Pro-face
Human Machine Interface

Web Operation Software

GP-Web

Introduction Guide

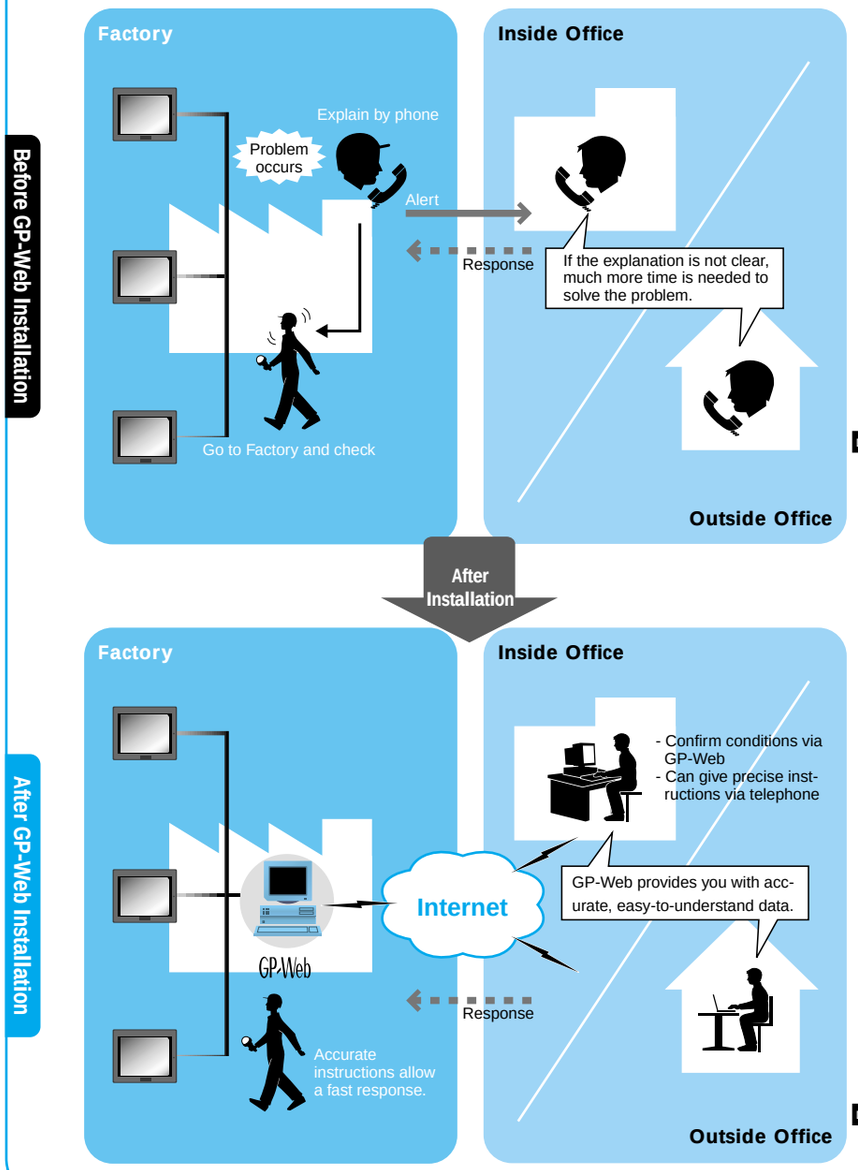
INDEX

1 Check Factory Operation Status via the Internet

View data from GP units' located in remote areas!

Example 1

Easily monitor your production line status - from inside or outside the office.



Understanding problem details quickly over the phone is difficult for a production manager located far from the factory. Traveling to the site to see the problem is sometimes impossible, and creating a system where factory conditions are monitored 24 hours a day is expensive and often not realistic.

Data		
- Conversation w/Factory Operator	5	
- Travel to factory	10	
- See equipment and take notes	15	
- Go to factory office	10	
- Explain solution to Operator	5	
TOTAL	Approx.	45

(minutes)

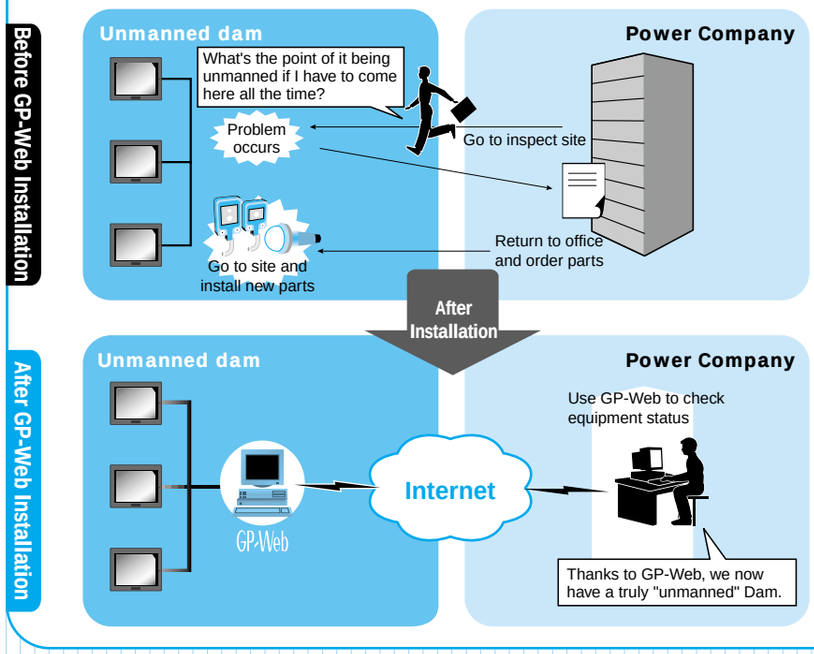
With GP-Web, a production manager can immediately gather equipment status information by monitoring GP screen data on his Internet browser. Based on this data, he can then quickly give accurate instructions to factory workers. This alone can eliminate the need for traveling to the factory, and helps improve overall work efficiency.

Data		
- Connect with Internet site	5	
- Confirm all relevant data	10	
TOTAL	Approx.	15

(minutes)

Example 2

Easily monitor or control an unmanned site in a remote area, such as a dam, from your office.



Here, the dam supervisor must travel to the site to diagnose every problem, since it is unmanned. Over time, troubleshooting and regular maintenance are expensive, using large amounts of time and labor.

Data		
- Travel to site	90*	
- Inspect equipment	10	
- Return to office	90	
- Order and pick up parts	10	
- Return to dam	90*	
- Remove old parts and install new	20	
TOTAL	Approx.	310

(minutes)

Monitoring equipment status from the office via GP-Web can reduce travel time to the dam only for periodic inspections. When a problem does occur, GP-Web-based remote maintenance reduces the need for travel.

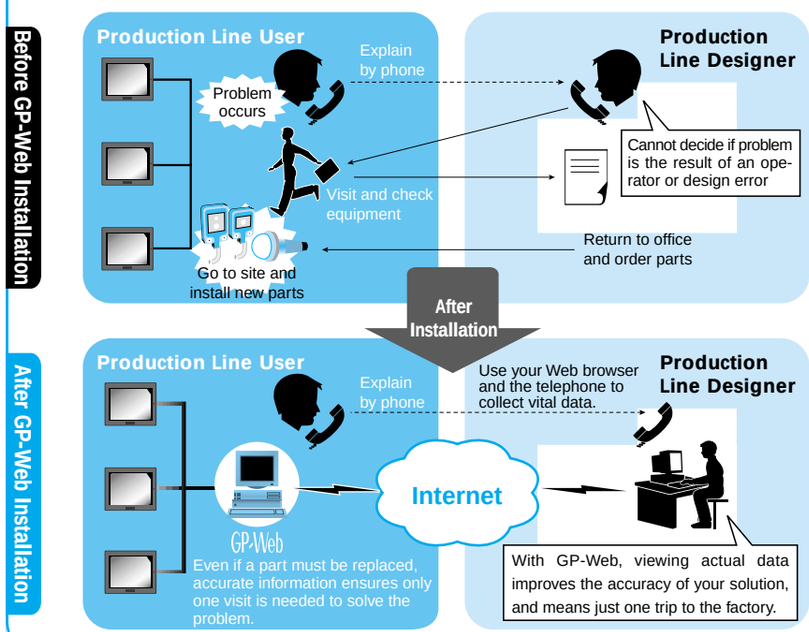
Data		
- Confirm problem conditions	10	
- Order and pick up parts	10	
- Go to dam	90*	
- Remove old parts and install new	20	
TOTAL	Approx.	130

(minutes)

Assuming approx. 50km (30 miles) to dam.

Example 3

Perform remote system maintenance on a production line - from your office!



A Production Line Designer with a large number of customers must travel extensively to answer User questions and solve problems. However, over half this work is often simply replacing or adjusting parts and equipment.

Data		
- Talk with customer by phone	5	
- Travel to factory	90*	
- Inspect equipment	10	
- Return to office	90	
- Order and pick up parts	10	
- Return to factory	90*	
- Remove old parts and install new	20	
TOTAL	Approx.	315

(minutes)

Collecting vital system status information by phone and your Internet browser guarantees you arrive with the correct solution and parts. It also guarantees a rapid response and minimizes maintenance-related travel.

Data		
- Talk with customer by phone	5	
- Monitor equipment status	10	
- Order and pick up parts	10	
- Go to site	90*	
- Remove old parts and install new	20	
TOTAL	Approx.	135

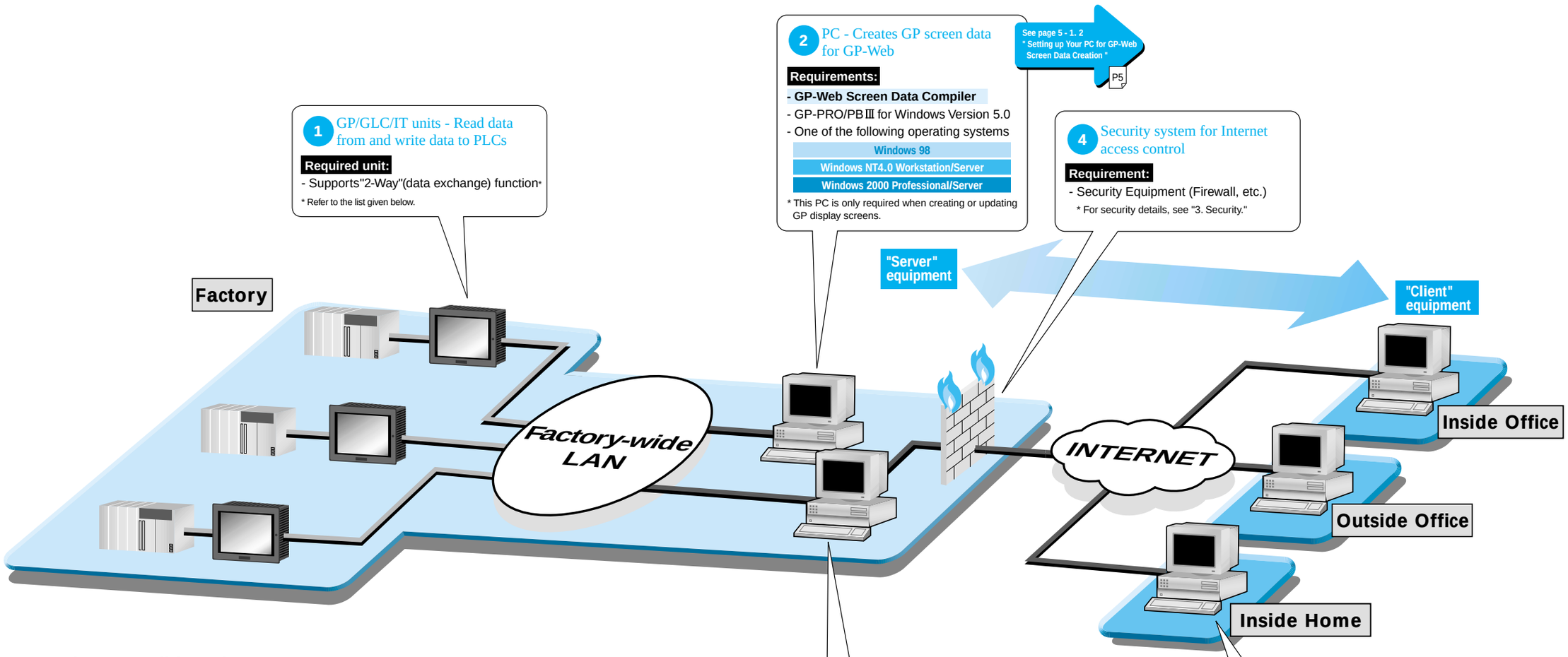
(minutes)

Assuming approx. 50km (30 miles) to dam.

1-1 System Design

Sample GP-Web System

Check Factory Status via the Internet



■GP-Web Compatible Units

Series Name	Models
GP2000	- GP-2600T - GP-2500T - GP-2400T
GP77R	- GP-577RT - GP-577RS - GP-477RE - GP-377RT
GLC	- GLC2400T
IT (Under development)	- IT2400T Type A - IT2400T Type B

* Please consult your network administrator for network connection requirements.

1-2 Check Factory Status via the Internet GP-Web Setup

From Page 4

2 Setting up Your PC for GP-Web Screen Data Creation

Follow these steps to set up your PC for designing and creating **GP-Web** screen data.

1. Install your operating system.
   (Use one of the following operating systems.)
   Windows 98 | Windows NT4.0 Workstation/Server | Windows 2000 Professional/Server
2. Install GP-PRO/PBⅢ for Windows Version 5.0 and prepare for a required environment to create screen data projects.
3. Install the **GP-Web** compiler program. This completes your PC setup and installs the pre-made Parts used to create screens for GP-Web on GP-PRO/PBⅢ Windows Version 5.0.

From Page 4

3 Setting up the GP-Web Server

Follow these steps to set up a PC that will send GP screen (HTML) data pages to an Internet server.

From Page 4

Be sure to check the following items:
- Internet access environment to publish GP screen data on the Internet.
  (Type of phone line, modem and Internet Service Provider, etc.)
- Network Security Equipment (Firewall, etc.)

1. Install your operating system.
   (Use one of the following operating systems.)
   Windows NT 4.0 Server | Windows 2000 Professional/Server
2. Set up this PC to act as an IIS WWW server, and send GP screen data to the Internet.
3. Set up a network-based PLC data collection environment by installing Pro-Server with Pro-Studio Version 3.0.
4. Set up the PC to act as a **GP-Web** server by installing the **GP-Web** Traffic Center program.
5. Web-share the **GP-Web** Server on the Web by designating the **GP-Web** folder's (created by the **GP-Web** Traffic Center)"Access Right" as "Execute (including scripts)"
6. Designate the folder you will use to store compiled **GP-Web** data as "Web sharing". This completes the setup of the **GP-Web** server.

1-3 Check Factory Status via the Internet GP-Web Operation

The following procedures show how to use GP-Web after your system's setup is completed.

From Page 4

2 Using GP-Web's Screen Data Compiler feature

1. Create your GP screen data using GP-PRO/PBⅢ for Windows Version 5.0 and the **GP-Web** pre-made Parts.
2. Compile the data with the **GP-Web** Compiler program.
3. Use GP-PRO/PBⅢ for Windows Version 5.0 to download your screen data to the GP unit.
4. This completes the compiling of GP unit screen data. Also, transfer the data compiled in the step 2 to the Web Server's Web-shared folder.

From Page 4

3 Using the GP-Web Server

1. Create a network project file for it with Pro-Server with Pro-Studio Version 3.0 to locate your GP on the network.
2. Designate this network project file as an auto load file, and start the Pro-Server and Pro-Studio and **GP-Web** Traffic Center.
3. Use your PC to view the shared Web server's Web data via Internet Explorer 5.0 or later.

For details of each step described here, refer to the GP-Web Operation Manual.

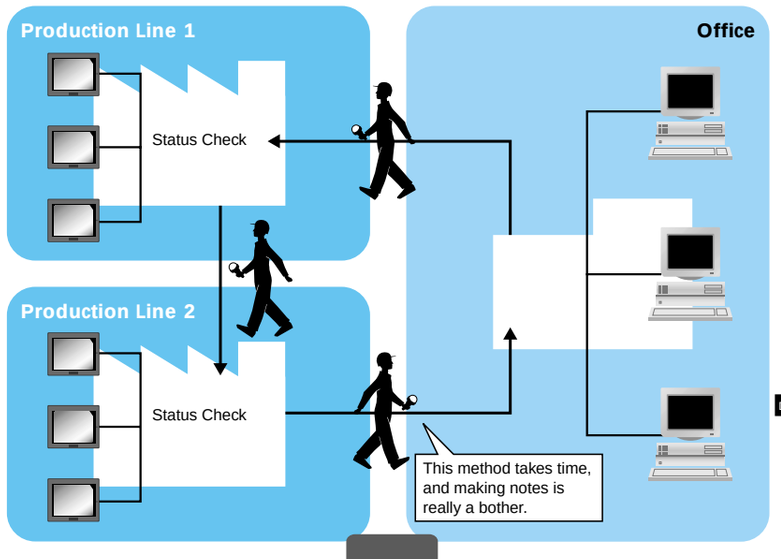
2 Check Factory Status via Your Company's Intranet Network

View GP units' screen data from nearby offices

Example 1

Check and compare line operation conditions from your office in real time.

Before GP-Web Installation



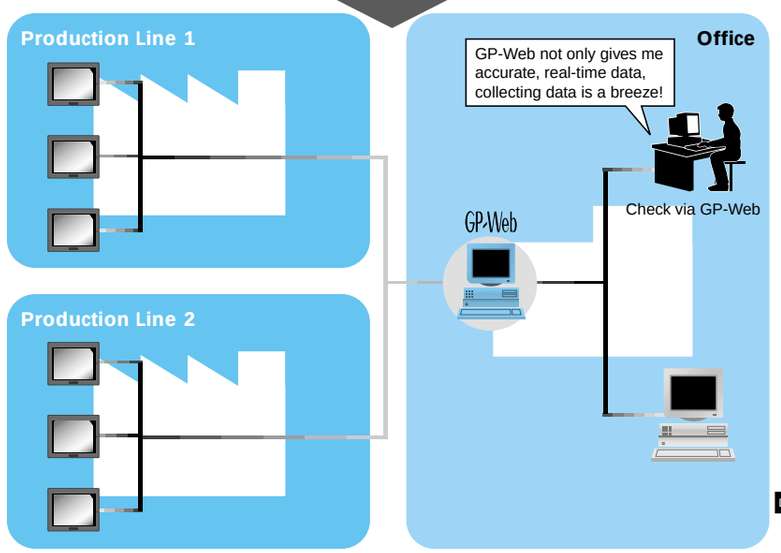
In factories running multiple lines, constant monitoring of each line is vital. However, a single operator cannot simultaneously compare line conditions.
Even if an office buildings and factory are near each other, repeatedly going to the factory to gather information is time consuming.

Data		
	- Go to Line 1	2
	- Check equipment status	10
	- Make notes	8
	- Go to Line 2	2
	- Check equipment status	10
	- Make notes	8
	- Return to factory office	2
	TOTAL Approx.	42

(minutes)

After Installation

After GP-Web Installation



With GP-Web, you can check the status of every line in your factory from your desk. Multiple display windows allow you to see multiple lines in real time. GP-Web improves your work efficiency, and provides you with accurate, timely production information.

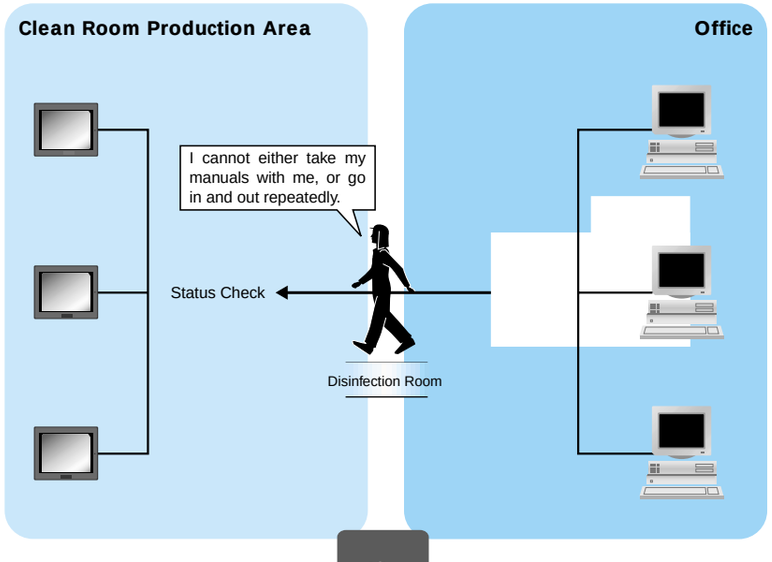
Data		
	- Check equipment status	10
	- Print out status data	2
	TOTAL Approx.	12

(minutes)

Example 2

Check the status of a clean room's production line, without having to go inside!

Before GP-Web Installation



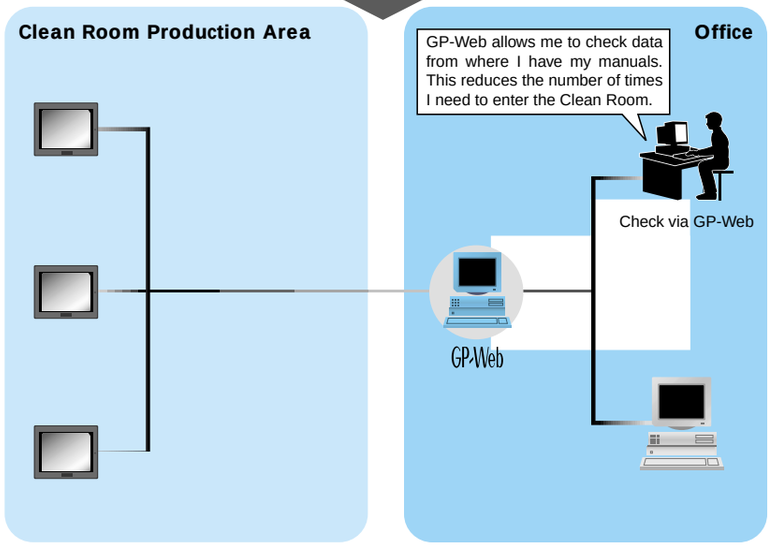
When GP maintenance or a status check is required in a factory's clean room, timeconsuming disinfection must be performed first. This prevents a rapid response to conditions requiring immediate attention.

Data		
	- Prepare required tools	15
	- Change to Clean Room clothes	5
	- Take disinfectant shower	5
	- Connect tools	5
	- Check equipment status	10
	- Make notes	8
	- Return to factory office	10
	TOTAL Approx.	58

(minutes)

After Installation

After GP-Web Installation



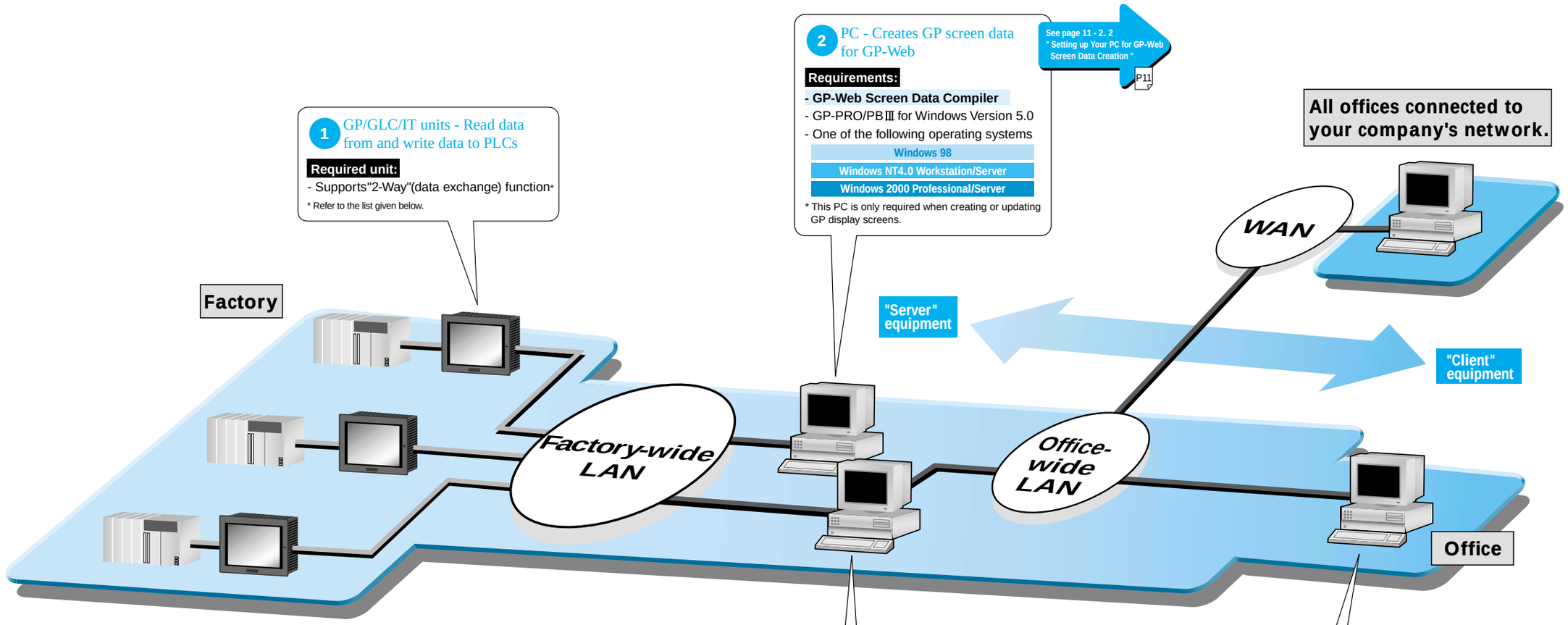
The ability to check the status of Clean Room from your office PC dramatically improves work efficiency. Also, since GP-Web-based remote control reduces the number of times you enter the room, the room sanitation quality improves.

Data		
	- Check equipment status	10
	- Print out status data	2
	TOTAL Approx.	12

2-1 System Design

Sample GP-Web System

Check Factory Status via an Intranet



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2-2 Check Factory Status via an Intranet
GP-Web Setup

From Page 10

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Follow these steps to set up a PC that will send GP screen (HTML) data pages to an Intranet server.

1. Install your operating system.
   (Use one of the following operating systems.)
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2-3 Check Factory Status via an Intranet
GP-Web Operation

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From Page 10

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2. Designate this network project file as an auto load file, and start the Pro-Server and Pro-Studio and **GP-Web** Traffic Center.
3. Use your PC to view the shared Web server's Web data via Internet Explorer 5.0 or later.

For details of each step described here, refer to the GP-Web Operation Manual.

3 Security

Recommended security precautions

Allow only manager PCs access to factory GP data

Set the GP-Web server's IIS Security settings to prevent anonymous access and allow log-ins only from authorized user accounts. This will prevent other PCs and unauthorized users from accessing valuable GP data.

Design your system so data collection will not be effected by a GP-Web server crash

Use separate PCs for GP data collection, and for the GP-Web server. Then, install the GP-Web Traffic Center and Pro-Server with Pro-Studio version 3.0 programs in the data collection PC, and install the GP-Web Traffic Center program on the Web server PC. Use the GP-Web Traffic Center program's routing feature to allow both PCs to easily share data.

Prevent unauthorized writing of data by a third party

Be sure to specify all the users authorized to write to the GP-Web Traffic Center Program, where you can set each user's log-in level. This will prevent unauthorized users from receiving write access.

Eliminate line-stops due to illegal GP-Web server access

Be sure to design your system so that it uses separate hardware for the GP-Web server and the data collection PC. Also, set up a security device, such as a firewall, between these PCs to prevent unauthorized access to your data collection system, even if the GP-Web server is accessed.

Prevent unauthorized Internet monitoring of GP data

Set up a virtual private network (VPN) in the GP-Web server and in the client PCs used by managers, which only allows access via the VPN. This will provide a high level of security, since all data is encrypted.

Preventing hacking of Website contents

On the NTFS formatted hard disk drive, create a folder that is visible on the Web. Set this folder so that only the network administrator is able to write to or delete this folder's data. This will prevent hacking of Website data.

- Refer to the GP-Web Operation Manual for details.
- Consult your network administrator about security settings.

4 Restrictions

The GP-PRO/PBIII for Windows Version 5.0 software is required to create data for the GP-Web program. Please be aware, however, that certain restrictions apply to the use of GP-PRO/PBIII data creation features.

Therefore, prior to creating GP screen data, be sure to refer to the GP-Web Operation Manual for a complete description of these restrictions.

Also, depending on the type of Web browser used, differences may occur between the GP unit's and the browser's data display. Be sure to confirm that your browser will display data as expected before creating GP screen data.

GP-Web Glossary

Standard Internet Terms

ASP File·····ASP is the abbreviation of Active Server Pages. ASP files are HTML files which include script language descriptions, and you can run script processes by starting your browser with these files specified.

Cable TV Connection·····This indicates the full time Internet connection services that cable TV companies provide via their cable TV lines.

CGI program·····CGI is the abbreviation of Common Gateway Interface. According to requests from Web browsers, CGI programs are started on Web servers and servers return those results back to Web browsers. CGI programs allow you to create pages that are more dynamic than standard HTML pages.

Firewall·····This indicates routers or hosts, or their functional roles, which protect in-house LANs from un authorized access. This is done setting up communication restrictions when connections are made from the Internet to in-house LANs.

HTML file·····HTML is the abbreviation of Hyper Text Markup Language and is the language for creating Web pages. It is used for describing logical structures or looks of documents. It is also possible to build images, sounds, animation and other document locations in documents. You can view the contents of those HTML files via your Web browser.

IIS·····IIS is the abbreviation of Internet Information Server and is the Internet server software by Microsoft. The Web service is provided to users of Windows software. This integrates various server capabilities such as the Web server, the FTP server, the SMTP server or the limited NNTP service. This is bundled in the standard Windows NT Server or the Windows 2000 Server/Professional software package.

Internet·····This indicates the computer network which connects networks all over the world via TCP/IP protocol. It is a distributed computer network, utilizing computers in locations all over the world.

Internet Service Provider·····This is the name used for an companies which provide Internet connection services.

Intranet·····This is a LAN which is built using standard Internet technology such as TCP/IP. Unlike the Internet, the network is limited to in-house usage.

Java····This is an the object oriented program language developed by Sun Microsystems. Programs written in Java are converted to the intermediate format and sent to Web browsers. Programs will be executed on Web browsers.

Java Applet·····This is a program written in Java. Java applets are downloaded on Web browsers and executed in Web browser windows.

Proxy Router·····This indicates computers, located between the Internet and in-house LANs, which route the Internet requests "on behalf of" computers on internal networks which can not be connected to the Internet directly. This is also software that performs this function.

Shared Web Folder·····This indicates the folder uploaded to the Web via the IIS. HTML files or CGI programs for homepages are stored in this folder.

XML file·····XML is the abbreviation of Extensible Markup Language and is a language for describing document structures. Unlike HTML, you can define your own document structure. By using XML files, you can exchange or distribute documents or data on the Internet. with GP-Web, para-meters of GP drawing or tag commands are sent to GP-Web Java applets in this file format.

GP-Web Terms

GP-Web CGI Program·····This indicates CGI programs for the GP-Web system called by GP-Web Java applets via IIS. This calls the GP-Web Traffic Center program to perform data communication via Pro-Server.

GP-Web Compiler·····This indicates the program which converts project files created by GP-PRO/PBIII for Windows to HTML/XML files.

GP-Web Java Applet·····This indicates the Java applet to realize GP screen drawings on your browser by using the Java language. GP drawing and tag commands are processed by this Java applet.

GP-Web Display Quality Applet·····
This applet, via communication with GP-Web Java applets, dynamically switches the quality of the GP base screen display on an Internet browser.

GP-Web Screen Change Applet·····
This indicates the Java applet to switch the number of the base screen displayed by the GP-Web Java applet by having inter-applet communications with the GP-Web Java applet. Screens are switched only when they are asynchronous to GP screens.

GP-Web Screen Synchronization Change Applet
This indicates the Java applet used to dynamically switch the synchronization of the GP-Web Java applet to GP screens via inter-applet communication with the GP-Web Java applet.

GP-Web Traffic Center Program·····
This indicates the program which intermediates data communications with Pro-Server on the GP-Web system.

⚠ Caution : Before operating any of these products,please be sure to read all related manuals thoroughly.

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