

Technical Bulletin OfficeServ 500 004	
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Remote ITP Enhancements and Installation

This bulletin details the enhancements to remote ITP phones and describes their recommended installation.

Software req'd

OfficeServ M or L v2.12 or later
ITP-5012L v2.07 or later
ITP-5014D v2.03 or later
ITP-5021D v2.03 or later

Enhancements

Installation of remote ITP phones is now "Plug and Play".
Multiple ITP phones are supported at the remote side using a single IP address.
First MGI and MCP2 can share one external IP address.

Setup

Below are some typical scenarios, both will achieve the same result but require a different setup on the router.

Example1 – using one external IP address with NAT and PAT.

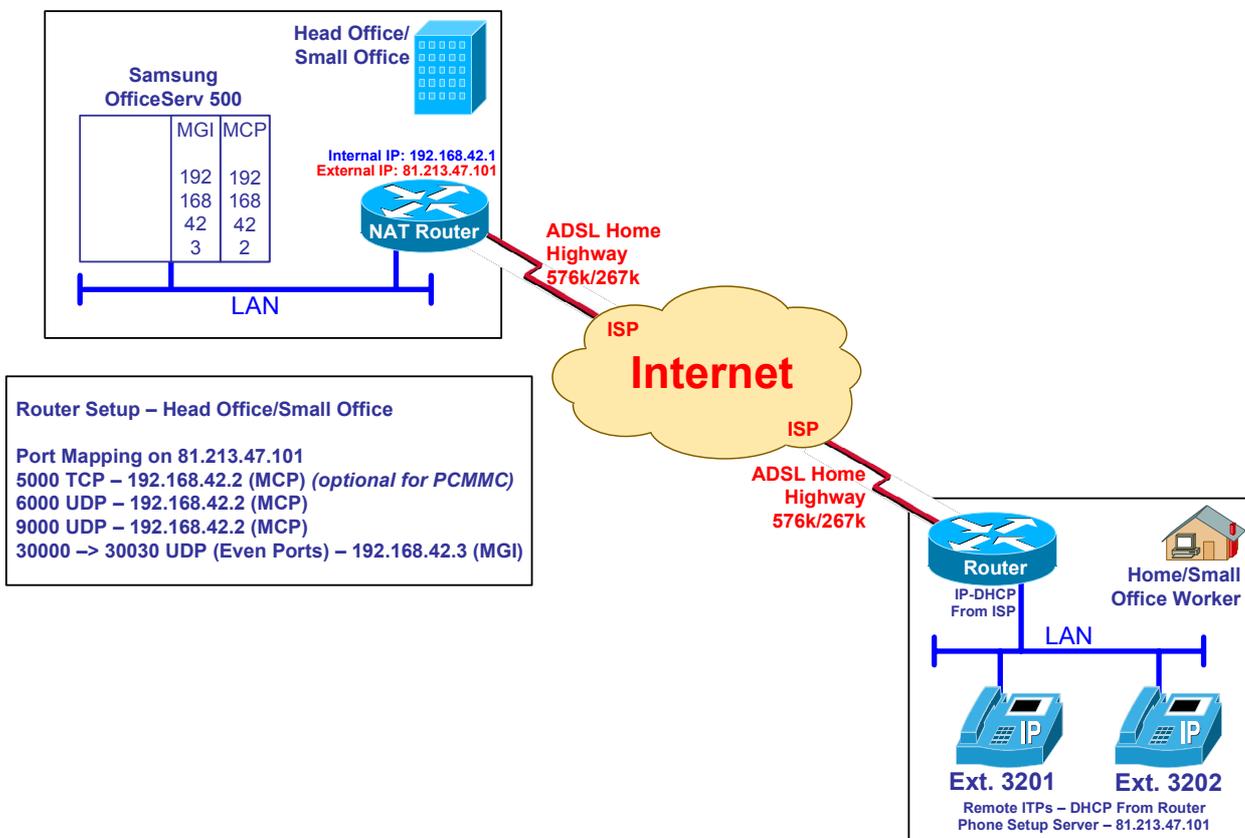
Example2 – using two external IP addresses and NAT.

Notes

NAT = Network Address Translation

PAT = Port Address Translation

Example 1 – Typical Scenario with One External IP Address



MMC 830:

SYSTEM IP ADDR: 192.168.42.2
 SYSTEM GATEWAY: 192.168.42.1
 SYSTEM NET MASK: 255.255.255.0
 SYSTEM IP TYPE: PRIVATE w PUBLIC
 SYSTEM PUBLIC IP: 81.213.47.101

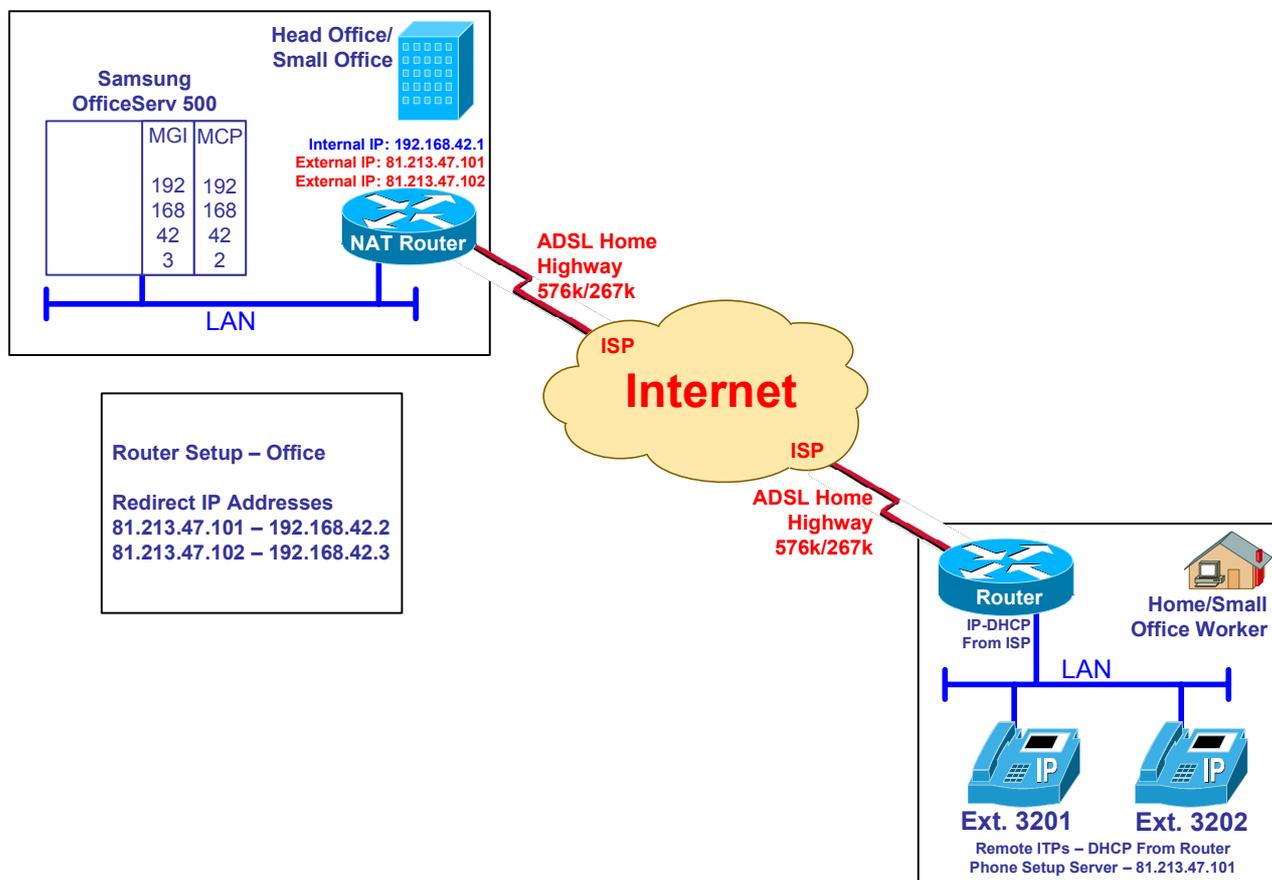
MMC831:

[3801]
 IP ADDRESS: 192.168.42.3
 GATEWAY: 192.168.42.1
 SUB MASK: 255.255.255.0
 PUBLIC IP: 81.213.47.101

MMC840:

[3201] IP TYPE: PUBLIC
 [3202] IP TYPE: PUBLIC

Example 2 – Typical Scenario with Two External IP Address



MMC 830:
 SYSTEM IP ADDR: 192.168.42.2
 SYSTEM GATEWAY: 192.168.42.1
 SYSTEM NET MASK: 255.255.255.0
 SYSTEM IP TYPE: PRIVATE w PUBLIC
 SYSTEM PUBLIC IP: 81.213.47.101

MMC831:
 [3801]
 IP ADDRESS: 192.168.42.3
 GATEWAY: 192.168.42.1
 SUB MASK: 255.255.255.0
 PUBLIC IP: 81.213.47.102

MMC840:
 [3201] IP TYPE: PUBLIC
 [3202] IP TYPE: PUBLIC

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Firewalls

A Firewall at the office side must allow the relevant ports through.
Below is a list of the ports used.

Port	Protocol	Use	Dest.	Comments
5000	TCP	PCMMC	MCP	Will allow PCMMC to connect to external IP address
6000	UDP	DATA	MCP	Allows phone to connect and pass data, e.g. dialling out
9000	UDP	SETUP	MCP	Sets up remote router to accept data on voice port
30000 30002 30004 30030	UDP	VOICE	MGI	Even Ports between 30000 – 300030 provide 16 MGI channels

A Firewall at the remote side should allow the correct ports through as the traffic has originated on the local side.

However, some basic routers have required some additional setup.

If this is suspected then setup the following at the remote router :-

- Check in MMC 840 what Data and Voice ports the extension is using.
- Map the Data port from MMC 840 to the phones internal IP address and port 6000 UDP
- Map the Voice port from MMC 840 to the phones internal IP address and port 9000 UDP

Phone Upgrades

From phone version 2.03, phones can be upgraded automatically or by MMC command.

This requires a PC with a public IP address and a TFTP server running.

Use MMC 841 to set up the phone system side.

Note that the system compares the current software version of the phone and the version that you have set in MMC 841 and will only upgrade if they are different.

See below for a description on the relevant options in MMC 841

MMC841:

PHONE VERSION

LARGE DGP 0000

not yet supported

LARGE ITP 0205

enter the version that's on your TFTP server

2LINE ITP 0203

enter the version that's on your TFTP server

PHONE TFTP IP

enter public IP address for TFTP server

ITP VERS UPGRADE

TYPE: MMC COMMAND

Use MMC 840 to update phone manually

PHONE CONN

Update on phone boot

AUTO TIME

Update at time specified

START(HHMM):1200 Time to update

INTERVAL: 90 SEC

Phones will attempt downloads one by one and wait the specified interval in-between

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FAQ

- Q. No phone will connect.
A. Check that firewall/NAT allows port 6000 UDP to reach the OfficeServ.
Check Gateway address in MMC 830.
- Q. Some phones connect, other's do not.
A. Disable any firewall at the remote side.
If this cures fault then allow ports through from MMC 840 as per firewall setup.
Check if IP address has been received in MMC 840.
No – issue lies with phone accessing system – Check Internet access.
Yes- issue lies with system replying to phone – Set NAT/PAT as per firewall setup
above.
- Q. One way speech – Office cannot hear remote side.
A. Check PHONE TYPE in MMC 840 is set to PUBLIC.
Check Public address in MMC 831.
Check ports 30000 – 30030 can reach MGI internal IP Address.
- Q. One way speech – Remote cannot hear office side.
A. Check Gateway address in MMC 831.
Check port 9000 UDP is allowed through to MCP card.
Disable any firewall at the remote side.
If this cures fault then allow ports through from MMC 840 as per firewall setup above.
- Q. ITP phones at remote side have no speech.
A. Some routers do not use PAT for internal traffic, change router.
- Q. Poor Speech.
A. Ensure enough bandwidth is available.
Check CODEC settings.
Recommended:
DSP TYPE G.729A
FRAME CNT 4 (x10ms)
JITTER BUF 9 (x10ms)