

User Manual of NcGateway

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1 About Weihong IIoT Solution

Weihong Industrial Internet of Things Solution (hereinafter referred to as Weihong IIoT Solution) is independently developed by Shanghai Weihong Electronic Technology Co., Ltd (hereinafter referred to as Weihong). Based on monitoring of CNC systems, it offers a solution to production management, device management and business innovation.

Weihong IIoT Solution includes the following:

- NcGateway (Previously known as NcCloud Assistant.)
 - It provides data interfaces and communication protocols for the CNC system to connect to the Internet.
 - At present, it is built in most of Weihong CNC systems.
- **xFactory** (Previously known as **NcCloud Smart Factory**.)

A standard solution for CNC systems to connect to the Internet.

It provides the following:

- The standard MES (Manufacturing Execution System).
- The data interfaces for all information systems.
- NcCloud Industrial Internet Platform (Previously known as NcCloud Service. Hereinafter referred to as NcCloud.)

It provides the following:

- Remotely monitoring machine tools based on the public cloud.
- Production management and device maintenance.
- Technical support, equipment leasing and other functions for cooperation among multiple enterprises.
- Cloud data interfaces for system integrators and service providers to use advanced applications.
- Two versions, Web and WeChat, for production monitoring.



2 Introduction

NcGateway is a component of Weihong IIoT solution.

Installation packages of the latest version of Weihong CNC software **NcStudio** have successfully integrated **NcGateway**. That is, **NcGateway** will be automatically installed at the same time when **NcStudio** is installed.

The functions of **NcGateway** upgrade along with the upgrade of **NcCloud** and **xFactory**. Therefore, it is recommended to use the latest version of **NcGateway** to get full functions of **NcCloud** and **xFactory**.

With **NcGateway**, you can achieve the following:

• Checking the information of the CNC system

It is used to check and edit the basic information of the CNC system and check the telephone number of the support professional.

• Managing data

This function needs to be authorized.

It is used to enable communication protocols for data transmission, such as MTConnect, OPC UA and Modbus, and use SQLite database to locally back up data.

• Connecting the CNC system to the Internet

It is used to connect the CNC system to the Internet. And then through **NcGateway**, you can bind **NcCloud** and send data to **NcCloud** online.

• Remotely monitoring the CNC system

It is used to remotely connect and control other CNC systems.

• Reporting a repair online

It is used to send repair information of the CNC system to the specified maintainer and check repair records online.

• Registering the CNC system

It is used to get information about registration, including the QR code, device ID and registration information, and scan the QR code by **WeChat** version of **NcCloud**, so as to register the CNC system.



• Analyzing data

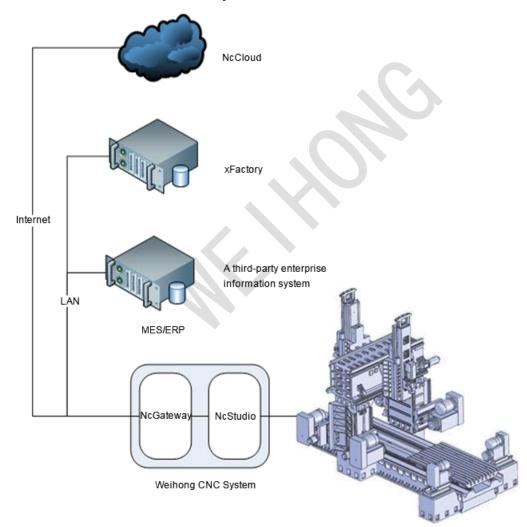
It is used to check yesterday's utilization rate and OEE of the machine tool, distribution of today's working time (running, idle, E-stop and unavailable status) and today's alarm statistics (errors, warnings and information).

• Doing system setup

It is used to set your language preference of **NcGateway**, IP or domain name of **xFactory** and frequency of **NcGateway** sampling data from **NcStudio**.

System Architecture

The architecture of **NcGateway** is as follows:



NcGateway acquires data and instructions from **NcStudio**, and transmits them to **NcCloud** and **xFactory** or a third-party enterprise information system.



3 Quick Start

Through this section, you can quickly know the basic procedure of using **NcGateway**.

The basic procedure is as follows:

- 1. Install **NcGateway**.
- 2. Connect the CNC system to the Internet.

3.1 Install NcGateway

If the latest version of **NcGateway** has already been built in **NcStudio**, you can directly use it. Otherwise, you need to manually install it.

If you are not sure whether **NcGateway** has been built in **NcStudio**, see How to know if **NcGateway** has been installed in the current system? for details.

Before installing NcGateway, ensure the following:

• **NcStudio** has been installed.

If you are not sure whether **NcStudio** has been successfully installed or cannot install **NcStudio**, please contact us.

• The version of operating system meets the lowest version:

Operating system	Lowest Version
Windows 7	Service Pack 1
Windows 8	_
Windows 8.1	—
Windows 10	_
Windows Server 2003	Service Pack 2
Windows Server 2008	Service Pack 2
Windows Server 2008 R2	Service Pack 1
Windows Server 2012	
Windows XP	Service Pack 3
Windows Vista	Service Pack 2



To install **NcGateway**, do the following:

- 1. To download the installation package of **NcGateway**, enter the official website of **NcCloud** (https://nccloud.weihong.com.cn), click **Download**, input the keyword **NcGateway**, search **NcGateway** and download its latest installation package.
- 2. Open the installation package and follow the wizard.

After installing **NcGateway**, to open **NcGateway**, find **NcCloud / NcGateway** folder in **Start** menu and click **NcGateway**:

vice Info	Data Management	Remote Monitor	Online Repair	Registration	Data Analysis	System Setup
ed to show 1	oasic information	of the device and	contact informa	tion of technical	support.	
Device Device ID Registration Model Brand Sype Manufacture Agent	. information		₩₩₩C-300 001	DA-C5GN-1238		The following information with "#" is missing. It is suggested to click " Edit" to complete it for getting technical support in the future, e.g. reporting repair; online. Model. Manufacturer, Enterprise user, Name, Telephone number, Service personnel's phone.
ubout User Ænterprise «Name «Telephone r	user umber (Suggested t	o Bind NcCloud)				
lmail Address						
	e Personnel	ggested to Bind N	cCloud)			Edit

3.2 Connect the CNC System to the Internet

This operation is used to make the CNC system automatically send data to the **Web** version of **NcCloud**.

To connect the CNC system to the Internet, do one of the following:

- By the ethernet
- By the USB interface



3.2.1 By the Ethernet

It is applicable to the following:

- Weihong CNC system with the PC architecture.
- Weihong CNC system with the ARM architecture, including NK260 series and NK280 series.

To connect the CNC system to the Internet by the ethernet, do the following:

- 1. Connect the CNC system to your company's internal network through the ethernet interface on the CNC system.
- 2. Set the router of the internal network.

3.2.2 By the USB Interface

It is only applicable to Weihong CNC system with the PC architecture.

To connect the CNC system to the Internet by the USB interface, do the following:

- 1. Connect the CNC system to the networking device (USB-Wi-Fi or USB-4G type) through the USB interface.
- 2. Install the corresponding drive program and complete the configuration.



4 Advanced Operations

Through this section, you can quickly know advanced operations of **NcGateway**.

Including the following:

- Check and edit the information of the CNC system.
- Use data management.
- Use remote monitoring.
- Use online repair.
- Register the CNC system.
- Check data analysis.
- Use system setup.



4.1 Check and Edit the Information of the CNC System

This operation is used to check and edit the basic information of the CNC system, and check the telephone number of technical supports.

You need to manually edit all information in **Device Info** interface, except **Device ID** and **Registration information** because **NcGateway** can directly read such information from **NcStudio**.

To check and edit the information of the CNC system, do the following:

1. To enter **Device Info** interface, click **Device Info**:

NcGateway V4	.0.4					X
Device Info	Data Management	Remote Monitor	Online Repair	Registration	Data Analysis	System Setup
Used to show 1	basic information	of the device and	l contact informs	tion of technical	. support.	
Device	Info					The following
About Device						information with "*" is missing. It is
Device ID	-		WHNC-30	0A-C5GN-1238		suggested to click " Edit" to complete it
D:	n information		001			for getting technical
-	1 Information		001			support in the future, e.g. reporting repairs
*Model						online. Model, Manufacturer,
Brand						Enterprise user, Name,
Type						Telephone number, Service personnel's
*Manufacture	er					phone.
Agent						
-						
About User						
*Enterprise	user					
*Name						
*Telephone r	umber (Suggested t	o Bind NcCloud)				
Email						
Address						
About Servio	e Personnel					Edit
*Service per	sonnel's phone (Su	uggested to Bind N	cCloud)			Lait
					_	
Cloud is conn	ected		Backup 0	PC UA MTConnect	NcCloud Remo	te Support <mark>–</mark> Background Sevi



2. To edit the basic information of the CNC system, click **Edit** and edit information in **Edit Device Info** dialog box:

😵 Edit Device Info							
Except information with "*" is required, it is suggested to fill in all information, and fill in the telephone number which is bound to NcCloud account to follow the whole technical support process and avoid anything missing.							
About Device	About User						
*Model	*Enterprise user						
Brand	*Name						
Type Please choose 🔻 Please choose 💌	*Telephone number (Suggested to Bind NcCloud)						
*Manufacturer							
Agent	Email						
	Address						
About Service Personnel							
*Service personnel's phone(Suggested to Bind NcCloud)							
	Save Cancel						

The edited information will be synchronized with that in **Send on Device** dialog box of **Online Repair**. See Report a Repair by the CNC system on your PC for details.

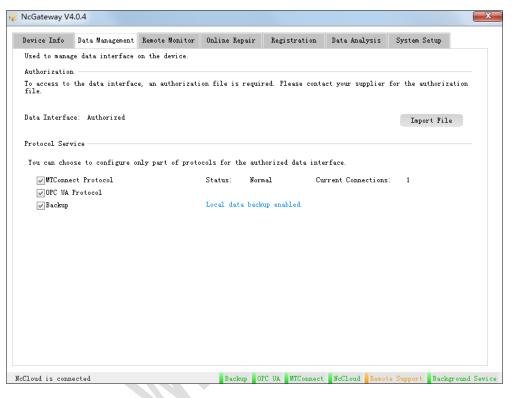


4.2 Use Data Management

This operation is used to enable communication protocols for data transmission, such as MTConnect and OPC UA, and use SQLite database to locally back up data.

To use data management, do the following:

1. To enter **Data Management** interface, click **Data Management**:



- 2. Import an authorization file.
- 3. Do one of the following:
 - Enable MTConnect protocol.
 - Enable OPC UA protocol.
 - Enable local data backup.



4.2.1 Import an Authorization File

After importing an authorization file to **NcGateway**, the Weihong CNC system will provide the internet data interface and backup service for local data. Therefore, before using **NcCloud**, you should finish data authorization.

Before importing an authorization file, do the following:

• Install the latest **NcGateway**.

After installation, there is a **NcCloud Assistant** button in the integrated CNC system.

• Prepare an authorization file.

If you have no authorization file, please contact us.

Note: An authorization file is exclusive to the device ID. If the system is written again, please get an new authorization file and import it.

• Save a sig.key authorization file in the file folder named by device ID and save the file folder in the root directory of a USB flash disk.

To import an authorization file, do one of the following:

- To the integrated CNC system
- To the board card

4.2.1.1 To the Integrated CNC System

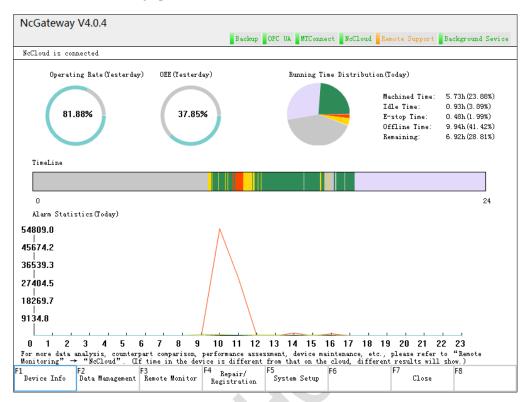
This operation is used to import an authorization file to the integrated CNC system that has not been authorized or needs to be authorized again.

To import an authorization file to the integrated CNC system, do the following:

- 1. Power up the integrated CNC system and start the Weihong software **NcStudio**.
- 2. Insert the USB flash disk with an authorization file into the integrated CNC system.



3. To start **NcGateway**, press **NcCloud Assistant** button:



4. To enter data management interface, press **F2**:

NcGateway V	4.0.4						
			Backup	OPC UA MTConne	ect NcCloud Re	mote Support 🗧 Ba	ckground Sevice
NcCloud is connec	rted						
Ens. "	sure you have . Note: The de	got the authoriza vice has been aut	tion file, which horized. This ope	is named after t ration will over	he device ID, and write the origina	l click "Import 1 one.	
Authorization st	atus Autho	orized					
File list							
Warning: This de	wice has been	authorized. The r	ecently imported	authorized file	will cover the or	riginal one. Pleas	se be careful.
1 F2 Import		F3	F4	F5	F6	F7 Return	F8



5. To import the authorization file, press $\uparrow / \downarrow / \leftarrow / \rightarrow$, select the target authorization file in **File list** area and press **F1**.

Note: Even if the imported authorization file is invalid, it still covers the original one.

4.2.1.2 To the Board Card

To import an authorization file to the board card, do the following:

- 1. To start **NcStudio** on your PC, start your PC and do one of the following:
 - Click **Start** \rightarrow **All Programs** \rightarrow **NcStudio**.
 - Double click the icon **NcStudio** in the desktop.
- 2. Return to the desktop, click **Start** → **All Programs**, find and right click **NcGateway**, select **Run as Administrator**. **NcGateway** dialog box pops up:

NcGateway V4	.0.4							
Device Info	Data Management	Remote Monitor	Online Rep	air Reg	istration	Data Analysis	System Se	etup
Used to manag	e data interface	on the device.						
Authorization								
To access to file.	the data interfac	e, an authorizati	on file is :	required. 1	'lease conta	ct your supplier	for the aut	horization
Data Interfac	e: Authorized						Impor	t File
Protocol Serv	ice							
You can choos	se to configure o	nly part of proto	cols for th	e authoriz	d data inte	rface.		
✓ MTConnec	rt Protocol		Status:	Normal	Cu	rrent Connection	.s: 1	
🧹 OPC UA H	rotocol							
🖌 Backup			Local data	backup en	abled.			
loud is conne	cted		Backu	p OPC UA	MTConnect	NcCloud Remo	te Support	Background Se

3. To import the authorization file, click **Data Management** → **Import File**, select the target authorization file and click **Import**.

After importing the authorization file, the prompt *Succeeded in importing KEY* occurs.

Note: If the imported authorization file is invalid, such a prompt still occurs, but you cannot use part functions of **NcGateway**.



4.2.2 Enable MTConnect Protocol

After importing the authorization file, the character **MTConnect** at the bottom of **Data Management** interface turns green. That is, MTConnect protocol is successfully enabled and connected. Otherwise, the character turns yellow.

After enabling MTConnect protocol, input the following URL to check MTC data:

- **NcStudio** on your PC: http://127.0.0.1:5000/current
- The other NcStudio: http://IP:5000/current

The MTC data showed in the interface differs in **NcStudio** settings.

4.2.3 Enable OPC UA Protocol

After importing the authorization file, the character **OPC UA** at the bottom of **Data Management** interface turns green. That is, OPC UA protocol is successfully enabled and connected. Otherwise, the character turns yellow.

After enabling OPC UA protocol, to check the running data of machine tools, add these machine tools to **xFactory**.

Parameters showed in the interface of **xFactory** differ in **NcStudio** settings.

4.2.4 Enable Local Data Backup

This operation is used to back up the running data of **NcStudio** to the built-in database as a file, so as to check and extract the running data later.

Before enabling local data backup, ensure the authorization file has been imported.

To enable local data backup, do the following:

- 1. Modify the value of **backupenable** in the configuration file whcnc_paramsdict.json to **Y**.
- 2. Restart NcCloudAdapter.exe.

The character **Backup** at the bottom of **Data Management** interface turns green. That is, local data backup is successfully enabled. Otherwise, the character turns yellow.



After enabling local data backup, the running data is automatically backed up to the built-in database as a file:

- File format: .db.
- Storage path: D:\Naiky, or C:\Naiky without D disk.
- File name: **Device ID.Generated date**.
- E.g. WHNC-0L5S-GNGN-0001.20180104.db

Note: Database updates once a month. When the hard disk is full, local data backup is disabled and **NcGateway** automatically deletes the earliest files in the database.

4.3 Use Remote Monitoring

This operation is used to remotely monitor and control the target CNC system.

To use remote monitoring, do the following:

1. To enter **Remote Monitor** interface, click **Remote Monitor**:

vice Info	Data Management	Remote Monitor	Online Repair	Registration	Data Analysis	System Setup
l to manage	e production and d	evices through de	vice networking,	and provide remo	te technical suppo	ort.
NcClou	d					
	an industrial clou on the website or			ent and device mai	intenance, which i	s easy to operate. It
Register a Cloud";	n NcCloud account	for free through	the website htt	ps://nccloud.weih	ong.com.cn/ or WeC	hat official account "
Connect t	he device to the I	Internet and enabl	e NcCloud conne.	ction;		
Bind the	device to your NcC	loud account.				
	Connection	Current status:				o NcCloud. Connect
MGCTOAT	Connection	current status.		he device to Inter evice.	rnet to know every	thing about your
						Bind NcCloud
Remote	Support					
chni ci ans	can upgrade the so	oftware, adjust pa	arameters or dem	onstrate operation	n after remote log	in. Here is the usage:
After enab formation;		t on the device,	click "Remote :	Support", and inf	form the technicia	n of the remote login
tps://nccl gin inform	s for the technici oud weihong com cr ation of this mach nt mobile applicat	v/pc/cn/download), vine to log on to	and start "Ne	Gateway-Remote Sup		enu. Use the remote for free; or use
			Current sta	atus:Online		Remote Support

- 2. Do one of the following:
 - Bind NcCloud.
 - Use remote assistance.

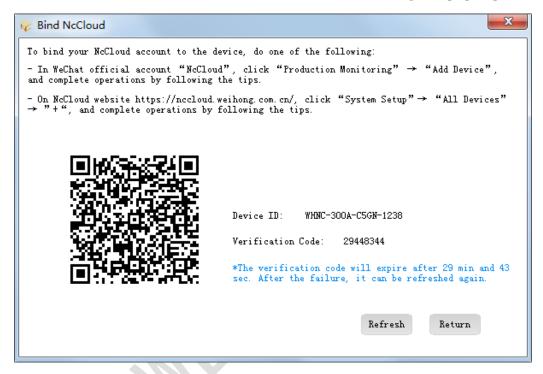


4.3.1 Bind NcCloud

NcCloud provides device management, maintenance, leasing and the other services about routine production on the cloud. It supports both **Web** version and **WeChat** version.

To bind **NcCloud**, do the following:

1. Click **Bind NcCloud** in **NcCloud** area. **Bind NcCloud** dialog box pops up:



The information of the current CNC system shows in the dialog box, including the QR code, device ID and verification code.

- 2. To add machine tools to **NcCloud**, do one of the following:
 - By **WeChat** version
 - By **Web** version
- 3. To register **NcCloud**, do one of the following:
 - By **WeChat** version
 - By **Web** version



4.3.2 Use Remote Assistance

This operation is used to remotely control the current CNC system. After logging in **Remote Control (Sunflower)** of the company **Oray**, technical supports can remotely upgrade **NcStudio**, adjust **NcStudio** parameters and provide demonstrations for help-seekers.

Before using remote assistance, ensure the remotely controlled CNC system has installed **NcGateway**.

To use remote assistance, do one of the following:

- For technical supports, do the following:
 - Install Remote Control (Sunflower). Download URL of Remote Control (Sunflower): https://sunlogin.oray.com/enterprise/download
 - 2. To check **Identification code** and **Verification code** on **NcGateway**, click **Remote Support** in **Remote Support** area of **Remote Monitor** interface.
 - 3. Input Identification code and Verification code to Remote Control (Sunflower).
- For non-technical supports, click **Remote Support** in **Remote Support** area of **Remote Monitor** interface, check and send **Identification Code** and **Verification Code** to a technician.



4.4 Use Online Repair

This operation is used to send repair information of the CNC system to the specified maintainer and check repair records online.

To use online repair, do the following:

1. To enter **Online Repair** interface, click **Online Repair**:

:Gateway V4	+.0.4					
vice Info	Data Management	Remote Monitor	Online Repair	Registration	Data Analysis	System Setup
ed to send	-	n to your service	e personnel onlin	e, and check the	repair record on 4	the Internet.
ime		ir ID Curr	ent Status Curr	ent Node Pro	mblem	Operation
				PgUp	PdDn)
w Repair —						
Send on Dev	vice service per	w repair and send sonnel by the dev is required)		end by QR Code	in WeChat official	contained repair it in "Online Repair" account "NcCloud", mation, and send the
	: offline. The rep It is suggested t					nd on Device" button
					_	_

- 2. **Optional:** Check repair records.
- 3. Report a repair online.



4.4.1 Check Repair Records

This operation is used to check all historical repair records of the CNC system, including the time to report the repair, repair ID, current status, current node, problems and available operations of the repair record.

To check repair records, do the following:

- 1. Check all repair records of the CNC system in **Repair Record** area of **Online Repair** interface.
- 2. To enter **Repair Information** interface and check the details about the repair record, click **View** in **Operation** column of the target repair record:

🥀 Repa	air Information	1		X
	Creation time	: 2020-04-27T10: 39:27	Problem description:	_
	Repair id:	REPA202004270239276361856	E Alarm enter: Limit of X+; E Alarm enter: Limit of Y+; E Alarm enter: Spindle alarm; E Alarm enter: Abnormal connection with controller, please press Reset button to try again.;	
	State:	Untreated		
	Handler:	liqian		
				_
	Log in NcClou	d official website "https://nccloud.weihong	com.cn" for more details.	
			Return	

4.4.2 Report a Repair Online

To report a repair online, do one of the following:

- By the CNC system on PC
- By the QR code



4.4.2.1 By the CNC System on your PC

To report a repair by the CNC system on your PC, do the following:

1. Click **Send on Device** in **New Repair** area of **Online Repair** interface. **Send on Device** dialog box pops up:

🐉 Send on Device		×
1. Make sure all device information is correct. For Device Info About Device Device ID Registration information *Model	r any problem, please click "Edit" t WHNC-300A-C5GN-1238 001	to modify it before clicking "Next". The following information with "*" is missing. It is suggested to click " Edit" to complete it then click "Next". Model, Maufacturer, Enterprise user, Name, Telephone number, Service personnel's phone.
Brand Type *Manufacturer Agent About User		
*Enterprise user *Name *Telephone number(Suggested to Bind NcCloud) Email Address		Edit Refresh Cancel Next
About Service Personne *Service personnel's phone(Suggested to Bind NcCl	oud)	

- 2. Check the information showed in the dialog box.
- 3. **Optional:** To modify the information, click **Edit** and modify the related information in **Edit Device Info** dialog box.

The edited information will be synchronized with that in **Device Info** interface. See Check and Edit the information of the CNC system for details.

Note: * refers to a required item.

4. To input the description about your problem, click **Next** in **Online Repair** interface and input the description.

NcGateway automatically reads last 5 pieces of errors with **Error** level from the target **NcStudio**.

In addition, you also can input the description within 200 characters and add at most 6 attachments in your PC.

Attachments are not available to integrated CNC systems.

5. Click **Next**.



After reporting a repair by the CNC system on your PC, the repair ID shows in **Send on Device** dialog box.

4.4.2.2 By the QR Code

This operation is used to report a repair online by scanning the QR code for repair through the official account **NcCloud**.

Before reporting a repair by the QR code, do the following:

- 1. Follow the official account **NcCloud**.
- 2. Register NcCloud.

To report a repair by the QR code, do the following:

1. To get the QR code, click **Send by QR Code** in **New Repair** area of **Online Repair** interface. **Send by QR Code** dialog box pops up:



2. Scan the QR code through the official account **NcCloud** and do related settings.

See Use Online Repair for details.

You also can add photos of the factory scenes and other details.

3. Click **Submit**.

The basic information of the CNC system and problem description in **NcGateway** will be synchronized with those in the **WeChat** version of **NcCloud**.



After reporting a repair by the QR code, the repair ID shows in **Send by QR Code** dialog box.

4.5 Register the CNC System

This operation is used to get information for registration, including the QR code, device ID and registration information, and scan the QR code by **WeChat** version of **NcCloud**, so as to register the CNC system.

To register the CNC system, do the following:

1. To enter **Registration** interface, click **Registration**:



- 2. Open **WeChat**, enter the official account **NcCloud** and click **NcCloud**.
- 3. Do one of the following:
 - For non-suppliers, do the following:
 - **1.** If the application **Registration Application** has not been added to **My Apps**, add it.
 - 2. Click **Registration Application** of **My Apps** area.



- For suppliers, do the following:
 - 1. If the application **Registration Approval** has not been added to **My Apps**, add it.
 - 2. Click **Registration Approval** of **My Apps** area.
- 4. Click **Scan QR Code**, scan the QR code in **Registration** interface and do related settings by instructions.

4.6 Check Data Analysis

This operation is used to check yesterday's utilization rate and OEE of the machine tool, distribution of today's working time (running, idle, E-stop and unavailable status) and today's alarm statistics (errors, warnings and information).

Based on the distribution of yesterday's working time, yesterday's utilization rate and OEE are calculated on the next day.

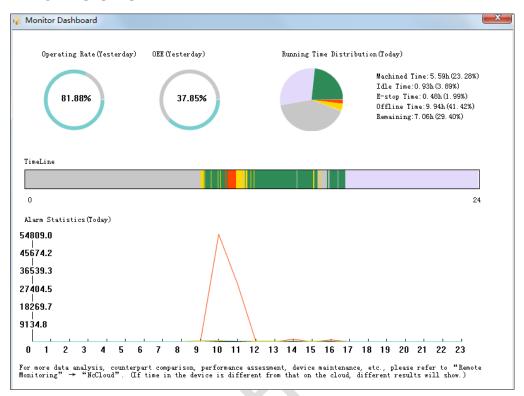
To check data analysis, do the following:

1. To enter **Registration** interface and check related data analysis in the table, click **Registration**:

					M	
Dat	a				Value Unit	
Ope	erating Rate (Yester	day)			81.88%	
OEH	(Yesterday)				37.85%	
Ru	uning Time Distribu	ition (Today)				
			Machined Ti	ne	5.59hr	
			Idle Ti	ne	0.93hr	
			E-stop Ti	ne	0.48hr	
			Offline Ti	ne	9.94hr	
Al a	arm Statistics(Toda	y)				
			Err	or	85887Unit	
			Warni	ng	5Uni t	
			In	fo	1320Uni t	
						Chart



2. **Optional:** To check data analysis in charts, click **Chart**. **Monitor Dashboard** dialog box pops up:



The timeline in the dialog box is set to check the running status of machine tools at all periods of the whole day.



4.7 Use System Setup

This operation is used to set your language preference of **NcGateway**, IP or domain name of **xFactory** and frequency of **NcGateway** sampling data from **NcStudio**.

To use system setup, do the following:

1. To enter **System Setup** interface, click **System Setup**:

lcGateway V	4.0.4						
evice Info	Data Management	Remote Monitor	Online Repair	Registration	Data Analysis	System Setup	
sage habit							
elect langu	age: English	-					
Factory							
et IP or do	nain name:			ок			
ata samplin;	_						
	-	000		OK			

- 2. Do one of the following:
 - To set your language preference, click Select language dropdown box in Usage habit area and select the target language.

Restart **NcGateway** to validate the setting.

- To set the IP or domain name of **xFactory**, input the IP or domain name in **Set IP or domain name** input box in **xFactory** area.

It serves **Product Trace** function of **xFactory**. To be specific, through **Product Trace** function, running data **Product ID** for CNC system **3Cv12** can be transmitted to **xFactory** with the specified IP or domain name.



To set the frequency of sampling data, input the frequency in Set sample rate input box in Data sampling area.

Unit: ms.

5 FAQs

This part includes frequently asked questions that you may have about **NcGateway**.

5.1 How to know if NcGateway has been installed in the current system?

Phenomenon

It is not sure that **NcGateway** is installed in the current system.

Solution

To check if **NcGateway** has been installed in the current system, do one of the following:

- For integrated CNC devices: Check if there is a **NcGateway** button on the operation interface.
- For control cards: Click **Start** → **All Programs**, and check if there is a **NcGateway** folder.



5.2 What to do when the QR code and the verification code cannot be displayed on the homepage of NcGateway?

Phenomenon

After starting **NcGateway**, the QR code and the verification code cannot successfully be displayed.

Cause

- 1. The CNC system is not connected to the Internet.
- 2. Do not run **NcStudio** and **NcGateway** as an administrator.
- 3. The Internet condition is bad.

Solution

- 1. Check the networking condition and confirm that the CNC system is properly connected to the Internet.
- 2. Run **NcStudio** and **NcGateway** as an administrator.
- 3. Wait for 30 seconds and press F5 to regain the QR code and the verification code. Or open the manager and end NcCloudAdapter.exe, click Start → All programs →NcGateway, run NcCloudAdapter.exe as an administrator and restart NcGateway.

5.3 What to do if NcGateway fails to work after restarting the computer?

Phenomenon

Cannot start **NcGateway** after restarting the computer.

Solution

Check if NcCloudAdapter.exe process exists in the task manager:

- If it exists, see What to do when the QR code and the verification code cannot be displayed on the homepage of **NcGateway**? for details
- If it does not exist, click **Start** → **All Programs** → **NcGateway**, and run NcCloudAdapter as an administrator.

To avoid such a problem next time, please check if **NcCloudFirstRun** is prohibited from automatic startup after starting the computer by security softwares, like Tencent PC Manager.



5.4 What to do if the local data interface of NcGateway fails to work?

Phenomenon

The local data service of **NcGateway** fails to work.

Solution

- 1. Run **NcGateway** as an administrator and import the encrypted authorization file corresponding to the device ID.
- 2. Click **MTC Service** to start the local data service.

5.5 Is reauthorization required when the device ID is changed or a new operating system is installed?

Phenomenon

Reauthorization is required when the device ID is changed or a new operating system is installed.

Cause

An authorization file is exclusive to the device ID.

Solution

Ask for the other authorization file and import it again. See Authorize xFactory for details.

5.6 Which functions of NcGateway can be used without networking?

The following functions of **NcGateway** can be used without networking:

- Checking the information of the CNC system
- Enabling MTConnect protocol (Data management)
- Enabling local data backup (Data management)
- Online repair Reporting a repair online by the QR code
- Registering the CNC system
- Checking data analysis
- Using system setup

To use cloud data interface of NcCloud, reporting a repair by the CNC system on your PC (online repair) and remote assistance, confirm that the CNC system has been connected to the Internet.



5.7 What to do if the database file is garbled when it is converted to a CSV file?

Phenomenon

Use **DB.Browser.for.SQLite** to export data from the database to a CSV file. But this CSV file is garbled.

Cause

Database files of NcCloud are encoded in UTF-8. However, a CSV file does not specify the encoding format. Therefore, if you open the file in Microsoft Excel in wrong encoding format, Chinese characters may become unreadable characters.

Solution

Manually set or select the encoding format when you open the CSV file.





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