



Proactive Determination of Potential Outages in an IT Environment

A Patented Capability of ZIF™

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GAVS' AIOps Platform **Zero Incident Framework™ (ZIF™)** enables *proactive* IT operations through AI-led predictions. Although reactive IT support helps cut costs by requiring services only when there are IT issues or outages, it can result in unplanned downtime and exorbitant recovery costs in the long run.

Proactive support is based on preventing potential disruptions in the IT environment and involves constant monitoring and regular maintenance. This helps obviate potential server crashes, IT security vulnerabilities, and downtime using predictive analytics. Assessing the health of the IT infrastructure can help anticipate performance issues in the future and enhance overall productivity of enterprises.

However, monitoring and analyzing IT resources to predict downtime is a complex challenge in itself. For instance, predictive analytics involves data-driven decision making and so the types of data considered for predictions become extremely critical to accurately foresee performance issues.

Although various patented publications have attempted to address some of the challenges, and have described methods for managing, modeling, evaluating, predicting, allocating, utilizing resources, and preventing bottlenecks, they do not address the challenges of determining and preventing potential IT outages based on utilization and performance of infrastructure resources.

This article is a high-level explanation of how ZIF helps determine and prevent outages in an IT environment by predicting status, utilization, performance, or a combination of these, for IT resources.

For better clarity, here are definitions of some of the terms used in the explanation:

Node

refers to any device or system in the network that can receive, create, store or send data along distributed network routes. Nodes may include web servers, application servers, database servers, laptops, computers, mobile devices, smart devices, etc.



Performance

refers to the operation or functioning of the network nodes at the desired level. Performance is usually estimated based on the metrics of infrastructure resources such as CPU, network, etc.

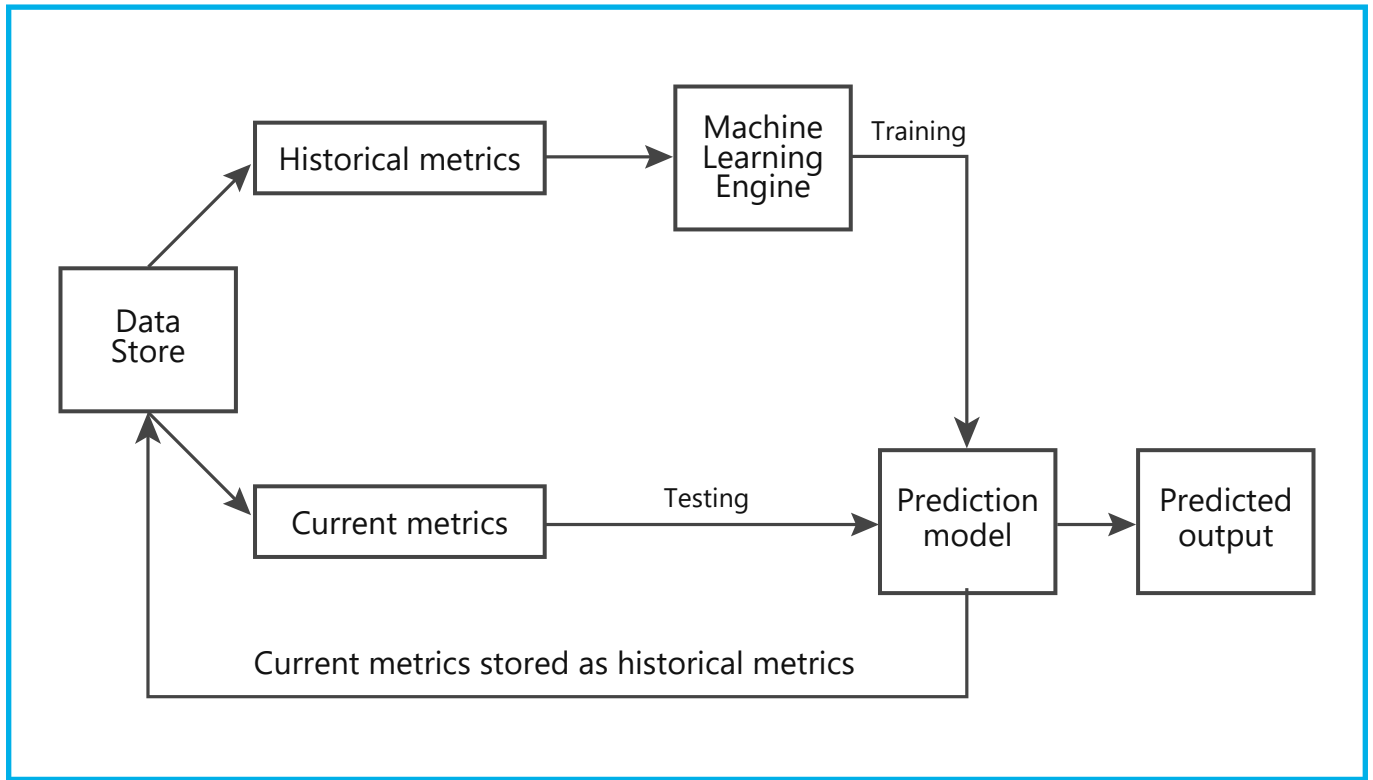
Utilization

refers to a measure of consumption of the resources in a network. Each device utilizes resources from the server and network to carry out its functions. Utilization is usually estimated based on the metrics of infrastructure resources such as memory, disk, etc.



Status

refers to the condition of a node in the network. Status may indicate the probability of failure at the node, degradation of the functions of the node, etc.



Data Extraction, Cleansing, Classification

Data about the nodes in the IT environment is extracted from one or more data sources. The data comprises among other things, utilization and performance metrics, and time identifiers associated with each of the metrics. Data inaccuracies are detected, and corrective action is performed on the data. The data is then classified as historical data or current/real-time data based on the time identifiers.

Training Machine Learning (ML) Models

Prediction models are trained based on historical data using machine learning algorithms. Training datasets are extracted from the historical data. The prediction models are trained based on the training datasets using a machine learning engine. Current data is also fed to the trained prediction models as test datasets.

Prediction of Scores

The trained prediction models are used on the classified data to predict status scores, utilization scores, and/or performance scores for each of the nodes. Historical and real-time metrics are used for the predictions.

Determination of Outages

The score predictions are compared with dynamic threshold limits derived in real-time, to identify potential outages in the IT environment.

Alerting, Ticketing, Summary

Alerts are sent to the appropriate devices for which potential outages have been identified.

As relevant, tickets may also be generated and assigned to operators to prevent outages based on the predictions, forecasting, and projections. A summary of the predicted scores, and any associated statistics and trends are continually presented on an intuitive user interface giving a unified view of the entire IT landscape at any given point in time. This empowers the IT team to effectively prevent & mitigate potential IT downtime.

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ZIF (Zero Incident Framework™), is an award-winning AIOps platform for IT Operations. ZIF delivers business outcomes by leveraging unsupervised pattern-based machine learning algorithms. Infrastructure and application telemetry data are aggregated, correlated, and potential failures are predicted. To enable faster resolution and better user experience, ZIF deploys intelligent bots for proactive remediation. Developed by GAVS Technologies (www.gavstech.com), ZIF is available as an on-premise and SAAS solution.

To find out how ZIF can help your organization, please visit www.zif.ai or write to inquiry@zif.ai