Thin² Client: Merging Web and terminal server technologies.

**SIMATIC MP370 Thin Client**
- **Operating System**: Microsoft Windows® CE 3.0 real-time operation system.
- **Standard Software**: Based on the Windows CE 3.0 real-time operation system, Microsoft Windows CE Internet Explorer V4.0, Microsoft Windows CE Outlook, Word, Excel, and other programs can be run on the SIMATIC Thin Client.
- **Touchscreen**: Comes equipped with a Touchscreen, which is easily implementable into your automation tasks.
- **Web and Terminal Server**: The WinCC/Web Navigator allows you to visualize and operate your plant via the Internet or a mobile, industrial Web Pad for the local operating and monitoring of an ongoing WinCC project across the Worldwide Web. The MOBIC T8 can be integrated into any IT network infrastructure.

SIMATIC MOBIC T8 Thin Client
- **Optional**: SIMATIC MOBIC T8 Thin Client provides the functionality of the SIMATIC Thin Client with the added functionality of a standard PC.
- **Touchscreen**: Comes with a Touchscreen, which is easily implementable into your automation tasks.
- **Operating System**: Based on the Windows CE 3.0 real-time operation system.
- **Standard Software**: Microsoft Windows® CE Internet Explorer V4.0, Microsoft Windows CE Outlook, Word, Excel, and other programs can be run on the SIMATIC Thin Client.
- **Hard Disk**: The SIMATIC MOBIC T8 Thin Client offers the functionality of a standard PC with an integrated hard disk.
- **Keyboard, Mouse**: All interfaces onboard: PROFIBUS DP as well as Ethernet at 10/100 Mbps. It can be used in production and service areas (for example, in the PLC area). Windows CE creates the basics for the operation with third-party products.

**Highlights MP370**
- **Powerful processor**: For running visualization tasks at peak performance.
- **High resolution TFT display**: Ensures readability even under adverse lighting conditions.
- **Moving industrial communicator (MP370)**: Based on a proven Microsoft Windows CE operating system, the SIMATIC MP370 Thin Client is designed for the mobile communication tasks associated with process automation tasks. It combines the ruggedness of dedicated hardware solutions with the flexibility of the PC world.

**Highlights MOBIC**
- **Moving industrial communicator (MOBIC)**: Based on the Microsoft Windows CE operating system, the SIMATIC MOBIC T8 Thin Client is designed for the mobile communication tasks associated with process automation tasks. It combines the ruggedness of dedicated hardware solutions with the flexibility of the PC world.

**Technical Data**

<table>
<thead>
<tr>
<th>Feature</th>
<th>SIMATIC MP370 Thin Client</th>
<th>SIMATIC MOBIC T8 Thin Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dev/slot</td>
<td>Pentium III 800 MHz</td>
<td>Pentium III 800 MHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256 Mbytes</td>
<td>256 Mbytes</td>
</tr>
<tr>
<td>Hard disk</td>
<td>10 Gbyte</td>
<td>10 Gbyte</td>
</tr>
<tr>
<td>Operating system</td>
<td>Microsoft Windows® CE 3.0</td>
<td>Microsoft Windows® CE 3.0</td>
</tr>
<tr>
<td>Processor</td>
<td>Intel Celeron D 1.6 GHz</td>
<td>Intel Celeron D 1.6 GHz</td>
</tr>
<tr>
<td>Memory</td>
<td>128 Mbytes</td>
<td>128 Mbytes</td>
</tr>
<tr>
<td>Storage</td>
<td>9 GB</td>
<td>9 GB</td>
</tr>
<tr>
<td>Display</td>
<td>12.1&quot; TFT Liquid Crystal Display (LCD)</td>
<td>8.4&quot; TFT Liquid Crystal Display (LCD)</td>
</tr>
<tr>
<td>Color depth</td>
<td>256 colors</td>
<td>256 colors</td>
</tr>
<tr>
<td>Weight</td>
<td>2.8 kg</td>
<td>2.8 kg</td>
</tr>
</tbody>
</table>

**Ambient conditions**
- **Temperature (max. inclination angle 35° from vertical)**: 0 to +40 °C max. 95% relative humidity (no condensation).
- **Temperature (vertical installation)**: 0 to +50 °C max. 85% relative humidity (no condensation).

**Power supply**
- **DC 24 (18 V to 30 V) | DC 16 V | Lithium ion battery (7.4 V / 4800 mAh) |
| Slot A | CF/CompactFlash Card memory cards | Slot B | CF/CompactFlash Card memory cards |

**Dimensions (in mm)**
- **Faceplate / Device**: W x H x D: 284 x 194 x 57

**Software functionality**
- **Web and Terminal Server**: The WinCC/Web Navigator allows you to visualize and operate your plant via the Internet or a mobile, industrial Web Pad for the local operating and monitoring of an ongoing WinCC project across the Worldwide Web.

**HMI or SIMATIC NET standard products. You can obtain these products as well as individual versions.**

**For more information on this topic please consult your local Siemens contact.**
Overview of Thin-Client Technologies

Thin Client Configurations

Thin Client Technology in Detail
Thin-Client Configurations

A factory-wide solution with a combined WinCC, Web and terminal server on the LAN

A cross-factory solution with a separate Web and terminal server on the Internet/Intranet

Thin-Client Technology in Detail

Any type of target clients
WinCC/Web Navigator under Windows 2000 Terminal Services allows operation and monitoring of unchanged WinCC process pictures including all the dynamics on virtually any target systems you like. These include primarily all Windows operating systems (Windows 3.1 and above, Windows CE, Embedded NT etc.) as well as other operating systems like Linux, UNIX, MacOS and others. For MacOS, you must use the MetaFrame operating system extension for Windows 2000 by Citrix. Depending on the hardware that you use, there may be limitations on the display, e.g. the resolution, colour palette, etc.

Free choice of clients: rugged, mobile extremely low-priced
For their part, you can deploy the clients under the most rugged operating conditions (vibrations, high temperatures, hazardous locations), since the clients do not necessarily need a hard drive or a fan. If a client should fail, you can replace it within a very short time. All you need to do is physically connect a new unconfigured thin client to the Network. The ongoing session on the server can be applied without being interrupted.

The most suitable client platforms are of course the Siemens system-tested ones (MP370-Thin Client and MOBIC); apart from this, you can use PCs and thin clients made by any manufacturers, which can be function as RDP and ICA clients. You can integrate mobile equipment using different media like mobile radio connections or Wireless LAN.

Server in a safe environment
One advantage is that the entire application logic executes on a central server and only exchanges screen contents and keyboard and mouse inputs with the connected clients. This makes it possible to separate the server and clients, which mirrors the natural separation of tasks in many companies. The server is run by the IT department, which administers and archives it and keeps it highly available.

Centralized software administration
Since the entire application logic is concentrated on the central terminal server, you only need to install once the operating system and the WinCC software. This means that whenever you need to make changes on the server or in the user project, you only need to do it once with all the clients beingupdated automatically.

High performance in the case of low-specified client hardware too
When carrying out processing on the thin clients, the same performance is available as on conventional clients. This is guaranteed by the adequate network bandwidth (20 kbps per client) and the server’s generous hardware configuration. Since the complete WinCC is not executed several times but rather only the Web Navigator Client, which is itself a thin client, the advantages increase even further. This makes Thin²-Design is just one of the features that make the product unique on the market.

Scalable, highly available, secure
Once several clients are operating on one server, handling failures becomes a critical point in all the applications. This is particularly significant, since the server gathers all the functions – including the client logic – on the same hardware. Precautions against this cannot just be taken by using hardware redundancy (RAID systems). There is also the option of grouping several terminal servers in clusters or server farms. This spreads the server load to several machines. On the one hand, this is for dynamic load distribution with a large number of active clients, and on the other for carrying out repairs and maintenance during ongoing operation. Apart from this, WinCC’s integrated redundancy function (WinCC/Redundancy option) offers automatic archive matching that makes possible consistent data storage, e.g. for quality assurance systems, even if a subsystem fails. In addition to offering consulting services at the design stage of corresponding server systems, Siemens can also configure and supply Fujitsu Siemens server systems.

Mixed operation of real web clients and terminal sessions
Users can start operator activities at an operator terminal and arrange a user-specific window layout. If you have to work at another operator station, e.g. to view a process directly, you can apply the session directly there.

If process situations occur that inexperienced users are not able to cope with, a supervisor can mirror this operator session and carry out operator activities together with the plant operator. Mirroring is also possible across the Internet/Intranet.

Using the solution presented here, you can not only solve conventional system configurations in a different way, it also enables slow migration, since you can mix both “real” clients and terminal clients on one network (hybrid operation of clients/thin clients).

Easily expandable if necessary
The terminal application can grow with your requirements. You can simply connect more clients to the network and they function straight away. The hardware configuration of the server must of course grow at the same rate as the number of clients increases. If necessary, you can group several terminal servers into a virtual network to better distribute the communications load.

The use of thin clients offers the same security mechanisms that are you are familiar with from the Web Navigator. These include authentication of users using a login and password, secure communications connections and access only to resources that are activated for specific users. In this connection, the system uses both operating system and WinCC mechanisms.

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Easily expandable if necessary

Thin-Client Technology in Detail
Easy storage expandability using standard PC/CF cards

Siemens AG

with Java Virtual Machine as

larly flexible when choosing their hard-ware, since in a physically distributed

All interfaces onboard: PROFIBUS DP as well as Ether-

Network board

solution.

Hard disk

the on-site installation of the complete

the rugged industrial

specialized equipment on the one hand

thin-client solutions on different plat-

Web Navigator. This makes possible

Operation via touchscreen with stylus or finger and via additional function keys

High life expectancy of the background lighting (50,000 h = six years of continuous

standard PCs running Windows CE, run relatively old operating system versions.

touchscreen), mobile clients such as

consult your local Siemens contact.

Operation

Large, bright 12" TFT display for

the field of industrial Operator Panels before them they can

Mobile Industrial/Communicator — MOBIC T8 Thin Client

MOBIC® T8 Thin Client

MOBIC T8

Highlife expectancy

9.4 Tft

AMOLED

8.8 V to 12.6 V

7.8 V to 14 V

6 W

300 C

20 C to 55 C

95 %

35 C to 95 C

50 C

160 C

20 C to 70 C

50 C

35 C to 95 C

50 C

4800 mAh

7.4 V

100 C

20 C to 70 C

50 C

100 C

20 C to 70 C

50 C

MOBIC® T8 Thin Client

MOBIC T8 Thin Client

MOBIC T8 Thin Client

MOBIC® T8 Thin Client
Thin² Client: Merging Web and Terminal Server

MOBIC® T8 Thin Client

SIMATIC MP470 Thin Client

Technical Data

Operating system Standard software Microsoft Windows CE Internet Explorer V4.0 Microsoft Windows CE Outlook, Word, Excel ActiveX support without needing the WinCC basic system on the client by means of an Internet browser with Internet Explorer V4.0, Microsoft Internet Explorer V4.0

Dimensions (in mm)

Weight

Operation

Highlife expectancy of the background lighting (50 000 h = six years of continuous operation)

SIMATIC MP370 Thin Client

MOBIC® T8 Thin Client

Technical Data

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