

## Q200 configuration For Innovaphone

Version 0.1, 08.08.2008

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## 1. Introduction

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**Purpose** This document outlines the steps necessary to configure a Q200 to function with an Innovaphone gateway.

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**Scope** This Document details all the steps necessary to configure a Q200 in an Innovaphone gateway PBX environment; including initial telnet setup, VoIP profile, Foreign Gatekeeper, services, **Mobility**, and users.

This document will also cover the **QPortal** user Interface, for configuring the **OneNumber** feature.

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**Version**

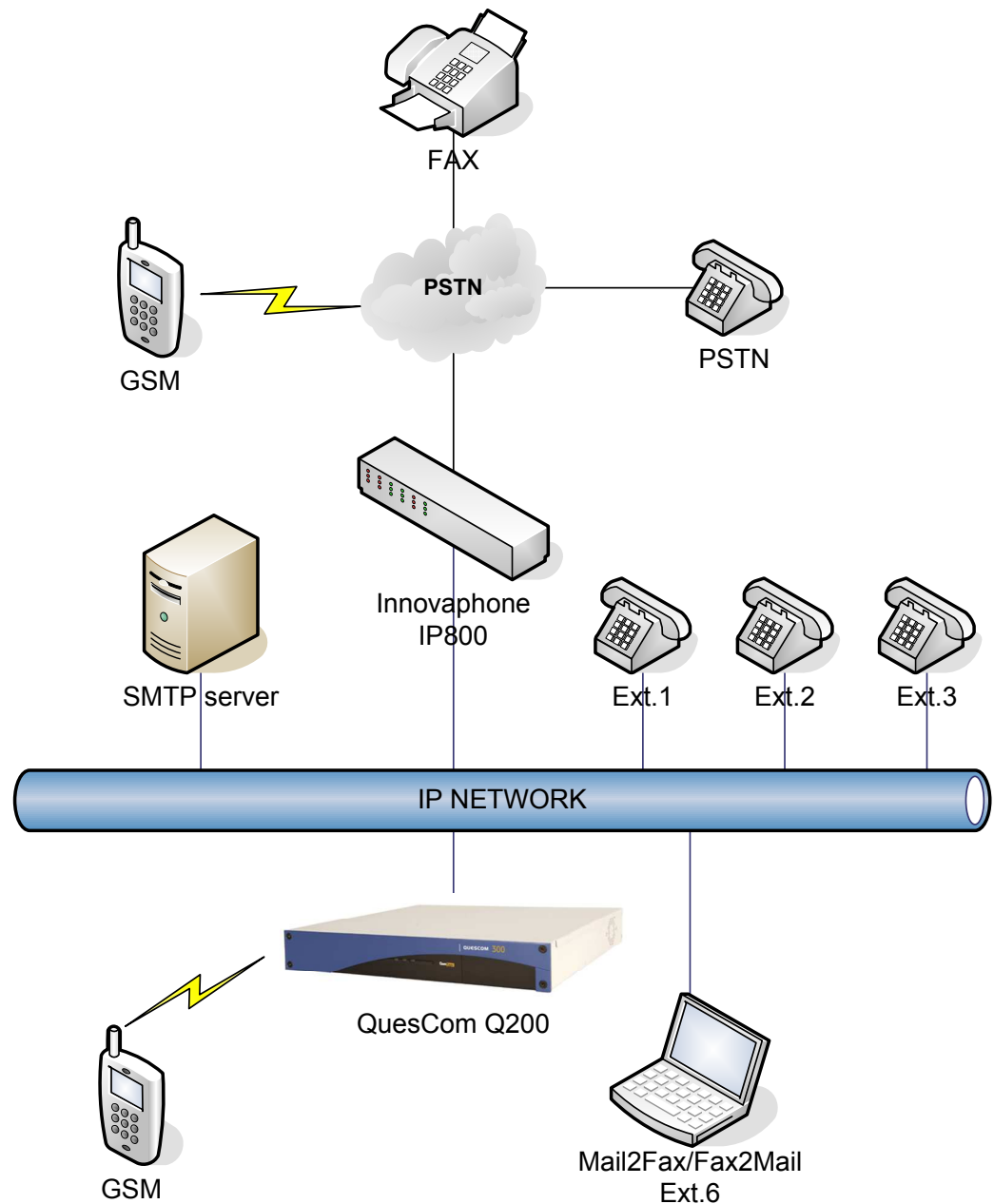
This document is based on version IAD05.00B402P000 of the Q200 Gateway.

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## 2. Architecture

### Overview



**Description** Three IP phones (1, 2 and 3). Ext.2 was configured as a **OneNumber** user.

One **Mail2Fax/Fax2Mail** (6).

**Mobility** access number (8).

**VCC** access number (9).

Only calls to OneNumber users will be routed to the Q200. This was achieved by creating multiple registrations in the Innovaphone PBX for the corresponding user.



### 3. Configuration

---

**General** There are 3 main steps involved in the configuration:

1. Initial Telnet setup
  2. Services configuration
  3. User creation and configuration
- 

**Connection** The initial setup can be done by either of two methods:

1. **HyperTerminal** and a null-modem cable
2. **Telnet** connection to the default address of 192.168.1.1

This document will demonstrate the Telnet method.

After this initial setup phase, the rest of the configuration is done by the **QPortal** web administration interface (http access to port 8000).

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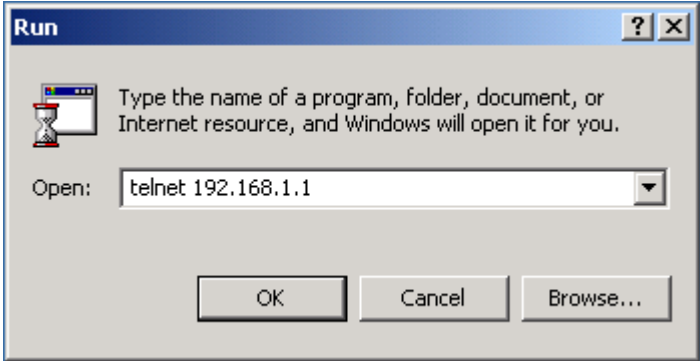
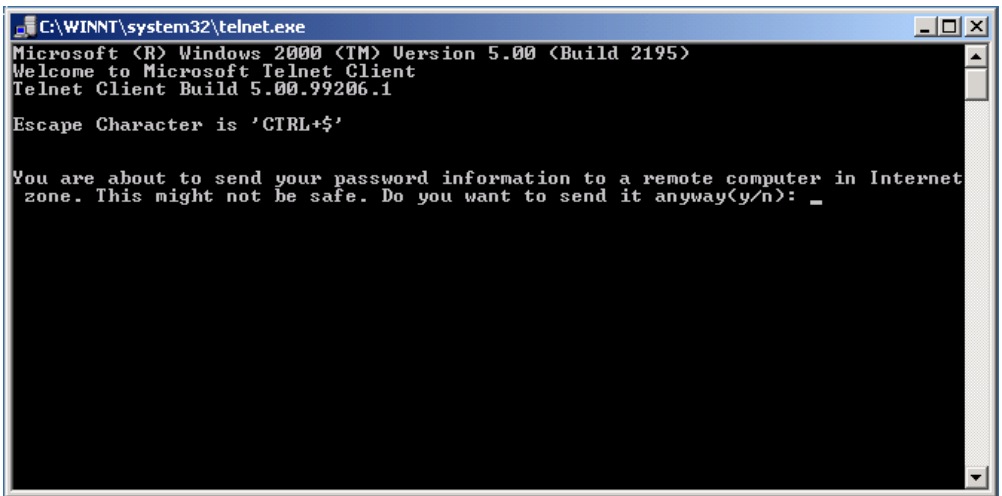
### 3.1 Initial Setup

**Telnet**     Connect via **Telnet** to the Q200.



**Note**

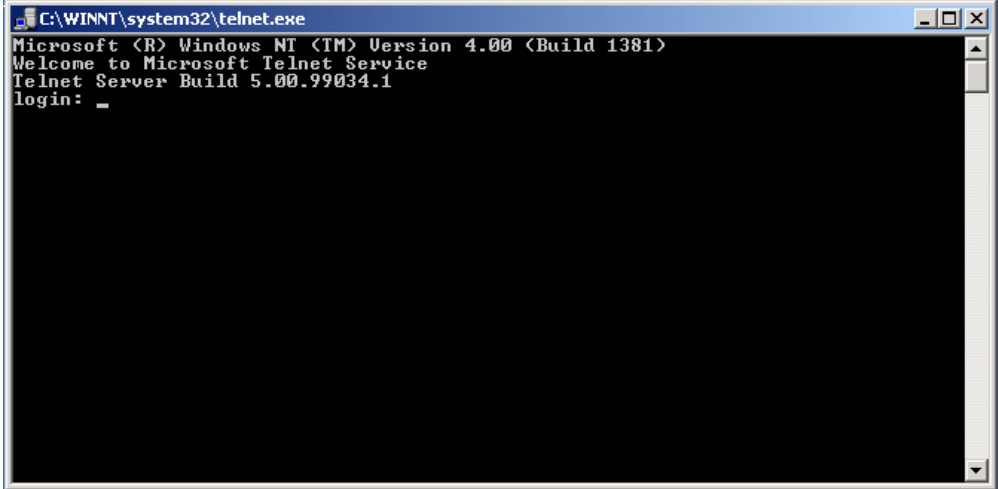
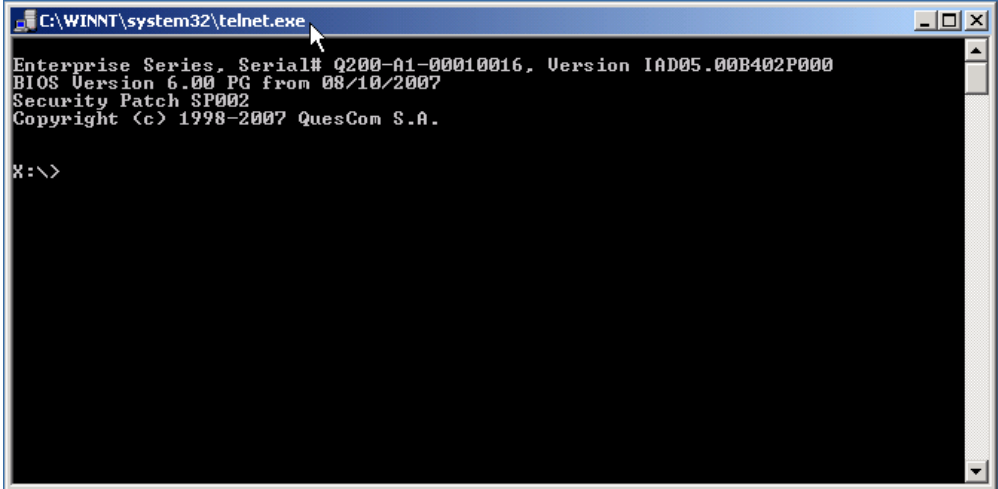
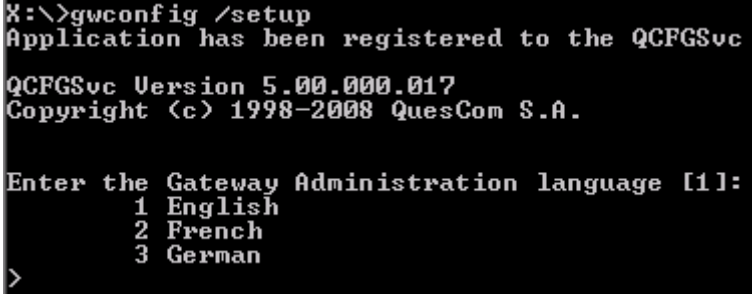
The value between square brackets ([]) is the default value. Simply pressing **Enter** for a question will use this default value.

Steps	Action
1	
2	 Press <b>n</b> and then <b>Enter</b> .

Continued on next page



Telnet  
Cont.

3	 <p>Enter the administrator login and password.</p>
4	 <p>Once authenticated and the command prompt has appeared, type <b>gwconfig /setup</b> and then press <b>Enter</b>.</p>
5	<p>Press <b>Enter</b> to accept the default value of <b>1</b> for <b>English</b>.</p> 

Continued on next page



Telnet  
Cont.

6	<p>Enter a name for the gateway and the press <b>Enter</b>.</p> <pre>Enter the Gateway network name [Q200-00010016]: Q200 Gateway Network Name: Q200</pre>
7	<p>Complete the IP networking information.</p> <pre>Enter the Gateway IP address [192.168.1.1]: 192.168.195.214 The Gateway IP address: 192.168.195.214  Enter the Gateway subnet mask [255.255.255.0]: The Gateway subnet mask: 255.255.255.0  Enter the default Gateway [192.168.195.254]: 192.168.195.1 The default Gateway: 192.168.195.1</pre>
8	<p>Press <b>Y</b> and then <b>Enter</b> to activate the conferencing function for <b>Mobility</b>.</p> <pre>Do you want to activate conferencing? [Y/N]: Y</pre>
9	<p>Press <b>Enter</b> to accept the default value of <b>0</b> for <b>Stand-Alone mode</b>.</p> <pre>Enter the 'Call Server' mode [0]:       0 Stand-Alone mode       1 Relay mode &gt; 0 Call Server mode: Stand-Alone</pre>
10	<p>Enter the name of the company and then press <b>Enter</b>.</p> <pre>Enter Company Name []: Innovaphone Company Name: Innovaphone</pre>
11	<p>Press <b>0</b> and then <b>Enter</b>. The VoIP configuration will be done later in the web interface.</p> <pre>Declare VoIP Gateway/Softswitch which will be allowed to send calls to the QuesCom gateway       0 End VoIP configuration       1 H.323 (no registration)       2 SIP (no registration) &gt; 0</pre>
12	<p>Press <b>Enter</b> to accept the default value of <b>0</b> for <b>No</b>.</p> <pre>Do you want to use the 'Voice Box' service [0]?       0 No       1 Yes &gt;</pre>

Continued on next page





Telnet  
Cont.

- 13 Scroll through the different time zones by pressing any key. Remember the number that corresponds to yours.

```
Select TimeZone:
```

```

1  = <GMT-12:00> International Date Line West - Dateline Standard Time
2  = <GMT-11:00> Midway Island, Samoa - Samoa Standard Time
3  = <GMT-10:00> Hawaii - Hawaiian Standard Time
4  = <GMT-09:00> Alaska - Alaskan Standard Time
5  = <GMT-08:00> Tijuana, Baja - Pacific Standard Time <Mexico>
6  = <GMT-08:00> Pacific Time <US & Canada> - Pacific Standard Time
7  = <GMT-07:00> Chihuahua, La Paz, Mazatlan - Mountain Standard Time <Mex>
8  = <GMT-07:00> Mountain Time <US & Canada> - Mountain Standard Time
9  = <GMT-07:00> Arizona - US Mountain Standard Time
10 = <GMT-06:00> Saskatchewan - Canada Central Standard Time
11 = <GMT-06:00> Guadalajara, Mexico City, Monterrey - Central Standard T
12 = <GMT-06:00> Central Time <US & Canada> - Central Standard Time
13 = <GMT-05:00> Eastern Time <US & Canada> - Eastern Standard Time
14 = <GMT-05:00> Indiana <East> - US Eastern Standard Time
15 = <GMT-05:00> Bogota, Lima, Quito, Rio Branco - SA Pacific Standard Ti
16 = <GMT-04:00> Caracas, La Paz - SA Western Standard Time

```

```
Press any key to continue...
```

- 14 Enter the number of your time zone and then press **Enter**.

```

64 = <GMT+09:00> Osaka, Sapporo, Tokyo - Tokyo Standard Time
65 = <GMT+09:00> Yakutsk - Yakutsk Standard Time
66 = <GMT+09:30> Darwin - AUS Central Standard Time
67 = <GMT+09:30> Adelaide - Cen. Australia Standard Time
68 = <GMT+10:00> Canberra, Melbourne, Sydney - AUS Eastern Standard Time
69 = <GMT+10:00> Vladivostok - Vladivostok Standard Time
70 = <GMT+10:00> Hobart - Tasmania Standard Time
71 = <GMT+10:00> Brisbane - E. Australia Standard Time
72 = <GMT+10:00> Guam, Port Moresby - West Pacific Standard Time
73 = <GMT+11:00> Magadan, Solomon Is., New Caledonia - Central Pacific St
74 = <GMT+12:00> Fiji, Kamchatka, Marshall Is. - Fiji Standard Time
75 = <GMT+12:00> Auckland, Wellington - New Zealand Standard Time
76 = <GMT+13:00> Nuku'alofa - Tonga Standard Time

```

```
Enter Time Zone number <0 to skip / L to view the list>: 29
```

```
New Time Zone: <GMT+01:00> Amsterdam, Copenhagen, Madrid, Paris, Vilnius - Roman  
ce Standard Time
```

- 15 If your time zone has daylight savings, press **Y** and then **Enter**, or else press **N** and then **Enter**.

```
Do you want to enable saving the TimeZone DayLight Information? [Y/N]: Y
```

- 16 Review the first summary screen and then press any key.

```
Selected parameters for Quick setup mode are:
```

```

Gateway Network Name: Q200
The Gateway IP address: 192.168.195.214
The Gateway subnet mask: 255.255.255.0
The default Gateway: 192.168.195.1

```

```
Press any key to continue...
```

Continued on next page



**Telnet**  
**Cont.**

- 17** Review the second summary screen. If there are any errors in either the first or second screen, press **0** and then **Enter**. If no errors were noticed press **1** and then **Enter**.

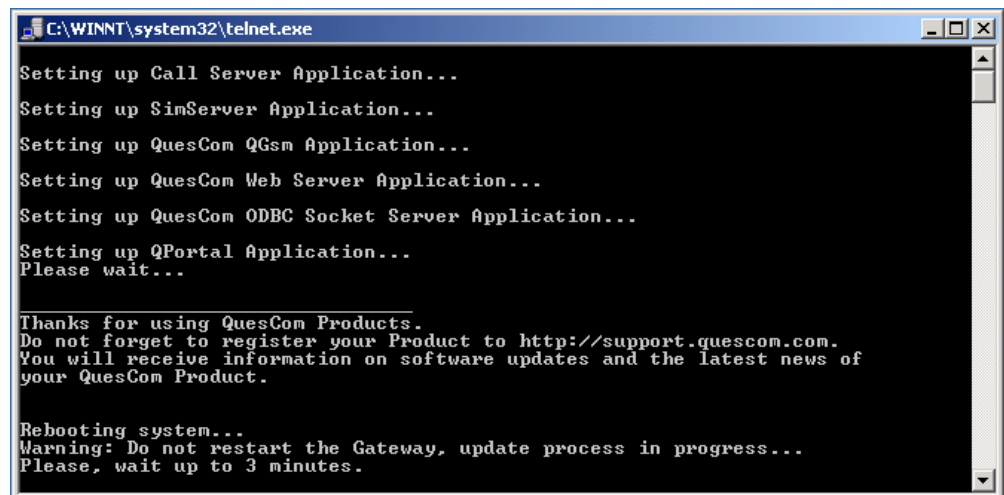
```

Gateway's serial number: Q200-A1-00010016
IUR language country: ENG - English
Email language country: ENG - English
Country Tones: United Kingdom
Country Numbering: United Kingdom
Call Server mode: Stand-Alone
Company Name: Innovaphone

Do you confirm this setup [1]:
0 No (to exit, and GWconfig /setup command can be re-entered)
1 Yes (to continue the setup and restart the QuesCom Gateway)
>

```

- 18** The Gateway will now start its setup script. This may take some time. Do not interrupt this process.



```

C:\WINNT\system32\telnet.exe

Setting up Call Server Application...
Setting up SimServer Application...
Setting up QuesCom QGsm Application...
Setting up QuesCom Web Server Application...
Setting up QuesCom ODBC Socket Server Application...
Setting up QPortal Application...
Please wait...

Thanks for using QuesCom Products.
Do not forget to register your Product to http://support.quescom.com.
You will receive information on software updates and the latest news of
your QuesCom Product.

Rebooting system...
Warning: Do not restart the Gateway, update process in progress...
Please, wait up to 3 minutes.

```

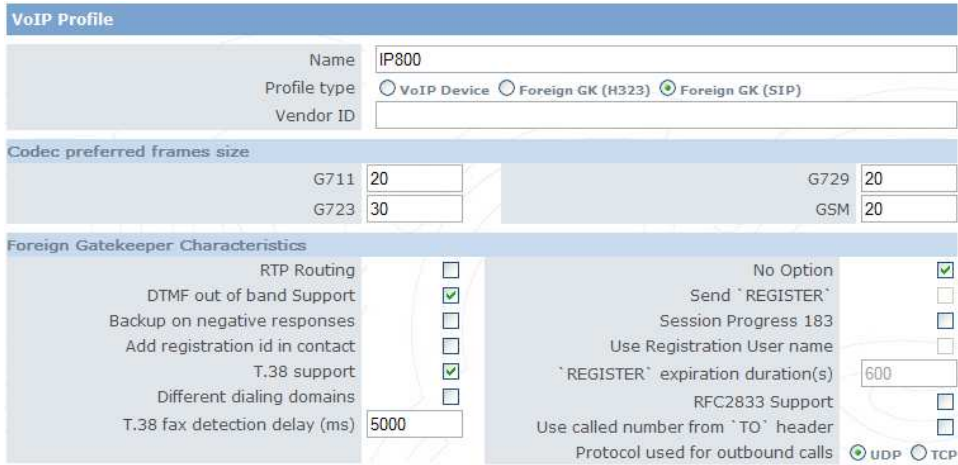
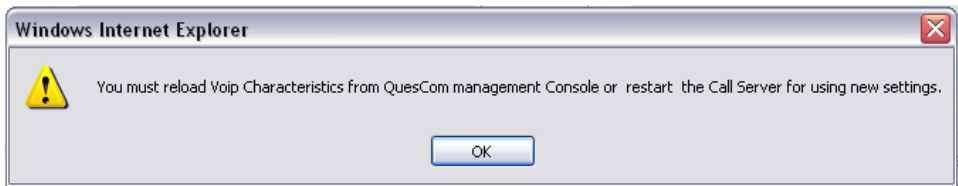
After the Gateway reboots continue to the next section for the rest of the configuration.

The **Telnet** configuration is complete. Continue the configuration from the **QPortal** web administration interface (<http://192.168.195.214:8000>).



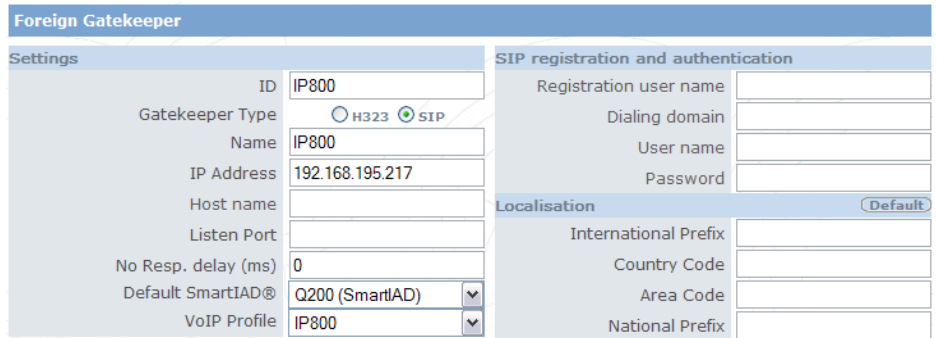
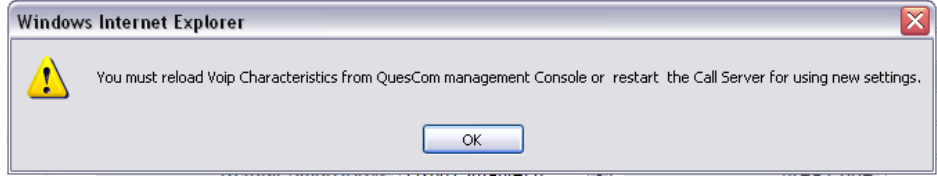
## 3.2 VoIP

### VoIP profile

Steps	Action
1	From the main menu select <b>Licenses and Profiles</b> , then <b>VoIP Profile</b> , and then click <b>Add Record</b> .
2	<p>Configure the VoIP Profile as shown in the image below.</p>  <p><b>DTMF out of band Support</b> is needed to send the DTMF as INFO messages.</p>
3	Click <b>Save</b> at the top of the screen.
4	<p>You will receive the following message.</p>  <p>Just click <b>OK</b>, don't worry about restarting services at this point, at the end of the configuration the Gateway will be rebooted.</p>



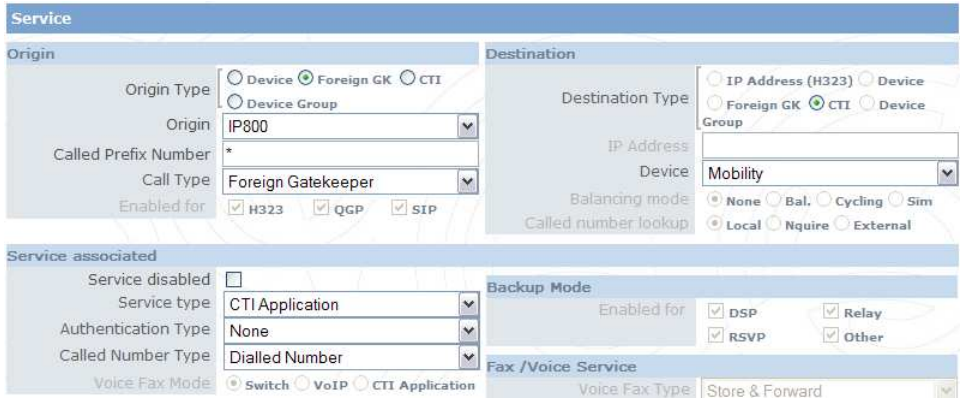
**Foreign gatekeeper**

Steps	Action
1	From the main menu select <b>Objects</b> , then <b>Foreign Gatekeeper</b> , and then click <b>Add Record</b> .
2	
3	Click <b>Save</b> at the top of the screen.
4	



### 3.3 Voice services

From  
IP800

Steps	Action
1	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
2	
3	Click <b>Save</b> at the top of the screen.



To IP800

Steps	Action
1	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
2	
3	Click <b>Save</b> at the top of the screen.

Services

There should now be two services, as in the image below.

Service

All Companies administrator

ADD RECORD

FILTER

SAVE FILTER

Status

Enabled

Disabled

Any

2 Services

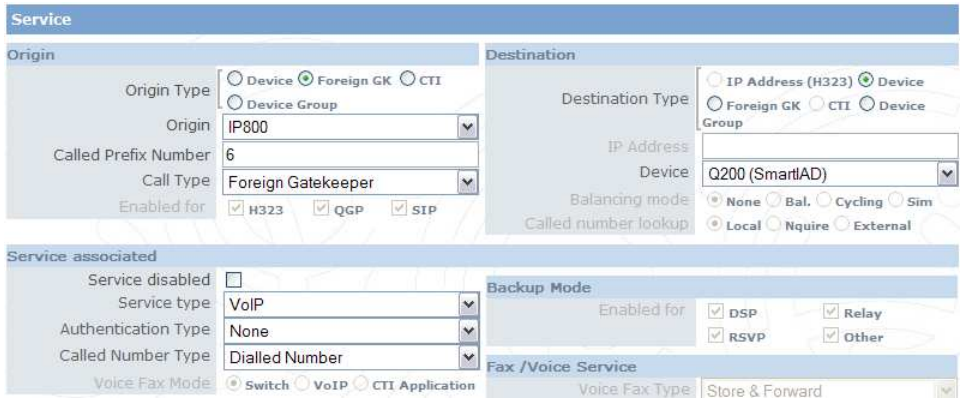
Status	ID	Origin	Called Prefix Number	Call Type	Service type	Destination
<div><div></div><div></div></div>	4	Mobility	*	CTI Application	VoIP	IP800
<div><div></div><div></div></div>	3	IP800	*	Foreign Gatekeeper	CTI Application	Mobility

**Note**The **ID** numbers are not important and are only used for debugging.

### 3.4 Fax services

#### Inbound T38 fax

The following two services must be added in order to receive a fax by e-mail for extension 6.

Steps	Action
1	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
2	
3	Click <b>Save</b> at the top of the screen.
4	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .

Continued on next page



Inbound  
T38 fax  
Cont.

5

Service

Origin

Origin Type

☒ Device ☐ Foreign GK ☐ CTI

☐ Device Group

Origin

Q200 (SmartAD)

Called Prefix Number

6

Call Type

Any

Enabled for

☒ H323 ☒ QGP ☒ SIP

Destination

Destination Type

☐ IP Address (H323) ☒ Device

☐ Foreign GK ☐ CTI ☐ Device Group

IP Address

Device

Q200 (SmartAD)

Balancing mode

☒ None ☐ Bal. ☐ Cycling ☐ Sim

Called number lookup

☒ Local ☐ Nquire ☐ External

Service associated

Service disabled

☐

Service type

Fax Store & Forward

Authentication Type

None

Called Number Type

Dialled Number

Voice Fax Mode

☒ Switch ☐ VoIP ☐ CTI Application

Call Server Operations

LCR Support

No

CDR Support

No

Cost Support

No

VoIP Service

Law Transcoding

☒

Quality of service(HEX)

Min Delay

Backup Mode

Enabled for

☒ DSP ☒ Relay ☒ RSVP ☒ Other

Fax /Voice Service

Voice Fax Type

Store & Forward

Store & Forward Type

FAX TO EMAIL

Called Number

Notify Receipt Type

None

Notify receipt to

Send To

192.168.195.205

The **Send To** field must contain the SMTP server address.

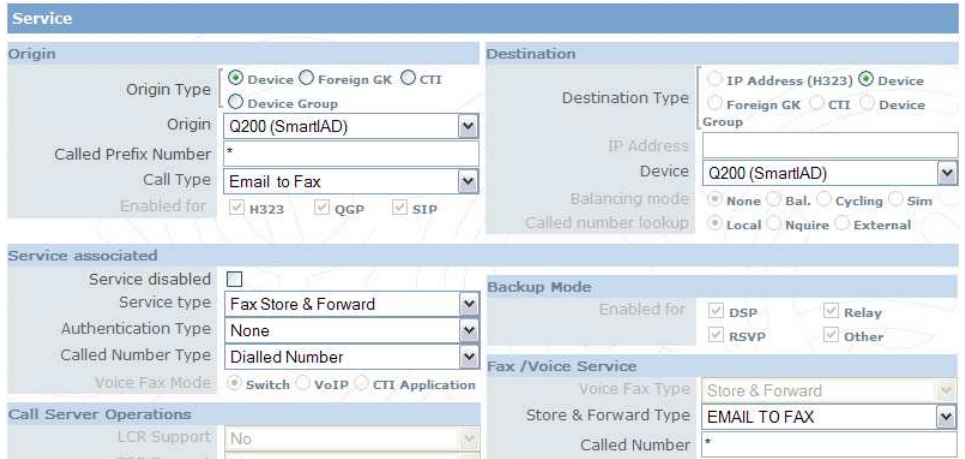
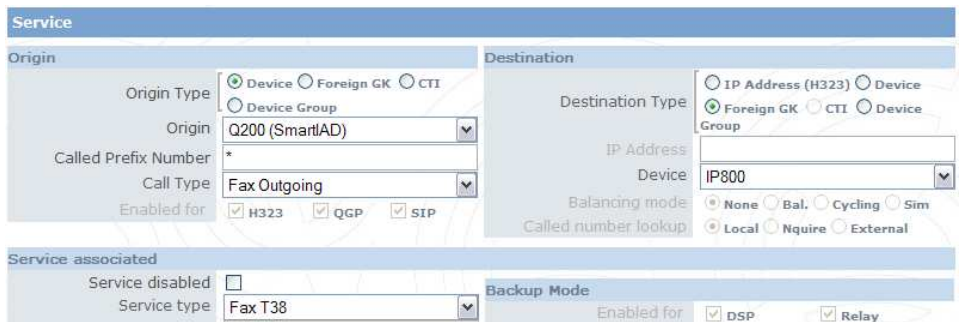
6

Click **Save** at the top of the screen.





**Outbound T38 fax** The following two services must be added in order to send faxes.

Steps	Action
1	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
2	
3	Click <b>Save</b> at the top of the screen.
4	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
5	
6	Click <b>Save</b> at the top of the screen.





















**Services**

There should now be six services, as in the image below.

**Service** All Companies administrator

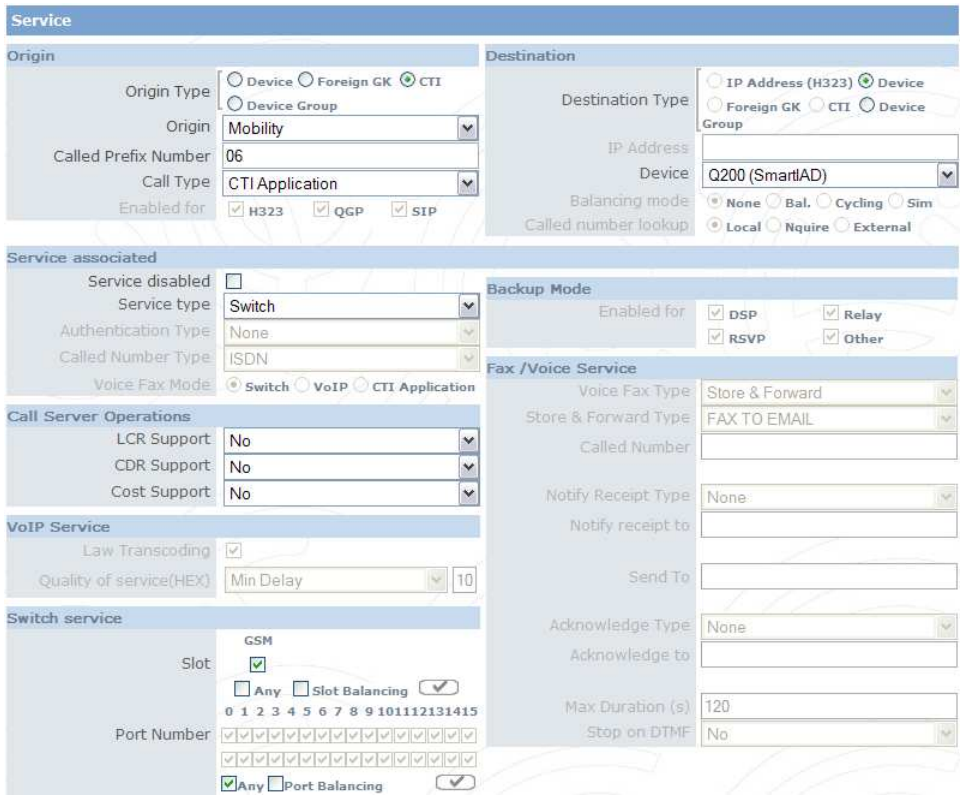
[ADD RECORD](#)
[FILTER](#)
[SAVE FILTER](#)
 Status ☐ Enabled ☐ Disabled ☒ Any 6 Services

Status	ID	Origin	Called Prefix Number	Call Type	Service type	Destination
 	8	Q200	*	Fax Outgoing	T38 Store & Forward IP800	
 	7	Q200	*	Email to Fax	Fax Store & Forward Q200	
 	6	Q200	6	Any	Fax Store & Forward None	
 	5	IP800	6	Foreign Gatekeeper	VoIP	
 	4	Mobility	*	CTI Application	VoIP	
 	3	IP800	*	Foreign Gatekeeper	CTI Application	



### 3.5 GSM routing

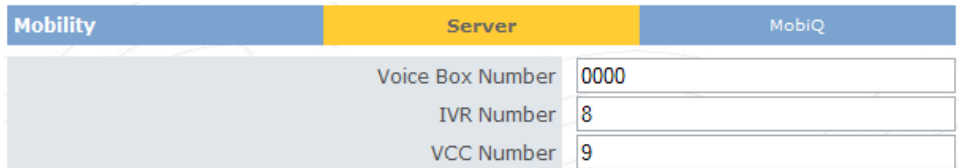
#### GSM service

Steps	Action
1	From the main menu select <b>Services</b> , then <b>Service</b> , and then click <b>Add Record</b> .
2	<p>To route GSM calls there simply needs to be one service for the GSM prefix, configured as in the image below.</p> 
3	Click <b>Save</b> at the top of the screen.



### 3.6 Mobility

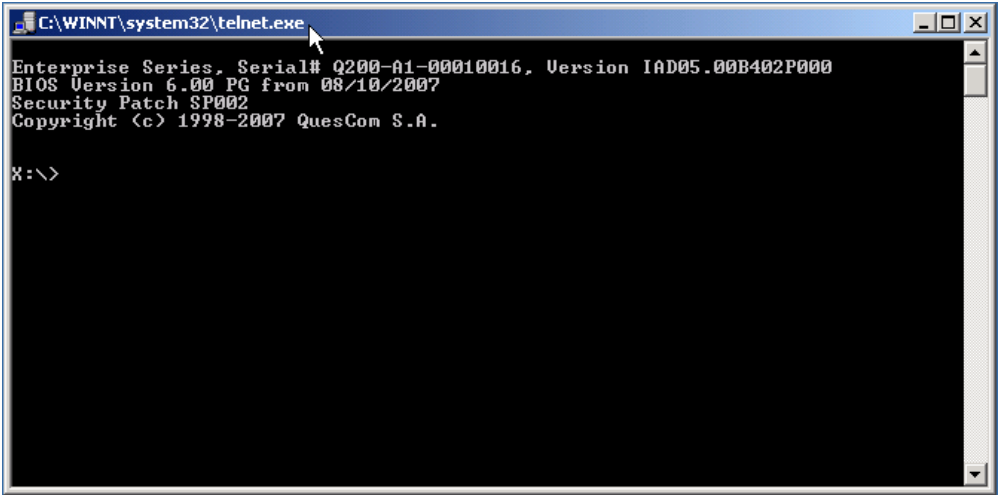
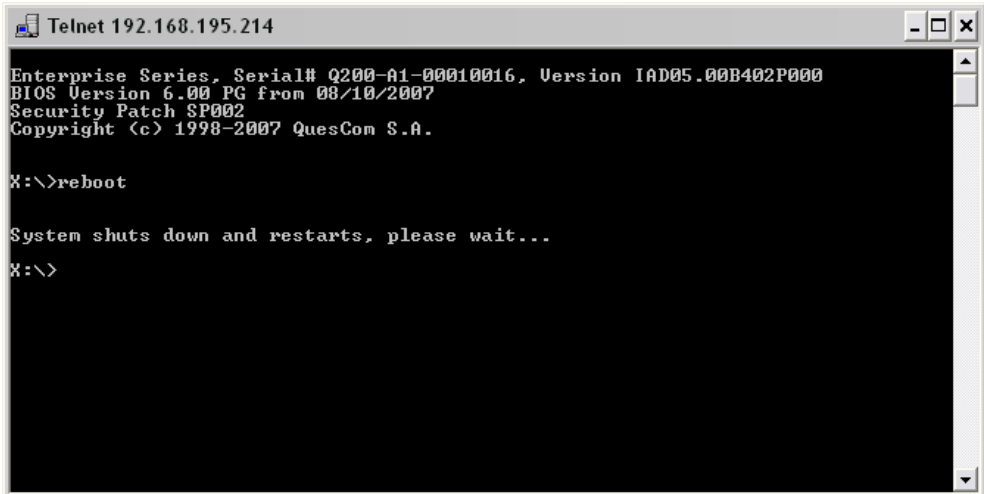
#### Access Numbers

Steps	Action
1	From the main menu select <b>Users &amp; Mobility</b> , and then <b>Mobility</b> .
2	<p>Configure the <b>Server</b> tab as shown in the image below and then click <b>Save</b>.</p>  <p><b>Warning!</b></p> <p>The <b>Voice Box</b> service is not used in this configuration; however the <b>Voice Box Number</b> field must be filled in. In this case we use any fake number that will not appear in the real numbering plan.</p>
3	Click <b>Save</b> at the top of the screen.



### 3.7 Reboot

#### Reboot

Steps	Action
1	Connect to the Gateway with <b>Telnet</b> as described in <b>section 3.1</b> steps 1-3.
2	 <p>Type <b>reboot</b> and then press <b>Enter</b>.</p>
3	 <p>After the Gateway reboot continue with the creation and configuration of the users in the next section.</p>



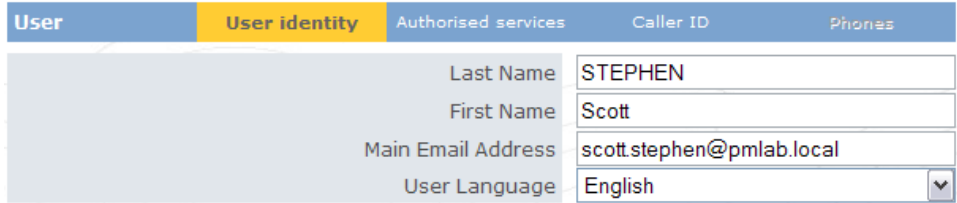

## 4. User creation

### 4.1 Users

**General** For each person requiring the **OneNumber** service a user must be created. This user is needed for the following reasons:

1. Registering the persons e-mail address for receiving faxes.
2. Associating extension numbers.
3. Associating telephone devices for **VCC**.
4. Providing a username and password for access to the **QPortal** web user interface.

#### User

Steps	Action
1	From the main menu select <b>Users &amp; Mobility</b> , then <b>User</b> , and then click <b>Add Record</b> .
2	
3	

Continued on next page



**User  
Cont.**

**4**

User

User Identity

Authorised services

Caller ID

Phones

Caller ID	Service Reserved
2	None
6	None
0612345678	None

Add
Remove
Update
Clear All

Caller ID

0612345678

Service Reserved

None

Fax

SMS

☒ Send / Receive
☐ Send / Receive

**5**

User

User Identity

Authorised services

Caller ID

Phones

ID	Name	Type	Number
0	Fixed	Internal	2
1	GSM	External	0612345678

Add
Remove
Update
Clear All

Phones

Main

Mobile

Parameters

Phone ID

1

Phone Name

GSM

Phone Type

External

Phone Calling ID

0612345678

Phone Number

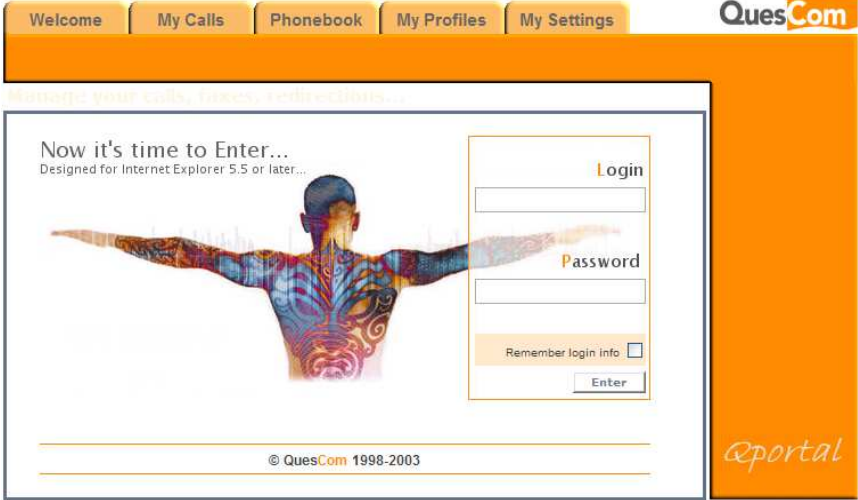

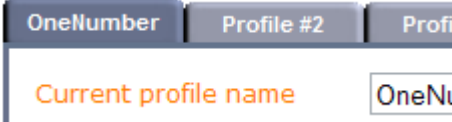
0612345678

**6**
Click **Save** at the top of the screen.



## 4.2 QPortal user interface

**QPortal** Connect to the **QPortal** web user interface (<http://192.168.195.214>).


Steps	Action
1	 <p>Login to the interface with the credentials created in the previous section.</p>
2	Click on the <b>My Profiles</b> tab.
3	 <p>We will use <b>Profile #1</b>. Rename this profile by typing a new name in the <b>Current profile name</b> field and click <b>Rename profile</b>.</p> 
4	Click <b>Add redirection</b> .

Continued on next page










**QPortal  
Cont.**

5	<div style="background-color: #f9e79f; padding: 5px; text-align: center;"><b>Redirection</b></div> <p>Select number to redirect: <input type="text" value="2"/></p> <p style="text-align: center;"> <input type="button" value="OK"/> <input type="button" value="CANCEL"/> </p> <p>Select the user's fixed phone's extension number and then click <b>OK</b>.</p>
6	<div> <div>number to redirect: <input type="text" value="2"/> <input type="button" value="OK"/> <input type="button" value="Reset"/> <input type="button" value="CANCEL"/></div> <div> <div> <b>Redirection Events</b> <div> <input type="checkbox"/> Always redirect to <input type="button" value="Select"/> <input type="text"/> <input type="checkbox"/> My Voice Box </div> <div> <input type="checkbox"/> Multi ring <div> <input type="button" value="Select"/> <input type="text"/> <input type="button" value="Select"/> <input type="text"/> <input type="button" value="Select"/> <input type="text"/> <input type="button" value="Select"/> <input type="text"/> <input type="button" value="Select"/> <input type="text"/> </div> </div> <div> <input type="checkbox"/> If busy redirect to <input type="button" value="Select"/> <input type="text"/> <input type="checkbox"/> My Voice Box </div> <div> <input type="checkbox"/> If no answer redirect to <input type="button" value="Select"/> <input type="text"/> <input type="checkbox"/> My Voice Box </div> <div> No answer Delay(s) <input type="text" value="10"/> </div> </div> <div> <b>Conditions</b> <div> <input type="checkbox"/> Redirect only when caller belongs to list: <input type="text" value="Business"/> <input type="checkbox"/> Do not redirect when caller belongs to list: <input type="text" value="Business"/> </div> <div> <input type="checkbox"/> Redirect only during my holiday <input type="checkbox"/> Redirect upon specific week schedule <input type="button" value="View schedule"/> </div> </div> </div> </div> <p>Check the <b>Multi ring</b> option and then enter the other numbers you would like to have ring when your fixed line is dialed.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;">  <p><b>Warning!</b></p> <p>Do NOT include the user's fixed number in the redirections.</p> </div>
7	<p>For example.</p> <div> <input checked="" type="checkbox"/> <b>Multi ring</b> <div> <input type="button" value="Select"/> <input type="text" value="3"/> <input type="button" value="Select"/> <input type="text" value="0612345678"/> <input type="button" value="Select"/> <input type="text"/> <input type="button" value="Select"/> <input type="text"/> </div> </div> <p>Click <b>OK</b> at the top of the window.</p>

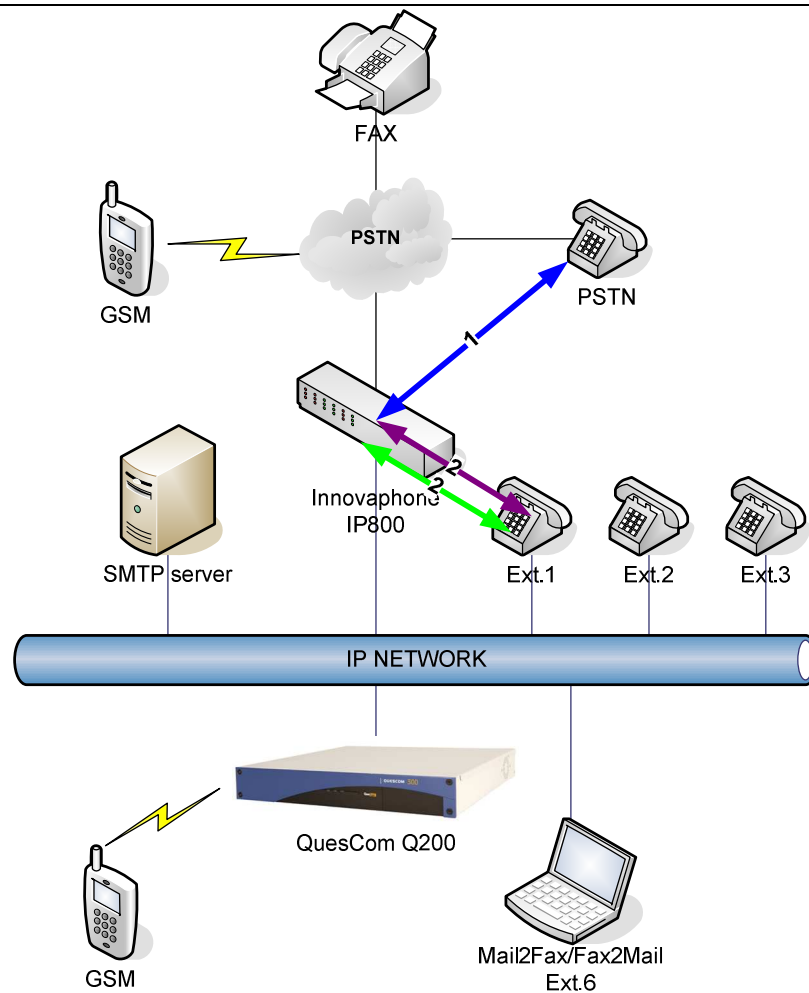


## 5. Call flow

### Legend

	ISDN or GSM
	RTP
	SIP
	H.323
	Conditional

### Inbound to normal user

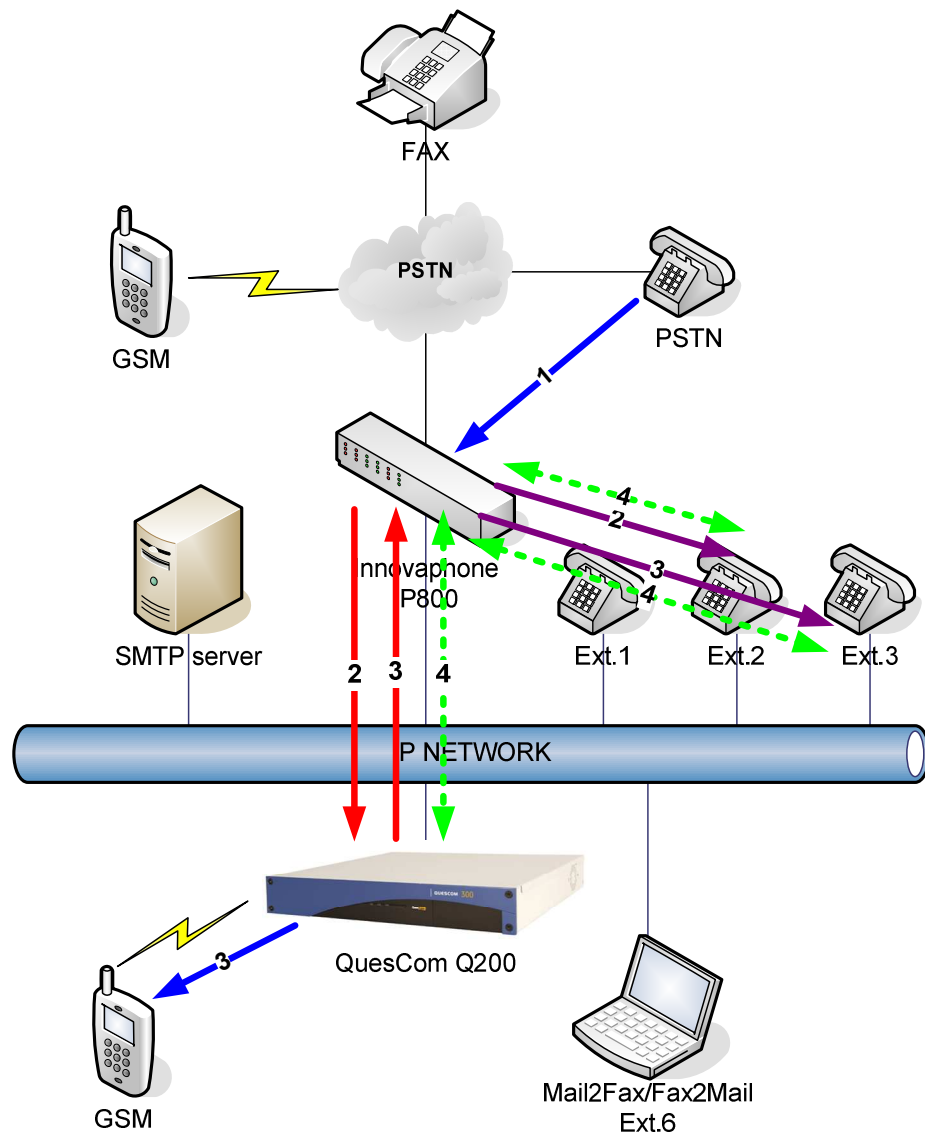


### Description

1. An outside caller dials Ext1.
2. This is a normal user, so the call is sent directly to the phone.



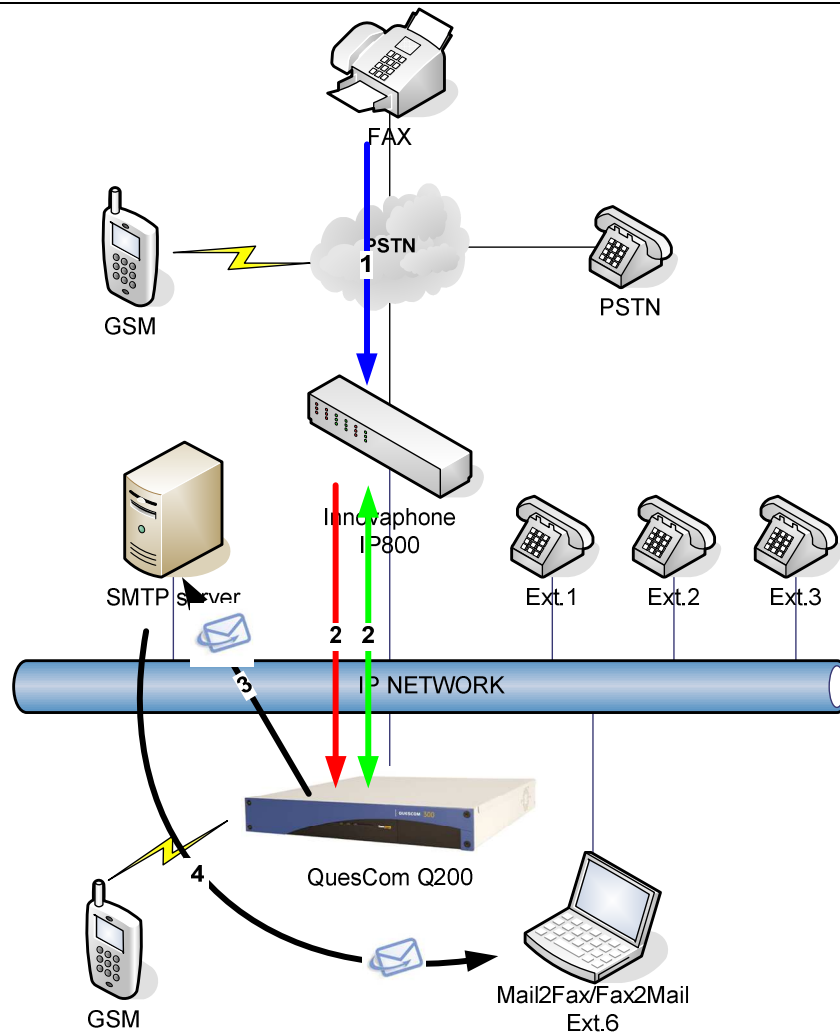
### Inbound to OneNumber user



### Description

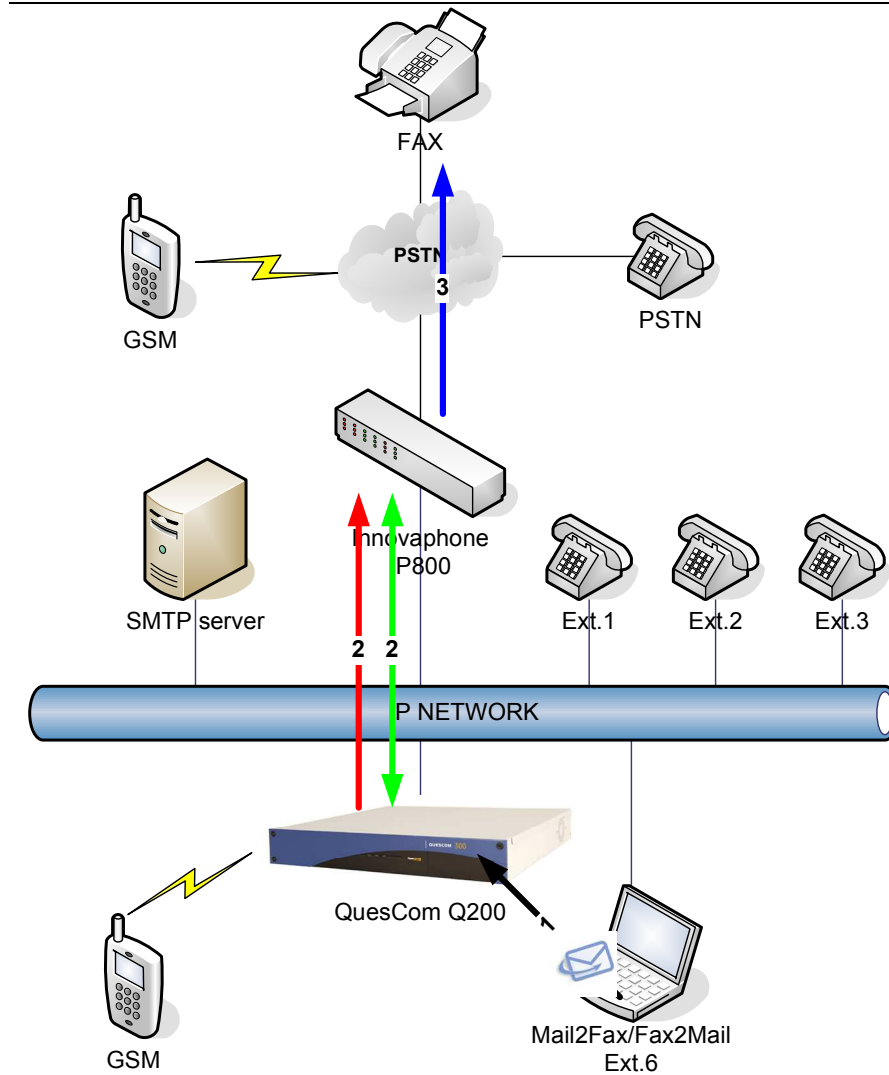
1. An outside caller dials Ext2.
2. This is a **OneNumber** user, so the Innovaphone Gateway handles the ringing of the users phone, and the second registration calls the Q200.
3. The Q200 then puts out calls to the defined **Multi ring** numbers (in this case Ext.3 and a GSM).
4. The RTP stream will be established to the first of the 3 phones to answer the call; the other calls will be terminated.



**Inbound to user fax number****Description**

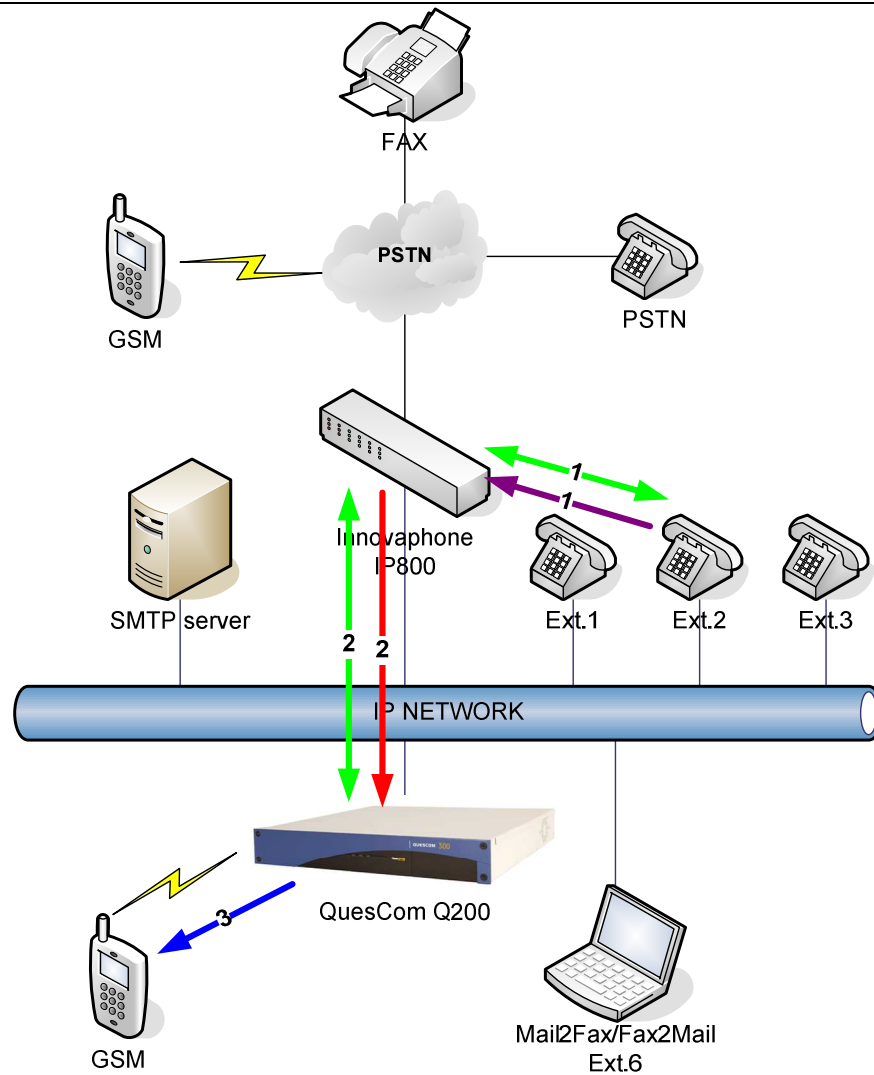
1. An external fax dials Ext.6.
2. This is the fax number for the user of Ext.2, so the IP800 routes the call to the Q200. The Q200 has Ext.6 associated to the fax service, so the Q200 receives the fax.
3. The fax is sent as an e-mail with a TIFF attached to the defined SMTP server.
4. The user can then consult the fax with any e-mail client software and a standard image viewer.



**Outbound fax****Description**

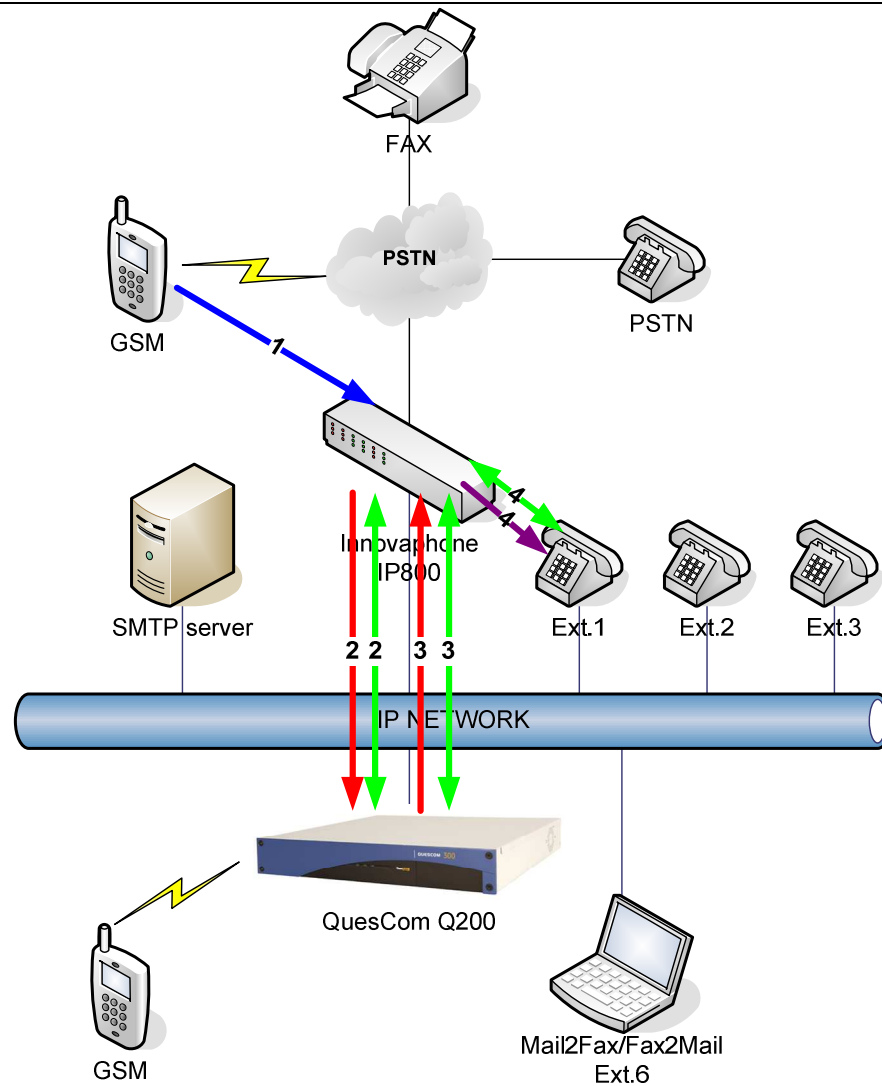
1. The Ext.2 user sends a fax from his computer using the **VPD** (Virtual Printer Driver) software.
2. The Q200 send the fax via the IP800 over **T38**.
3. The IP800 sends the fax over ISDN to the destination.



**GSM routing****Description**

1. Ext.2 dials a GSM number.
2. The call is routed to the Q200.
3. The call is placed on an available SIM card.

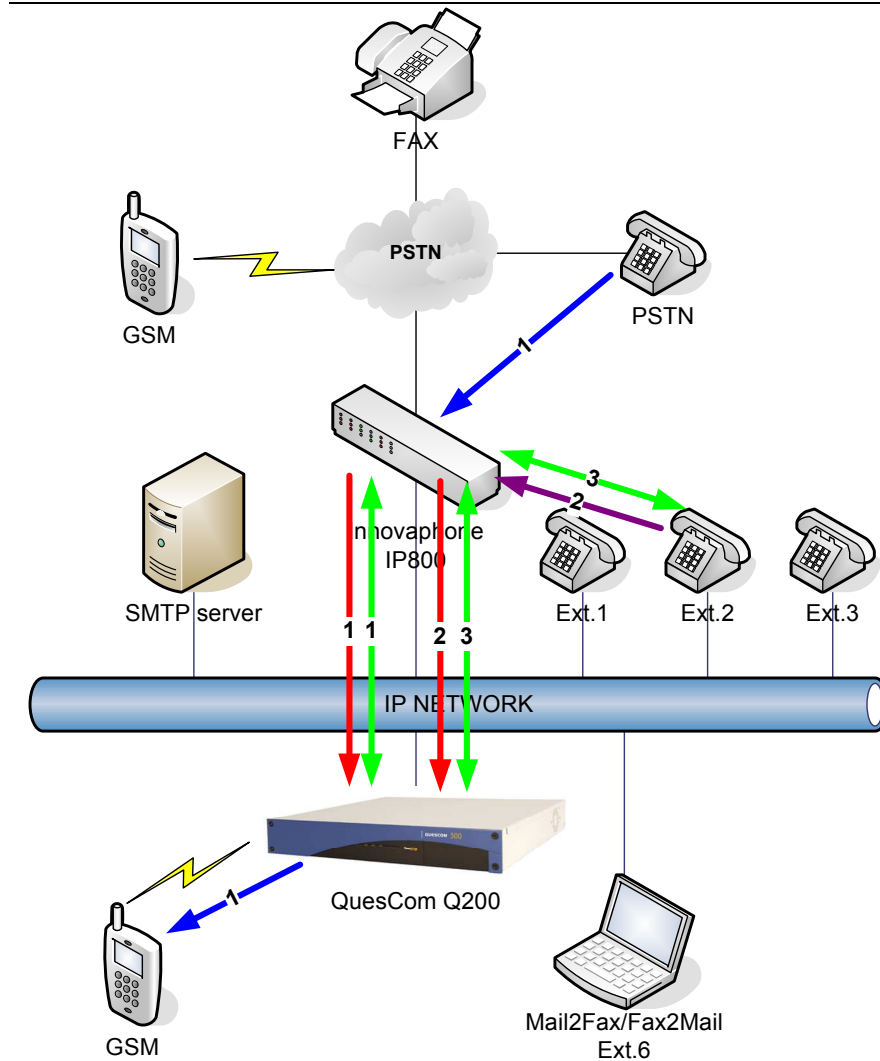


**Mobility****Description**

1. Ext.2 user is on the road with his GSM. He places a call to his colleague at Ext.1 with simply the short extension number. The **MobiQ** client software will automatically dial the **Mobility** access number (in this case 8).
2. IP800 routes 8 to Q200.
3. Once connected, **MobiQ** dials 1, and the call is routed to IP800.
4. IP800 rings Ext.1.



## VCC



## Description

1. An external PSTN user calls the **OneNumber** user Ext.2. The call is answered on the GSM phone (refer to the **OneNumber** call flow for details of this step).
2. The user wishes to continue the call on his fixed phone. He dials the **VCC** access number (in this case 9).
3. The call is continued seamlessly on his fixed phone and hung up on the GSM.

