

CONECTANDO DISPOSITIVOS TCP/IP A TRAVES DE UN DIGI





Nota:

Lista de pasos básicos a seguir para conectar uno o más dispositivos TCP/IP, a través de un dispositivo Digi Connect Wan 3G.

Requisito para este manual:

* Basic Script Digi



El o los dispositivos TCP/IP a conectar pueden ser Cámaras IP, Medidores eléctricos, routers, PLC etc.. En fin, cualquier dispositivo conectado por cable Ethernet bajo protocolo TCP/IP, TCP/UDP, o TCP/FTP.

PLC



Cámara IP



Medidor eléctrico

Si usted posee una SimCard pública y dinámica, es recomendable asociarla a una cuenta DYNDNS, ya que las SIM, al ser dinámicas, cambian constantemente su dirección IP, lo que sería un problema para acceder a los dispositivos por tramo celular.

Ingresar a *Configuration / Network / Dynamic DNS Update Settings*

Haga clic en la casilla “**Use DynDNS.org**” Sino sabe utilizar el DynDNS haga clic en “[Click here for information on this service](#)” o vea el PDF “Dyndns” adjunto.

Luego ingrese los parámetros del DynDNS correspondiente, el usuario y contraseña, lo demás debe quedar con los parámetros que vienen por defecto.

Aplicar cambios “**Apply**”

Use the following dynamic DNS service:

- None
- Use DynDNS.org - [Click here for information on this service](#)

DynDNS.org Service Settings

Note: You must create your account at [DynDNS.org](#) before you can successfully register the IP address. This DDNS service supports registration of both both public and private IP addresses. However, 10.x.x.x, your Connect WAN 3G may be accessible (by resolving the associated hostname) only

Host and Domain Name:	<input type="text" value="usuario.dyndns.org"/>
	Example: myhost.dyndns.net
DynDNS User Name:	<input type="text" value="usuario"/>
DynDNS Password:	<input type="password" value="••••••"/>
DynDNS DDNS System:	<input type="text" value="Dynamic DNS"/>
Use Wildcards:	<input type="text" value="No change to service setting"/>
Connection Method:	<input type="text" value="Standard HTTP port 80"/>

Most Recent DDNS Service Update Status

No previous DDNS service update status is available.

Last Logged Action or Result (may be helpful for troubleshooting)

DDNS updates are disabled.

Proceda a ingresar el dyndns en el webbrowser de su PC, para ingresar al webserver el equipo Digi.

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Al presionar **“Apply”** **DEBE!** aparecer un cuadrado en blanco que diga **“good”** de lo contrario vuelva a presionar **“Apply”**, hasta que aparezca.

None
 Use DynDNS.org - [Click here for information on this service](#)

DynDNS.org Service Settings

Note: You must create your account at [DynDNS.org](#) before you can successfully register the IP address of your Connect WAN 3G with their service.

This DDNS service supports registration of both both public and private IP addresses. However, if you register a private IP address (such as 192.168.x.x or 10.x.x.x), your Connect WAN 3G may be accessible (by resolving the associated hostname) only from other hosts with access to that private IP subnetwork.

Host and Domain Name:
Example: myhost.dyndns.net

DynDNS User Name:

DynDNS Password:

DynDNS DDNS System:

Use Wildcards:

Connection Method:

Most Recent DDNS Service Update Status

Service: DynDNS.org
IP Address Reported: 186.11.4.226
Update Status: Successful
Result Information: [good] The update was successful.

Raw Result Data (may be helpful for troubleshooting):

good 186.11.4.226

Last Logged Action or Result (may be helpful for troubleshooting)

Received reply from DynDNS server: myIP=186.11.4.226, status=succeeded, info="[good] The update was successful."

Una vez establecido el Dyndns, se podrá administrar remotamente el equipo Digi, sin necesidad de conectarlo vía Ethernet al computador.

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Para ingresar al Digi remotamente, sólo basta escribir en un Browser de su navegador la dirección IP o DNS (*“usuario.dyndns.org”*).

Si por alguna razón pierde conexión o se olvida el puerto configurado, se podrá acceder al equipo Digi mediante conexión segura, para esto sólo debe anteponer HTTPS a la IP celular o Dyndns

<https://usuario.dyndns.org>

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Luego Ingresar a “**Configuration**” / “**Network**” / “**Ethernet IP Settings**” y dejar ambos equipos en el mismo segmento de red (Digi & ”camara IP”), y el Gateway del dispositivo Ethernet que se conecta al Digi debe ser igual a la dirección IP Ethernet del Digi



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Network Configuration

▼ Ethernet IP Settings

Obtain an IP address automatically using DHCP *

Use the following IP address:

* IP Address:

* Subnet Mask:

Default Gateway:

Enable AutoIP address assignment

* Changes to DHCP, IP address, and Subnet Mask may affect

▶ DHCP Server Settings

▶ Network Services Settings

▶ Dynamic DNS Update Settings

▶ IP Filtering Settings

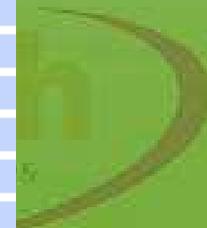
▶ IP Forwarding Settings

▶ IP Network Failover Settings

▶ Socket Tunnel Settings

▶ Virtual Private Network (VPN) Settings

Esta IP debe ser la misma IP del Gateway del dispositivo TCP/IP que se desea conectar al Digi

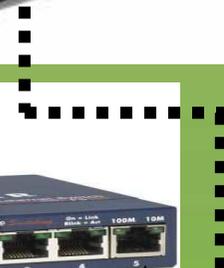
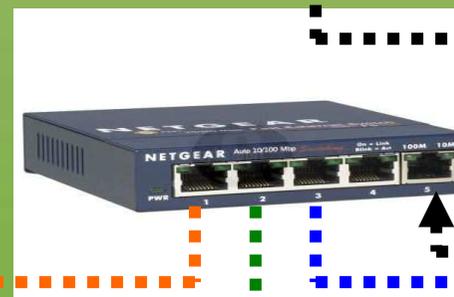


Luego conecte el dispositivos al Digi directamente por cable ethernet, ó en el caso de que se trate de más de 1 dispositivo, puede llevarlos a un switch o concentrador, y éste concentrador al Digi, Tal como se ilustra en la figura:

Caso 1



Caso 2

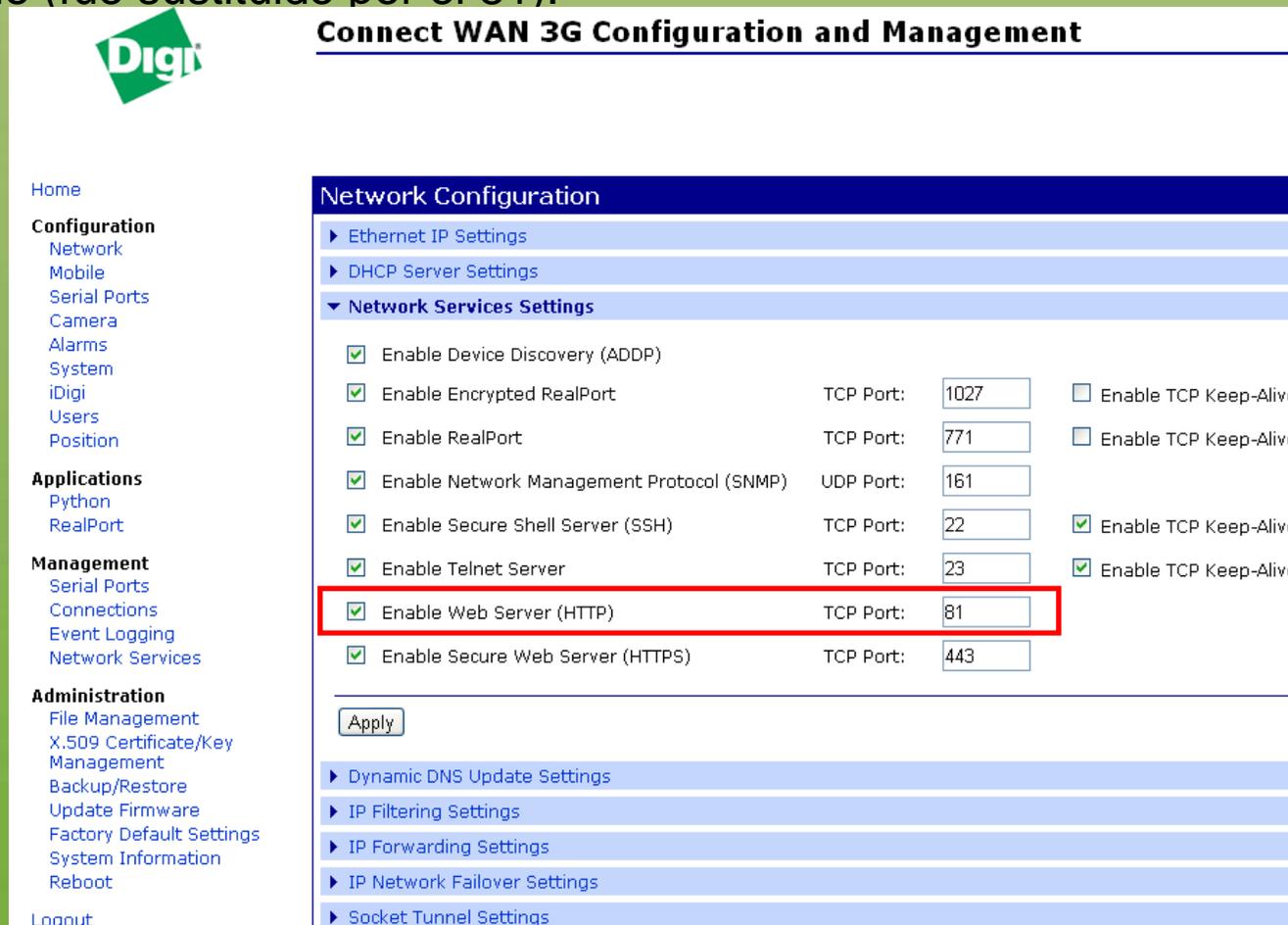


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Existen dispositivos que poseen software donde únicamente pueden comunicarse a través de una dirección IP por HTTP, puerto 80 sin poder ser modificado, lo que generará conflicto, ya que perdería el acceso al WebUi del Digi al hacer las reglas de traspaso de puerto. Para mantener el acceso al Digi a través de HTTP, debe cambiar el puerto para *http*, tal como se muestra en el ejemplo (fue sustituido por el 81).



Digi

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Network Configuration

- ▶ Ethernet IP Settings
- ▶ DHCP Server Settings
- ▼ **Network Services Settings**

<input checked="" type="checkbox"/>	Enable Device Discovery (ADDP)			
<input checked="" type="checkbox"/>	Enable Encrypted RealPort	TCP Port:	<input type="text" value="1027"/>	<input type="checkbox"/> Enable TCP Keep-Alive
<input checked="" type="checkbox"/>	Enable RealPort	TCP Port:	<input type="text" value="771"/>	<input type="checkbox"/> Enable TCP Keep-Alive
<input checked="" type="checkbox"/>	Enable Network Management Protocol (SNMP)	UDP Port:	<input type="text" value="161"/>	
<input checked="" type="checkbox"/>	Enable Secure Shell Server (SSH)	TCP Port:	<input type="text" value="22"/>	<input checked="" type="checkbox"/> Enable TCP Keep-Alive
<input checked="" type="checkbox"/>	Enable Telnet Server	TCP Port:	<input type="text" value="23"/>	<input checked="" type="checkbox"/> Enable TCP Keep-Alive
<input checked="" type="checkbox"/>	Enable Web Server (HTTP)	TCP Port:	<input type="text" value="81"/>	
<input checked="" type="checkbox"/>	Enable Secure Web Server (HTTPS)	TCP Port:	<input type="text" value="443"/>	

- ▶ Dynamic DNS Update Settings
- ▶ IP Filtering Settings
- ▶ IP Forwarding Settings
- ▶ IP Network Failover Settings
- ▶ Socket Tunnel Settings

Es aconsejable reiniciar los dispositivos TCP/IP, para ello sólo basta con desconectarlos de la fuente de poder por un par de segundos. Luego, ingrese a **“Configuration” / “Network” / “IP Forwarding Settings”**

Con el **DMZ** activo, puede acceder a la IP asignada por cualquier puerto, pero es recomendable utilizar **NAT** ya que así se asignan direcciones y puerto específicos.

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Network Configuration

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- DHCP Server Settings
- Network Services Settings
- Dynamic DNS Update Settings
- IP Filtering Settings
- IP Forwarding Settings**

These settings are used to manage IP routing (forwarding) of packets between network interfaces. Static routes may be configured and added to the IP routing table to provide additional packet routing rules. In conjunction with IP routing, Network Address Translation (NAT) settings may be configured to support communication between private and public IP networks where basic IP routing is not sufficient.

IP Routing and Static Route Settings

Enable IP Routing (Forwarding)
Note: If IP Routing is disabled, NAT is disabled.

Apply the following static routes (up to 16) to the IP routing table:

Enable	Destination Network	Netmask	Gateway Address	Metric	Interface
<input type="checkbox"/>	0.0.0.0	0.0.0.0	0.0.0.0	0	eth0

No static routes have been added

Click on the Help link above for additional information about the Gateway Address value

Network Address Translation (NAT) Settings

Select from these Network Address Translation (NAT) instances:

Instance	Enabled	Interface Name	Action
Instance 1	yes	mobile0 (Displayed)	View / Edit / Set to Defaults
Instance 2	no	None Selected	View / Edit / Set to Defaults
Instance 3	no	None Selected	View / Edit / Set to Defaults
Instance 4	no	None Selected	View / Edit / Set to Defaults
Instance 5	no	None Selected	View / Edit / Set to Defaults
Instance 6	no	None Selected	View / Edit / Set to Defaults

Enable Network Address Translation (NAT)
 NAT Public Interface: mobile0
 NAT Table Size Maximum: 256 entries (64-1024)

Enable DMZ Forwarding to this IP address: 192.168.1.111

Forward protocol connections from external networks to the following internal devices:

Enable	Forward This Protocol	Forward To Internal IP Address
<input type="checkbox"/>	GRE	0.0.0.0
<input type="checkbox"/>	ESP	0.0.0.0

Forward TCP/UDP/FTP connections from external networks to the following internal devices (you may configure up to 64 forwarding rules):

Enable	Protocol	External Port	Forward To Internal IP Address	Forward To Internal Port	Range Port Count	
<input checked="" type="checkbox"/>	TCP	91	192.168.1.111	80	1	Remove
<input checked="" type="checkbox"/>	TCP	92	192.168.1.112	80	1	Remove
<input type="checkbox"/>	FTP	0	0.0.0.0	0	1	Add

Apply

- IP Network Failover Settings
- Socket Tunnel Settings
- Virtual Private Network (VPN) Settings
- IP Pass-through Settings

Al final de la página, habilite: “*Enable*”, protocolo *TCP*, el puerto a direccionar, presione “*Add*”, después “*Apply*” para guardar los cambios.

Forward TCP/UDP/FTP connections from external networks to the following internal devices
(you may configure up to 64 forwarding rules):

Enable	Protocol	External Port	Forward To Internal IP Address	Forward To Internal Port	Range Port Count	
<input checked="" type="checkbox"/>	1 ^o TCP	2 ^o 91	3 ^o 192.168.1.111	4 ^o 80	1	Remove
<input checked="" type="checkbox"/>	TCP	92	192.168.1.112	80	1	Remove
<input type="checkbox"/>	FTP	0	0.0.0.0	0	1	5 ^o Add

Apply

6^o

IP Network Failover Settings

En este ejemplo, para puerto 91, el Digi direcciona a la Ip 192.168.1.111, quien reciben en el puerto 80



<https://usuario.dyndns.org:91>

=

<https://usuario.dyndns.org>

Port 91



192.168.1.111
Port 80

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Finalmente...

Es recomendable reiniciar el Digi, para que todos los cambios tengan efecto.

“Administration”

“Reboot”

Reboot

Una vez realizado los pasos del presente documento, se podrá acceder al dispositivo TCP/IP en forma remota, a través de Internet por medio del Dyndns creado.

<http://usuario.dyndns.org> (Webserver del Digi)

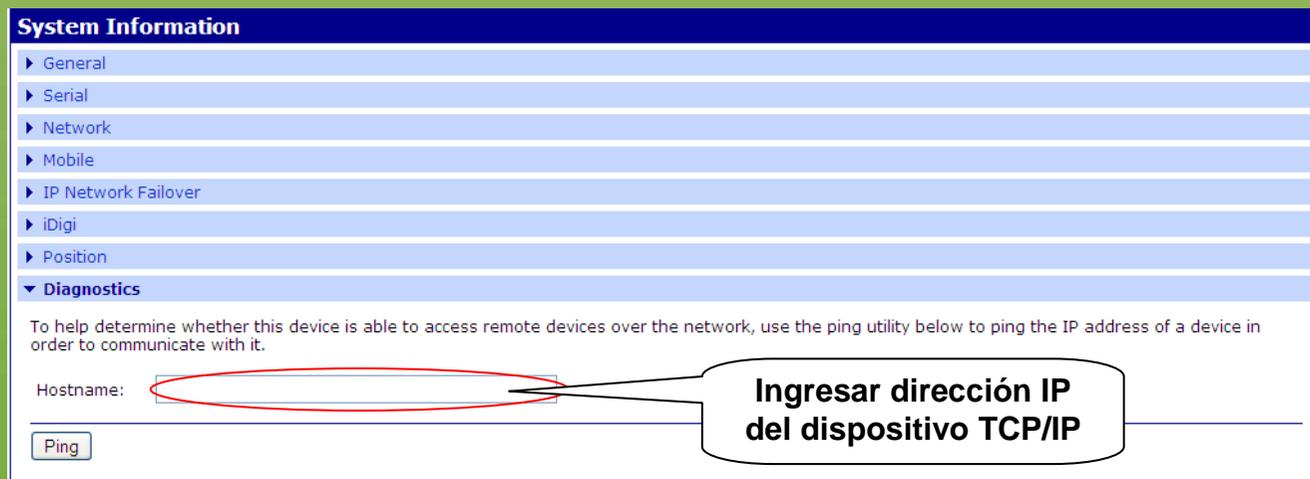
<http://usuario.dyndns.org:91> (Webserver del dispositivo conectado al Digi)

<https://usuario.dyndns.org> (Webserver del Digi por puerto 443 conexión segura)

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En el caso de que no se tenga conexión con el dispositivo conectado, se puede utilizar la herramienta de diagnóstico proporcionada por el dispositivo Digi, para lo cual sólo basta con ingresar desde Internet a “**System Information**”, “**Diagnostic**”, e ingresar la dirección IP del dispositivo que se desea revisar, luego presione “**Ping**” y deberá obtener “**0% packet loss**”, de lo contrario repita los pasos de este documento desde el comienzo y revise las conexiones realizadas.



System Information

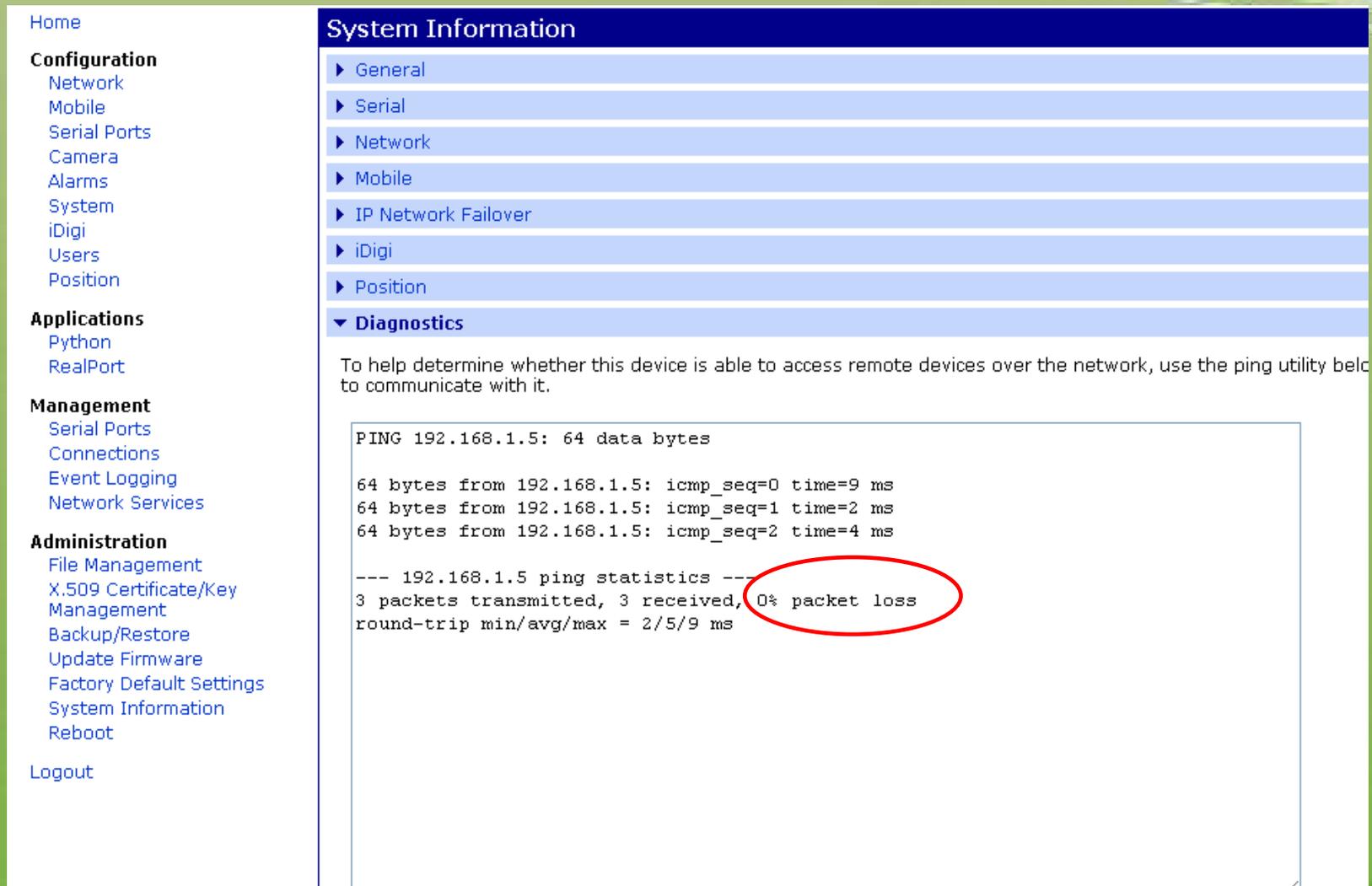
- ▶ General
- ▶ Serial
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- ▶ iDigi
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- ▼ **Diagnostics**

To help determine whether this device is able to access remote devices over the network, use the ping utility below to ping the IP address of a device in order to communicate with it.

Hostname:

Ingresar dirección IP del dispositivo TCP/IP

Para 0% de paquetes perdidos, sería así:



The screenshot shows a web interface for a network device. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, Serial Ports, Camera, Alarms, System, iDigi, Users, Position), Applications (Python, RealPort), Management (Serial Ports, Connections, Event Logging, Network Services), Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot), and Logout. The main content area is titled 'System Information' and contains a 'Diagnostics' section. Below this section is a text box containing the output of a ping command: 'PING 192.168.1.5: 64 data bytes', followed by three lines of response data: '64 bytes from 192.168.1.5: icmp_seq=0 time=9 ms', '64 bytes from 192.168.1.5: icmp_seq=1 time=2 ms', and '64 bytes from 192.168.1.5: icmp_seq=2 time=4 ms'. Below the responses is a summary line: '--- 192.168.1.5 ping statistics ---', followed by '3 packets transmitted, 3 received, 0% packet loss' (where '0% packet loss' is circled in red), and 'round-trip min/avg/max = 2/5/9 ms'.

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To help determine whether this device is able to access remote devices over the network, use the ping utility below to communicate with it.

```
PING 192.168.1.5: 64 data bytes

64 bytes from 192.168.1.5: icmp_seq=0 time=9 ms
64 bytes from 192.168.1.5: icmp_seq=1 time=2 ms
64 bytes from 192.168.1.5: icmp_seq=2 time=4 ms

--- 192.168.1.5 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss
round-trip min/avg/max = 2/5/9 ms
```

**Ante Cualquier inquietud, no
dude con comunicarse con
nosotros**

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