

Homework#3 MGCP Project

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*Embedded **S**ystems and **W**ireless **N**etworking Labs*

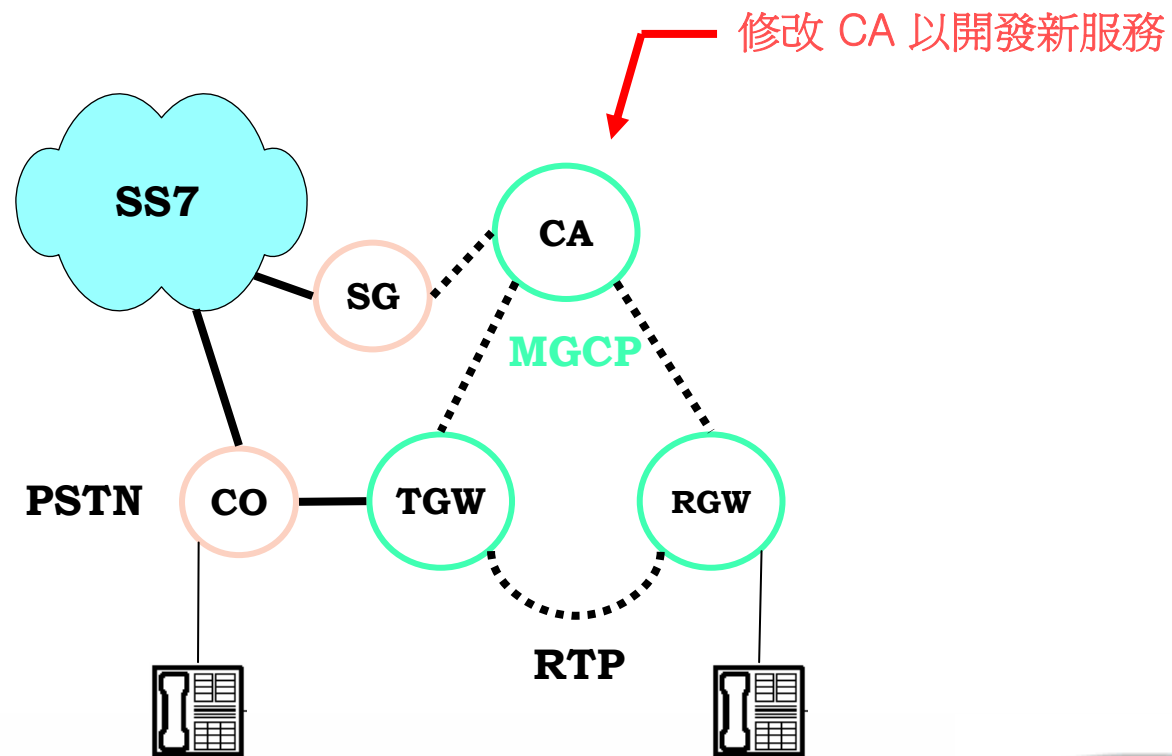
NTU CSIE VoIP 2005 Spring



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- **Lab. Goal**

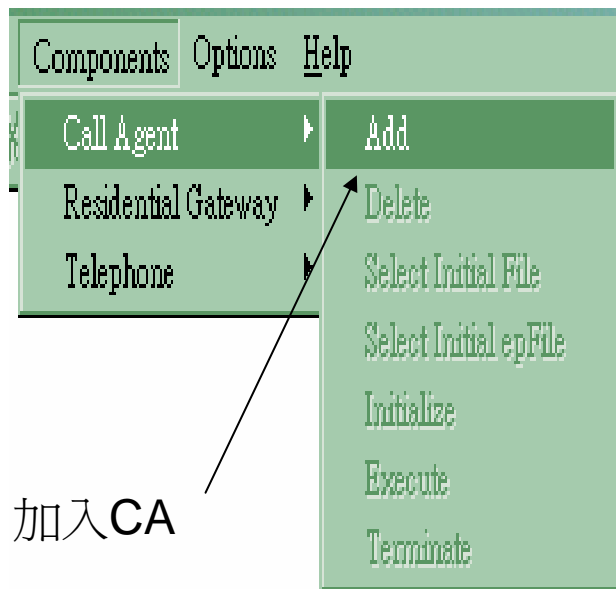
- 使同學瞭解MGCP模擬程式和基本通話流程，熟悉MGCP的命令與訊息，並了解Call Agent程式的運作，並學會開發新的通話服務。



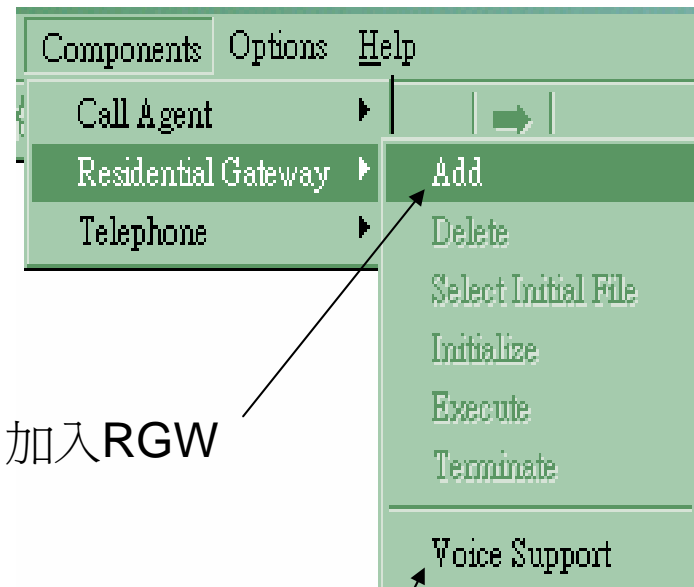
Execute MGCP simulation Program

- 將網頁上voip_v1.zip的資料夾解壓縮後存於電腦中，直接點選VoIP.exe即可使用。資料夾中其他檔案均為所需，不得任意刪減，否則將可能無法正確執行。
- **voip_v1所放置的路徑不得有空白，否則模擬程式將無法正確執行(ex:不能放在 My document，桌面...)**

Lab. Procedure (1/4)



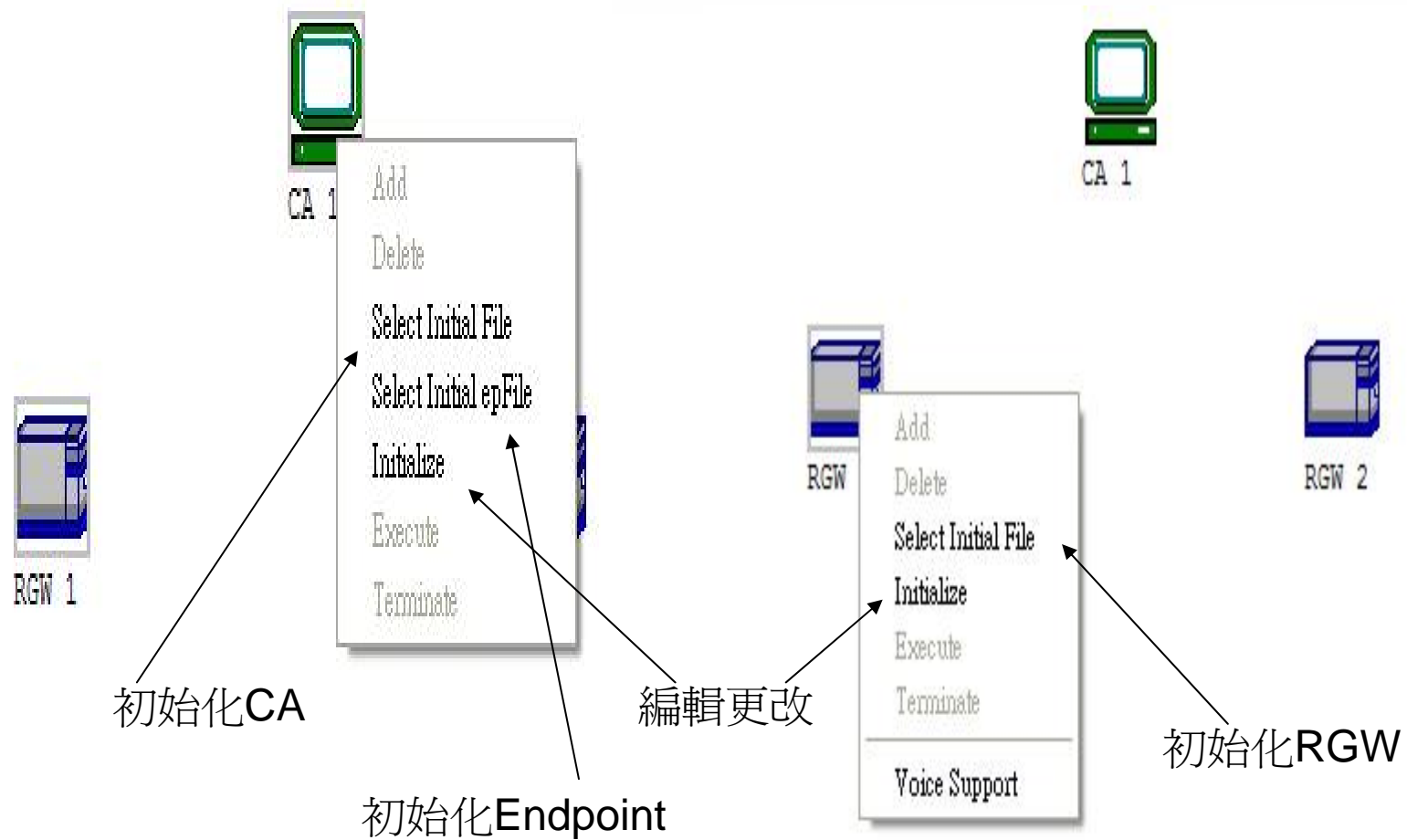
加入CA



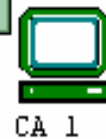
加入RGW

選擇是否語音支援

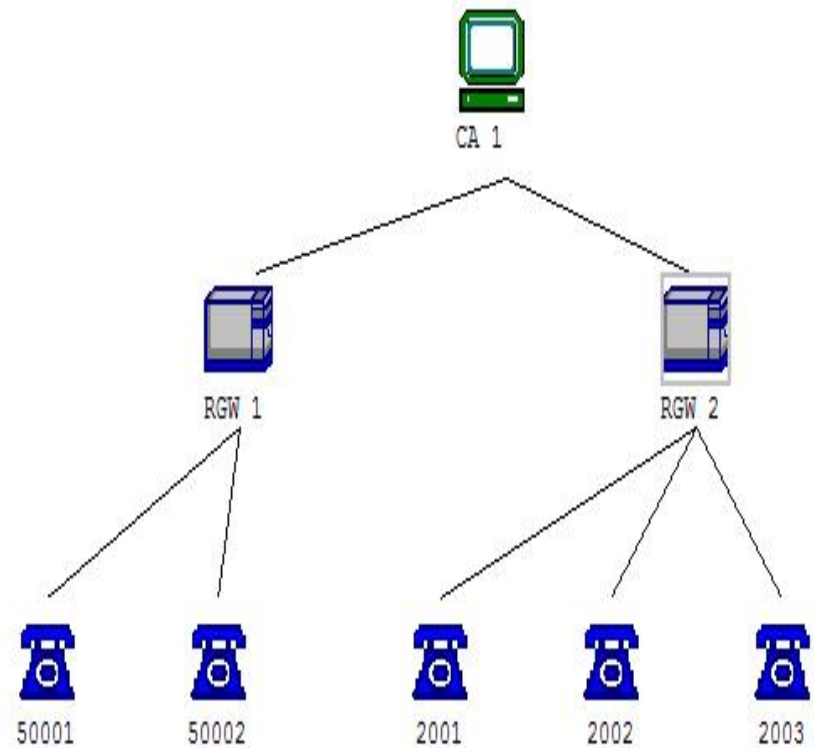
Lab. Procedure (2/4)



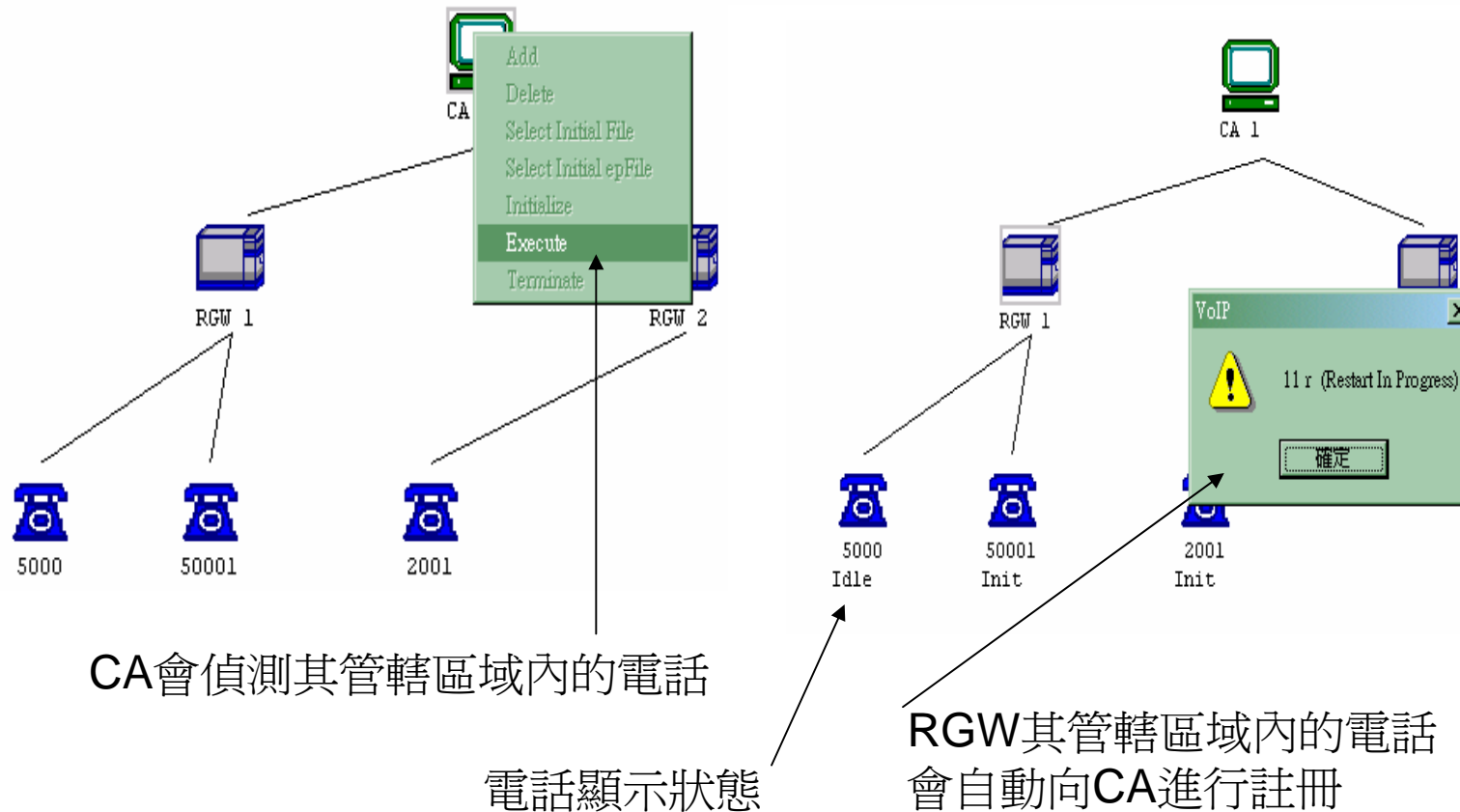
Lab. Procedure (3/4)



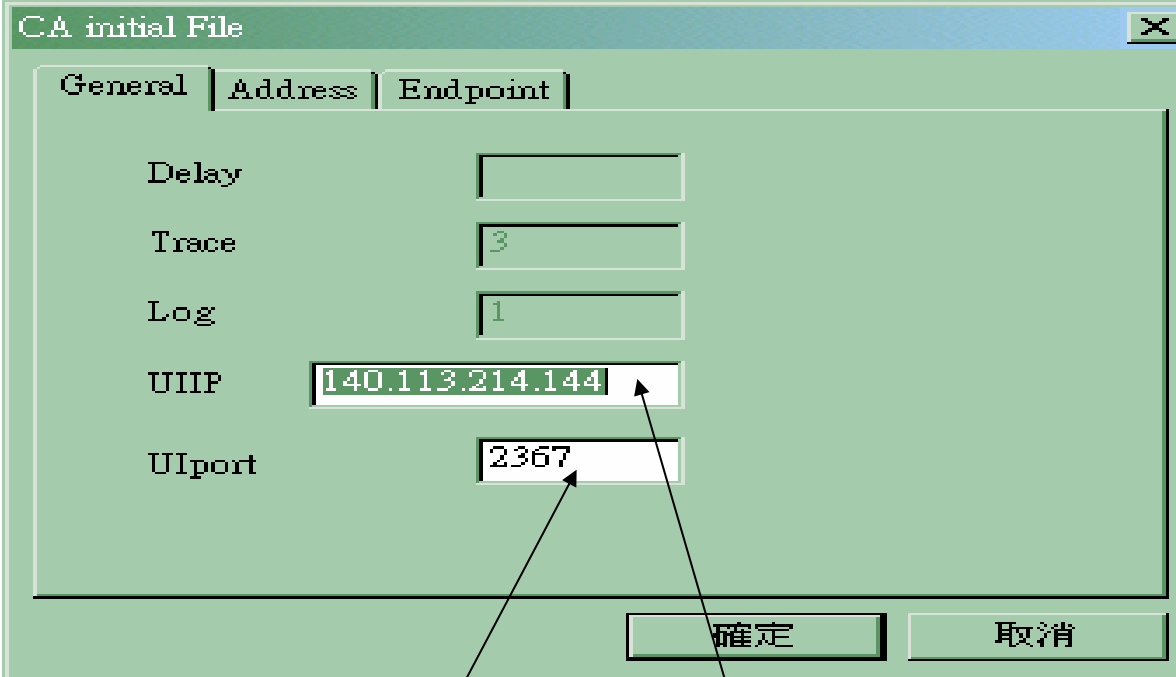
完成模擬環境建構



Lab. Procedure (4/4)



CA setting (1/3)



A screenshot of a software dialog box titled "CA initial File". The dialog has three tabs: "General", "Address", and "Endpoint". The "General" tab is selected. It contains several input fields: "Delay" (empty), "Trace" (value 3), "Log" (value 1), "UIIP" (value 140.113.214.144), and "UIport" (value 2367). At the bottom right are two buttons labeled "確定" (OK) and "取消" (Cancel). Two arrows point from the text below to the "UIIP" and "UIport" fields.

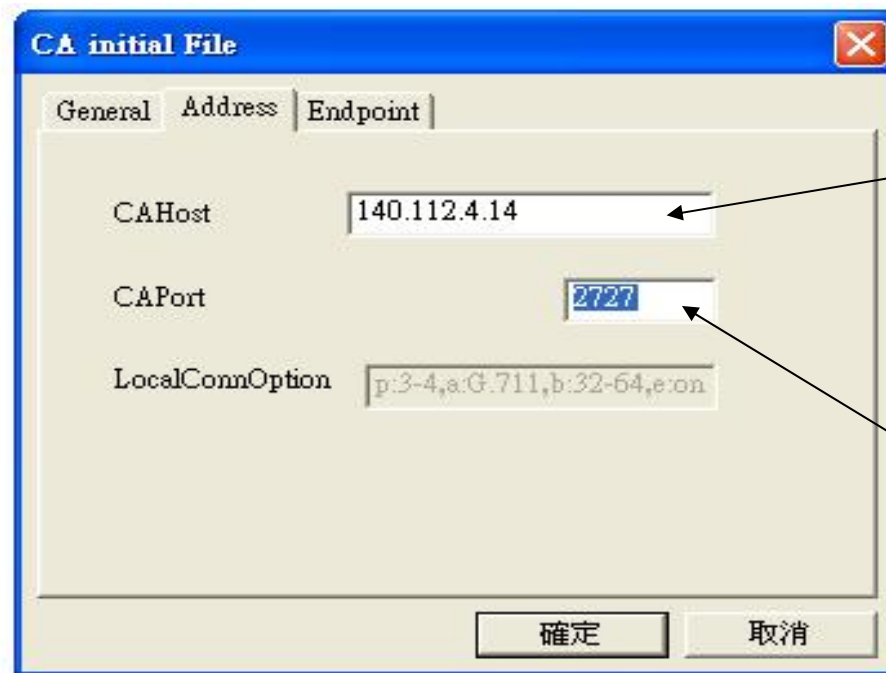
Field	Value
Delay	
Trace	3
Log	1
UIIP	140.113.214.144
UIport	2367

模擬程式選擇
的port

模擬程式
所在之IP

CA setting (2/3)

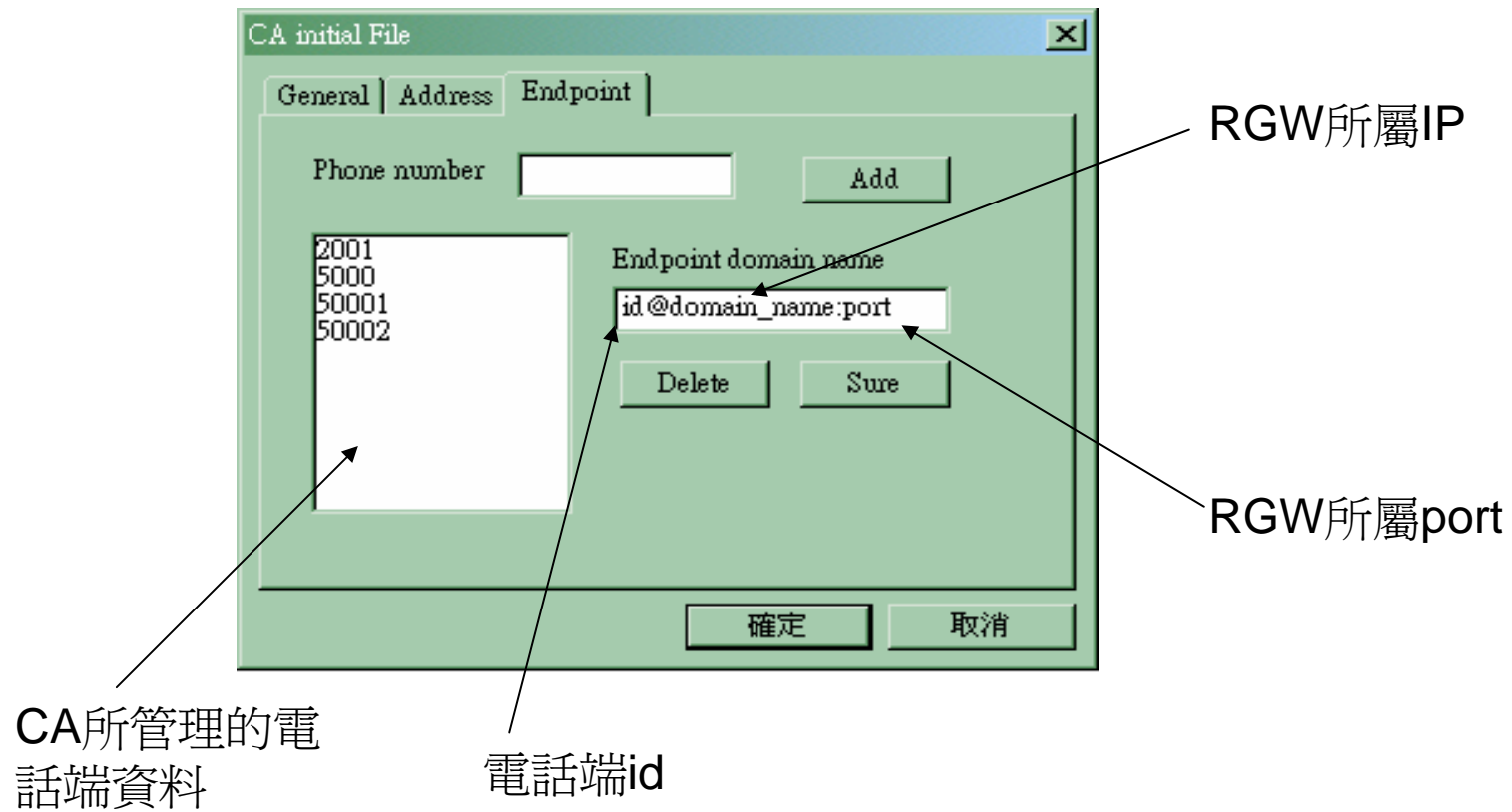
- 此為接收RGW訊息的位置



為CA所在的電腦IP

CA所在的port

CA setting (3/3)



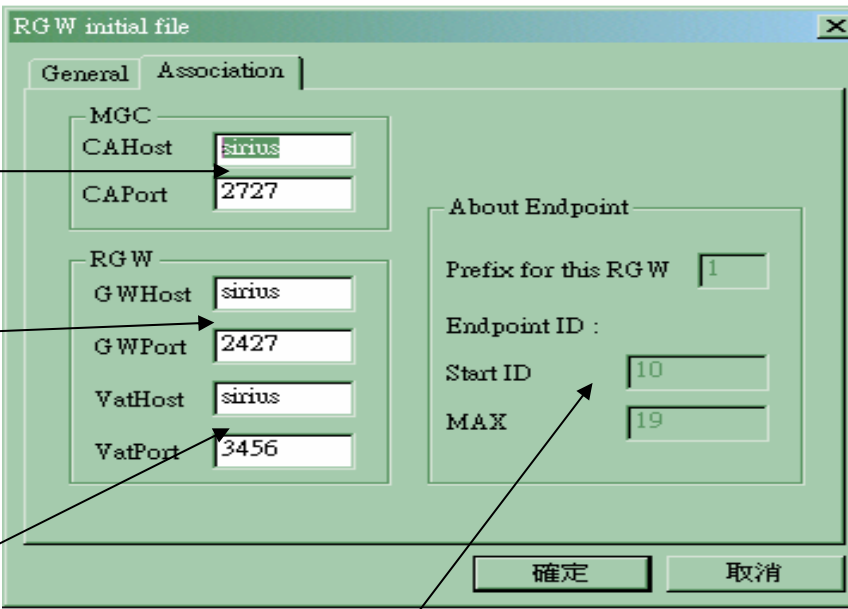
RGW setting (without voice support)

接收RGW訊息的位置

接收CA訊息的位置

可供使用者選擇訊息需透過哪一個位置(通常都設和RGW相同的Domain Name和不相衝的port)

顯示出此RGW下電話端點ID(endpointID)的範圍



The screenshot shows the 'RGW initial file' dialog box with two tabs: 'General' and 'Association'. The 'General' tab is active. It contains two main sections: 'MGC' and 'RGW'. The 'MGC' section has 'CAHost' (sirius) and 'CAPort' (2727). The 'RGW' section has 'GWHost' (sirius), 'GWPort' (2427), 'VatHost' (sirius), and 'VatPort' (3456). To the right is the 'About Endpoint' section with 'Prefix for this RGW' (1), 'Endpoint ID :', 'Start ID' (10), and 'MAX' (19). At the bottom are '確定' (OK) and '取消' (Cancel) buttons. Annotations with arrows point to specific fields: '接收RGW訊息的位置' points to 'CAHost'; '接收CA訊息的位置' points to 'GWHost'; '可供使用者選擇訊息需透過哪一個位置(通常都設和RGW相同的Domain Name和不相衝的port)' points to 'VatHost'; and '顯示出此RGW下電話端點ID(endpointID)的範圍' points to the 'Start ID' and 'MAX' fields.

Field	Value
CAHost	sirius
CAPort	2727
GWHost	sirius
GWPort	2427
VatHost	sirius
VatPort	3456
Prefix for this RGW	1
Start ID	10
MAX	19

RGW setting (with voice support)

接收RGW訊息的位置

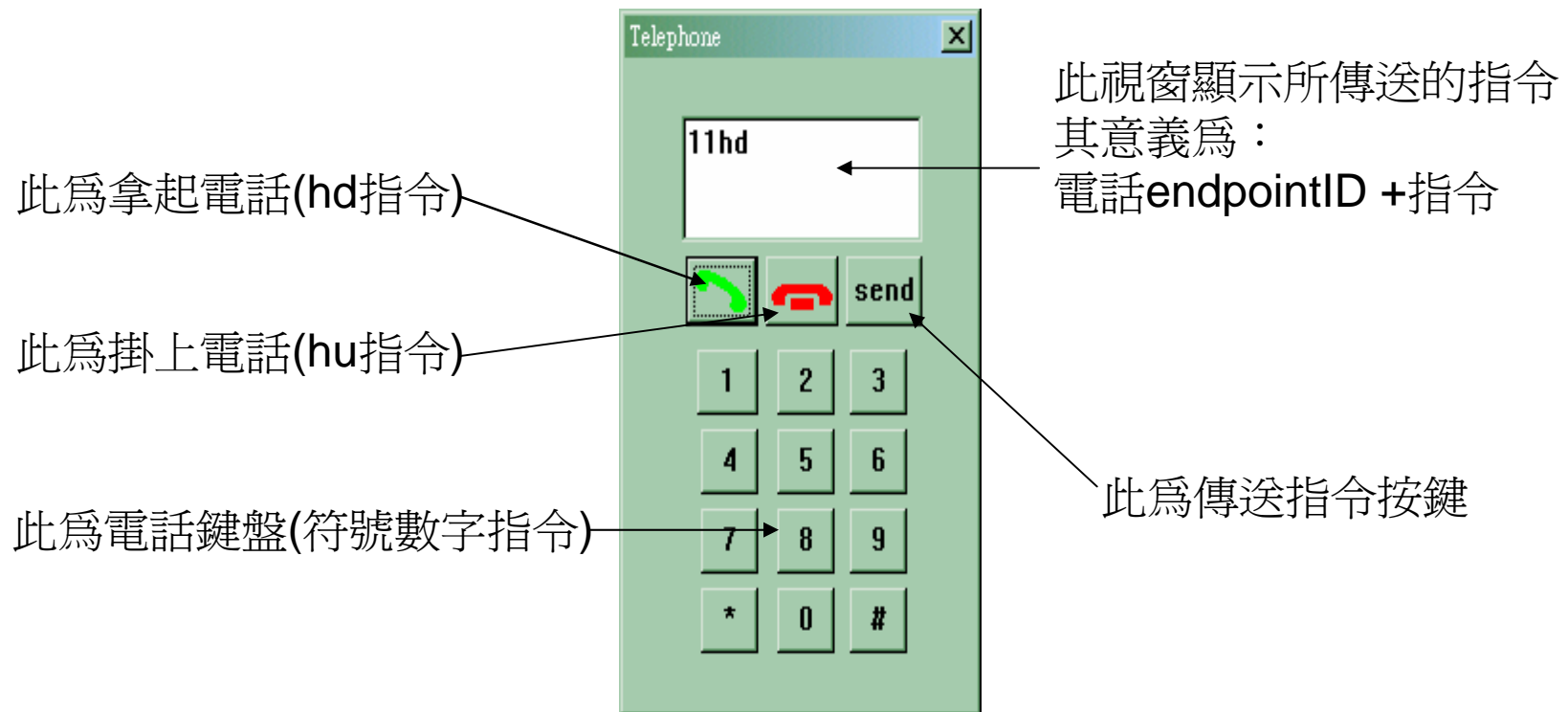
接收CA訊息的位置

可供使用者選擇訊息需透過哪一個位置(通常都設和RGW相同的Domain Name和不相衝的port)

選擇此RGW所管的電話端點資料存放位置

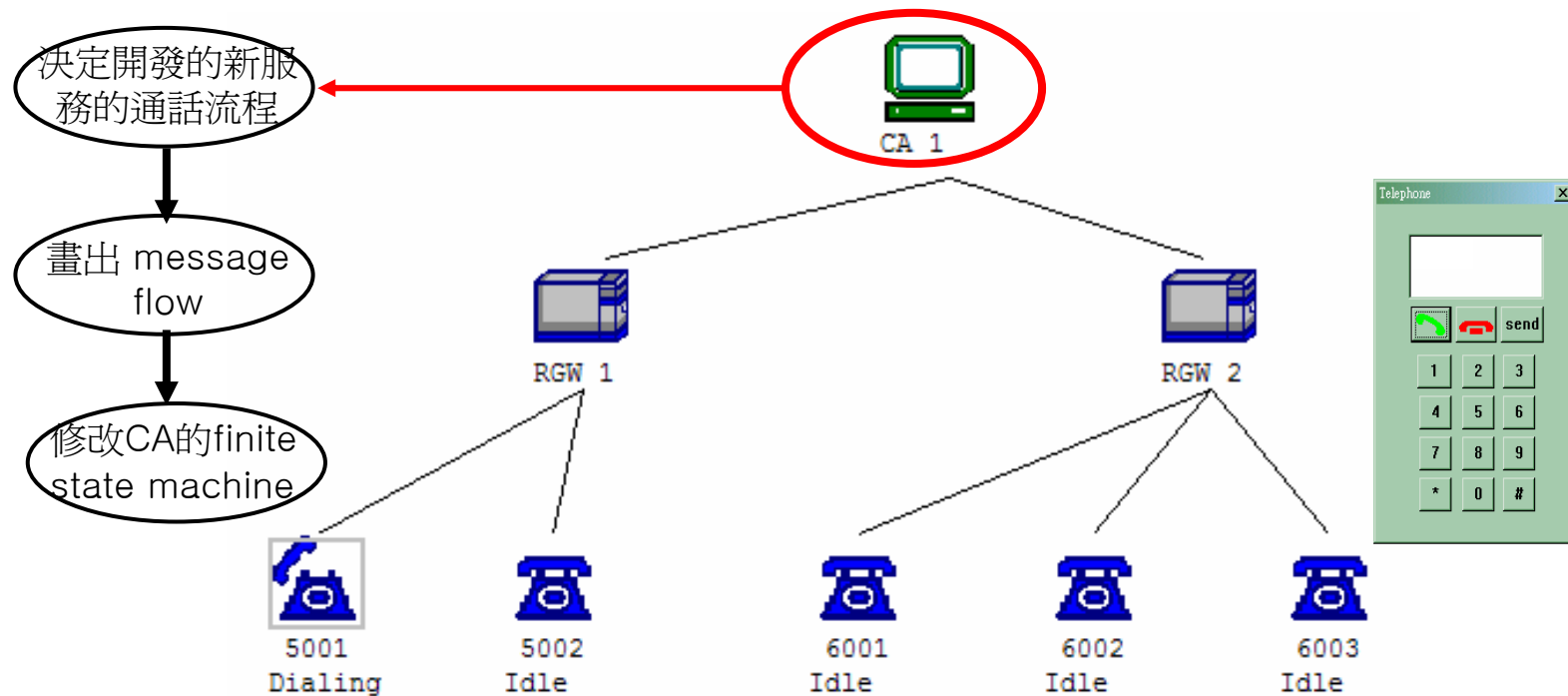
Field	Value
MGC CAHost	sirius
MGC CAPort	2727
RGW GWHost	sirius
RGW GWPort	2427
RGW VotHost	140.113.21
RGW VotPort	3456
RTP rtpPacketSize	240
Endpoint Phone Number	50001
Endpoint Domain name	10@sirius
Endpoint SetEP file name	C:\temp\VoIP\De

Phone Panel



Design New Service (1/7)

- 話中插撥、隨身碼...

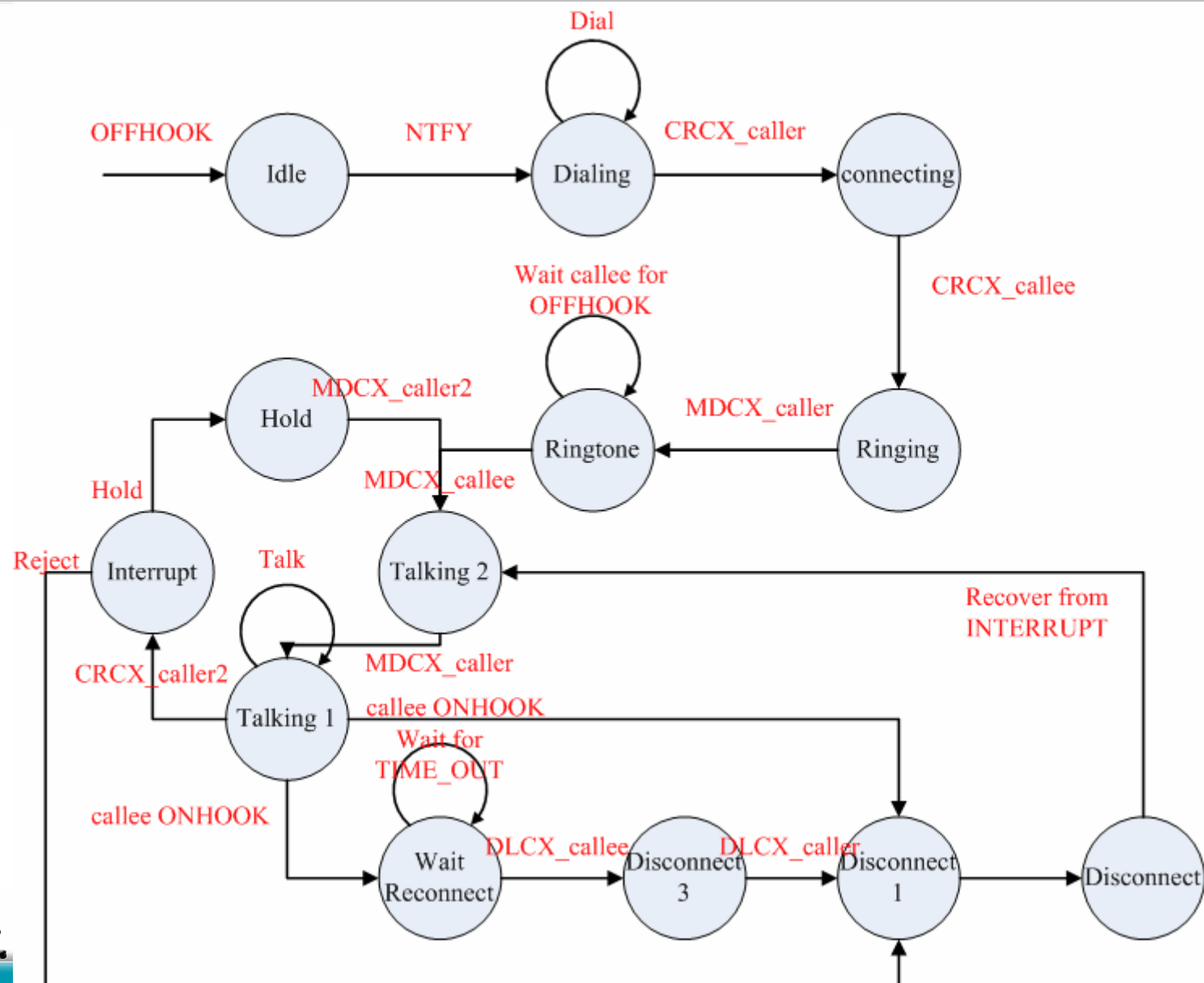


Design New Service (2/7)

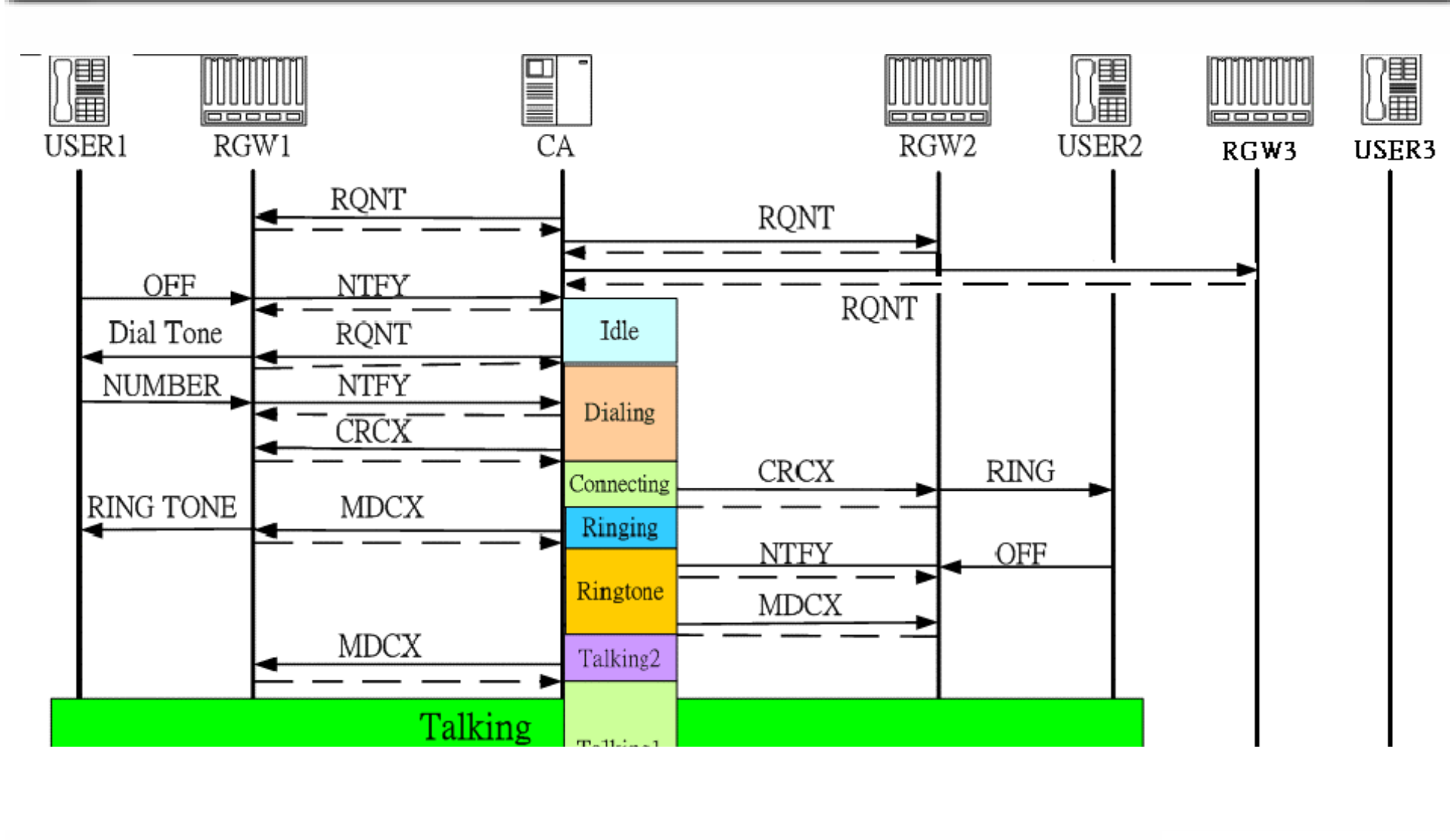
- **Example:** 插撥

- user1 and user2 are talking with each other ,and then user3 call user1.
- Case1:
 - user1 wants to talk with user3 and user2 is hold.
 - user1 continues to talk with user2 after ending the talking with user3.
- Case2:
 - user1 rejects user3 and continues to talk with user2.

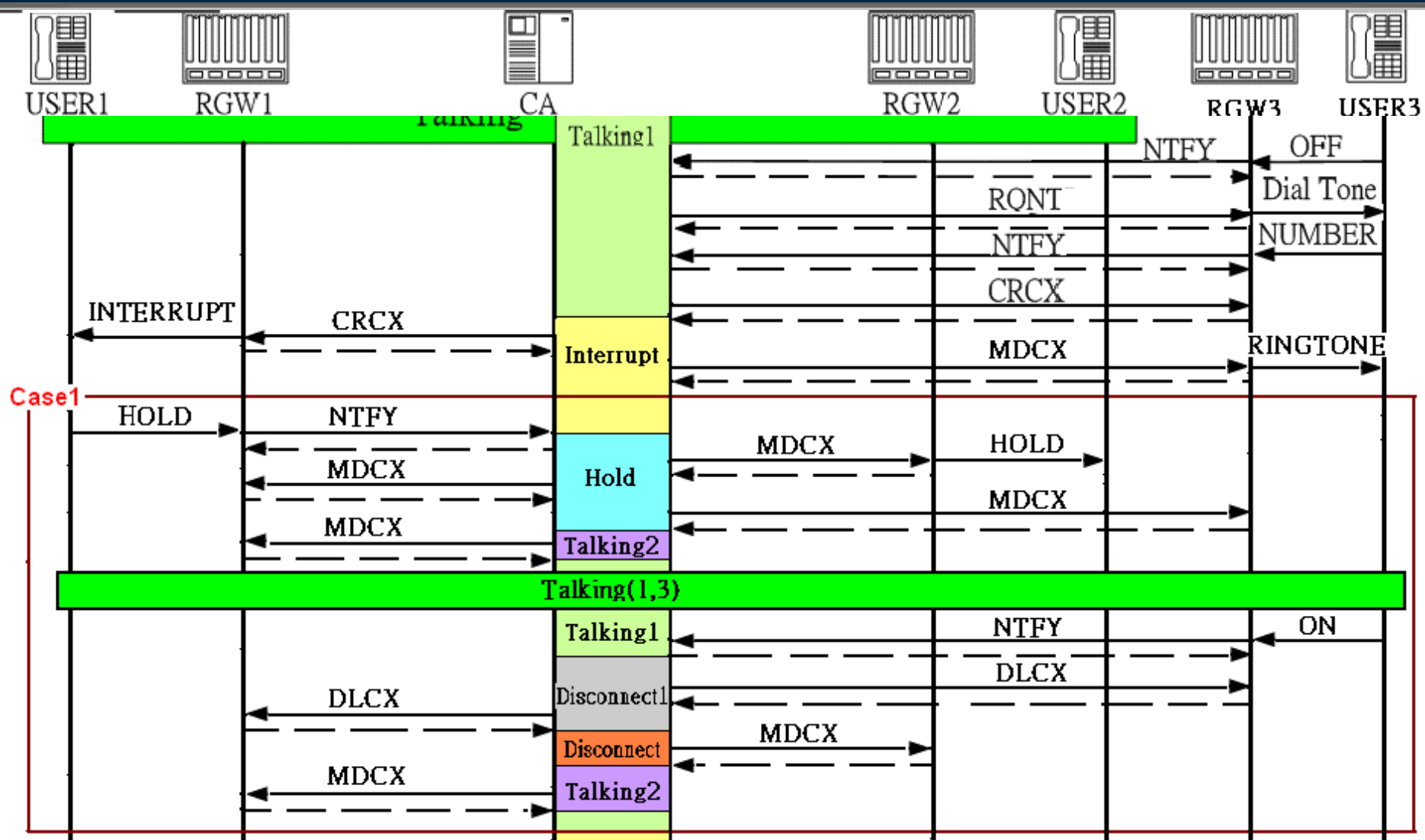
Design New Service (3/7)



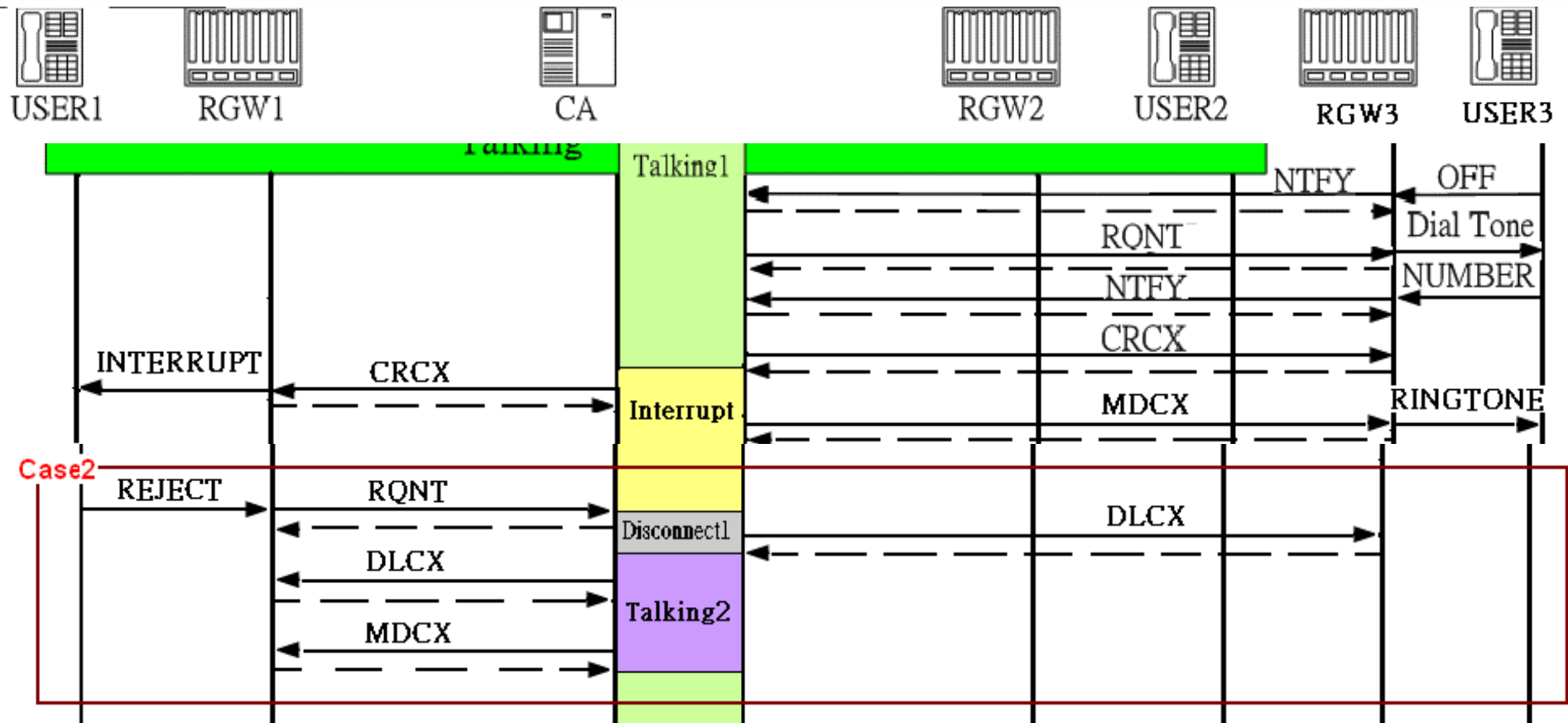
Design New Service (4/7)



Design New Service (5/7)



Design New Service (6/7)



Design New Service (7/7)

- 將CASimd.exe 複製到Voip_v1所在的資料夾中，然後在simulator上就可看到所發展的成果。CASimd.exe是透過socket和 simulator的interface 做 communication. 所以 simulator上的ip address一定要填正確。
- How to debug:
CA在每個動作完成都會log至file, programmer也可將debug message output 至 file.

Environment

- 程式是以C語言所撰寫，開發者需備有Microsoft Visual Studio C++，或其他可編譯C語言的軟體。將casim.zip檔案解壓縮後存於電腦硬碟任一資料夾中，開啟通話代理人程式開發專案CASim.dsw檔案，選擇CASim.c後則可進行新服務的開發。
- 目前測試的結果用Visual Studio .NET 2003會有問題，所以最好使用Visual Studio 6.0.