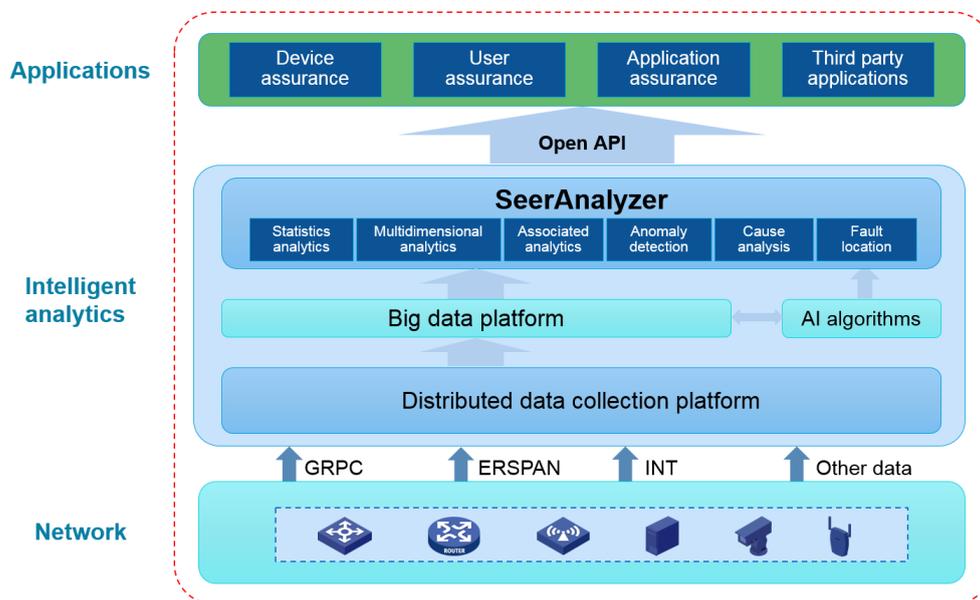
Features and Benefits

All-round Data Acquisition

- With the distributed deployment architecture, SeerAnalyzer can expand data collection flexibly. The

data analysis platform built with components such as Kafka and Flink meets data collection needs of networks of any size, and delivers analytics capability of up to millions of streams per minute.

- Incorporating second-level data collection capacity of gRPC Telemetry, SeerAnalyzer provides visibility to the network operating status in real time.

- SeerAnalyzer can use Telemetry to collect and record network performance data during the user access process and allow you to trackback the data at any historical moment.

- Embracing new application data stream collection technologies such as ERSPAN and INT, SeerAnalyzer can collect data about network transmission quality for insights into application traffic and analytics about application quality.

- In addition to traditional network management data collection protocols, SeerAnalyzer supports varieties of advanced data collection technologies, allowing comprehensive or specific data collection as needed.

Big Data-Powered

- SeerAnalyzer uses big data technologies to implement massive data collection and distributed storage calculation that provides real-time visibility into network operating status and enables refined operation and maintenance.

- Relying on big data technologies, SeerAnalyzer can trackback historical network running state, which is helpful for locating faults and implementing operation and maintenance tasks such as performance analytics and behavior audit.

AI Analytics

- Using distributed computing engines such as Spark and Flink as well as AI algorithms, SeerAnalyzer can provide data analytics online and offline, to meet intelligent O&M analytics requirements in any scenarios.

- SeerAnalyzer enables visibility into the entire network status by all-round collection and analytics of data including network device status data, protocol message data, traffic forwarding data, user access data, and log data. By virtue of machine learning (ML) algorithms and the expert system, SeerAnalyzer can detect network faults in real time, locate fault causes intelligently, and guide administrators to fix issues.

- SeerAnalyzer can evaluate the quality of networks, user experiences, and applications based on AI analytics of massive data, and enhance network optimization and assurance.

- High-performance data acquisition, real-time expert system, and AI algorithm calculation enable fault isolation environment verification, fault detection, impact verification, and isolation guidance.

- Through continuous AI analytics on historical network data, SeerAnalyzer can predict network faults and performance bottlenecks, and guide O&M personnel to intervene and plan in advance.

Collaborative analytics of network and service data

SeerAnalyzer provides visibility into overall network health status through collaborative analysis of network device status data and network performance data.

- Provides full visibility into analytics on the operating status, faults, and risks of devices in the system plane, control plane, and data forwarding plane based on comprehensive, precise, and real-time metrics about the network devices.

- Collects TCP/IP traffic statistics to get insights into the network performance and find out the issues and risks existing in the network, network usage characteristics of applications, and abnormal access to network applications.

- SeerAnalyzer collects data about the processes of users accessing the network and analyzes a large amount of user data by groups for further analysis of network quality and issues.

Application Scenario

Intelligent prediction | Transceiver module fault and link quality prediction

Transceiver module fault prediction

Link traffic prediction

Mechanism

1. Use distributed collectors to collect data about the interface bandwidth utilization and transceiver module status of the devices across the network, and store them in the data warehouse after data cleaning and standardization.

2. Use ML algorithms to learn historical data about interface bandwidth utilization and transceiver module status continuously to predict traffic trends and potential transceiver module failures for a future period.

Benefits

1. Predict future link traffic trends based on historical traffic data for early warning of network congestions and capacity planning.

2. Provide early warning for transceiver module failures and use human interventions to eliminate potential failures, improve service availability, and reduce network maintenance costs.

Feature List

Health Analysis	Area Health Overview	Display operating overview of entire network and health score information of network and users by areas. Continuously monitor and evaluate overall operating situation and availability
	Network Health	Display network health information, such as health trend, health situation list, operating information, etc.
	User Health Overview	Display user health information, such as health trend, terminal operating situation, user list, etc.

	User Health Details	Display basic and operating information of users. Support traceback of previous data, such as health index, user journey, protocol interconnection procedure, etc.
	Device Health	Display network device information, such as operating situation, entry resource, flow rate, packet loss, etc.
Application Analysis	Audio & Video Analysis	Display audio & video experience quality by comprehensive analysis, including analyzing health score of devices and monitoring audio & video flow quality of terminals, servers, media gateway, etc.
Wireless VIP User Assurance	Wireless VIP User Assurance	Display VIP user information, including overall health situation, terminal operating situation, user list, etc. Set VIP users by user accounts.
Network Changes Analysis	Network Changes Overview	Display the change statistics of historical snapshot data of network devices and the list of changed devices. Support collecting real-time changes, such as running configuration, ARP, MAC, routing table, etc.
	Network Changes Details	Display detailed information of changes in configurations and entries.
Optical Module	Optical Module	Monitor the health status of optical modules in the entire network through optical module KPI health assessment & prediction, and optical module failure probability prediction.
Link Analysis	Link Analysis	Monitor the link utilization of network links. Display link traffic statistics and trends, prediction of link traffic and utilization, etc.
Fault Analysis	Problem Center	Display the statistical data of faults in whole network in 5 categories: devices, network, protocol, Overlay and business. Provides the ability of timely troubleshooting and suggestions.
	Issue Analysis	Display and analyze 50 kinds of network & user issues, provide troubleshooting suggestions, etc.
Predict Analysis	AI Task	Identify abnormal changes in various device indicators, automatically generate early warning information.
Assurance & Optimization	Wireless Optimization	One-click to activate automatic wireless optimization. Display the current device optimization settings, progress, history statistics, detailed information, etc.

Ordering Information

To use SeerAnalyzer, you must purchase and install the licenses as required.

Item	Description
LIS-SeerAnalyzer-Campus	H3C SeerAnalyzer software campus edition license
LIS-SeerAnalyzer-Campus-Analyzer	H3C SeerAnalyzer software campus edition analyzer license, 1 managed node
LIS-SeerAnalyzer-Campus-M-VAR	H3C SeerAnalyzer software campus edition license, 1 managed modular NE
LIS-SeerAnalyzer-Campus-F-VAR	H3C SeerAnalyzer software campus edition license, 1 managed fixed-port NE
LIS-SeerAnalyzer-Campus-AP-VAR	H3C SeerAnalyzer software campus edition license, 1 managed AP

The Leader in Digital Solutions

New H3C Technologies Co., Limited

Beijing Headquarters
Tower 1, LSH Center, 8 Guangshun South Street, Chaoyang
District, Beijing, China
Zip: 100102
Hangzhou Headquarters
No.466 Changhe Road, Binjiang District, Hangzhou, Zhejiang,
China
Zip: 310052
Tel: +86-571-86760000
Fax: +86-571-86760001

http://www.h3c.com