	_										
et Detect			_								
	•	() Info	Quit							Network interface	All network interfaces
MIS THES CARGO											
ce			-	e sale	121	Load config-	(i)	Status			
Manual addition	13	Web browser access	<u>×</u>	Save comig.			All	the statuses			
Configuration wifi clock	1. N	rtwork Configuration			6			the statutes			
											24 produits 🗿 Ex
	0				¥ ID Address	1 Hark	* Gateway	1 DNS	* MAC *	Version	* Alarms
Devices name T	Local.	Model		T DHCP	IP ADDress	255 255 0.0	172 17 240 200	177 19 41 1	00-08-84-03-CA-F5	V1.1418.06/06/14	
e-Bureau-Direction-Unicast		CRISTALYS DAVE SESUR		Active	172.17.10.28	255,255,0,0	172.17.240.200	172.19.41.1	00:08:84:01:89:55	V1.1416 03/10/17	
w-Bureau-Dil-Unicast		CRISTALING DATE SE SUR		Active	172 17 10 72	255 255 0.0	172 17 240 200	172 10 41 1	00-08-84-03-04-59	V1 1419 06/06/14	
e-Accuel-petit-bureau-Unicast	Ň	CRISTALYS DATE SE SUR		Activa	172 17 10 77	255,255,0,0	172.17.240.200	172.17.41.1	00.00.04.03.04.77	V1.1ATO 00/00/14	
e-Etudes-Bureau-Resp Multicast	ŏ	CRISTALYS DATE SE SUP		Active	172.17.10.77	255.255.0.0	172.17.240.200	172,19,41.1	00:08:84:03:CA:EE	V1.1A14 03/02/14	
e-Accuell-Ext-Grandeitiorioge	ŏ	NTP AENOR SUP		Active	172.17.10.102	255.255.0.0	172.17.240.200	1/2.19.41.1	00:08:84:03:CA:EA	V1.1A18 06/06/14	
e Sale-Reunion-Methodes-Unicast	ŏ	CRISTALYS DATE SE SUP		Active	172.17.10.131	255.255.0.0	1/2.1/.240.200	172.19.41.1	00:08:84:04:92:E9	V1.1A07 06/06/14	
e-Sureau-Ordonnancement-Unicast	ŏ	CRISTALYS DATE SE SUP		Active	172.17.10.138	255.255.0.0	172.17.240.200	172.19.41.1	00:08:84:03:CA:FB	V1.1A18 06/06/14	
e-Secretariat-Direction-Unicast	Õ	CRISTALYS DATE SE SUP		Active	172.17.10.137	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:06	V1.1A18 06/06/14	
e-Bureau-Methodes-Unicast	ŏ	CRISTALYS DATE SE SUP		Active	172.17.10.149	255.255.0.0	172.17.240.200	172.19.41.1	00:08:84:03:CA:FF	V1 1418 06 (06 (14	
e-BEelect-Bureau-Resp-Multicast	Ō	CRISTALYS DATE OF SUP		ACTIVE	1/2.17.10.152	255.255.0.0	172.17.240.200	172.19.41.1	00:08:84-03-CA-E6	V1 110 00700714	
e-Accuel-Mondial-Tokyo-Unicast	0	CRISTALYS DATE SE SUP		ALLIVE	172.17.10.157	255.255.0.0	172.17.240.200	172,19,41,1	00:08-84:03-04:00	×1.1A16 06/06/14	
e-Accuel-Mondial-London-Unicast	0	CRISTALYS DATE SE SUP		Active	172.17.10.168	255.255.0.0	172.17.240.200	172.19.41.1	00:00:04:03;CA:EC	V1.1A18 06/06/14	
e-oceect-sureau-Routage-Multicast	0	CRISTALYS DATE SE SUP		Active	172.17.10.169	255.255.0.0	172.17.240.200	172 19 41 1	00:06:84:03:CB:23	V1.1A18 06/06/14	
e Actual University of the	0	CRISTALYS DATE SE SUP		Active	172.17.10.182	255.255.0.0	172,17,240,200	172 10 14 1	00:06:84:03:CB:25	V1.1A18 06/06/14	
e-BEelect-Bureaut, PS-Matureaut	0	CRISTALYS DATE SF SUP		Active	1/2.17.10.187	255.255.0.0	172.17.240.200	172 10 11 1	00:06:84:03:CA:EB	V1.1A18 06/06/14	
e-Accuel-Nondial-Paris-Unicest	0	CRISTALYS DATE SF SUP		Active	172.17.10.193	255.255.0.0	172, 17, 240, 200	172.19.41.1	00:06:84:03:CA:F8	V1.1A18 06/06/14	
e-BEelect-Bureau2-Multicast	0	CRISTALYS DATE SE SUP		Active	172.17.10.196	255.255.0.0	172.17 240 300	1/2.19.41.1	00:0B:84:03:CB:2D	V1.1418.06/06/14	
re-BEelect-Bureaul-Multicast	0	CRISTALYS DATE SF SUP		Active	172.17.10.199	255.255.0.0	172 17 240.200	172.19.41.1	00:06:84:03:CB:12	V4 4440 00/06/14	
e-BEelect-Bureau1-Multicast	0	CRISTALYS DATE SF SUP		Active	172.17.10.202	255.255.0.0	172 17 240.200	172.19.41.1	00:06:84:03:CB:24	V1.1A18 06/06/14	
e-CelluteTest-Multicast	0	CRISTALYS DATE SE SUP		Active	172.17.10.208	255,255,0.0	172,17,Z40.200	172.19.41.1	00:08:84:03:CALE4	V1.1A18 06/06/14	
e-Bureau-BEmeca-Multicast	0	CRISTALYS DATE SE SUP		Active	172.17.10.210	255,255.0.0	172.17.240.200	172.19.41.1	00:08:84:03:CA:FA	V1.1A18 06/06/14	
	0	CRISTALYS DATE SF SUP		Activé	172.17.10.218	255,255.0.0	1/2.17.240.200	172.19.41.1	00:08:04:03:CB:08	V1.1A18 06/06/14	
09.35.59				Activé	172.17.11.46	255,755,0 0	1/2.17.240.200	172.19.41 4	00-05:84:03:CA:E9	V1.1A18 06/06/11	
and the second se							172,17.240,200	172,19,41 4	00:06:84:03:CA:FD	V1.1A20.03/44/14	
									00:06:84:03:C8:00	V1 1440 03/11/17	
				_						TITA18 06/06/14	

Bodet Detect Software

Manual





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Ref. 607586 F

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Introduction

This manual is designed to make installing and using the BODET Detect software as easy as possible.

The Installation procedure section guides you through installing the software on your computer.

The Using the software section takes you through the software's features.

The final section, *Web interface*, details the pages presented by a clock's web server.

The *Glossary* defines various technical terms used in this manual.

BODET Detect is a monitoring and configuration program for Bodet clocks.

Monitored Bodet clocks are configured via a web interface. All clock parameters can be remotely configured: illumination, alarms (shocks sustained, synchronisation, hand position, etc.), time zone, and more.

BODET Detect can copy configured alarms from one clock to another:

- Synchronisation
- Hand position
- Shocks sustained
- Clock opened
- Illumination
- Battery status
- Loss of mains power
- Temperature

II – Installation procedure

1/ Choosing your language:



2/ Personalised Installation.

Choose where to save the software on your computer.









Quick installation installs the software with default settings.

III – Using the software

3.1 The overhead menu



Press the Home button to go back to the software's main menu.

Press the *MIB Files* button to import an MIB file.

Press the *Language* button to choose the software's language (French or English). Any change is effective immediately.

Press the Info button to display the Bodet logo, a link to Bodet's website, or the version of the software.

Press the *Quit* button to close the software without a reminder window.

All clock configurations can be set up through the software shown below, or through the associated web

server.

1

2

3

1	• 🛛	0		()	•									
Но	ome MIB files	Languag	e	Info	Quit									
de	evice											Network interface	All network interfaces	
	9			2		4								
	Hanual additio	on		Web browser access	d.	Save config.	<u>t.</u>	Load config.	Q	Status				
R	Configuration wife	clock	2 N	twork Configuration			= 5	Undate		he statuses				
		crock	~ ~				9	opulico						
	11													<u> </u>
													24 produits 🔊	Ex
1	Devices name	⊤°6	Local.	° Mod	el	T DHCP	V IP Address	° Mask	© Gateway	° DNS	° MAC	° Version	Alarms	
]	Usine-Bureau-Direction-Unicast	8	0	CRISTALYS DATE SF S	JP	Activé	172.17.10.28	255.255.0.0	172.17.240.200	172.19.41.1	00:08:84:03:CA:F5	V1.1A18 06/06/14		
	BODET-Exterieur-Accueil	ā	Ō	Profil 960 DF SUP		Activé	172.17.10.53	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:01:89:55	V1.1A16 03/10/17		
	Usine-Bureau-RH-Unicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.72	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:F9	V1.1A18 06/06/14		
1	Usine-Accueil-petit-bureau-Unicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.77	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:EE	V1.1A14 03/02/14		
3 I	Usine-Etude au-Resp-Multicast	Ē	2	CRISTALYS DATE SF S	UP	Activé	172.17.10.102	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:EA	V1.1A18 06/06/14		
1	Usine-Acc randeHorloge		LO	NTP AFNOR SUP		Activé	172.17.10.131	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:04:92:E9	V1.1A07 06/06/14		
1	Usine-Sale- n-Methodes-Unicas	t 🚡	0	CRISTALYS DATE SF S	UP	Activé	172.17.10.136	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:FB	V1.1A18 06/06/14	6	
1	Usine-Bureau-Ordonnancement-Unica	ast 🔒	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.137	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:06	V1.1A18 06/06/14		
1	Usine-Secretariat-Direction-Unicast	8	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.149	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:FF	V1.1A18 06/06/14		
1	Usine-Bureau-Methodes-Unicast	8	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.152	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:F6	V1.1A18 06/06/14		
1	Usine-BEelect-Bureau-Resp-Multicast	8	0	CRISTALYS DATE SF S	UP	Activé	172.17.10.157	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:EC	V1.1A18 06/06/14		
1	Usine-Accueil-Mondial-Tokyo-Unicast	8	0	CRISTALYS DATE SF S	UP	Activé	172.17.10.168	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:23	V1.1A18 06/06/14		
	Usine-Accueil-Mondial-London-Unicas	t 🔒	0	CRISTALYS DATE SF S	UP	Activé	172.17.10.169	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:25	V1.1A18 06/06/14		
1	Usine-BEelect-Bureau-Routage-Multic	ast 🔒	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.182	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:EB	V1.1A18 06/06/14		
	Usine-Bureau-JPA-Usine-Unicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.187	255.255.0.0	172.17.240.200	172.19.41.1	00:08:84:03:CA:F8	V1.1A18 06/06/14		
L þ	Usine-Accueil-Mondial-NewYork-Unica	ast 🔒	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.193	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:2D	V1.1A18 06/06/14		
L þ	Usine-BEelect-Bureau4-89-Multicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.196	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:12	V1.1A18 06/06/14		
L J	Usine-Accueil-Mondial-Paris-Unicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.199	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:24	V1.1A18 06/06/14		
]	Usine-BEelect-Bureau2-Multicast	8	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.202	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:FA	V1.1A18 06/06/14		
	Usine-BEelect-Bureau3-Multicast	8	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.208	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CB:0B	V1.1A18 06/06/14		
]	Usine-BEelect-Bureau1-Multicast	8	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.210	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:E9	V1.1A18 06/06/14		
	Usine-CelluteTest-Multicast	ā	Ō	CRISTALYS DATE SF S	UP	Activé	172.17.10.218	255.255.0.0	172.17.240.200	172.19.41.1	00:0B:84:03:CA:FD	V1.1A20 03/11/17		
	Union Durante DEserve Heikinget	Ā	0	CONSTANTS DATE SE S	ID	Activé	172 17 11 46	255 255 0.0	172 17 240 200	172 19 41 1	00-08-84-03-08-00	V1 1418 06/06/14		

Displays the names of the monitored clocks with each clock's DHCP status, IP address, subnet mask, MAC address, network gateway and DNS address.

Opens the selected clock's homepage.

Opens a new program window (see below) to configure the network parameters of the selected clock either manually or automatically (by checking *Enable DHCP*). If you do not have a DHCP server, a default value is used (172.17.30.110). In this case the parameter values must be entered in this window (with *Enable DHCP* unchecked).

4 Saves a configuration as a .BOD file. Load or copy a configuration to one or several clocks. When loading or copying a configuration, a new window will open so you can easily copy your chosen backup settings:

Parameters selection	x
Enable or disable a parameter group	
To select a group of settings, select the check box next to it. To disable a group of settings, clear the check box. A fill check box means that part of the full group setting is enabled.	
🕀 🤤 🔲 Network	
🗕 🦳 IP parameters (except fixe IP Address)	
E 🔁 🔲 Time	
- Cime zone	
- Synchronisation	
E C L Alarm	
- C SNMP parameters	
Inresnoids alarms	
E C System	
All None	
🔀 Cancel 🗸 Ok	

Updates the configuration file.

6 Displays and refreshes the status for all clocks. Double-clicking on the indicated value opens a new window summarising the status of the newly-installed clock:

0	
Alarms sta	tus
Device	Usine-BEelect-Bureau1-Multicast
Status	00
	Synchro failure Temperature

Alarm S	tatus Lighting failure:
Ð	
Alarms st	atus
Device	BODET-Exterieur-Accueil
Status	0001000000
	Synchro failure Shock Open case Lighting failure Low lighting leval Battery failure Position control error Power failure Temperature Maintenance batterie

Exports an Excel file including the following information: device name, DHCP status, IP address, mask address, gateway address, DNS address, MAC address, clock type and software version (including the launch date).

Refreshes the list of devices detected on the network.

9 Manually adds a new clock. For it to appear on the *Device List* table, click the *Search devices* button.

When a clock is present on a local network, it is automatically detected once the software is launched (if this is not the case, press the *Search Devices* button to refresh the list).

How to add a clock:

1/ Click on Add manually. The following window is displayed:

<i>b</i>	A DESCRIPTION OF TAXABLE PARTY.	
Manual addition		
	+ Add an ip adress	
	+ Add from range	
	- Remove	
		× Close

2/ Enter your clock's IP address by clicking Add an IP address:



Or scan the products on the network from a range of IP addresses by clicking on *Add from range*:

	+	Add an ip adress	
	+	Add from range	
	-	Remove	

The presence of the padlock indicates that the clock is password-protected. This password is used to access the web server, updates for the firmware and a copy of the parameters.

There are three Password management systems:

- 1. For the web server;
- 2. For configuring a clock;
- 3. For updating firmware.

In order to simplify management of the clocks, we strongly recommend applying the same password to all clocks on your local network.

E.g.: when copying a configuration to several clocks at the same time, you will only be asked for your password once. It is considerably simpler to enter a single password for 50 clocks rather than 50 separate passwords.

If your password is different for each clock, any copy operations are rendered impossible.

However, there is a way to set an identical password for all of your clocks.

This involves setting the configuration of one clock hand, then loading it to all of your devices, remembering to tick the *System* checkbox (which contains the login identifier and password). The login identifier and password will then be identical across all clocks on your local network.



Used to automatically configure Wi-Fi clocks.

IV – Wi-Fi Clocks Automatic Configuration

- 1- Apply power to the clocks and set them in the INIT mode. Coming out of the factory all the clocks have the INIT mode active. For the clocks connected to another Wi-Fi network it is necessary to set them in the INT mode via the technician menu (refer to the manual 608331).
- 2- Start Bodet Detect on the PC (a laptop enables you to move around in the building).
- 3- Click on the "Configuration wifi clock" button:

#	₽	0	١	e		
Home	MIB files	Language	Info	Quit		
evice						
device	Manual ad	dition	Web browser access	Sava d	roofia	Load

4- Select in the drop-down list the Wi-Fi network (SSID) to which the clocks ought to be connected (the security type WPA/WPA2 PSK is automatically selected as soon as the network is selected).

<u>C</u>			- 🗆	×
WiFi clock configurat	ion			
WiFi Networ	k 🔪 Time	Send configuration		
SSID	TP-LINK_FE9C	► 2 + A		
Security	WPA/WPA2 PSK	•		
Password	•••••			
× Cancel	Next	E Load configuration		

- A The "+" button allows you to manually add Wi-Fi networks
- **B** The "Load configuration" button allows you to load from the PC an already existing configuration.
- 5- Enter the password associated with the Wi-Fi network (SSID).
- 6- Click on "Next" to go to the step "Network"

🗸 WiFi 📃	Network Time	\geq	Send config	uration	
	Enable DHCP				
IP Address	0.0.0.0				
Subnet Mask	0.0.0.0				
Gateway	0.0.0.0				
DNS	0.0.0.0				

C -The "Skip" button allows you to go right on to the next step. The parameters are not modified and the clock will keep its already existing Network configuration.

- 7- The tick box "Enable DHCP" is checked by default. To enter a fixed IP address the tick box must be unchecked.
- 8- Click on "Next" to go to the "Time configuration" step.



An X in the Network tab indicates that the Network configuration was ignored (skipped).

			_		\times
WiFi cloc	k configuration				
√ WiFi	i Vetwork Time Send configurat				
Time zor	ne				
Time zone	PARIS (UTC +01:00) PARIS (UTC +01:00) Time changeover : - Summer time : dernier Dim - Winter timer : dernier Dim	anche de aanche de	Mars à l Octobre	02:00 : à 03:00	
Synchron	nisation				
NTP mode	Multicast 👻				
IP address	239.192.54.1				
Periodicity	15 (1 to 999 minutes)				
Continue	e to display time after synchronisation failure				
<u></u>	Skip Next				

• The "Skip" button allows you to go right on to the next step. The parameters are not modified and the clock will keep its existing Time configuration

- 9- Select the time zone in which the clock must work.
- 10- Select the NTP synchronisation mode:
 - a. DHCP
 - b. Unicast
 - c. Multicast

In case of Multicast or Unicast enter the IP address(es).

11- Click on "Next" to go to the "Send configuration" step.



This page lists all the Wi-Fi clocks which have not yet been configured along with the clocks which are configured in the Wi-Fi network.

12- By default the E tick box is checked indicating that all the clocks in the "WiFi clocks not configured" list will be configured. If you do not wish to configure all the clocks uncheck this tick box and select individually the ones you wish to configure.

- 13- Click on "Start configuration" to start the process. The clock with the best reception level will be configured first.
- 14- Click on "Yes" to start the clock configuration.

~

-					_	~
/iFi clock config	uration					
ViFi VI	Network	Vime Send configuration				
		Stop cor	nfiguration			
		Wifi clocks not	configured	•		
	✓ style	ell-Wifi-30:ae:a4:c7:	78:8c			
	Wou	uld you configure the c	lock stylell-Wifi-30:ae:	a4:c7:78:8c	× ?	

The PC tries to connect to the clock.

<u>04</u>						_		×
WiFi clock confi	guratior	n						
✓ WiFi ✓	Network	√ Time	؛ (Send configu	ration			
		St	op configura	ation]			
	•	Wifi clock	ks not config	ured		×		
	✓ si	stylell-Wifi-30:ae:a4:c7:78:8c		-				
	St	ep 1/5 : Conne	cting to the	clock				
	Wifi clocks configured							
						~		

When connected, a dialog box opens up to ask you to enter a password.

<u>&</u>	_	\times
WiFi clock configuration		
✓WiFi ✓Network ✓Time Send configuration		
Stop configuration		
Wifi clocks not configured		
Stylell-Wift-30:ae:a4:c7:78:8c		
Wi-Fi authentification		
The access point is "open". Please enter the password of the Wi-Fi access point:		
Password		
Confirm		
✓ Ok × Cance	i	

The password to the Access Point is asked only when connecting to the first clock. This password is used to secure the clocks.

- 15- Enter and confirm the password of your choice. This password will be identical for all the clocks connected to this network and will not be asked again.
- 16- Click on "OK" to continue with the configuration process.
- 17- When the clock is configured, it is moved from the "WiFi clocks not configured" list to the "Wifi clocks configured" list and a dialog box opens up to ask you if you wish to configured the next clock.

The clock with the best reception level is automatically selected for configuration.

WiFi clock	configuration
🗸 WiFi	Network Time Send configuration
	Stop configuration
	✓ Wifi clocks not configured ✓ stylell-Wifi-30:ae:a4:c6:fa:dc
	Wifi clocks configured
	styleII-Wifi-30:ae:a4:c7:78:8c
	×
	Would you configure the clock stylell-Wifi-30:ae:a4:c6fa:dc ?
	<u>Yes</u> <u>N</u> o

18- Again the configuration of this clock must be confirmed but the password will not be required. All the clocks of Wi-Fi network have the same password to their Access Point.

The steps 16 to 18 will be repeated until all the clocks are configured.

19- To stop the inventory of the clocks and the configuration process click on the button:



20- The following page is displayed making it possible to save a backup copy of the configuration on the PC. It is also possible to save a report of the configuration which can be consulted on a spreadsheet.

<u>C</u>	-		\times
WiFi clock configuration			
✓WiFi ✓Network ✓Time Send configuration		,	
Configuration finished			
Apply to clocks			
Save a copy of the configuration ?			
A. Save			
Configuration report			
AL Save			
V Finish			

21- Click on "Finish" to exit the application.

Bodet Detect can be inventory all the NTP/Wi-Fi clocks along with the NTP/Eth clocks.

Glossary

IP address: An IP (Internet Protocol) address is a unique hierarchical address which enables any device to be located on the Internet. It consists of four bytes (four integers in the range 0 to 255).

Network mask: The subnet mask indicates what part of the IP address is used to address the network, and which is reserved for identifying a specific device on the network. In principle, the subnet mask does not affect the data packets sent over the network by a device. However, it does affect the operation of the local network software, by indicating how the IP address should be interpreted. There is a default subnet mask for each type of address class, which indicates how the address should be interpreted in the normal case. The following table lists the default masks:

Address class	Subnet mask		
А	255.0.0.0		
В	255.255.0.0		
С	255.255.255.0		

DNS address: Every device or computer directly connected to the Internet has at least one IP address assigned to it. However, rather than working with numeric addresses such as 194.153.205.26, users prefer to deal with a domain name or more precise addresses (known as FQDN, Fully Qualified Domain Names) such as "www.bodet.com".

These more easily memorable names are associated with numeric addresses through the system known as DNS (Domain Name System).

Matching IP addresses to the associated domain name is referred to as domain name resolution (or address resolution).

Gateway: A "gateway" is a hardware and software system which connects two networks, providing an interface between different network protocols.

DHCP protocol: *DHCP* (*Dynamic Host Configuration Protocol*) *enables a device or computer connecting to a network to dynamically obtain its configuration (mainly its network configuration) without intervention. The device only needs to be instructed to find its IP address via DHCP. The main purpose of DHCP is to simplify network administration.*

MAC address: A unique number identifying a network device. This is a unique hexadecimal number identifying each hardware device: each manufacturer defines the MAC addresses for its own products.