

Neptune@Cloud



Overview

A cloud computing platform, also known as a cloud platform, refers to services based on hardware and software resources that provide computing, network, and storage capabilities.

Googoltech's Neptune is a cloud computing application platform for remote data access, monitoring and application of devices. Through it, users can use device static data, dynamic

data, sensor data and other system data to build device remote monitoring, data analysis models and intelligent applications to achieve device remote operation, maintenance and full life cycle management.

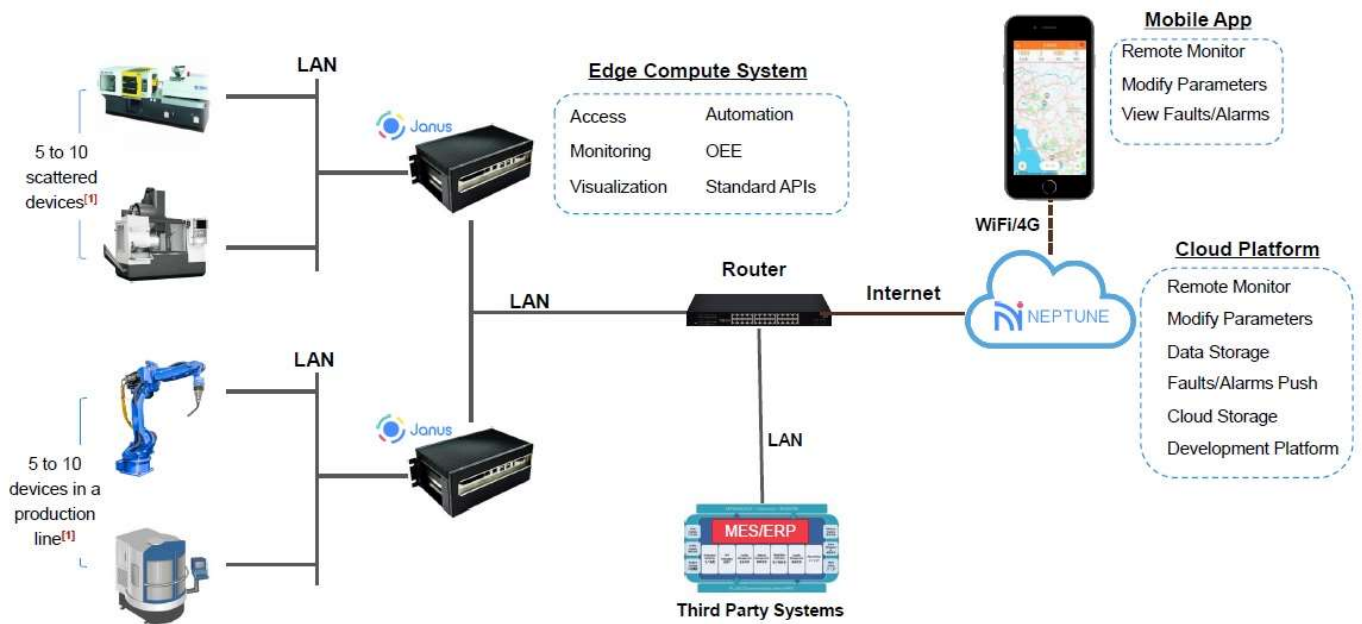
In response to the needs of enterprises of different sizes and application environments, Neptune can simplify the company's data center infrastructure, improve performance and reduce costs.

Main Features

- Model optimization based on machine learning and artificial intelligence, big data processing.
- Cloud connection: Triton/Janus/Neptune's powerful communication mechanism enables data integration in the same way in the cloud.
- Data security: Data transmission, storage and application are equipped with strong security measures.
- Billion level device concurrency: A powerful data cluster can support billion level device data and concurrency impact.
- High-quality data storage environment: Use optical storage clusters to persist user device data.
- Flexible and extensible API: Provide open-standard API and realize rapid integration with third-party application systems through the API.
- Rich application market: Based on equipment data, users can participate in the construction of unlimited possible big data applications.
- Equipment remote management, fault diagnosis and full life cycle management.



System Structure



*1: Typically, 5 to 10 devices per edge compute node is recommended. Actual numbers may vary according to device data.

Application Process & Steps

Analysis Phase

According to the objectives. (e.g. calculating OEE, being able to remotely check the operating status of the device, etc.)

Analysis:

- What are the equipment that need to be connected? Is there any networking condition?
- What data does the equipment need to provide to meet the target calculation?
- Which data is provided by the equipment itself and which needs to be added?

Transformation Phase

According to the analysis results, for the equipment:

- Access network or special cable.
- Install sensors.
- Add smart box.
- Install industrial computer.
- Replace the controller.

Integration Phase

Integrate the modified device with specific access conditions into Triton; equipment access to Janus or Neptune.

Application Phase

For devices connected to Janus/Neptune:

- Use platform features.
- Develop applications within the platform.
- Integrate interfaces and develop application systems outside the platform.

Development Phase

After adding access to data sources and accumulating enough data samples:

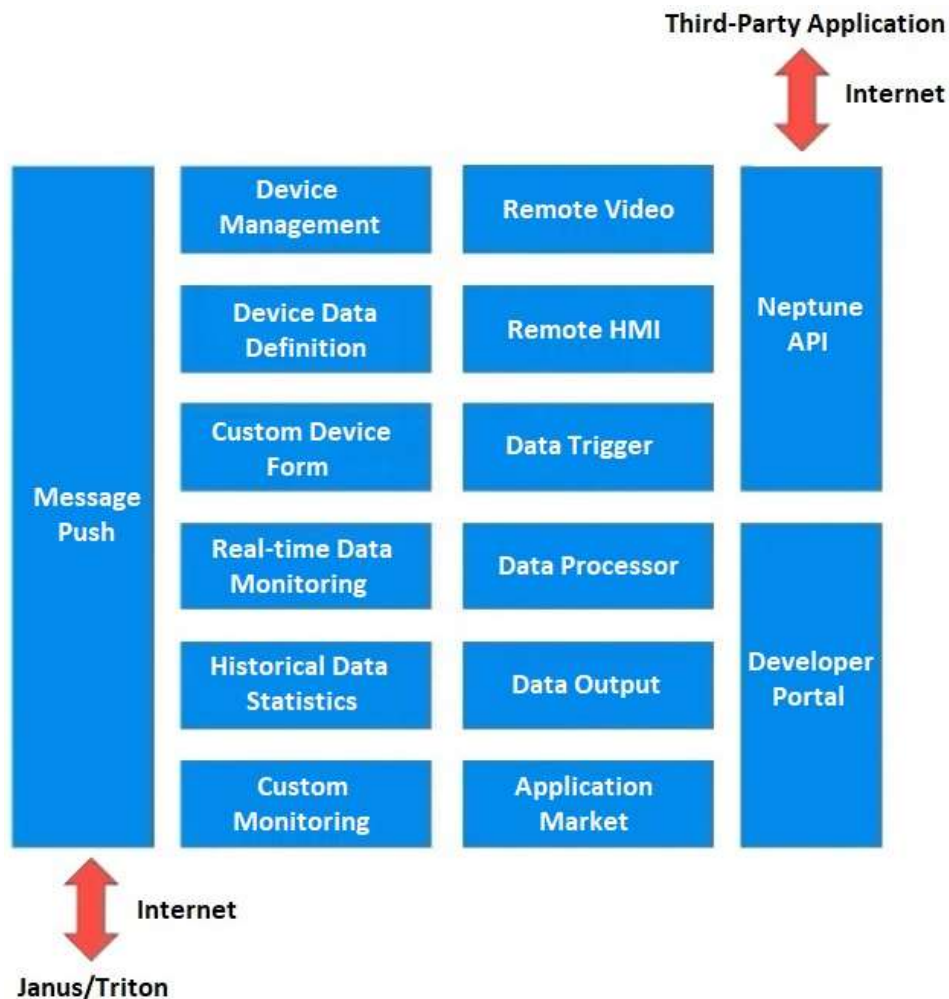
- Use big data and deep learning tools to build data models on the platform.
- Optimize data model through training and iteration.



Specifications

Function

1. Support bidirectional data communication with Triton/Janus.
2. Remote management of equipment.
3. Support user-defined equipment management mode: Static data/real-time data/historical data/charts/tables/remote operation/video, etc.
4. Support user-defined data management: Data trigger/data transfer/data calculation, etc.
5. Support equipment cloud disk: Device configuration files, process files and other important files can be synchronized to the cloud to avoid damage or loss.
6. Support user-defined multi equipment WebSCADA
7. Cloud data persistence: Equipment data will be persistent in the cloud to avoid damage or loss.
8. RESTful API for third-party applications or system calls.
9. Application market download analysis and optimization application based on equipment data.
10. Usage scenario: Equipment remote operation and maintenance and management; Equipment life cycle management; Equipment comprehensive health assessment system.
11. Platform features: Easy access, easy to use, component dragging, no code development required.
12. Billing mode: Free registration, limited number of equipment access <10, storage space <100G.
Official customer is charged based on equipment access license and storage space.



Application

Intelligent Manufacturing System Running Through the Cloud



Ordering Guide

Function	Ordering Number	Description
Hardware + Software	Janus Edge Computing System	<ul style="list-style-type: none"> - Hardware: Industrial computer CNV7704-01. - Software: Janus edge computing & analytics. - A single set of Janus supports up to 500 devices concurrent data interaction. - Support data synchronization to Neptune cloud platform (users need to have enough data space support in Neptune). - After Janus is registered and activated by Neptune, it does not depend on the Neptune cloud platform and can run independently.
Cloud Platform Service	Neptune@Cloud	<p>Cloud platform storage pricing (calculated per GB per year):</p> <ul style="list-style-type: none"> - Provide user data access and usage services in the cloud. - Provide device data remote monitoring and management tools. - Provide system interface to support data exchange with third-party systems.

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Cloud Platform Service	Neptune@Cloud	<ul style="list-style-type: none"> No concurrent limit on the number of devices. Neptune cloud platform can be used in series with the Janus edge computing system, or it can be used separately.
User License	User License	Device access authorization: <ul style="list-style-type: none"> Every device connected to Janus or Neptune requires a license. It needs to be used with Janus edge computing system or Neptune cloud platform. Duration of license: Permanent. One device is connected to Janus and Neptune at the same time, only one license is needed.

Optional Item

Function	Ordering Number	Description
Software Custom Development Service		Software development service (calculated per person per day): <ul style="list-style-type: none"> Customize Janus edge computing system or develop applications on Neptune cloud platform according to user needs (App). Determine the man-day workload required for development according to the content of the user's needs.
Hardware	CNV7704-01	Industrial computer: CNV7704-01 Configuration: i5/16G/512GB



GOOGOL TECHNOLOGY (HK) LIMITED
 Unit 1008-09, 10/F C-Bons International Center, 108 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
 Tel.: +(852) 2358-1033
 Fax: +(852) 2719-8399
 E-mail: hkgoogol@gmail.com / sales@googoltech.com
 Web: http://www.googoltech.com

GOOGOL TECHNOLOGY (SZ) LIMITED
 Room W211, IER Building (PKU-HKUST High-tech Industrial Park, Nanshan District, Shenzhen, PRC (Postal Code: 518057)
 Tel.: +(86) 755-26970817, 755-26970824,
 Fax: +(86) 755- 26970821
 E-mail: googol@googoltech.com
 Web: www.googoltech.com.cn

GOOGOL TECHNOLOGY (TWN) LIMITED
 2F., No. 22, Ln. 10, Fuzhong 2nd St., Xitun Dist., Taichung City 407, Taiwan
 Tel.: +(886) 4-2358-8245
 E-mail: twinfo@googoltech.com
 Web: http://www.googoltech.com

www.googoltech.com

