



Welcome

整合性企業會議服務之OCS 2007 R2 技術探討與建置部署

講師：謝長明

公司：長成資訊顧問股份有限公司



本課程假設您已經...

- 瞭解 Active Directory 的基本概念
- 熟悉 OCS 2007 R2 的基本使用功能
- 瞭解前一版 OCS 2007 的基本操作
- 有使用 Live Meeting 2007 的經驗
- 有使用過 Communication 2007
- 有 TCP /IP 及憑證使用的基本瞭解

課程內容：Level 300

講授大綱

- 準備 Active Directory 環境
- 針對內部使用者的規劃部署
- 針對外部使用者的規劃部署
- CWA 2007 R2 部署與設定
- 企業語音的架構規劃與部署
- 問題與討論

Active Directory的基本要求

- DC必須是
 - Windows Server 2003 SP1
 - Windows Server 2003 R2
 - Windows Server 2008
 - 32或64位元都可以
- AD必須在Windows 2003以上的Native Mode
- OCS 2007 R2則必須
 - 安裝在含有64位元OS的電腦上

AD Domain Services Preparation

- Schema Preparation
 - LcsCmd.exe /forest /action:SchemaPrep
 - LcsCmd.exe /forest /action:CheckSchemaPrepState
- Forest Preparation
 - LcsCmd.exe /forest /action:ForestPrep /global:configuration
 - LcsCmd.exe /forest /action:CheckForestPrepState
- Domain Preparation
 - LcsCmd.exe /domain[:<DomainFQDN>] /action:DomainPrep
 - LcsCmd.exe /domain[:<domainFQDN>]
/action:CheckDomainPrepState

委派管理權(1)

Role	Purpose	Location
Setup	<ul style="list-style-type: none">•Install and activate servers.User administration.	Domain where servers will be deployed.
Server administration	<ul style="list-style-type: none">•Read/write global settings.Read/write to computer organizational unit (OU) containers.•Read user OU containers (optional).•Full computer administration.	Domain where servers are to be administered.

委派管理權(2)

Role	Purpose	Location
User administration	<ul style="list-style-type: none">• Read global settings.• Read computer OU containers.• Read/write to user OU containers.• Member in the RTC Local User Administrators group on all servers in a specified pool.• ReadOnlyRole on the pool or server RTC and RTCCConfig databases.	Domain where users are to be administered.
Read-only server administration	<ul style="list-style-type: none">• Read global settings.• Read a specified computer OU container.• Member in the RTC Local Read-Only Administrators group on all servers in a specified pool or on the local Standard Edition server.• ReadOnlyRole on the pool or server RTC and RTCCConfig databases.	Domain where servers are to be administered.

DEMO01

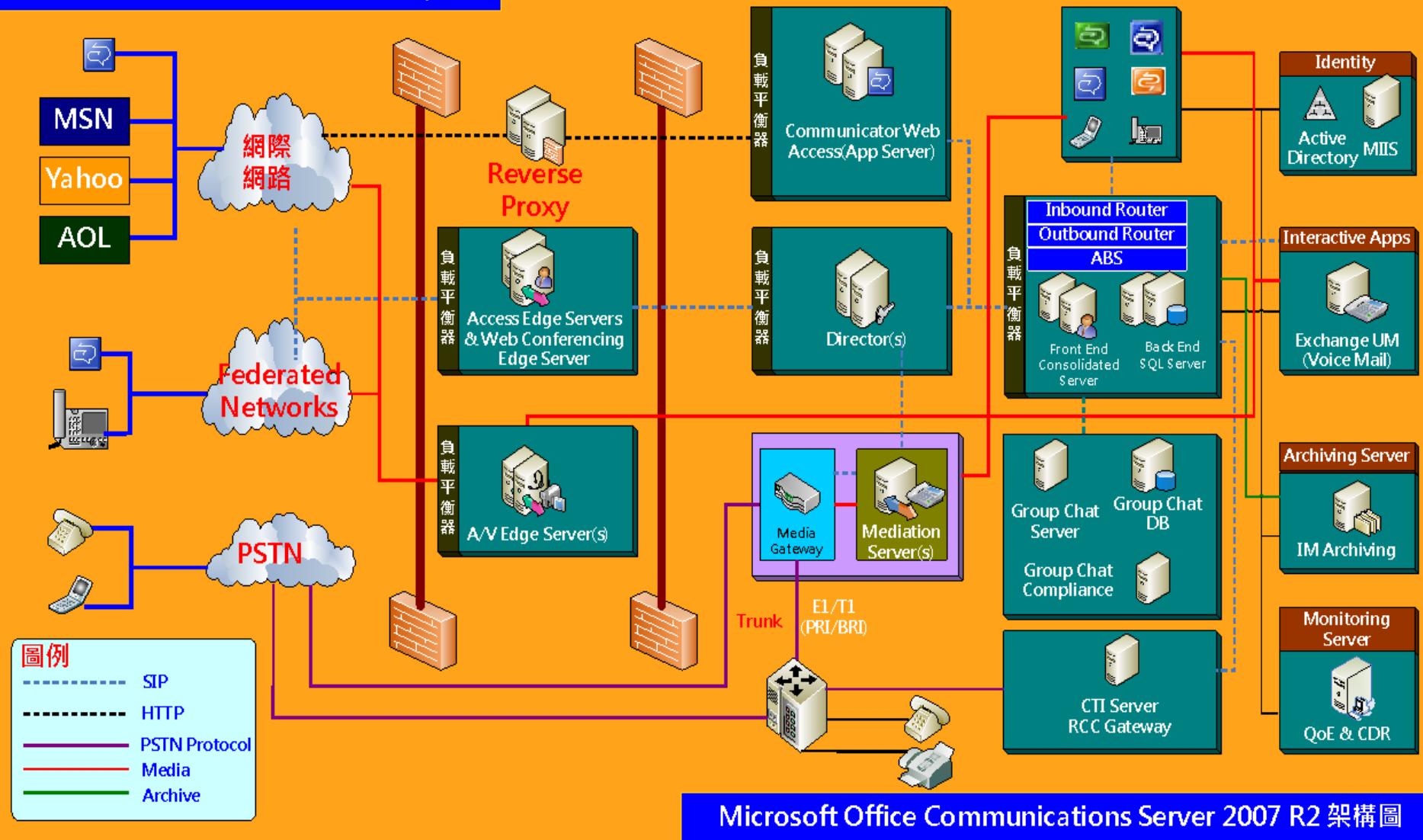
AD的準備

講授大綱

- 準備Active Directory 環境
- 針對內部使用者的規劃部署
- 針對外部使用者的規劃部署
- CWA 2007 R2 部署與設定
- 企業語音的架構規劃與部署
- 問題與討論

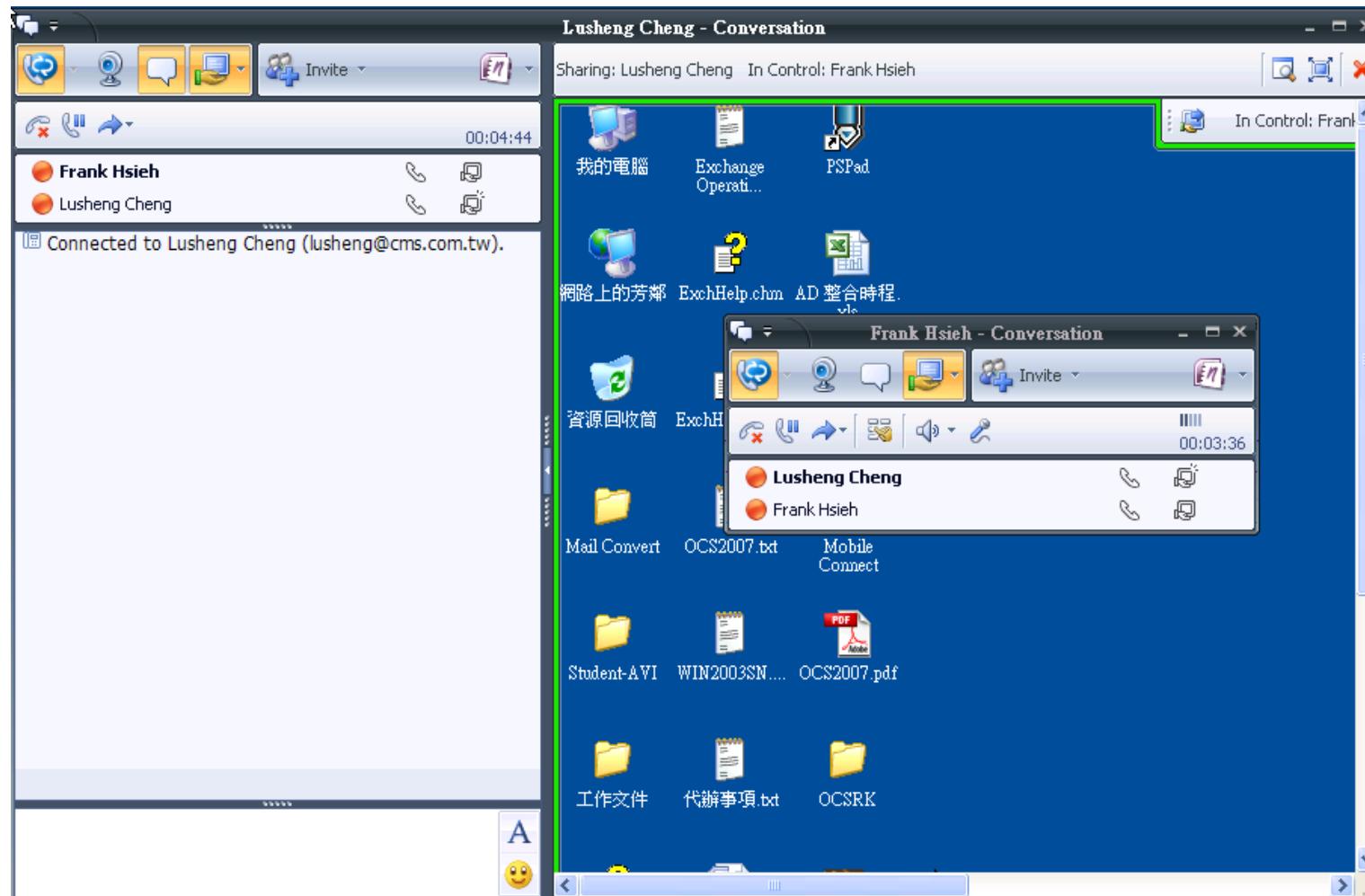
OCS 2007 R2 架構圖

長成資訊顧問股份有限公司 製作



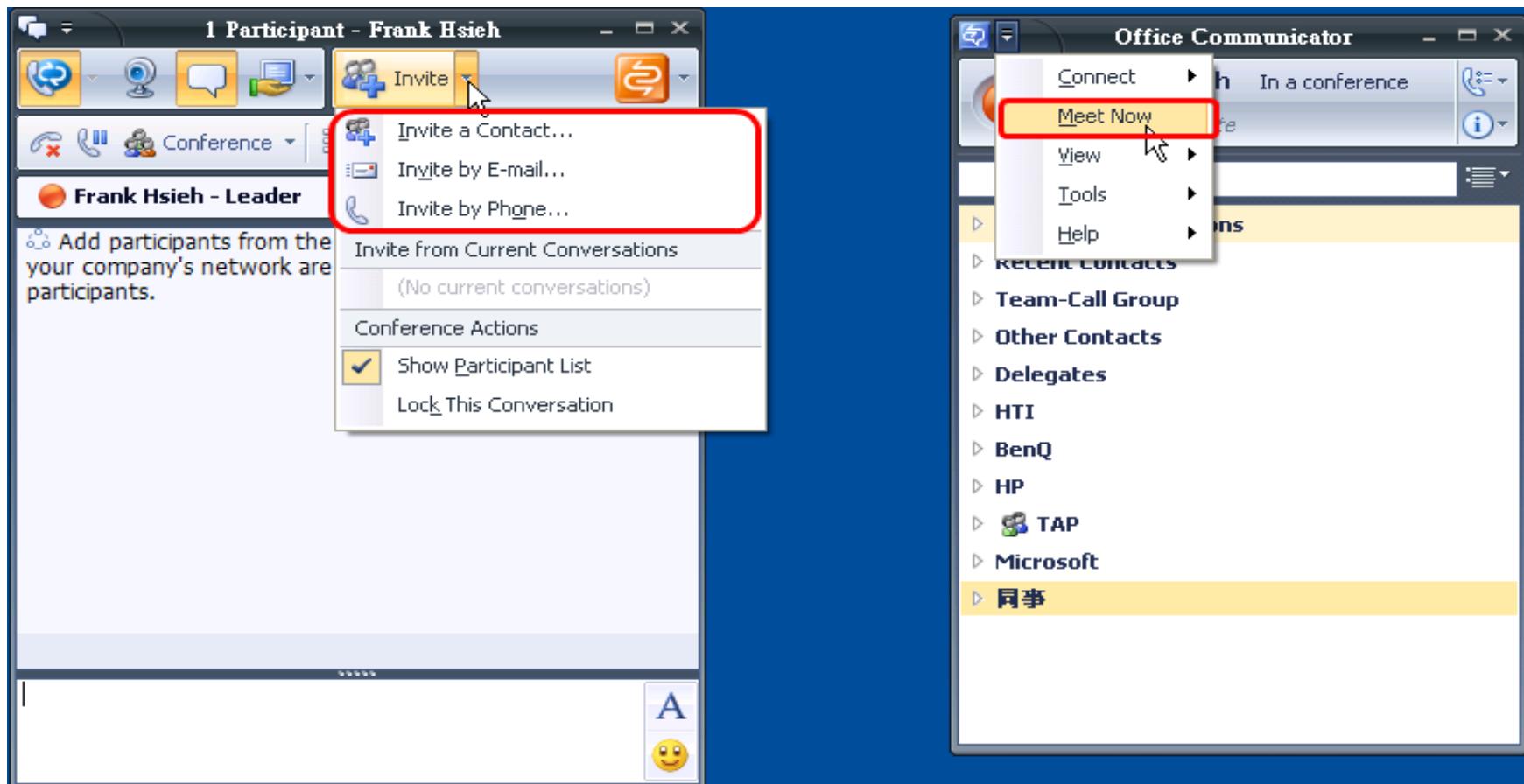
遠端桌面分享

使用OC 進行Share Desktop



即時會議

- 會議的邀請方式
 - 連絡人
 - E-mail (包含CWA及OC)
 - 直接電話撥打出去



語音與訊視的功能

- 視訊呼叫的大小控制
- 視訊的格式
 - High Definition (1280x 720,ration 16:9)
 - Video Graphics Array (VGA) video (640x480 ,ration 4:3)
 - Common Intermediate Format (CIF) (352 x 288)
- 針對會議室進行Video policy
- 減少 call setup的時間
- 提昇連接效率
- 語音和視訊的品質指示器
- Live meeting提供Audio Dial-in功能

Audio /Video Conferencing



Live Meeting 視訊會議功能

Microsoft Office Live Meeting - cms.com.tw -

內容(1) 出席者(4) 語音和視訊(1) 問答(0) 會議(M) 錄製(R)

Yvonne Hsieh

OCS 2007 架構圖

The diagram illustrates the Microsoft Office Communications Server 2007 (OCS 2007) architecture. It shows the following components and their IP addresses:

- CO-GC01**: 172.18.1.60
- CO-WS01**: 172.18.1.91
- CO-EDGE**: 172.19.1.75
- CO-OCS01**: 172.18.1.61
- ca01.trust.com**: 192.168.1.100
- IP/PBX**: 172.16.1.69
- OCS03**: 172.16.1.66
- CWA01**: 172.16.1.66
- ARC01**: 172.16.1.63
- TE-GC01**: 172.16.1.60
- EDGE**: 172.17.1.75
- DIR01**: 172.16.1.70
- WS02**: 172.16.1.92
- WS01**: 172.16.1.91
- Telephone**: 172.16.1.111
- AudioCodes**: 172.16.1.111
- MDS01**: 172.16.1.65
- UMS01**: 172.16.1.62
- OCS01**: 172.16.1.67
- OCS02**: 172.16.1.68
- OCSDB**: 172.16.1.64
- MBS01**: 172.16.1.61
- WS03**: 192.168.1.93

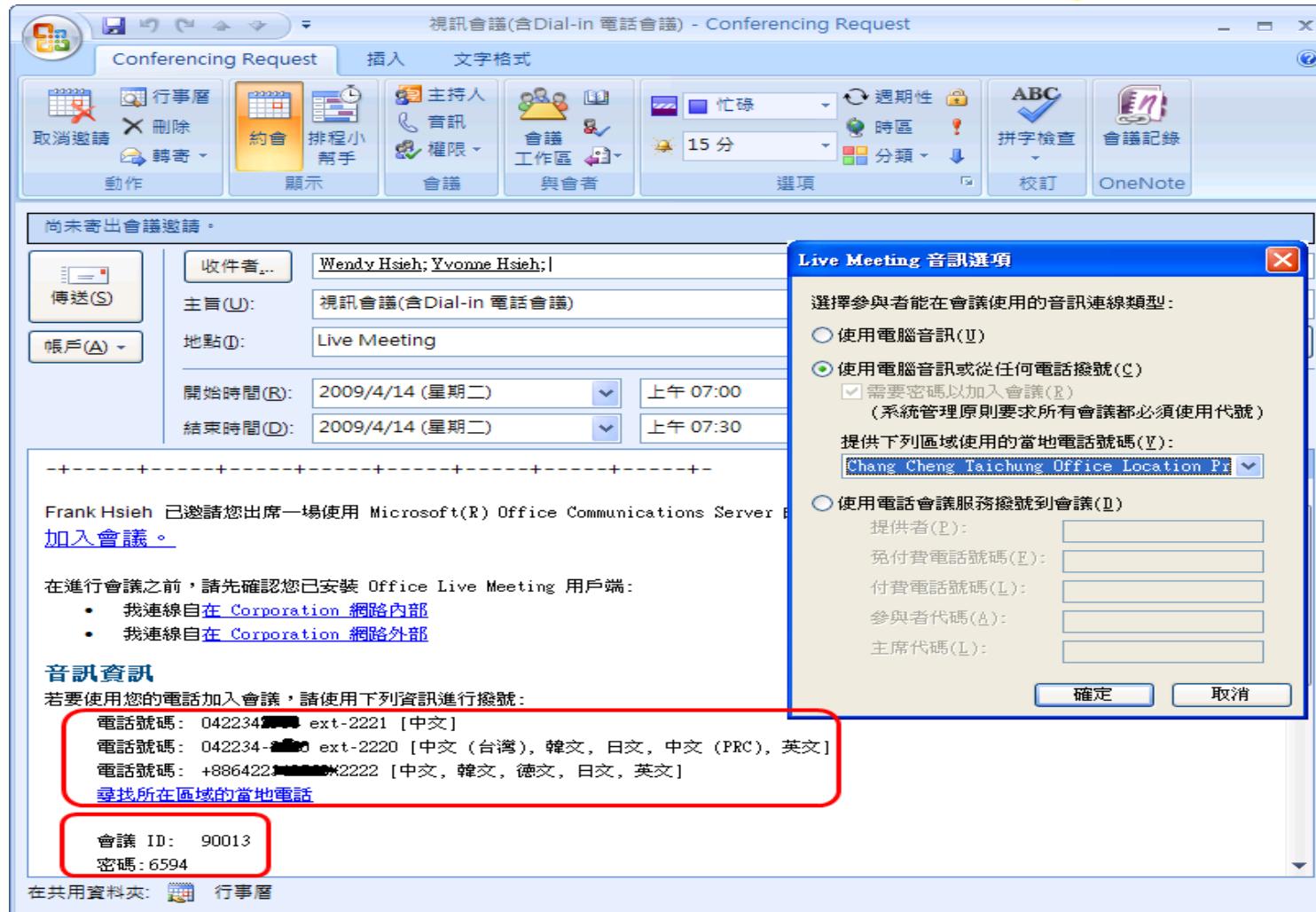
Contoso.com and edu.lab domains are also shown.

長成資訊顧問股份有限公司製 網頁：<http://www.cms.com.tw>

縮圖 5/共 22

開始 Microsoft Office C... NetPeeker Microsoft Office Live... 下午 06:03

以Outlook邀約Livemeeting視訊會議 含Dial-in Conferencing



OCS 2007 R2標準版部署程序

- 設定OCS Pool在DNS上的SRV記錄
- 設定IIS
 - Windows 2003
 - ASP.NET
 - World Wide Web Service
 - Windows 2008
 - Windows Authentication
 - ASP.NET (手動選擇)
 - IIS 6 Management Compatibility
 - IIS 6 Metabase Compatibility
 - IIS 6 WMI Compatibility
 - IIS 6 Scripting Tools
 - IIS 6 Management Console

OCS 2007 R2標準版部署程序

- 安裝OCS 2007 R2標準版
- 設定OCS 2007 R2標準版
- 申請與設定憑證
- 啟動服務
- 檢查OCS 2007 R2標準版的設定
- 設定
 - Audio/Video Conferencing
 - Web Conferencing
- 設定和啟用使用者

DEMO02

OCS 2007 R2 Front-End的部署

講授大綱

- 準備Active Directory 環境
- 針對內部使用者的規劃部署
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- 企業語音的架構規劃與部署
- 問題與討論

何謂外部使用者？

- 外部使用者包含
 - 公司的員工在Firewall外面要使用OCS的功能
 - 家裡
 - 飯店
 - 公用場所
 - 任何可以上Internet的地方
 - 企業聯盟 (Federation)
 - Public IM
 - MSN
 - Yahoo
 - AOL

外部使用者存取的閘道規劃

◆ 與舊版OCS 2007聯盟

- 必須開啟雙向
 - RTP/TCP and RTP/UDP
50,000~59,999

◆ 與OCS 2007 R2聯盟

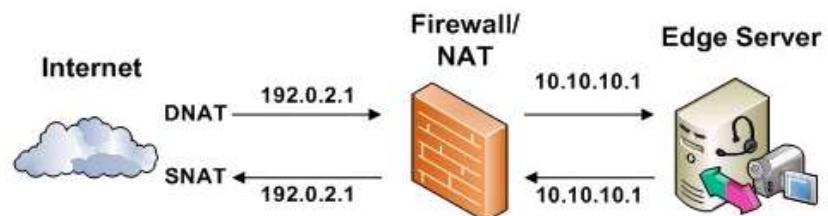
- 只要開啟RTP/TCP
50,000~59,999 (Outbound)

◆ 聯盟時，若不分享 audio/video，則可以

- 關閉 TCP & UDP
50000~59999



Microsoft Office Communications 2007 R2 Edge Server
長成資訊顧問股份有限公司 謝長明製作



如何部署OCS R2 Edge Server?

- 準備工作
 - 建置 Reverse Proxy 伺服器
 - 設定外部存取Edge Server的DNS 記錄
 - 設定Firewalls
 - 準備憑證
 - A/V、Web Conferencing、Access Edge 可共用一份
 - IIS Component (Address Book Service , DL , Media傳送，講義、簡報傳送)
 - 若僅公內部員工使用，向公司的憑證發行機構申請即可
 - 外部憑證申請參考
 - <http://support.microsoft.com/kb/929395/EN-US>
 - 部署Director Server(Optional)

如何部署OCS R2 Edge Server?

- 安裝步驟
 - 安裝 Edge Servers
 - Active Edge Servers
 - 設定Edge Servers
 - 設定憑證
 - 內部使用
 - 外部使用
 - 啟動Edge Server

DEMO03

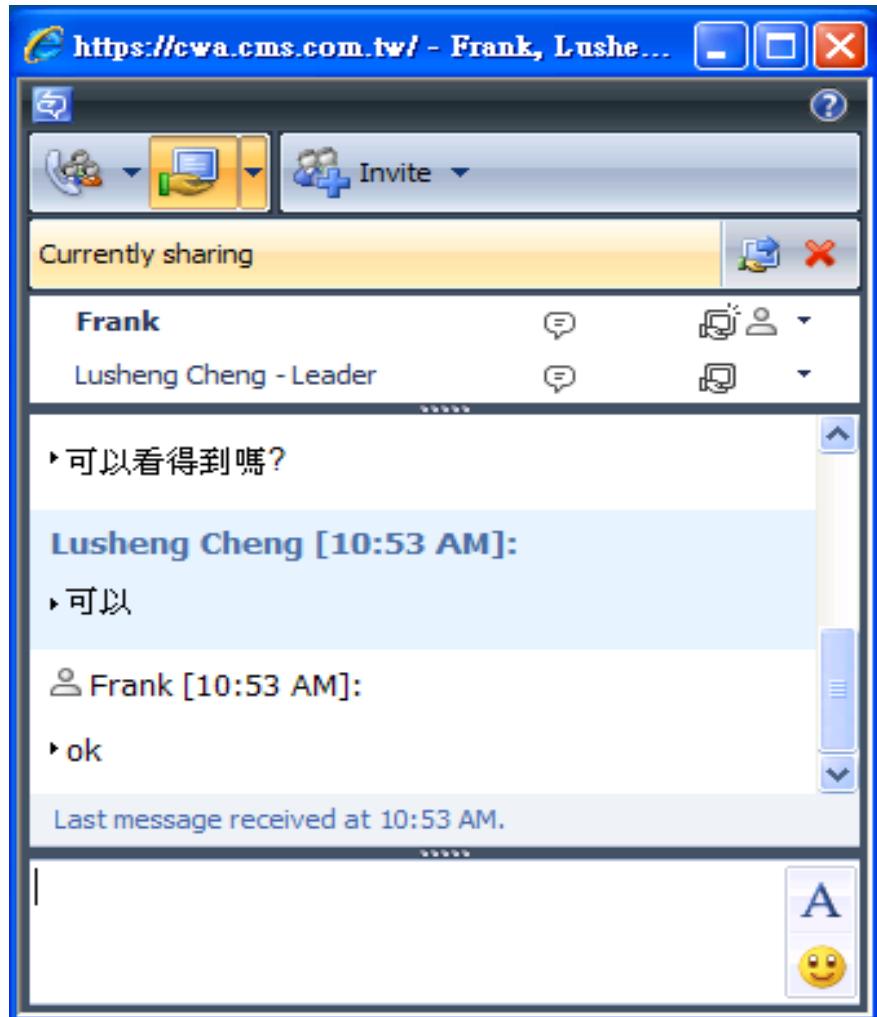
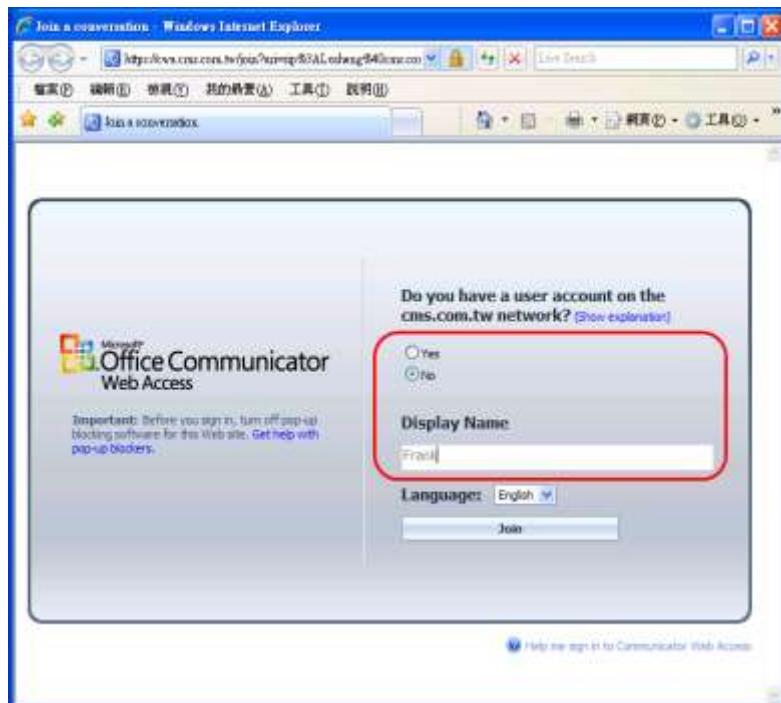
OCS 2007 R2 Edge Server的部署

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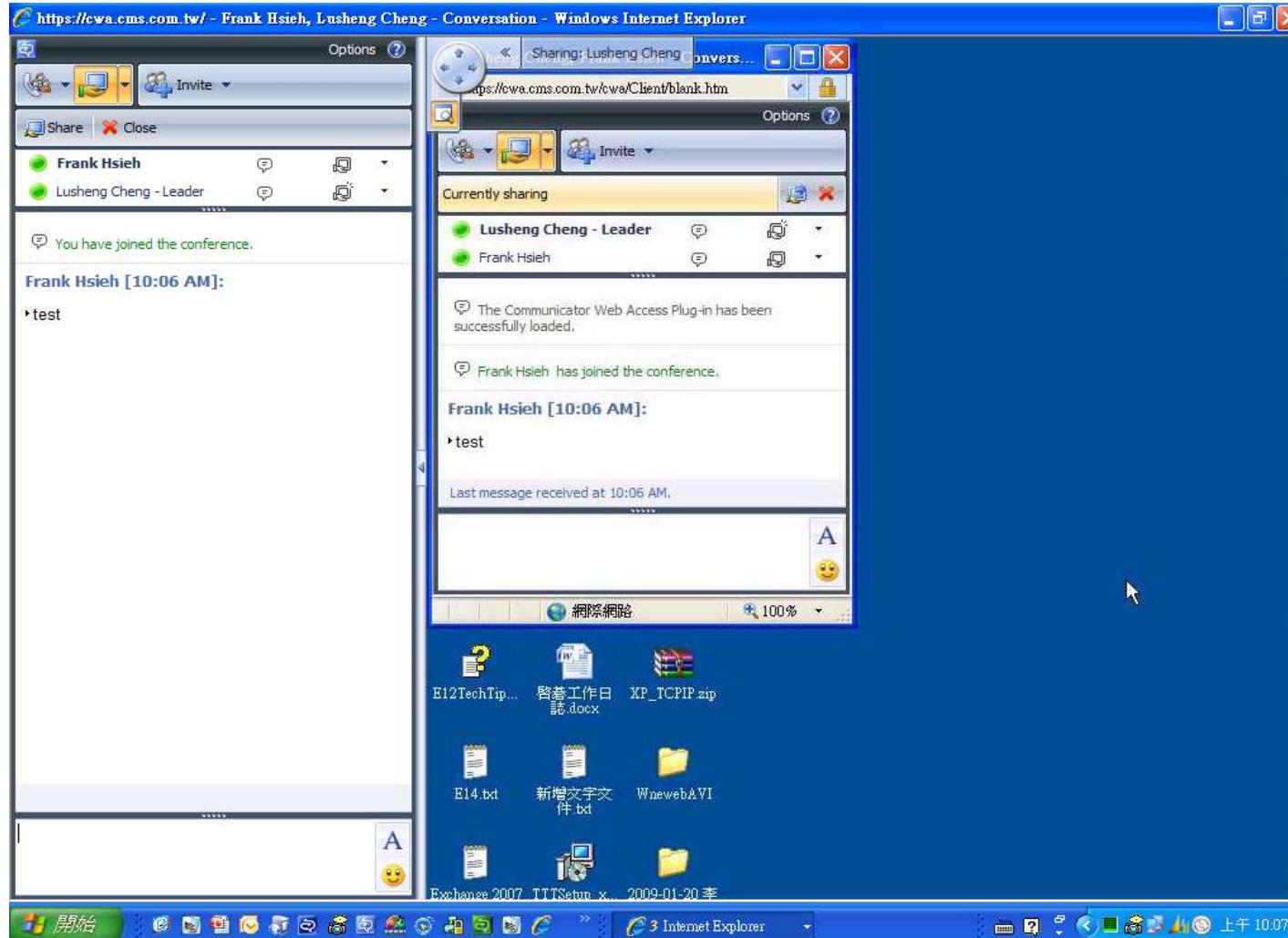
CWA (Comunicaton Web Access)

可邀請非公司的員工，進行遠端桌面分享

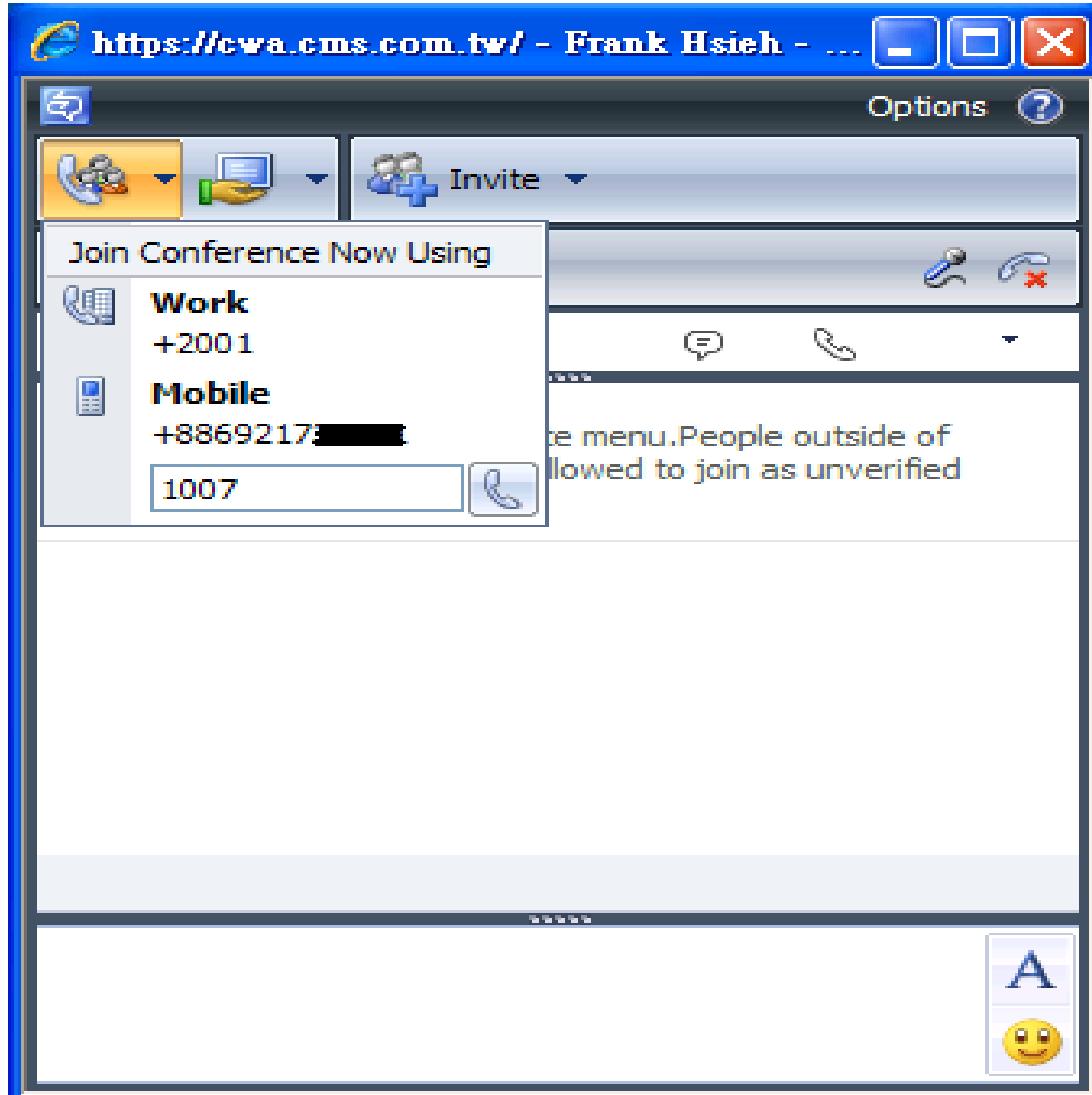


Communicator Web Access

Share Desktop



使用CWA設定電話會議的電話號碼



CWA 2007 R2部署步驟

- 檢查部署CWA的要求
- 設定CWA的DNS 記錄
- 設定IIS
- 申請及安裝憑證
- 安裝和啟動CWA
- 建立CWA 虛擬伺服器
- 發佈CWA的存取URLs

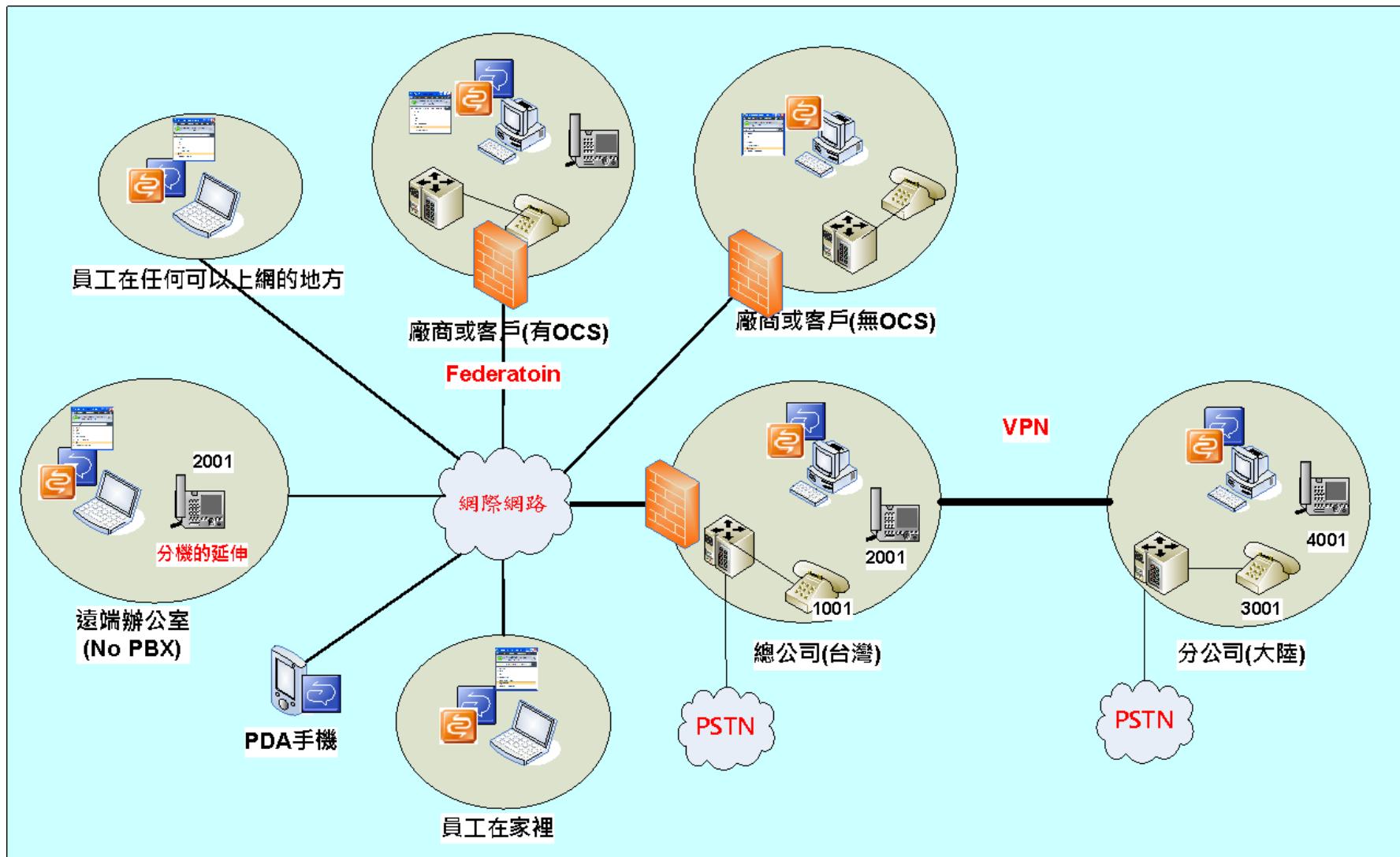
DEMO04

OCS 2007 R2 CWA的部署

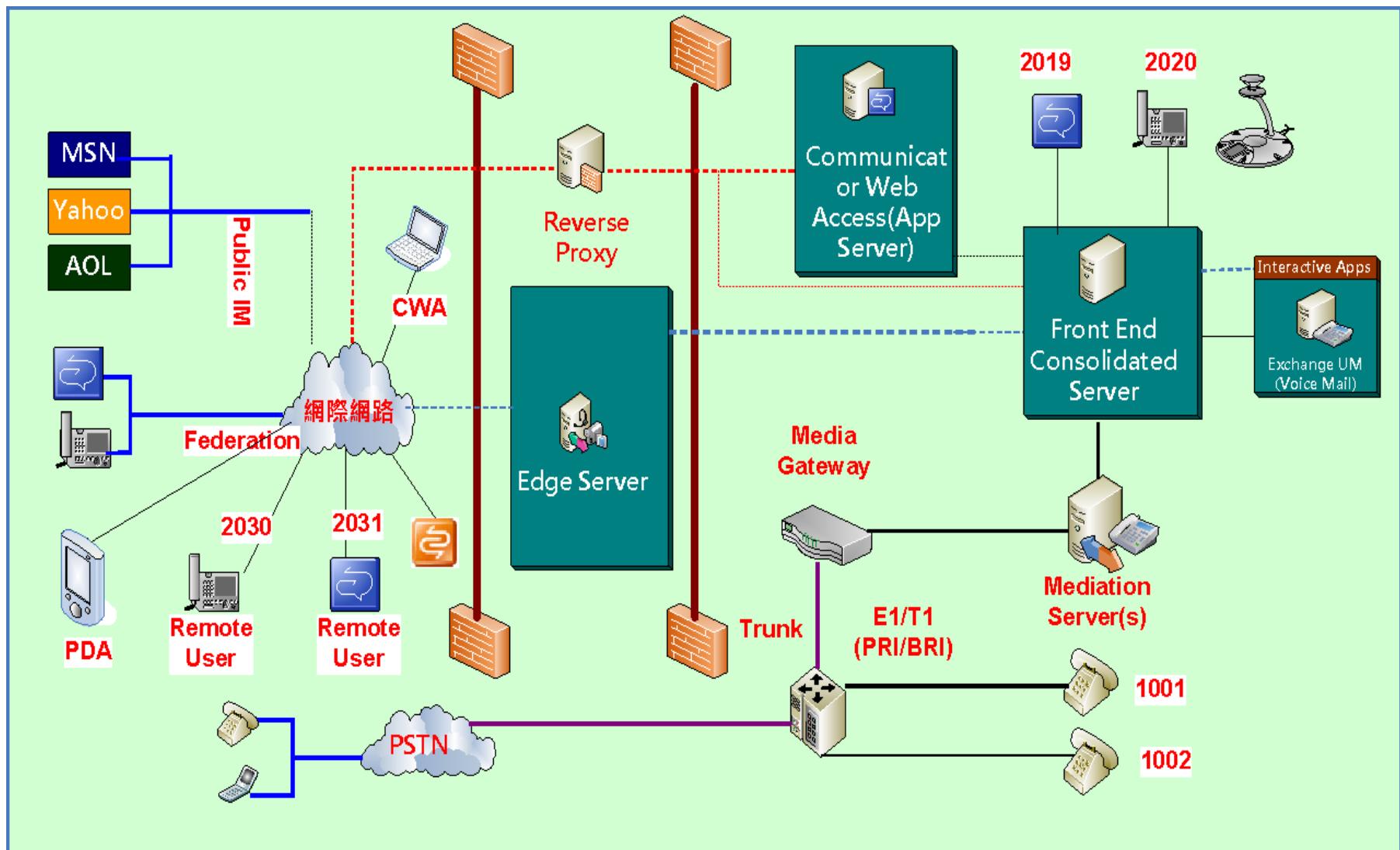
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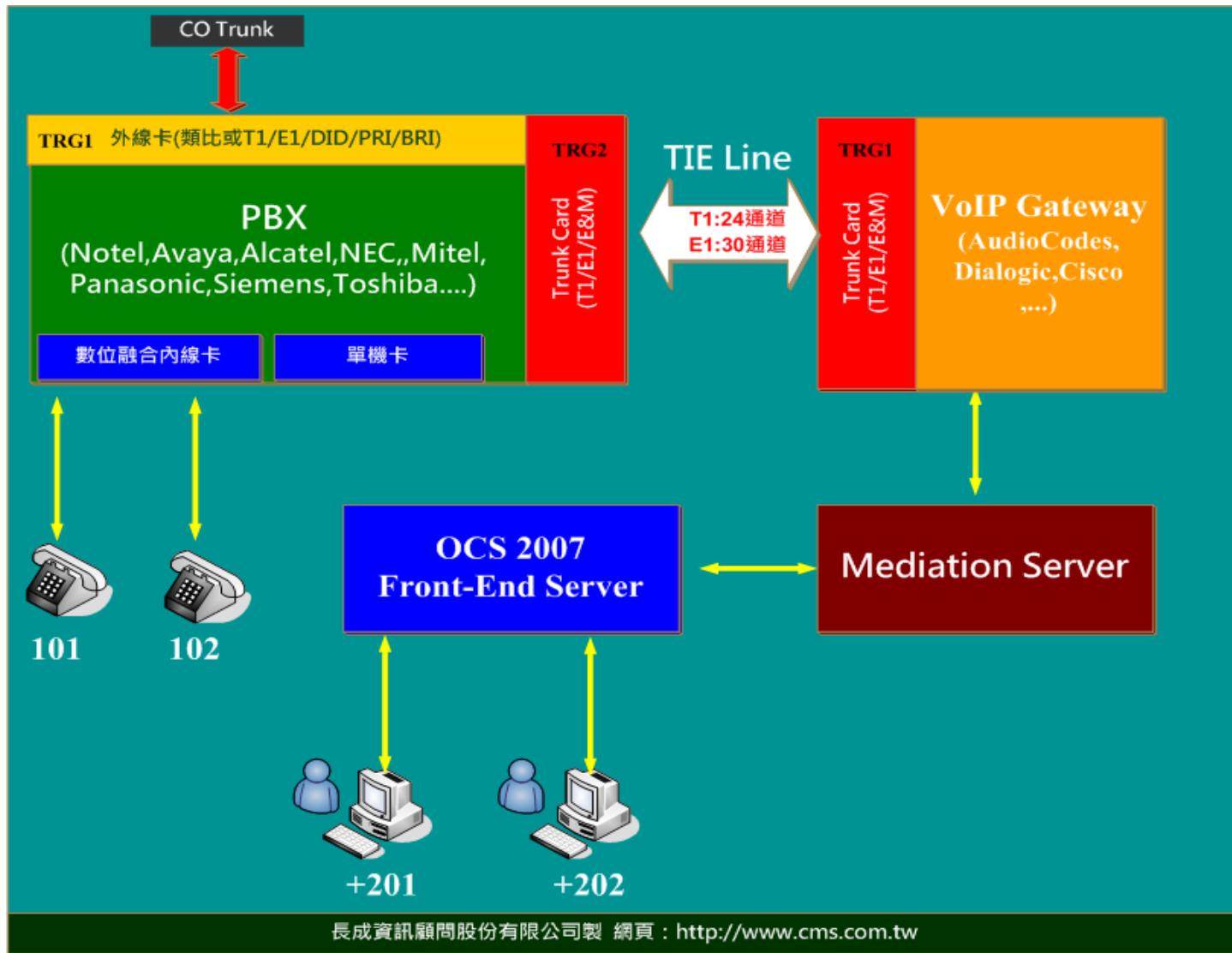
OCS 2007 R2 通訊整合應用架構



OCS R2的基本型架構



電話交換機TIE Line的整合應用



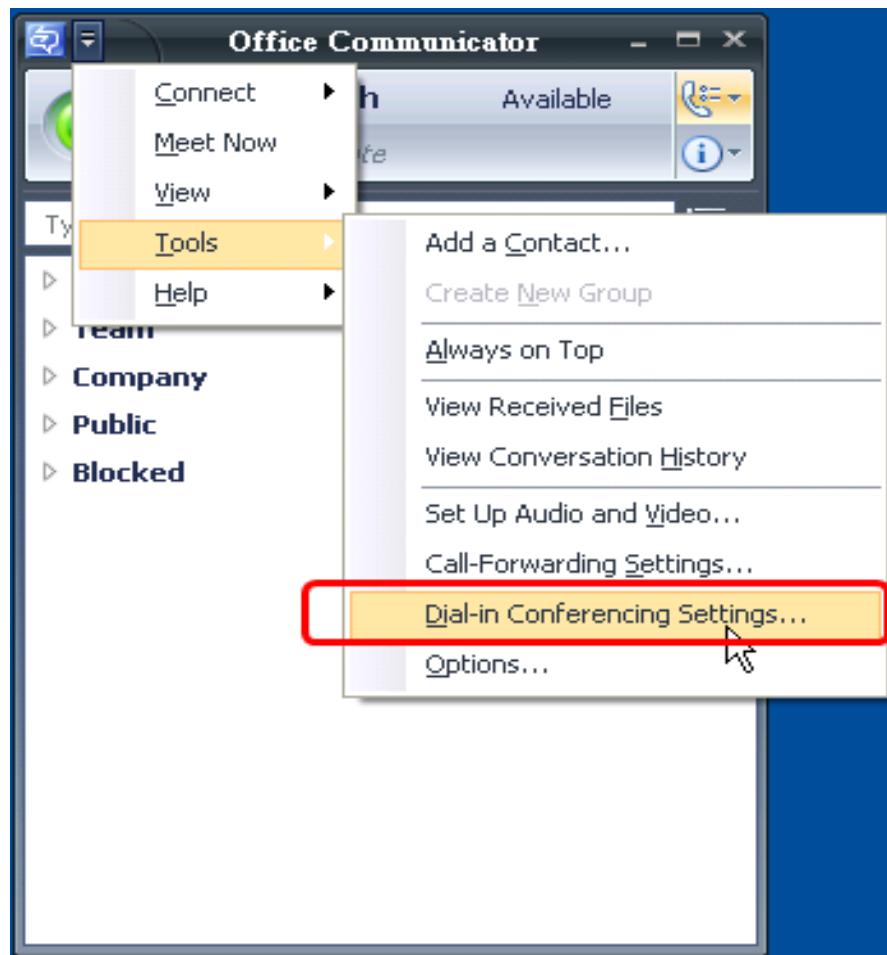
企業語音功能說明

撥入式電話會議示意圖



撥入型電話會議的PIN & 會議ID在OC上的設定

- Dial-in Conferencing的設定
 - 個人PIN碼的指定
 - 個人會議ID的密碼的重設
- 進行此項設定會直接呼叫CWA頁面進行相關的設定



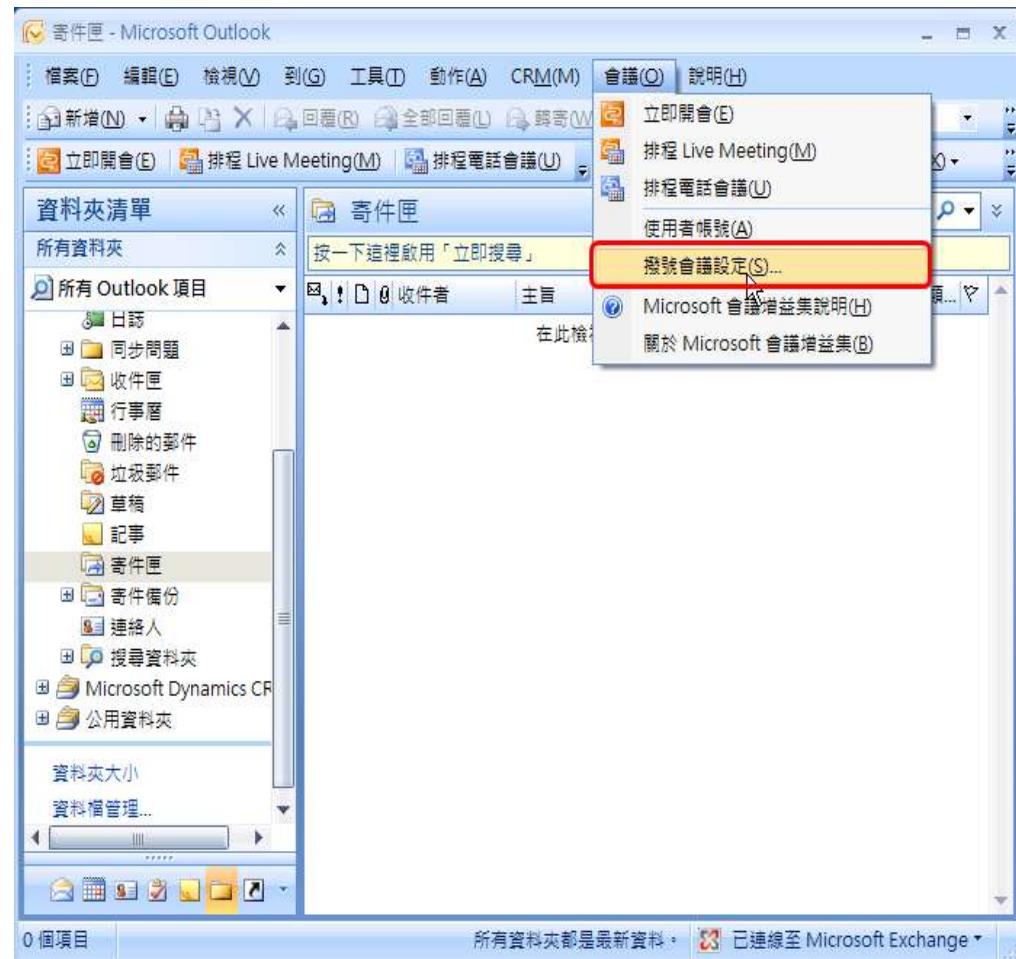
撥入型電話會議PIN和會議ID在Outlook上的設定

◆ Outlook Add-in的撥號會議設定

- 個人PIN碼的設定
- 個人會議ID和密碼重設

◆ 選擇撥號會議設定

- 直接呼叫CWA進行設定



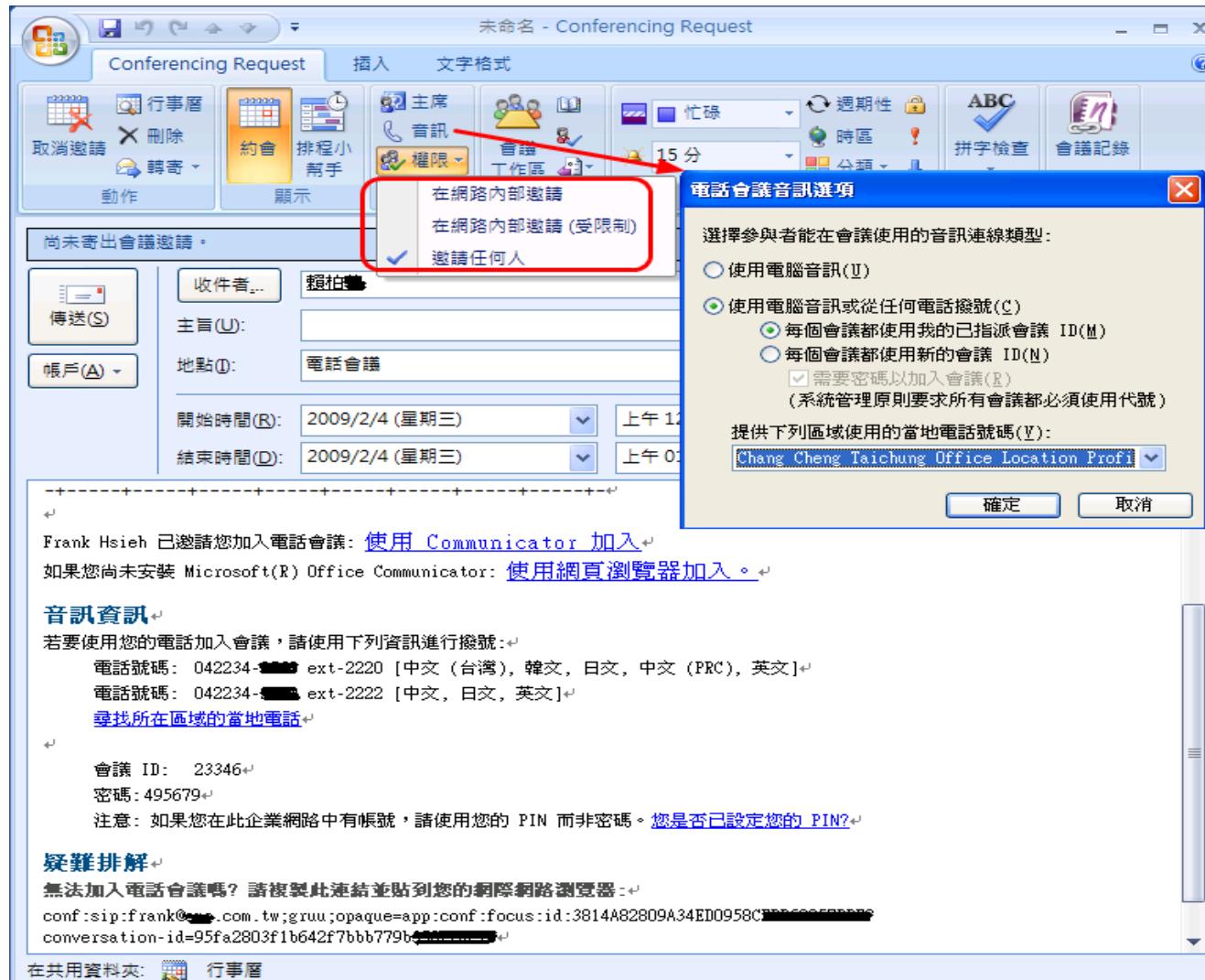
Dial-in Conferencing PIN碼和 Conference ID的設定

The screenshot shows a Windows Internet Explorer window titled "Dial-in Conferencing Settings - Windows Internet Explorer". The URL in the address bar is <https://xxxxxxxx.com.tw/dialin#>. The page header includes "Dial-in Conferencing Settings" and "powered by Communicator Web Access". A user "Frank Hsieh" is signed in, with a "Sign Out" link nearby. The main content area has two sections:

- Personal Identification Number (PIN)**:
Use your PIN when dialing in to conferences and meetings on your company network.
PIN Expiration: 14 days
Phone Number: +2001
[Change PIN](#)
- Assigned Conference Information**:
Give your assigned Conference ID, passcode and the dial-in phone numbers to people you want to invite to your conference. When participants join the conference or meeting from their phone, they will be prompted to enter the following information.
Conference ID 23346
Passcode: 495679
[Reset my assigned conference information](#)

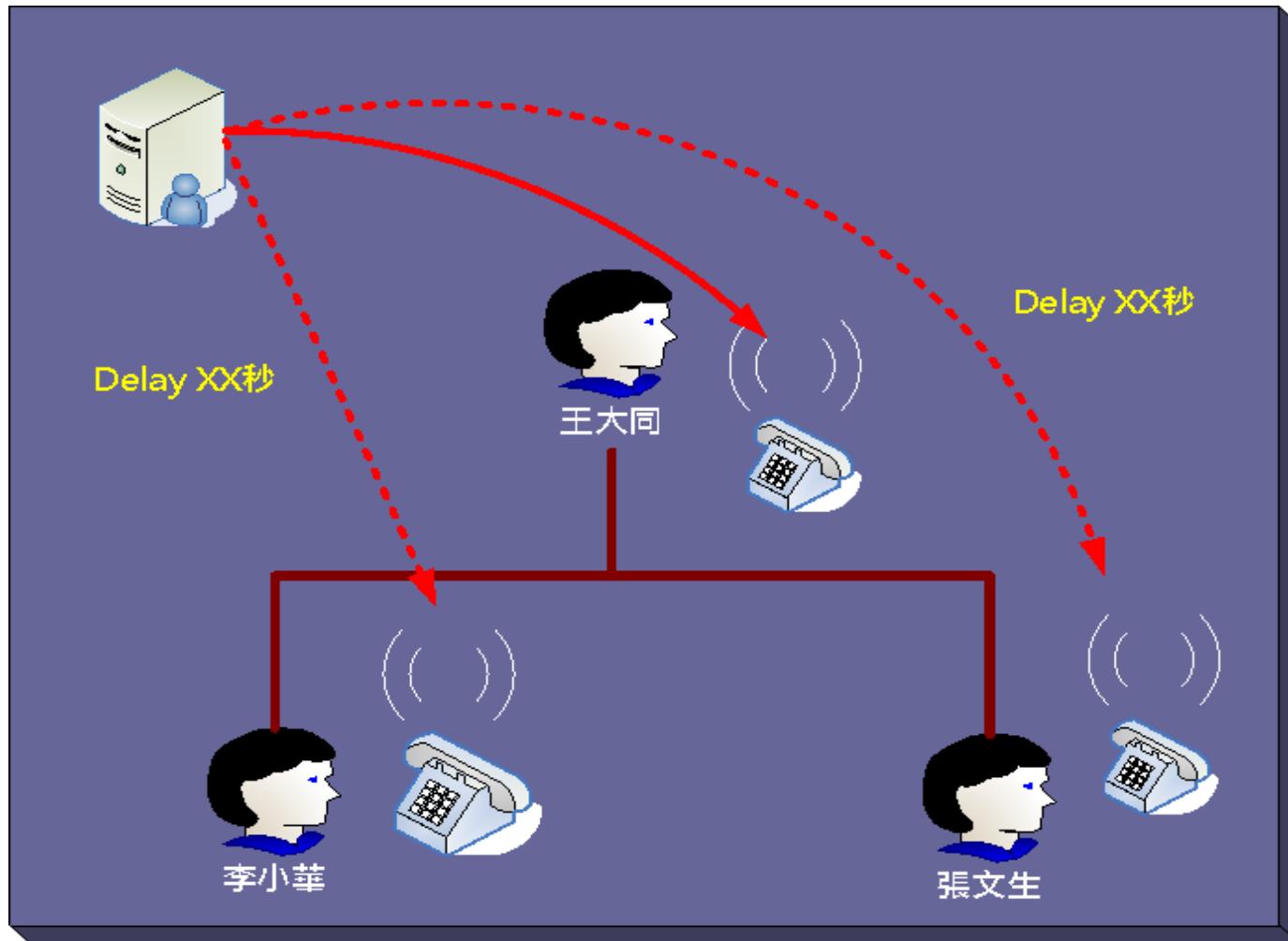
Note: People with an account on your corporate network should use their PIN, and people outside of your network should use the passcode to enter the conference.

使用Outlook 邀約電話會議

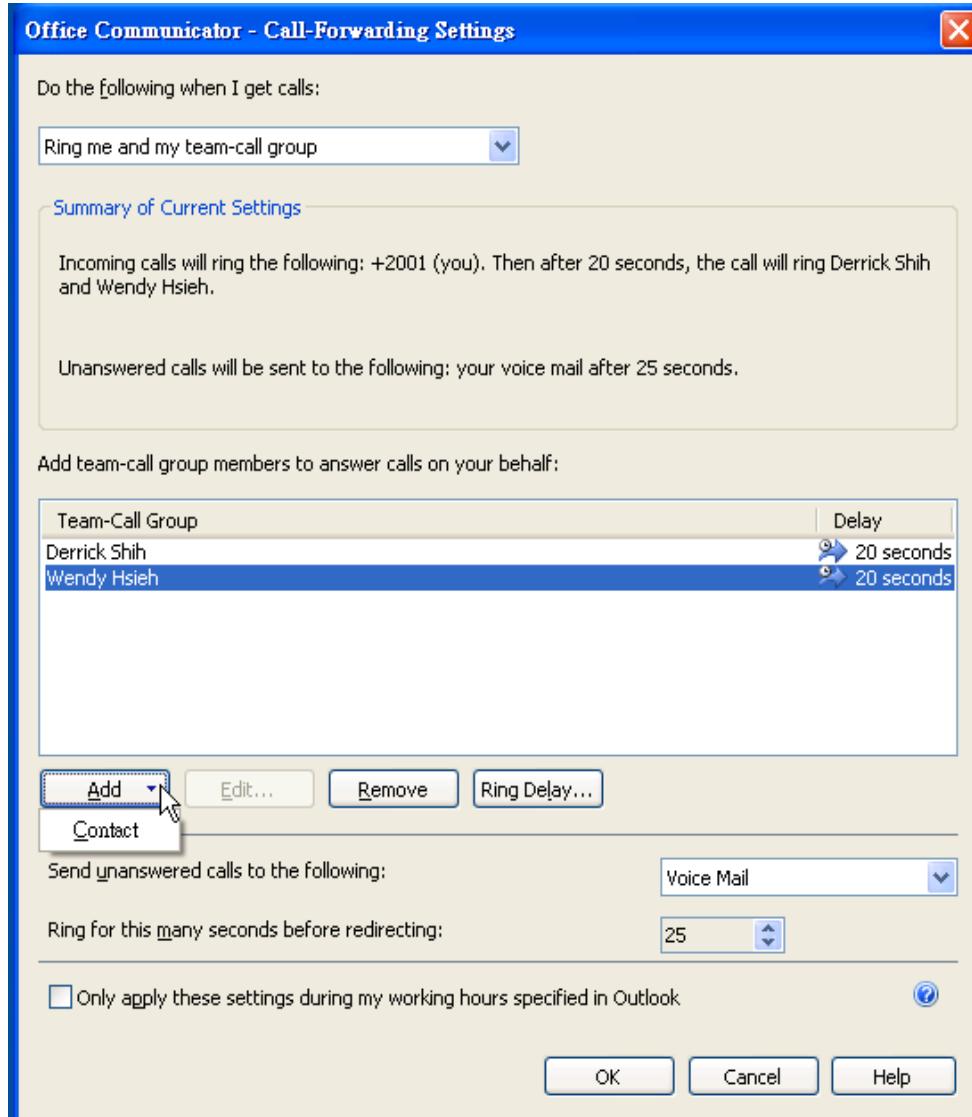


電話群呼

Team Call

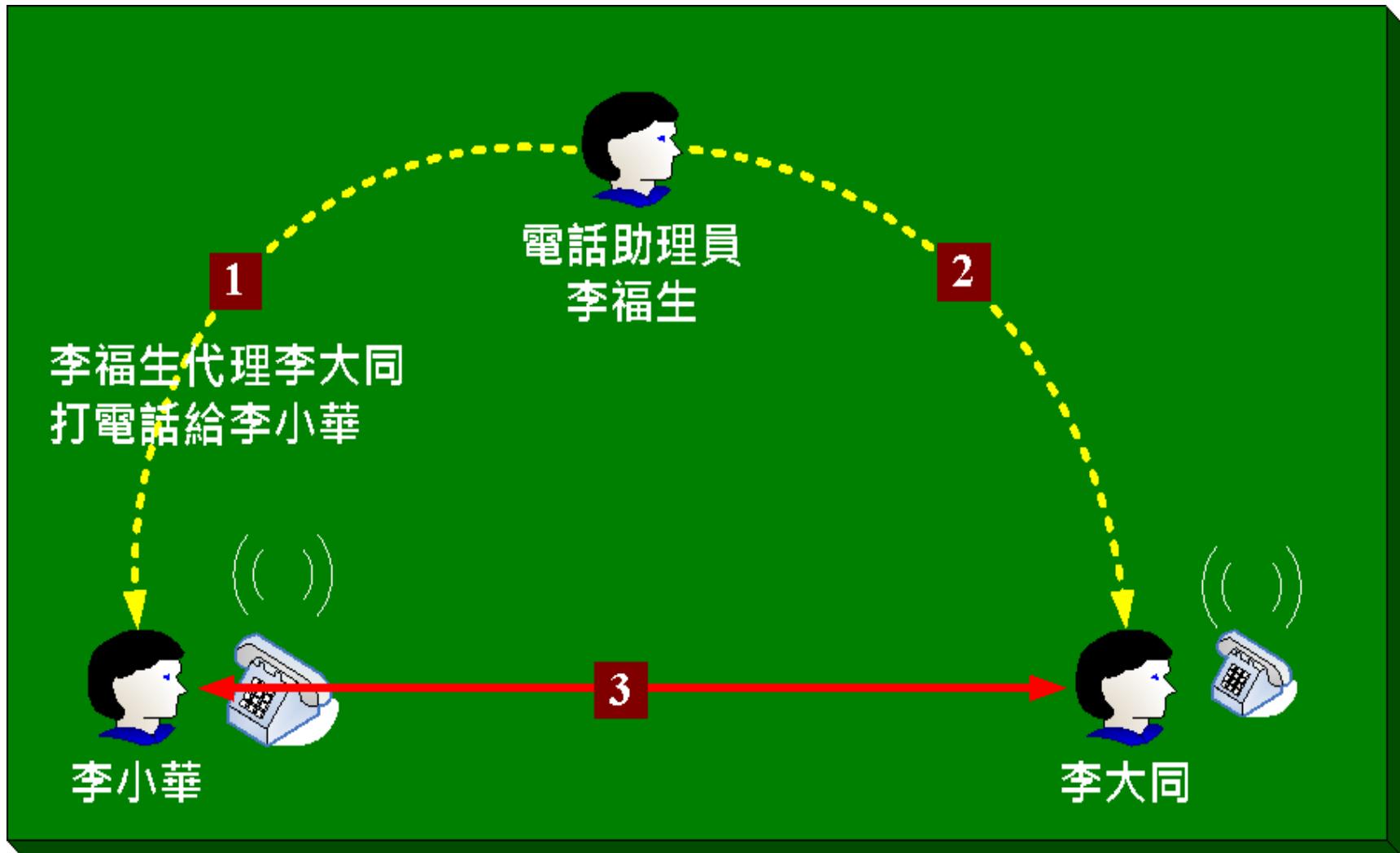


電話群呼的設定

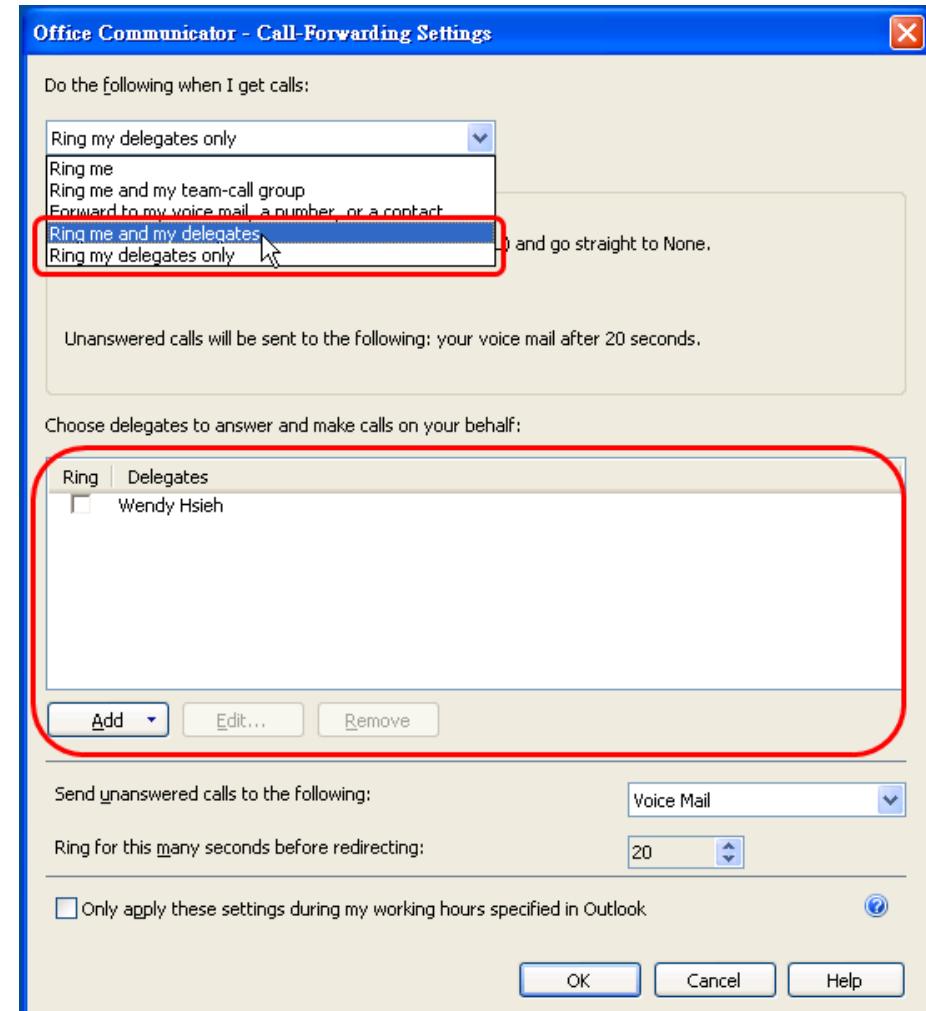
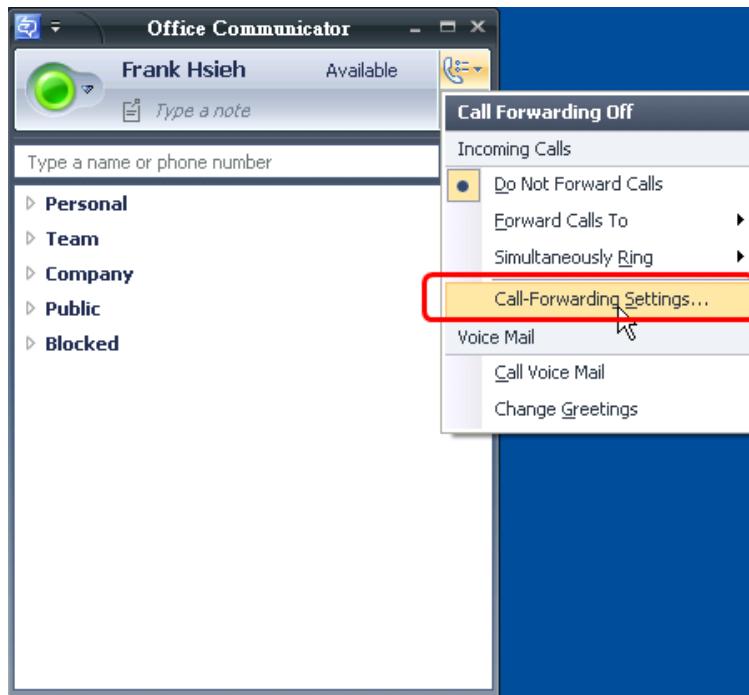


電話授權代打

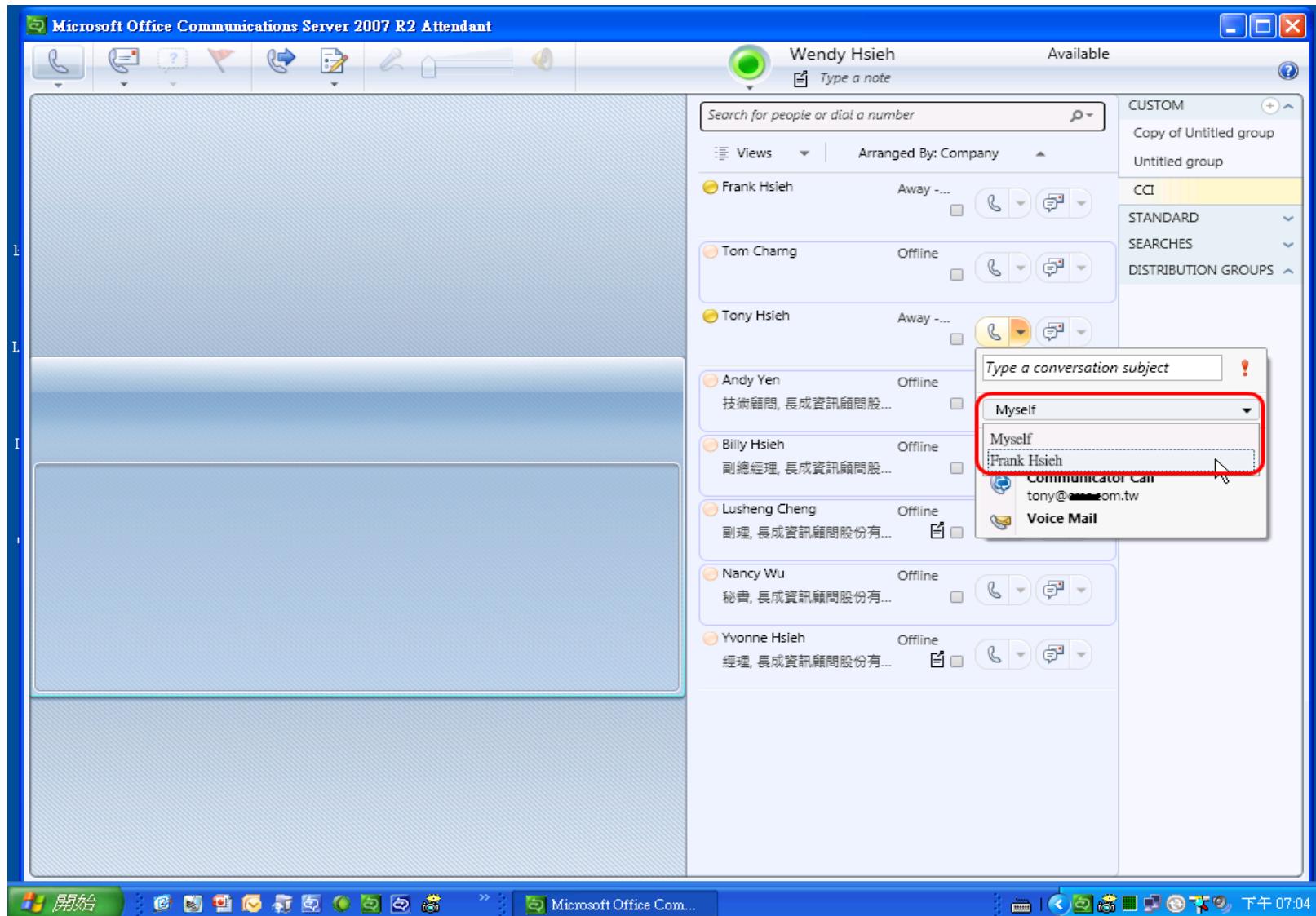
Call Delegation



Call Delegation 選項設定

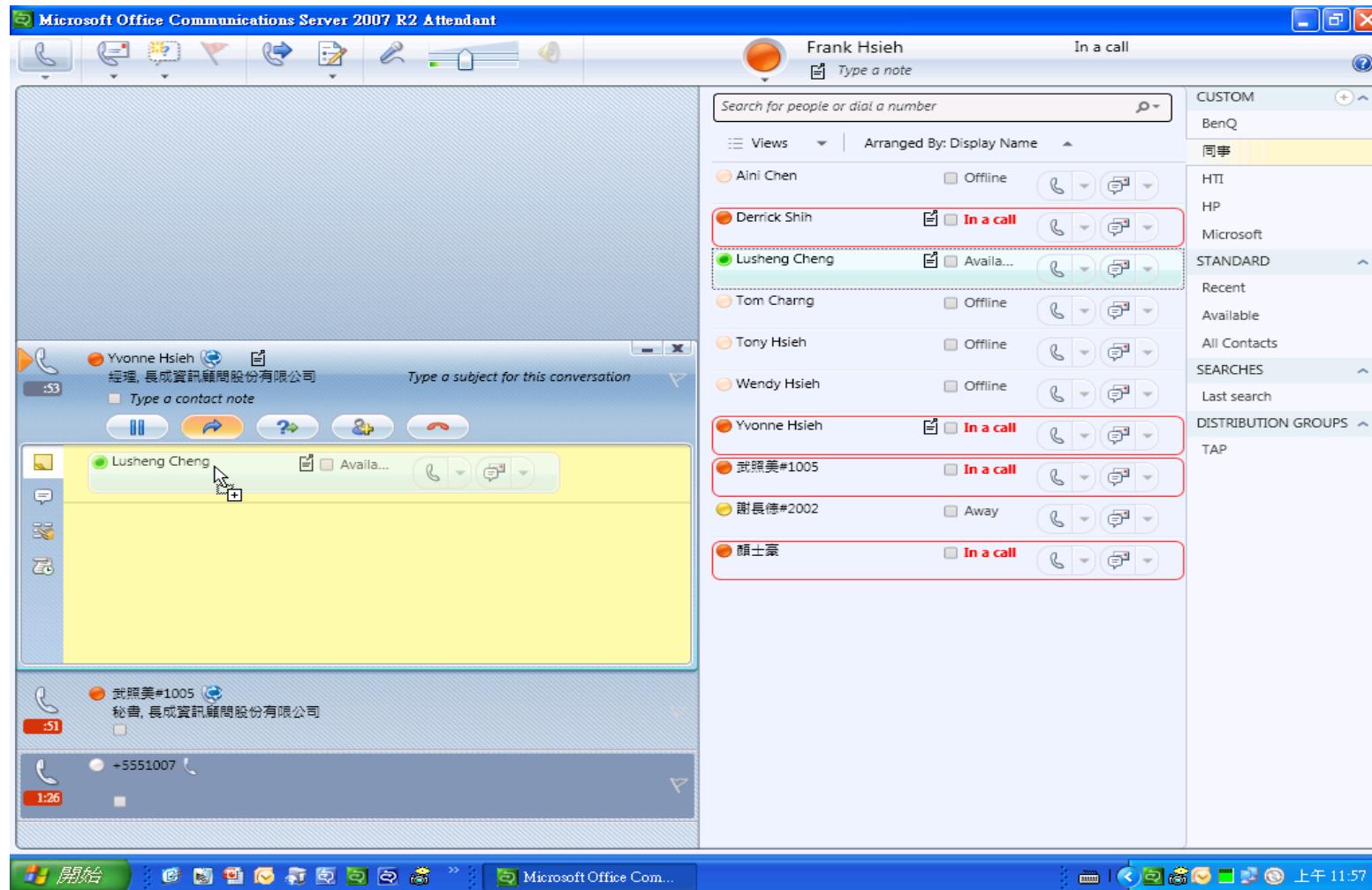


Call Delegation的撥打



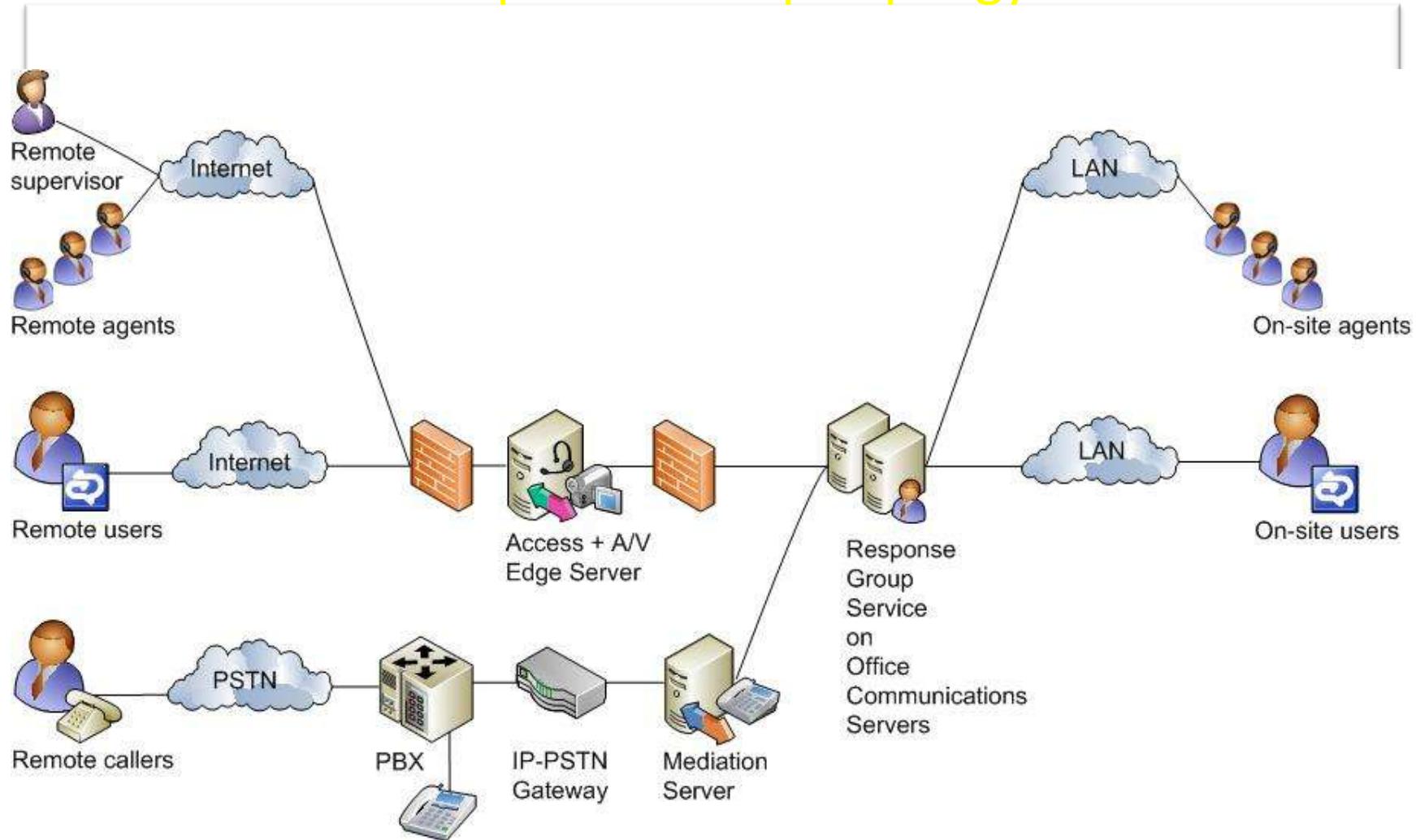
Office Communications Server 2007 R2

Attendant的使用方法



來電應答服務群

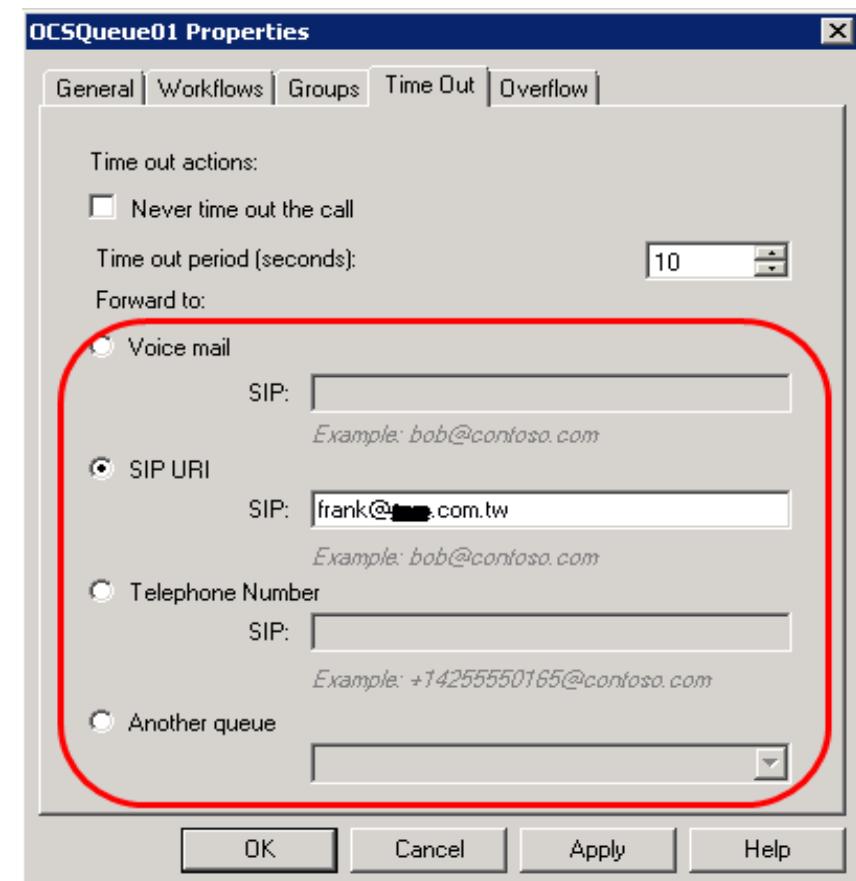
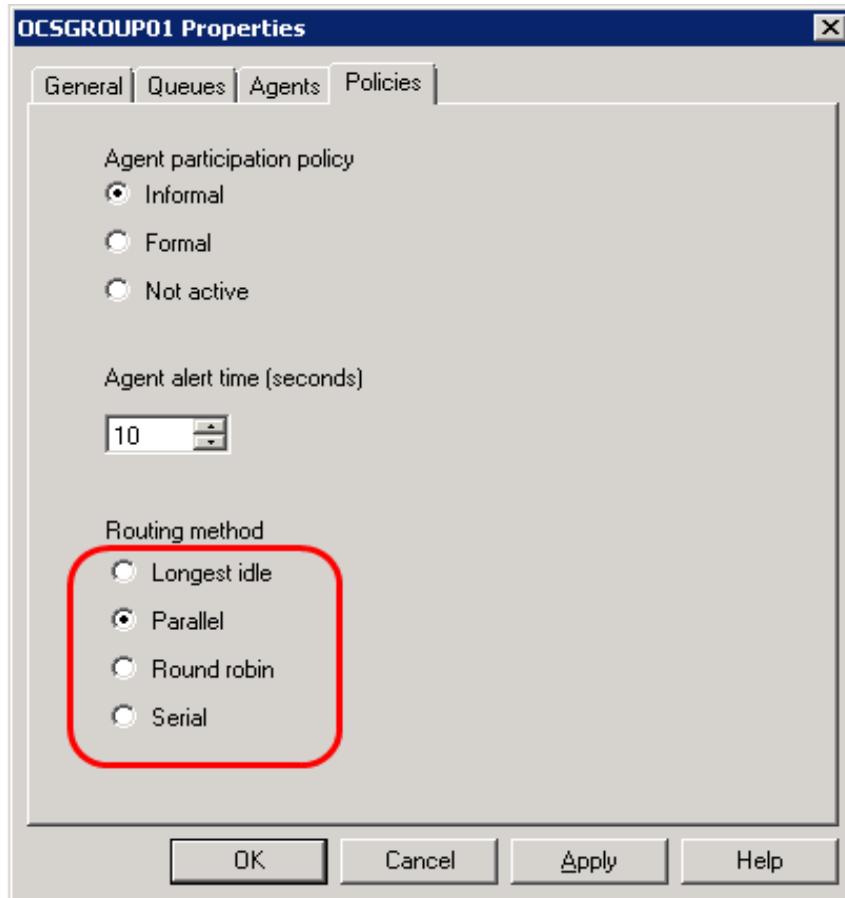
Response Group Topolgy



Response Group Service的組成元件

- Agent
- Group
- Queue
- Workflow
 - Welcome message
 - Availability
 - MOH
 - IVR
 - Queue

RGS的Group之路由方法



Response Groups Service的流程設定

The screenshot shows a web browser window titled "Response Group Configuration Tool" at the URL [https://\[REDACTED\].corp/Rgs/Deploy/Default.aspx](https://[REDACTED].corp/Rgs/Deploy/Default.aspx). The page header includes the Microsoft logo and the text "Office Communications Server 2007 R2 Response Group Service".

Response Group Configuration Tool

Manage an Existing Workflow

Click the Edit or Delete link next to the workflow you wish to manage.

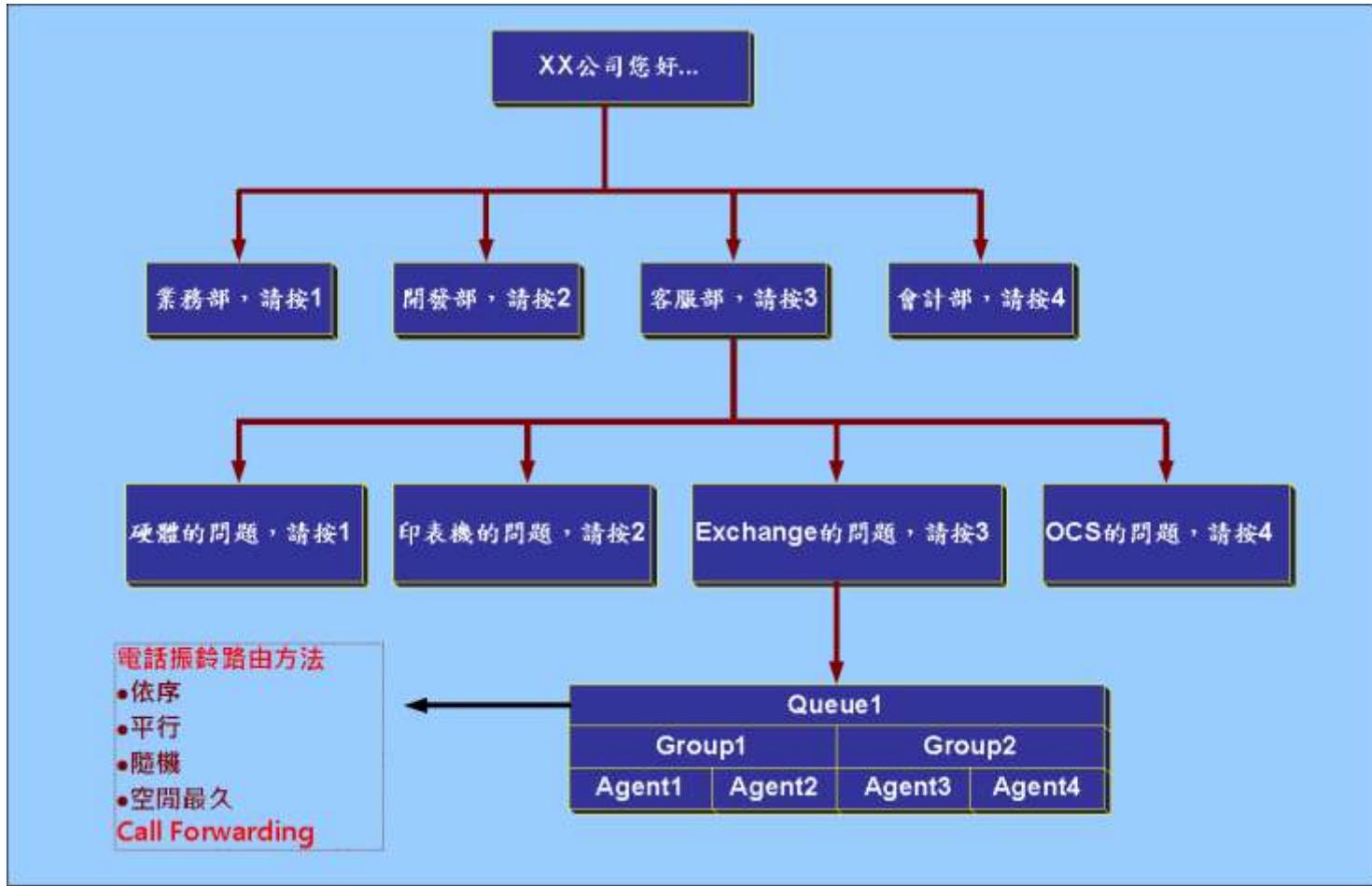
Active	Workflow Name	Template	Address	Language	Actions
--------	---------------	----------	---------	----------	---------

Create a New Workflow

The Response Group Templates help you to design a new workflow. Each template has a defined set of features. Select the template to use and then click Create.

Basic Hunt Group Simple routing to a hunt group you define.	<input type="button" value="Create"/>
Enhanced Hunt Group Simple routing to a hunt group you define and additional settings such as welcome message, availability, and music on hold.	<input type="button" value="Create"/>
One-Level Interactive Template Set a welcome message, availability, and music on hold settings and direct calls using Interactive Voice Response (IVR). You can specify a question that callers will hear that has two possible answers.	<input type="button" value="Create"/>
Two-Level Interactive Template Use a more complex IVR design to direct the call flow. You can ask two levels of questions. Each question can have up to four possible answers.	<input type="button" value="Create"/>

RSG--Workflow



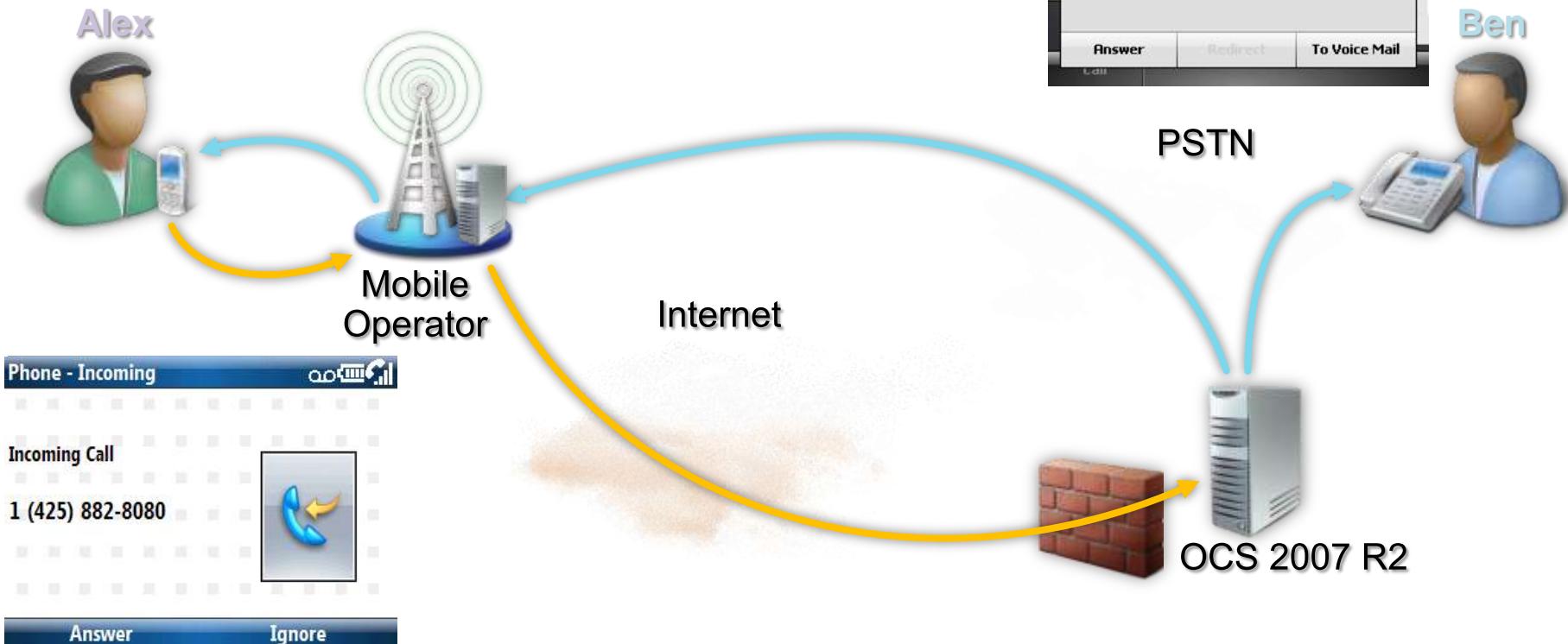
Single Number Reach的功用為何？

-

-

Single Number Reach

- Scenario: Alex calling Ben



— **Alex select “Work Call”** (signal goes trough the cellular network data channel)

— **Alex and Ben both receive call back from OCS** (signal goes through cellular network voice channel+ PSTN)

Sinble Number Reach

在Mobile Communicator的設定



行動裝置的『在場』狀態

- 行動裝置的『在場』狀態會以『線上-行動』呈現
- 改良裝置活動的偵測能力，確保精準的在場狀態的發佈



OCS R2 行動通訊裝置有那些新功能

- 提供新的Single Number Reach技術
- 提升運作的效能
- 提供Mobile presence state
- 支援Java平台的Communicator
 - Nokia (S40), Motorola RAZR (v3XX)



支援的平台

- 操作系統
 - Windows Mobile 6.0 & 6.1
 - Smart phone & Pocket PC
- 支援多國語系:

Communicator Mobile for Java

Devices supported:

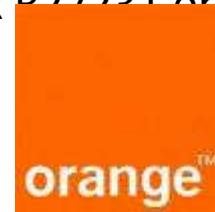
- Nokia S40 series:

Nokia 3120 Classic, Nokia 3600 slide, Nokia 5220/5310/5610 XpressMusic, Nokia 6212 classic, Nokia 6300i, Nokia 6301, Nokia 6500 classic, Nokia 6500 slide, Nokia 6600 fold, Nokia 6600 slide, Nokia 7210/7310/7510/7610 Super Nova, Nokia 7900 Prism, Nokia 8800 Arte

- Motorola Razr V3xx:

software version phones with software versions with prefix P27221 or higher

Carriers supported:



Language supported:

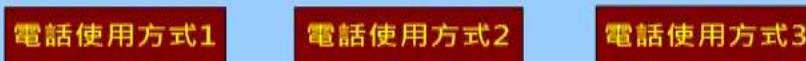
- English, French , German, Italian, Spanish, Dutch, Danish, Finnish, Swedish

啟用企業語音功能基本流程圖

1. 建立位置設定檔
(Location Profiles)



2. 建立電話使用方式
(Phone Usage Record)



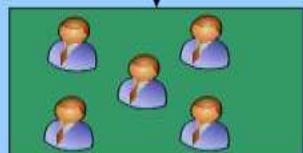
3. 建立原則
(Voice Policy)



3. 建立路由
(Routes)



4. 指定原則
給使用者



設定企業語音的內容

- 設定樹系語音的內容
 - 建立位置設定檔(Location)
 - 建立電話使用方式
 - 建立Voice 的原則
 - 建立Voice 的路由
- 指定位置設定檔至Pool
- 啟用Enterprise Voice
- 設定VoIP Gateway與PBX

國際電話區碼及國際冠碼

亞洲地區電話國際冠碼

國家或地區	國際冠碼	國碼	國家或地區	國際冠碼	國碼
中國	00	86	斯里蘭卡	00	94
澳門	00	853	所羅門群島	00	677
印度	00	91	沙烏地阿拉伯	00	966
伊朗	00	98			
越南	00	84	日本	001	81
菲律賓	00	63	南韓	001	82
土耳其	00	90	香港	001	852
科威特	00	965	泰國	001	66
以色列	00	972	印尼	001	62
尼泊爾	00	977	葉門	001	66
伊拉克	00	964	新加坡	001	65
巴基斯坦	00	92	台灣	002	886
馬來西亞	00	60	巴布亞新幾內亞	05	675
馬爾地夫	00	960			

歐洲地區電話國際冠碼

國家或地區	國際冠碼	國碼	國家或地區	國際冠碼	國碼
英國	00	44	馬爾他	00	356
德國	00	49	義大利	00	39
瑞士	00	41	盧森堡	00	352
冰島	00	354	摩洛哥	00	377
丹麥	00	45	奧地利	00	43
芬蘭	00	358	比利時	00	32
法國	00	358	匈牙利	00	36
荷蘭	00	31	愛爾蘭	00	353
波蘭	00	48	羅馬尼亞	00	40
希臘	00	30	瑞典	009	46
西班牙	00	34	挪威	095	47
葡萄牙	00	351	俄羅斯	810	7

美洲地區電話國際冠碼

國家或地區	國際冠碼	國碼	國家或地區	國際冠碼	國碼
巴西	00	55	厄瓜多爾	00	593
祕魯	00	51	瓜地馬拉	00	502
智利	00	56	薩爾瓦多	00	503
黑西哥	00	52	哥斯大黎加	00	506
烏拉圭	00	598	美國	011	1
阿根廷	00	54	加拿大	011	1
巴拿馬	00	507	多明尼亞	011	1809
宏都拉斯	00	504	哥倫比亞	60	57
尼加拉瓜	00	505			

非洲地區電話國際冠碼

國家或地區	國際冠碼	國碼
埃及	00	20
摩洛哥	00	212
坦薩尼亞	00	255
阿爾及利亞	00	213
南非	09	27
肯亞	000	254
奈及利亞	009	234

大洋洲地區電話國際冠碼

國家或地區	國際冠碼	國碼
紐西蘭	00	64
斐濟	05	679
關島	011	1671
帛琉	011	680
澳洲	0011	61

台灣地區電話區碼表

台灣地區電話區碼 (長途冠碼 : 0)

地區	長途冠碼	區碼	地區	長途冠碼	區碼	地區	長途冠碼	區碼
基隆市	0	2	台中市	0	4	高雄市	0	7
台北市	0	2	台中縣	0	4	高雄縣	0	7
台北縣	0	2	彰化縣	0	4	東沙 / 南沙	0	7
桃園縣	0	3	南投縣	0	49	屏東縣	0	8
新竹市	0	3	雲林縣	0	49	台東縣	0	89
新竹縣	0	3	嘉義市	0	5	澎湖縣	0	6
苗栗縣	0	37	嘉義縣	0	5	金門	0	82
宜蘭縣	0	3	臺南市	0	6	烏坵	0	826
花蓮縣	0	3	台南縣	0	6	馬祖	0	836

電話撥打碼的規劃考量

- 國際冠碼+國碼+區碼+電話號碼
 - 002+1+972+5552112 (台灣→美國)
 - 011+886+4+22342560 (美國→台灣)
- E.164號碼規劃的考量
 - 9-5555-1001 (市區)
 - 9-02-5555-1001 (長途)
 - 9-002-1-972-555-2112 (國際)
 - 1001 (內線)

電話號碼正規化

Number Pattern	Translation	輸入號碼	正規後的號碼	VoIP Gateway處理
<code>^2(\d{3})\$</code>	<code>+886422342\$1</code>	2562	<code>+886422342562</code>	去+886
<code>^1(\d{3})\$</code>	<code>+1\$1</code>	1001	<code>+1001</code>	去+號
<code>^+8864(\d{8})\$</code>	<code>+8864\$1</code>	+886422342560	<code>+886422342560</code>	去掉+8864,加上9
<code>^+886(\d{9})\$</code>	<code>+886\$1</code>	+886921123456	<code>+886921123456</code>	去掉+886,加上90
<code>^(d{8})\$</code>	<code>+8864\$1</code>	22342560	<code>+886422342560</code>	去掉+8864,加上9
<code>^0(\d{9})\$</code>	<code>+886\$1</code>	0227653346	<code>+88627653346</code>	去掉+886,加上90
<code>^002(\d{11})\$</code>	<code>+\$1</code>	00219725552112	<code>+19725552112</code>	去掉+號,加上9002

路由指定

- 指定Mediation Server
- 指定目標電話規格運算式
- 指定電話使用方式

路由名稱	目標規格運算式	電話使用方式	閘道
Taichung Route	$^{\wedge} \backslash +8864(\backslash d\{8\})$$	Local	Taichung-GW1
Taipei Route	$^{\wedge} \backslash +8862(\backslash d\{8\})$$	Local	Taipei-GW1
Other-Route	$^{\wedge} \backslash +886(3 5 6)(\backslash d\{7\})$$	Long-Distance	Taichung-GW2
Universal Route	$^{\wedge} \backslash +?(\backslash d*)$$	Global	Taichung-GW3
International Route1	$^{\wedge} \backslash +([1-7])(\backslash d*)$$	International1	Taichung-GW4
International Route2	$^{\wedge} \backslash +([9])(\backslash d*)$$	International2	Taichung-GW5

OCS R2的Mediation Server部署程序

- 安裝和啟用Mediation Server
- 設定Mediation Server
- 設定憑證
- 啟動Mediation Server
- 設定Location Profile
- 設定Dial-in Conferencing (option)

DEMO05

OCS 2007 R2 Mediation Server的部署

摘要

- Live Meeting 視訊會議，提供遠距的教學
- Live Meeting 視訊會議，提供彈性的會議
- 語音撥入式的電話會議，讓會議更加容易
- Single number reach，電話分機為識別
- 客服電話總機語音辨識，來電應答不漏接

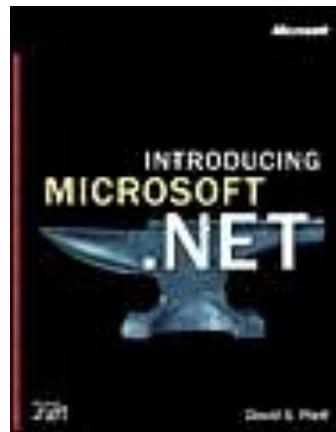
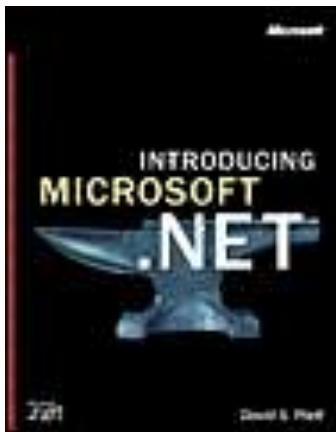
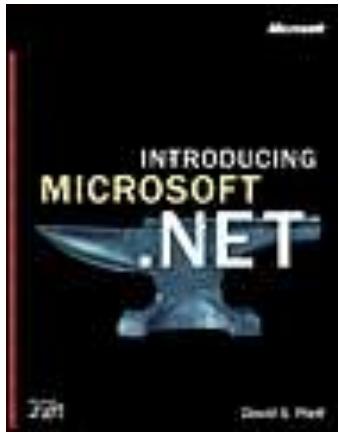
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Visit the url below for additional information

www.microsoft.com/technet/xxx-xx

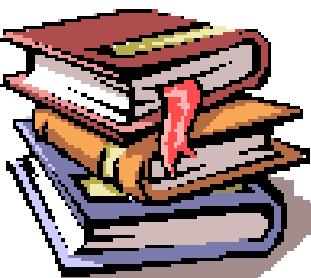
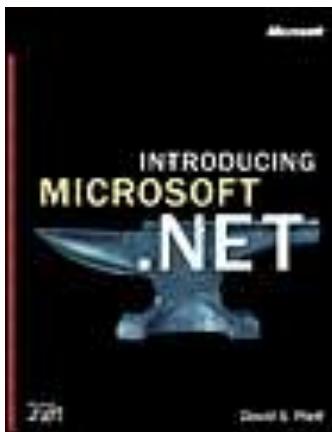
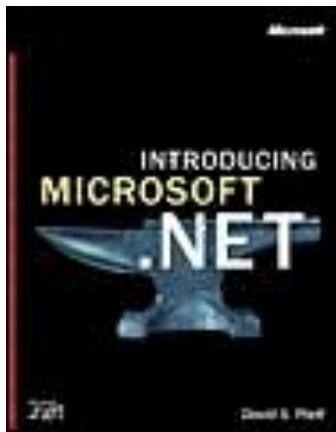
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