NetGain Application Performance Management Datasheet

Applications are arguably the most critical component of the IT stack. Customers, suppliers, partners and employees interact with the organization through apps such as e-commerce, e-payment, supply chain management, HR systems and so on.

Organizations often struggle to understand the performance of their applications. This has been made even more challenging with the increasing complexity of the application environment – parts of an application and its data could be in the cloud while parts could be spread across the organization's various data centers, and the application itself could be accessed through the corporate network or through the Internet from anywhere in the world. This means the performance of the same application could be vastly different for different people depending on where, when and how they access the application.

Application Performance Management (APM) provides organizations with insights into how their applications are performing, allowing them to better manage their employee and customer end-user experience and create better digital experiences. By identifying bottlenecks and resource constraints, APM enables organizations to allocate the appropriate type and amount of computing resources to their enterprise applications to optimize their performance, improve application reliability and maintain SLAs. With a measured and targeted use of computing resources, organizations will also enjoy a reduced total cost of ownership (TCO) and better returns on their IT investments.

NetGain APM

NetGain APM provides real-time monitoring of an organization's key business applications. APM agents are deployed in application servers to collect and send performance data to the NetGain APM server for processing, which then displays the application performance in an easy to understand format.

NetGain APM goes beyond monitoring the application performance. Real User Monitoring (RUM) tests the performance from a real user's perspective, from the end user device through the internet to the app and the backend system. Synthetic Monitoring simulates a user transaction and conduct automated tests on a pre-determine schedule to identify issues before user experience is impacted.

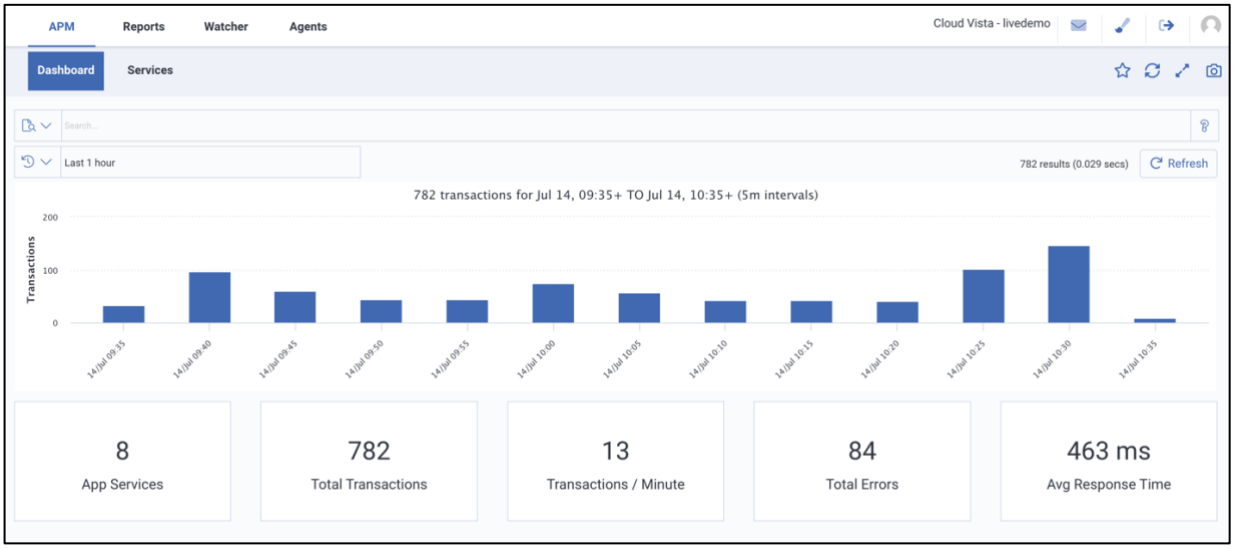
While NetGain APM can be used as a stand-alone solution, it is integrated with NetGain EM (Enterprise Manager) and NetGain SIEM as part of NetGain's IT Observability and Security Management solutions. This provides you with not just visibility into the performance of your applications, but all aspects of your IT infrastructure with a common set of alarms, notifications, analytics, customized dashboards and query and reporting tools from the same easy-to-use GUI. You can monitor and manage the performance of your applications across multiple geographies in physical, cloud and hybrid networks.

NetGain APM is available as an on-premise software or as a SaaS offering.

Key Features

- ### Application transaction data management

NetGain APM collects the performance data of key applications in real-time to ensure that applications are performing as expected and have the right IT resources to perform optimally. Its powerful search capabilities lets users easily check how specific applications are and were performing should anyone complain about their performance. Alarms will also be generated should performance levels fall below preset threshold levels for users to investigate and take pro-active action.



- ### Supported applications

NetGain APM supports a wide variety of applications, including webpages and Mobile Apps, that are written in the following programming languages:

- JAVA
- .Net
- Node.js
- Go
- Python
- PHP
- Ruby

- Data captured

NetGain APM monitors the real user experience by capturing the request duration for an application as well as the duration taken by the different transactions within an application. Together with the duration, NetGain captures the following information associated with the application:

- IP address
- Operating System
- Browser used
- URL
- Occurrence time
- HTTP response code
- HTTP request (Header, Content, etc)
- Errors
- Transaction breakdown span

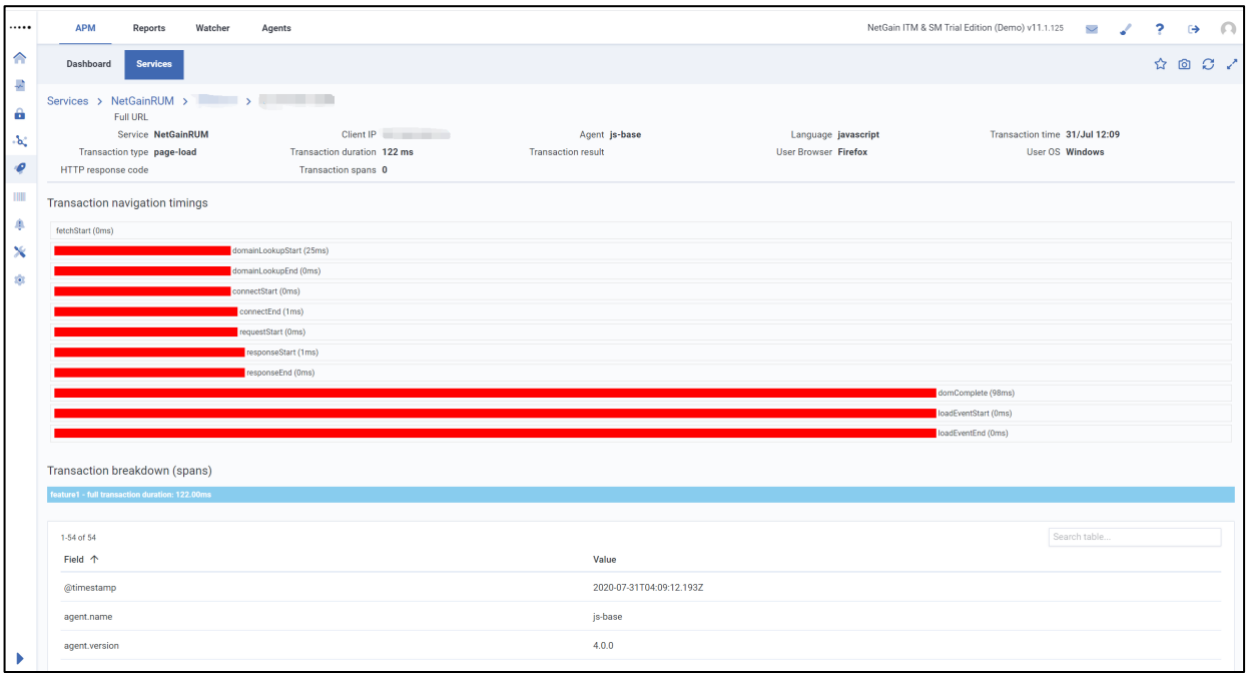
- Real user monitoring (RUM)

NetGain APM measures the actual application performance as experienced by the end user. It collects the full end-to-end performance data, starting from the browser to the middleware server to the database, and any other IT resource used in between. By measuring the performance data and determining the response time and resource utilization at each stage of the application usage, a detailed performance analysis can be done to identify problem areas and how the application performance can be improved.

Java scripts needed to add to the web page in order to retrieve such end user's data.

Data includes:

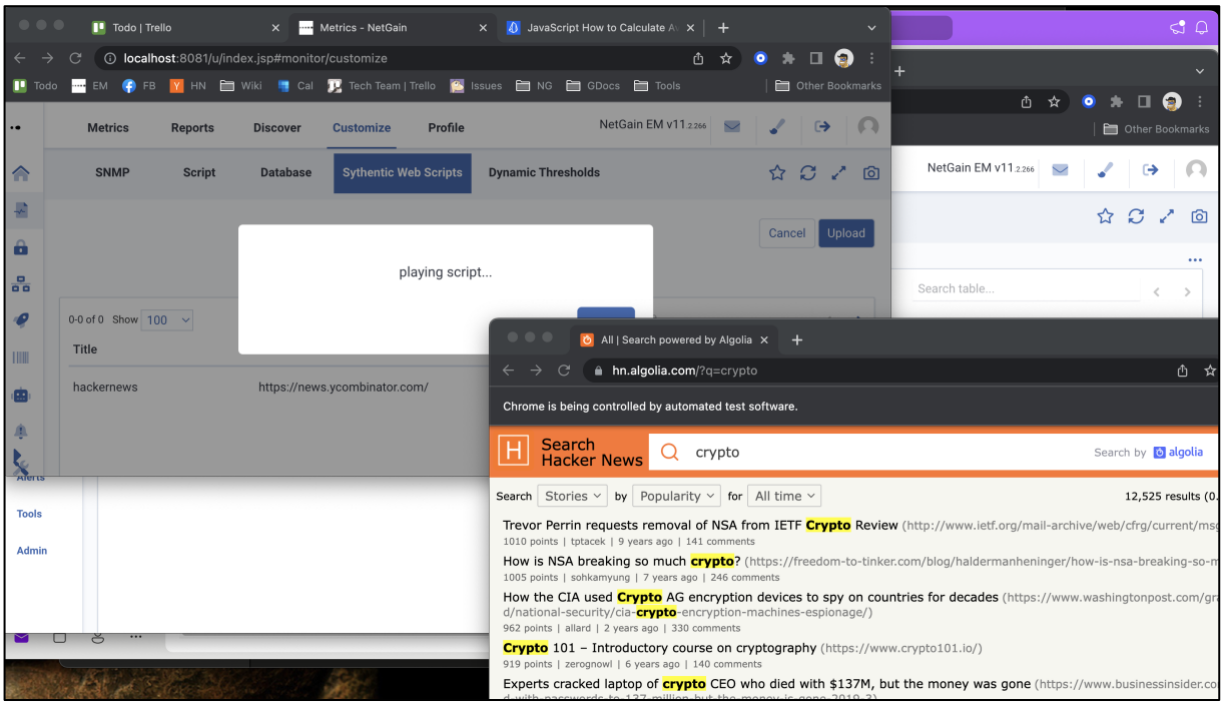
- DNS resolve time
- Network connection time
- Time to first byte
- DomInteractive
- DomComplete.



- Synthetic monitoring

Synthetic monitoring allows the app team to create a simulated user transaction, run tests on a preferred scheduled, and monitor the app for functionality, availability and response performance. The simulated transaction is created by using Chrome Recorder to record a transaction flow. This recording is then automatically run on a pre-determined test schedule.

If something goes wrong, NetGain will alert the IT team about the problem immediately.



- Reports

NetGain APM provides the following reports for users to better analyse the full end-to-end performance of their applications:

- Transaction Reports
- Access analysis according to location, OS, browser, etc…
- Access trend analysis
- Page access analysis

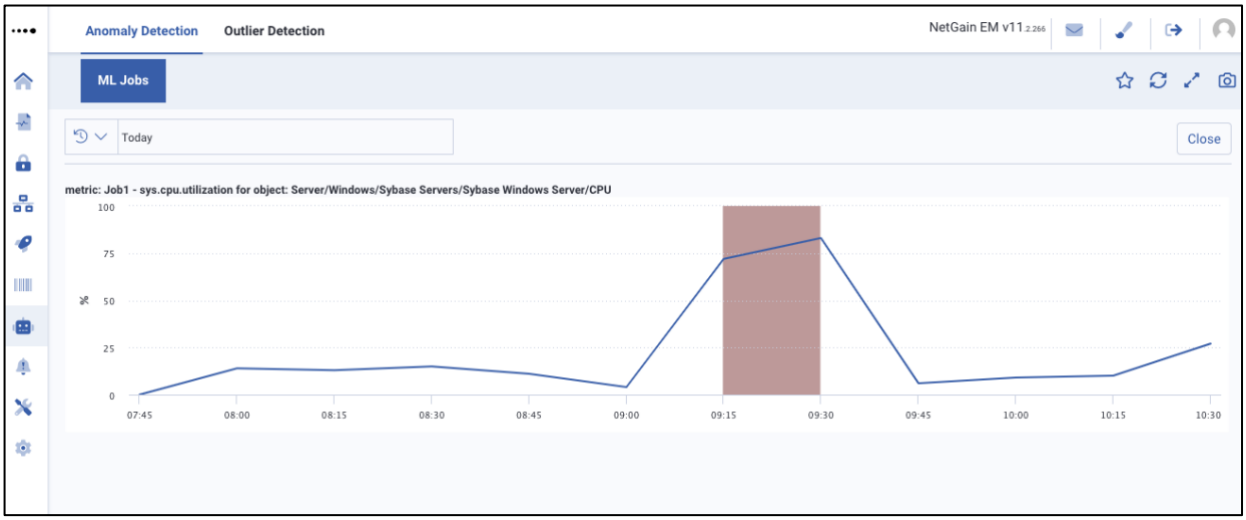
AI Ops

Artificial Intelligence-assisted Operations (AI Ops) is a separate module that uses the APM data to perform the following functions:

- Anomaly detection

Anomaly detection is the identification of the behaviour of apps that deviate from its normal behavior. By using historical data, the AI determines the baseline behaviour of the app, and identifies anomalies as it happens. IT ops may also set the sensitivity of the AI detection.

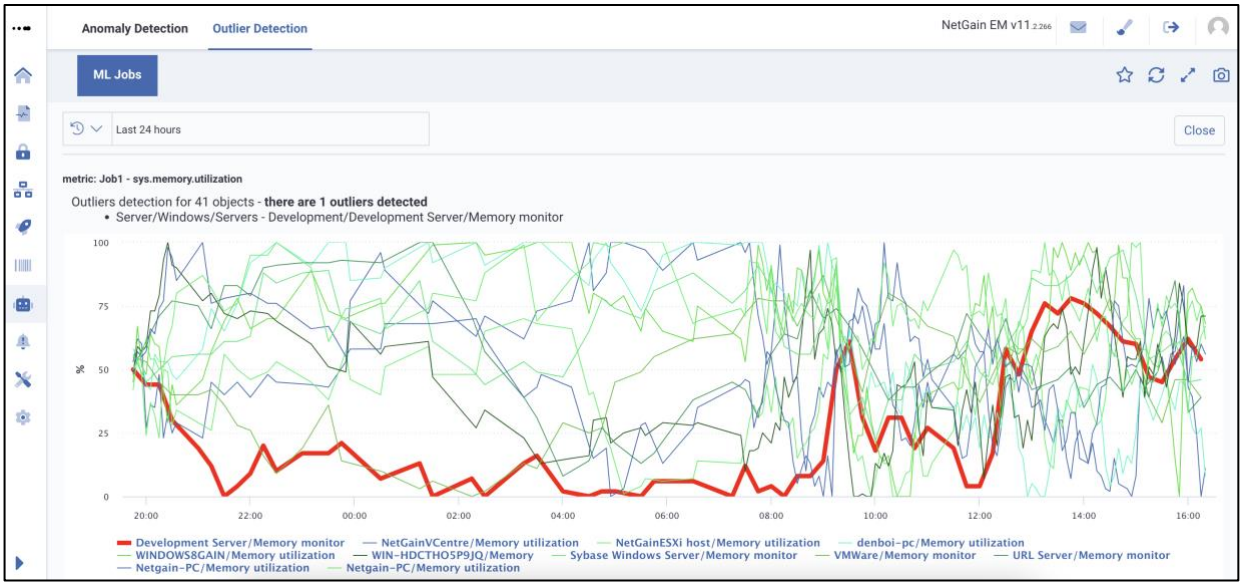
With anomaly detection, IT ops do not need to set static thresholds, and instead rely on the AI to find the thresholds automatically, and then alert the ops team when the anomaly occurs.



- Outlier detection

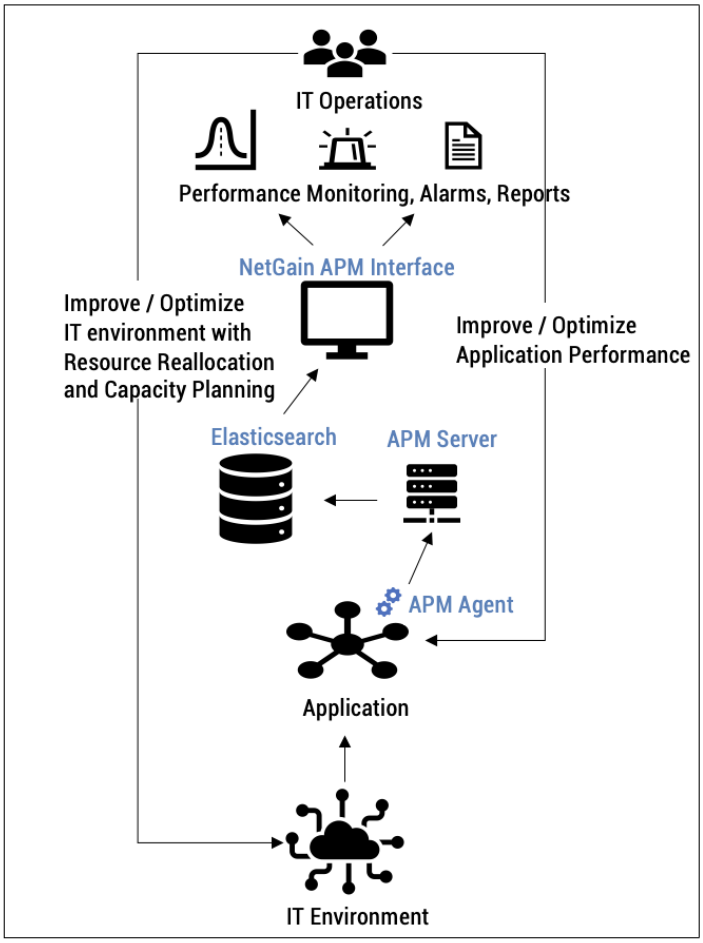
An outlier is an app that deviates drastically from the given norm or average of the data set. AI is used to identify the outlier in the given data set. IT ops may also set the sensitivity of the AI detection.

With outlier detection, the AI is able to find potential issues even if the fault does not exceed the threshold, and is able to alert the IT ops team automatically.



How It Works

NetGain APM provides real-time monitoring of an organization's key business applications. It deploys APM agents in application servers to collect and send performance data to the NetGain APM server for processing, which then displays the application performance in an easy to understand format.



NetGain APM is built primarily around Elastic APM. There are 4 main components:

- APM Agent is a small piece of code that collects the performance data of applications in the application server. It is installed like any other library and written in the same language used by the application. Currently supported languages include node.js, .Net, python, ruby and JAVA. The APM agent is started with a startup parameter, and sends collected application performance data to the APM server.

- APM Server is an application that processes application performance data sent by the APM agents before storing such data in an Elasticsearch database.

- Elasticsearch is a highly scalable open source database and full-text search and analysis engine. It stores the application performance data and APM performance metrics, and provides for near real time search and analysis of large amounts of data.

- NetGain APM Interface is the application users work with to see and manage the NetGain APM solution. It interacts with Elasticsearch to present APM metrics and the status of running applications in visual dashboards. Users can also create and generate reports, as well as set performance thresholds whereby alarms and notifications would be triggered should these be crossed.

System Requirements

NetGain APM can be deployed in a single server or distributed over multiple VMs, appliances or Cloud instances. Its highly flexible and scalable architecture lets it fit easily into any existing environment while having the capacity to meet any future growth and expansion.

The requirements for running and operating NetGain APM will depend on the number of applications and the size of the network it is deployed in. The following gives an indication of the NetGain APM requirements for a given small IT environment. Please contact NetGain on the NetGain APM requirements for your IT environment.

Managed application environment: 5 applications, 10,000 accesses per app per day. **Data retention period:** 6 months	
Hard disk	1TB
CPU	Quad Core
RAM	16GB
Operating System	CentOS 7, RHEL 8 or equivalent
Browsers Supported	Firefox, Google Chrome, Safari, Microsoft Edge.

About NetGain Systems

Founded in 2002, NetGain Systems is a pioneer in the IT monitoring business, and continues to develop its business as it evolves from IT monitoring to IT observability. It has established local teams throughout the Asia Pacific Region, including Australia, China and Singapore.

Regardless of location, type, size, or complexity, our solutions give our customers the power to observe their IT infrastructure, services, applications and devices with ease, all from a single management dashboard, to achieve operational excellence with reduced complexity and gain useful insights to improve business outcomes.

By understanding that every organization's IT environment is different, NetGain's dynamic solutions are designed to be highly adaptable, fitting the unique demands of your operating environment and evolving with your growing organization.