# Scenario 1 – Gateway VoIP, PBX IP and Fax2mail

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## 1 Introduction

This document shows the implementation procedure of a real VoiP scenario between two companies or two branches of the same company.

It is also the aim of this document to demonstrate the simplicity of the configurations for a successful interconnection with legacy telephony equipment.

# 2 Implementation Procedure – IPORTALMAIS.PT

## 2.1 Network Settings

1. In the "Advanced Settings -» IPBrick" menu, configure the following parameters:

   (a) Name of the machine: "voip"

   (b) Domain of the machine: "iportalmais.pt"

   (c) Modify the internal IP address (eth0):

   - IP: "192.168.10.254";
   - Mask: "24";
   - Network: "192.168.10.0";
   - Broadcast: "192.168.10.255";
   - Leave all other fields blank, or with the default settings;

   (d) Modify the public IP address (eth1):

   - IP: "195.23.169.1";
   - Mask: "24";
   - Network: "195.23.169.0";
   - Broadcast: "195.23.169.255";
   - Leave all other fields blank, or with the default settings;

   (e) Default Gateway: "195.23.169.254"; Interface: "eth1";

2. Now go to the "Advanced Settings -» Support Services -» DNS -» Forwarders", insert the following forwarder: "195.23.169.254";

3. Click on "Update Settings" to commit the configurations to the system. The IPBrick will reboot.

## 2.2 VoIP Settings

1. In the "Advanced Settings -» Support Services -» Registered phones" menu, insert a new phone with the following parameters:

   - Phone: "ares"; Password: "123";

2. In the "IPBrick-C -» VoIP -» Alternative addresses" menu, insert an alternative address with following parameters:
    - Phone Location: "Internal"; Phone Name: "ares"; New phone alternative address: "420";
3. In the "IPBrick-C -» VoIP -» Routes Management" menu, insert the following routes in the "Local Routes" section:
    (a) INTERNET -» PBX; for this route insert the following prefix configuration:
        - Prefix: "4";
        - Include prefix in address: "Yes";
        - Leave all other fields blank, or with the default settings;
    (b) LAN -» PBX;
        - Prefix: "4";
        - Include prefix in address: "Yes";
        - Leave all other fields blank, or with the default settings;
    (c) PBX -» LAN;
        - Prefix: "42";
        - Include prefix in address: "Yes";
        - Leave all other fields blank, or with the default settings;
4. In the "IPBrick-C -» VoIP -» Routes Management" menu, insert a route in the "Outbound routes to SIP servers" section, with the following parameters:
    (a) Name: "ipbrick";
    (b) SIP server address: "ipbrick.com";
    (c) Leave all other fields with the default settings;
5. In this route, insert the following prefix configuration:
    - Prefix: "50";
    - Include prefix in address: "No";
    - Leave all other fields blank, or with the default settings;

6. Click on “Update Settings” to commit the configurations to the system.

At this point, you should be able to successfully make calls between phone in the PBX and phones in the LAN, and also between the two IPBricks using the IP Network. Do, for example, the following tests:

- From the LAN phone call the number “410” (the call should land on the PBX phone on your side);
- From the PBX phone call the number “420“ (the call should land on the LAN phone in your network);
- From the PBX phone call the number ”50420“ (the call should land on the LAN phone in the IPBRICK.COM network);
- From the PBX phone call the number ”50410“ (the call should land on the PBX phone in the IPBRICK.COM side);
- From the LAN phone call the address ”cisco@ipbrick.com“ (the call should land on the LAN phone in the IPBRICK.COM network);

## 2.3 Calls using the user contact

1. In the “IPBrick-I -» Users Management” menu, insert a new user, with following parameters:
   - Name: *your name*;
   - Login: *your login*;
   - Password: *choose a password*;
   - Leave all other fields blank, or with the default settings;
2. Click on “Update Settings” to commit the configurations to the system.
3. Access the website https://myipbrick.iportalmais.pt, and login with the credentials of the user you just added;
4. Change the “SIP URL” parameter to: “ares”;

After this step, when the address “*your name*@iportalmais.pt” is dialed, the call should land on the LAN phone called “ares”. You can change the “SIP URL” variable to “410”, and verify that now the calls will land on the PBX phone.

# 3 Implementation Procedure – IPBRICK.COM

## 3.1 Network Settings

1. In the "Advanced Settings -» IPBrick" menu, configure the following parameters:
   (a) Name of the machine: "voip"
   (b) Domain of the machine: "ipbrick.com"
   (c) Modify the internal IP address (eth0):
      - IP: "192.168.1.254";
      - Mask: "24";
      - Network: "192.168.1.0";
      - Broadcast: "192.168.1.255";
      - Leave all other fields blank, or with the default settings;
   (d) Modify the public IP address (eth1):
      - IP: "195.23.170.1";
      - Mask: "24";
      - Network: "195.23.170.0";
      - Broadcast: "195.23.170.255";
      - Leave all other fields blank, or with the default settings;
   (e) Default Gateway: "195.23.170.254"; Interface: "eth1";
2. Now go to the "Advanced Settings -» Support Services -» DNS -» Forwarders", insert the following forwarder: "195.23.170.254";
3. Click on "Update Settings" to commit the configurations to the system. The IPBrick will reboot.

## 3.2 VoIP Settings

1. In the "Advanced Settings -» Support Services -» Registered phones" menu, insert 2 new phones with the following parameters:
   - Phone: "cisco"; Password: "123";
   - Phone: "poseidon2"; Password: "123";

2. In the "IPBrick-C -» VoIP -» Alternative addresses" menu, insert 2 alternative addresses with following parameters:
   - Phone Location: "Internal"; Phone Name: "cisco"; New phone alternative address: "420";
   - Phone Location: "Internal"; Phone Name: "poseidon2"; New phone alternative address: "421";
3. In the "IPBrick-C -» VoIP -» Routes Management" menu, insert the following routes in the "Local Routes" section:
   (a) INTERNET -» PBX; for this route insert the following prefix configuration:
      - Prefix: "4";
      - Include prefix in address: "Yes";
      - Leave all other fields blank, or with the default settings;
   (b) LAN -» PBX;
      - Prefix: "4";
      - Include prefix in address: "Yes";
      - Leave all other fields blank, or with the default settings;
   (c) PBX -» LAN;
      - Prefix: "42";
      - Include prefix in address: "Yes";
      - Leave all other fields blank, or with the default settings;
4. In the "IPBrick-C -» VoIP -» Routes Management" menu, insert a route in the "Outbound routes to SIP servers" section, with the following parameters:
   (a) Name: "iportalmais";
   (b) SIP server address: "iportalmais.pt";
   (c) Leave all other fields with the default settings;
5. In this route, insert the following prefix configuration:
   - Prefix: "60";

- Include prefix in address: “No”;
- Leave all other fields blank, or with the default settings;

6. Click on “Update Settings” to commit the configurations to the system.

At this point, you should be able to successfully make calls between phone in the PBX and phones in the LAN, and also between the two IPBricks using the IP Network. Do, for example, the following tests:

- From the LAN phone call the number “410” (the call should land on the PBX phone on your side);
- From the PBX phone call the number “420“ (the call should land on the LAN phone in your network);
- From the PBX phone call the number ”60420“ (the call should land on the LAN phone in the IPORTALMAIS.PT network);
- From the PBX phone call the number ”60410“ (the call should land on the PBX phone in the IPORTALMAIS.PT side);
- From the LAN phone call the address ”ares@iportalmais.pt“ (the call should land on the LAN phone in the IPORTALMAIS.PT network);

## 3.3 Calls using the user contact

1. In the “IPBrick-I -≫ Users Management” menu, insert a new user, with following parameters:
   - Name: *your name*;
   - Login: *your login*;
   - Password: *choose a password*;
   - Leave all other fields blank, or with the default settings;
2. Click on “Update Settings” to commit the configurations to the system.
3. Access the website https://myipbrick.ipbrick.com, and login with the credentials of the user you just added;
4. Change the “SIP URL” parameter to: “cisco”;

After this step, when the address "*your name*@ipbrick.com" is dialed, the call should land on the LAN phone called "cisco". You can change the "SIP URL" variable to "410", and verify that now the calls will land on the PBX phone.