

## 5.5 Model 5-2: The Enhanced Call Center System

電話撥入之到達率為一非穩定 Poisson process, 所以假設我們以每 30 分為一段收集資料, 如表 5-2 (Call per hour), 再來觀察人力, 起先假設固定的人力 (for Sales 與 Technical support), 但結果有 6 了 sales people 服務令人吃驚的每日排程彙總如下:

1 @ 60, 3 @ 60, 4 @ 90, 5 @ 60, 6 @ 60, 5 @ 90  
6 @ 90, 5 @ 30, 3 @ 60, 2 @ 60 [ 共計 11 hrs 包含 6:00 - 7:00 ]。技術服務人員工作 8 小時, 有 30

分鐘午餐休息, 共有 11 人其工作安排如表

5-3 所示, Charity 和 Noah 可處理 type 1 產品,

Tiamey, Aidan, Emma 可處理 type 2 產品, Shelley

Jenny 和 Christie 可處理產品 3, Molly 可處理

產品 1, 3, 而 Anna 與 Sammy 可處理 1, 2, 3, 在上

一次模式, 我們省略部分細節, 是 4% 的

technical call 需要進一步的調查，電話會  
被 forward 至另一組 Technical group (不在我們模式  
的界限內，該組準備一回應，準備回應的  
時間是估計為 Expo(60) 分鐘，回應結果送回  
相同之技術人員。然於這位技術人員打電  
話給顧客，花 TRIA(2, 4.9) 分鐘。這些回話  
需要佔 26 線中，其中一條，並且有較高的優  
先順序相對於其他的 incoming call。如果回電  
在當日未能完成，電話將被延至次日。

如果我們考慮改變人員之服務水準增  
加顧客之滿意度，我們需要當系統擁  
擠時之更多訊息，所以讓我們增加  
counter 收集每小時被拒絕的電話數目。

### 5.5.2 New Concepts

增強模式需要二項新的觀念，1. 是到達  
延滯時間改變。2. 所有 call 要抓住一單

位資源由一群或集合中選取。

在許多系統到達可以建構成 stationary Poisson Process (到達每次一位, 到達間是獨立, 平均平隨時間流逝為常數) 亦即時間間隔為指數有一平均數。平均到達率是時間的函數, 這類到達通常建構成 nonstationary

Poisson process。一個簡單但是不正確的方法是在 Create module 輸入 EXPOCA), 然後每 30 分鐘更改這數值。在時段間到達率變化不大上述方法可提供一近似估計。但變化很大 (rate change), 這種方法會引起錯誤

之結果。例如僅有 2 時間 (每段 30 minutes)

第一段  $\lambda = 3$  / per hour. (或平均到達時間  $\frac{20}{60}$  分鐘)

第二段  $\lambda = 60$  / per hour (或平均到達時間間隔 1 分鐘)

第一段時間間隔最久到達在 20 minutes,

我們令產生下一到達以平均時間間隔 20 minutes

令很容易產生一批值超過 31 分鐘，代表第二段期間沒有到達。使用這簡化的方法令引起到達數目的減少（如果入增加）或到達數目的增加（入減少）。

很幸運的 ARENA 有內建能力產生 nonstationary poisson arrival (正確的) 在 Create module 下。

第二個新觀念是建構一 entity 到達一地方或站要由數個相似物件選擇一個。最常見的情況為由一整合資源中選擇一資源。例如有三個 operator, Sean, Lynn, and Michael, 你可由三人之中任選一位，只要是有空的。在 Basic process 下之 Sets data module 可以提供這項功能。ARENA 的 sets 是將相同型

態的物件放在一起可由 set name 或 set index 參照。組成 sets 的物件被稱為 Member。

Member 必需是相同型。例如 resource, queues, picture 等等。你可以收集幾乎所有 object 進入 set。一個物件可存在超過一個 set 以上。

例如定義另一個 resource set 稱為 Setup 包含 Lynn 和 Doug (不是 operator)。如果需要 operator 會由 operators (一個 set) 中選取，如果需要 setup 人員會由 Setup 中選取。Lynn 都有可能被選中。

在 call center 中，我們需要任用 set 建構 technical support staff。而且需要考慮建構 returned technical support calls。這一方面很特別是 returned call 要由接電話的人回電，所以我們必需有方法追蹤原來的電話。我們將以 set index 排序，以便知道那個人需要回 call。

### 5.5.3 定義 Data

在先前模式 5 項 resource, <sup>26</sup>trunk line, <sup>4</sup>sales, <sup>2</sup>tech 1, <sup>3</sup>tech 2, <sup>3</sup>tech 3。新模式有 13 項資源, <sup>26</sup>trunk line, sales, 其餘 11 項 technical support A.

我們為每一資源定義一項 schedule. (Fixed Capacity Trunk Line 除外)

有一些 technical staff 有相同 schedule (例如 Chanty, Tierney, Shelley), 可以重使用一 schedule.

使用 Graphical schedule editor 如 Figure 5-11 所示, 將 time slots 數目設為 22, y 軸最大容量設為 2.

2. 請確定每一 schedule 涵蓋 66 小時 (8:00 am

至 7:00 pm, 22 個半小時區間) 即後要填入許及

0 在開始或結束。The graphical schedule editor 不擔保每一 schedule 涵蓋一天 (可以任何長度).

schedule 可在 time period 1 (開始是

8.5 小時在 11 小時(天)。可以在 option 下

check "Remain at capacity when at the end of the schedule"

並設 capacity 為 0, 這令導致第一天正

確，使用這選項的問題是如果要 multiple replication 且每天不要 initial the system, 這選項會導致 0 capacity 在第一次 replication。於是我們

要確定最後 5 half-hour 期間有 capacity 為 0, 可以在 Durations <sup>click</sup> 右鍵 並選 Edit 經由 Dialog 或 Spreadsheet, 選 Edit via spreadsheet 同欲如

Figure 5-12 視窗, 允許你 double click 加入一列。輸入 Value, Duration 0, 5 代表 capacity 是 0, 有 5 段 30 分鐘期間, <sup>明顯地</sup> 填滿整天 11 小時 (加上先前的)。

選 Edit via Dialog 同欲 Durations dialog 如同 Display 5-32, 如果你重新打開

Graphical Schedule Editor, 圖會看起來與先前相同, 請注意, 離開前沒有儲存加入的 data (0, 5) 會被刪除。我們亦可

為 Sales staff 和 arrival process 發展一 schedule。發展 arrival process 的 schedule

如同剛才擴展 resource schedules. 除了選

Arrival 在 Type cell 而不是 capacity. 下一步是定

這一下

義 13 項資源在 Resource module. 選擇 Ignore

準則. (雖然很像 wait 準則) wait 準則令

將 call 完成, 再完全休息. 這可以工作的很

好 假設只 run 一次, ~~run~~ run 多次並在開

始 initialize system. 不幸的, 如果選用 Wait option,

如果選用 Wait, - resource delay 午餐 10 分鐘,

剩餘 10 分鐘的 delay, 10 minutes 令出現在明

天的 schedule, 但所有 delay 累積 over time, 令引

起問題. 我們也加入一些成本資料

(Busy/Hour 和 Idle/Hour) 最終如 Figure 5-13

所示. 定義完資源後, 可以定義 Sets

在 BASIC PROCESS 下面, 定義三組 resource sets

Name	Type	Member	
Product 1	resource	5 rows	Charity, Noah, Molly, Anne, Sammy
Product 2	resource	5 rows	Tierney, Aidan, Emma, Anna, Sammy
Product 3	resource	6 rows	Shelley, Jenny, Christie, Molly, Anne,



依據上述順序, 如果可能, 分配 Charity 和 Noah 給 incoming call, 因為他們只可以 handle product type 1 call. 我們將使用 Preferred Order selection rule 分配資源, 基於他們在 set 的順序. 加入 set 在 BASIC PROCESS 下 變成如

Figure 5-16 和 Figure 5-14. 再定義 - Counter Set (稱為 Rejected calls)

Name	Type	member
Rejected calls	counter	10 rows

在 Advanced Process / statistic 下面. 將 Name 改為 period 01 至 period 10, Type 是 count, Counter

Name: period 01 Rejected calls, 在 initialization Option

選 Replicate, 請掉 counter, 其結果如 Figure 5-15 所示.

完整的 Set 如 Figure 5-16. 包含三個 Resource Set 和一個 counter set.

#### 5.4.4 Modifying the Model

首先修改 Create module, TYPE 改成 schedule

schedule name: 輸入 arrival schedule, 將 5-1 pr


arrival cutoff section 删除。亦將 Assign (Increment Active Call Counter) 删除。在 Run Setup 中 Terminate Condition 將  $\text{total WIP (TRUNK LINE)}$  換成  $\text{NR (TRUNK LINE) = 0}$

其理由有二, (1) 不需要 total WIP 將其删除, 使模式簡單一真, (2) 使用 total WIP 處理 return call 會引起一些 modeling problems.

為追蹤每一時段被 rejected call, 先前定義

10 个 counters 在 Statistic. 並建立一 set 稱為 Rejected calls, 我們並改變 Record

module, 如 Display 5-33 所示, 由 Record into Set Set Index  $\text{AINT}((\text{TNOW}/60) + 1)$ 。接下來修改

Tech Support 部了, 在  後面之後, 我們

插入 Assign module (3), 首先 Assign entity type, entity picture 才可在 animation 和 report 中加以區別, 再加入 attribute 稱 Tech Call Type

將被指派整數  $\frac{1}{P_1}, \frac{2}{P_2}, \frac{3}{P_3}$ , 很快你將會瞭解  
為何需要這新的 attribute. 接著將後面

3 个 PROCESSE. 中之 resource 修改成 type  $\Rightarrow$  set  
Set Name  $\Rightarrow$  Product 1 Quantity  $\Rightarrow$  1. Selection Rule  $\Rightarrow$  Preferred

Order Save Attribute  $\Rightarrow$  Tech Agent Index.  $\leftarrow$  為一新定  
義之屬性, 給 SAVE ATTRIBUTE. 將已分配資源

的 index 存在 Tech Agent Index 中, 如有需要

回 call 將可以知道. 這樣快速這一 section  
修改, 需要新增一 section 處理回 call 問題。

其邏輯與流程图如 Figure 5-17 所示。



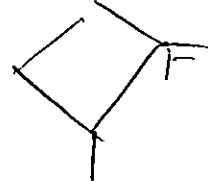
release 掉, 於此 Delay  $\Rightarrow$  Exp(60), storage ID - Backoffice

Research, 如此才可在 animation 看見這些 entity.

於此再送至 Assign 模組, Type 是 Variable Array(10)

是一堆陣列, 變換名稱為 Tech return WIP 並  
 使用 Tech call Type 在 rows 下之 當成 Index. New Value  
 為 Tech Return WIP (Tech Call Type) + 1, 並需在 variable

下之 輸入 Name  $\Rightarrow$  Tech Return WIP Rows 3

再來是判斷 Product Type  是 N-way by

condition, 

Entity Type
-------------

, 

Named: Tech Call 1
--------------------

, 將 return call  
 branch 至高等的子枝, return call entity

seize - trunk Line. (如 131 incoming call) A

出技術人員誰 answer the incoming call. 接在下

- 1 seize module  $\Rightarrow$  <sup>priority: High (1)</sup> 抓住最高 resource

Type	
Set	
Set Name	Quantity
Product 1	1
Selection Rule	Set Index
Specific Member	Tech Agent Index

接著	process module
抓住	Resource
	trunk line, 1
	Impression
	Returned Tech Time

Release

Type	
Set	
Set Name:	Quantity
Product 1	1
Release Rule	Set Index
Specific Member	Tech Agent Index

完成 return call 後, entity 進入 Assign 模塊。

將 <sup>需要</sup> returned call 數目減 1. Type  $\Rightarrow$  variable Array(10)

Variable name  $\Rightarrow$  Tech Return WIP Row  $\Rightarrow$  Tech Call Type

New value  $\Rightarrow$  Tech return WIP(Tech call Type) - 1. 完成後

entity 送至離開系統。

如果你看 statistic module (Advanced Process Panel 下) 會看到之前敘述的 10 項 counter type, 另外

又設立四項與時間相關的, 所有 call back

電話數目 NSTO (Backoffice Research Storage), 所有在

系統中技術服務的數目 (Tech 1 Total Online WIP,

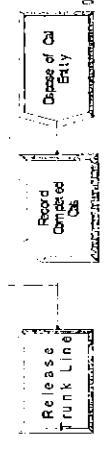
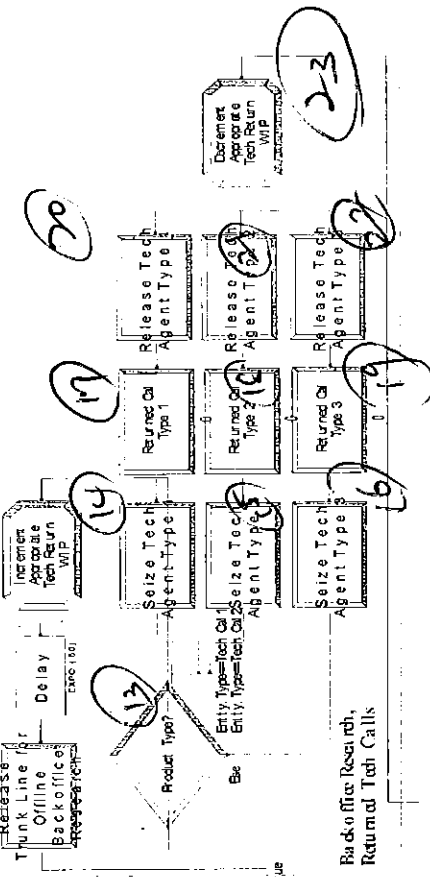
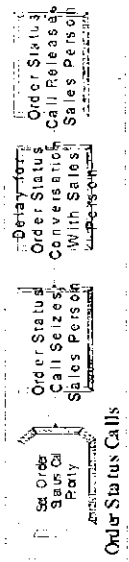
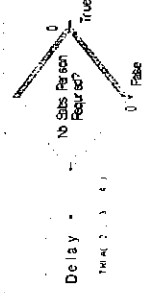
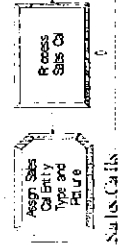
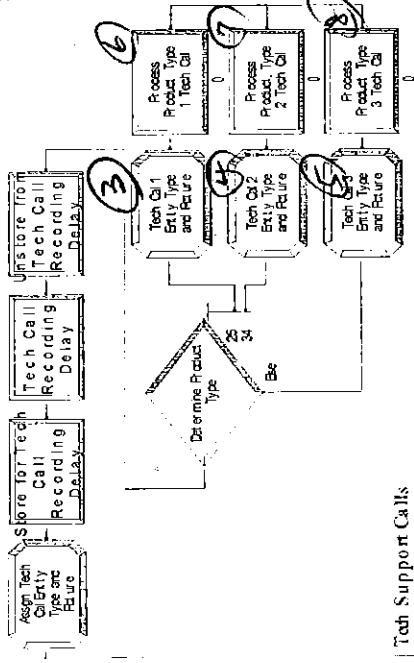
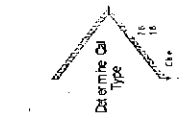
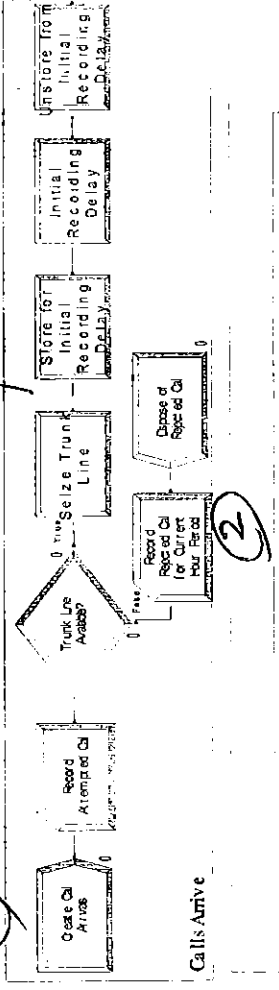
Tech 2 Total Online WIP, Tech 3 Total Online WIP)。

Model 05-02

① 删除 Assign module

① 改 Run Setup

①



# BASIC PROCESS / RESOURCE

Area - [Model 05-02.doc]

File Edit View Tools Arrange Object Run Window Help

Resources - Basic Process

	Name	Type	Capacity	Schedule Name	Schedule Rule	Busy / Hour	Idle / Hour	Per Use	StateSet Name	Failures	Report Statistics
1	Sales	Based on Schedule	Sales Schedule	Sales Schedule	Wait	20	20	0.0		0 times	<input checked="" type="checkbox"/>
2	Truck Line	Fixed Capacity	26		Wait	0.0	0.0	0.0		0 times	<input checked="" type="checkbox"/>
3	Clarity	Based on Schedule	Clarity Schedule	Clarity Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
4	Noak	Based on Schedule	Noak Schedule	Noak Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
5	Molly	Based on Schedule	Molly Schedule	Molly Schedule	Ignore	20	20	0.0		0 times	<input checked="" type="checkbox"/>
6	Anna	Based on Schedule	Anna Schedule	Anna Schedule	Ignore	22	22	0.0		0 times	<input checked="" type="checkbox"/>
7	Sammy	Based on Schedule	Sammy Schedule	Sammy Schedule	Ignore	22	22	0.0		0 times	<input checked="" type="checkbox"/>
8	Tenney	Based on Schedule	Tenney Schedule	Tenney Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
9	Aida	Based on Schedule	Aida Schedule	Aida Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
10	Emma	Based on Schedule	Emma Schedule	Emma Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
11	Shelley	Based on Schedule	Shelley Schedule	Shelley Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
12	Jenny	Based on Schedule	Jenny Schedule	Jenny Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>
13	Christie	Based on Schedule	Christie Schedule	Christie Schedule	Ignore	18	18	0.0		0 times	<input checked="" type="checkbox"/>

Double-click here to add a new row.

# BASIC PROCESS / SCHEDULE

Area - [Model 05-02.doc]

File Edit View Tools Arrange Object Run Window Help

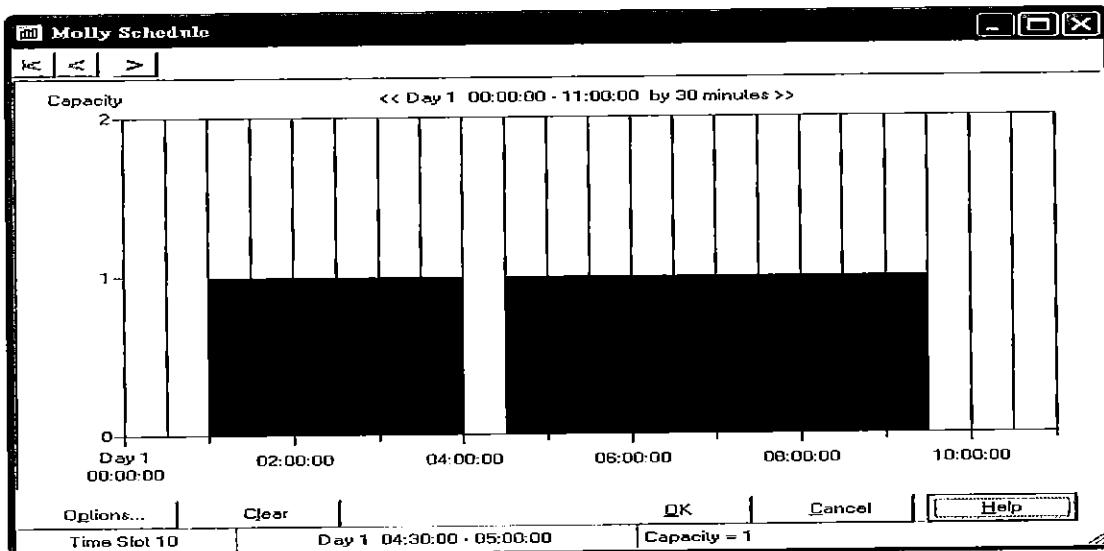
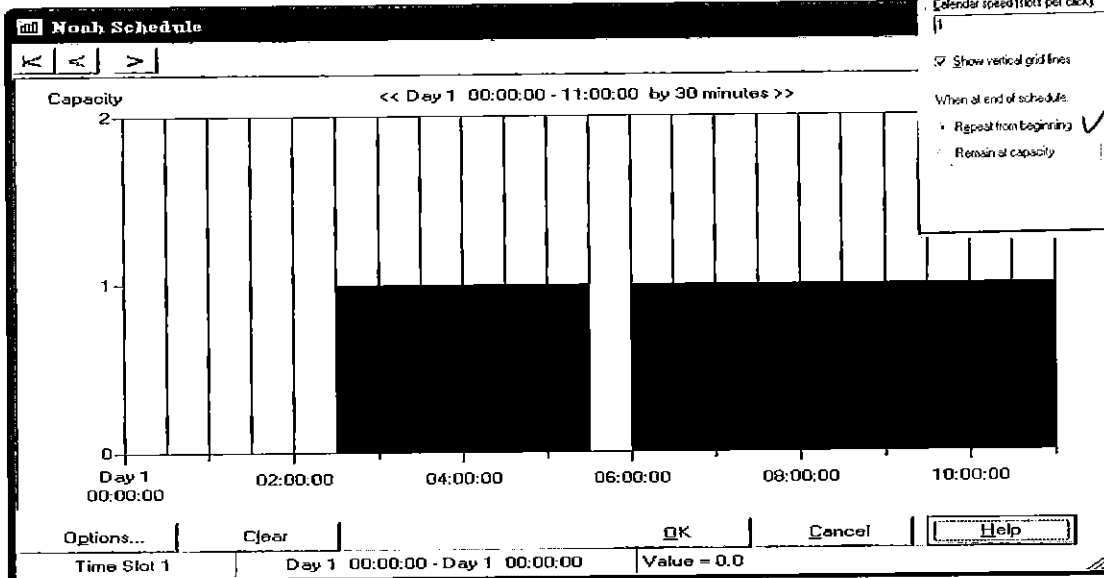
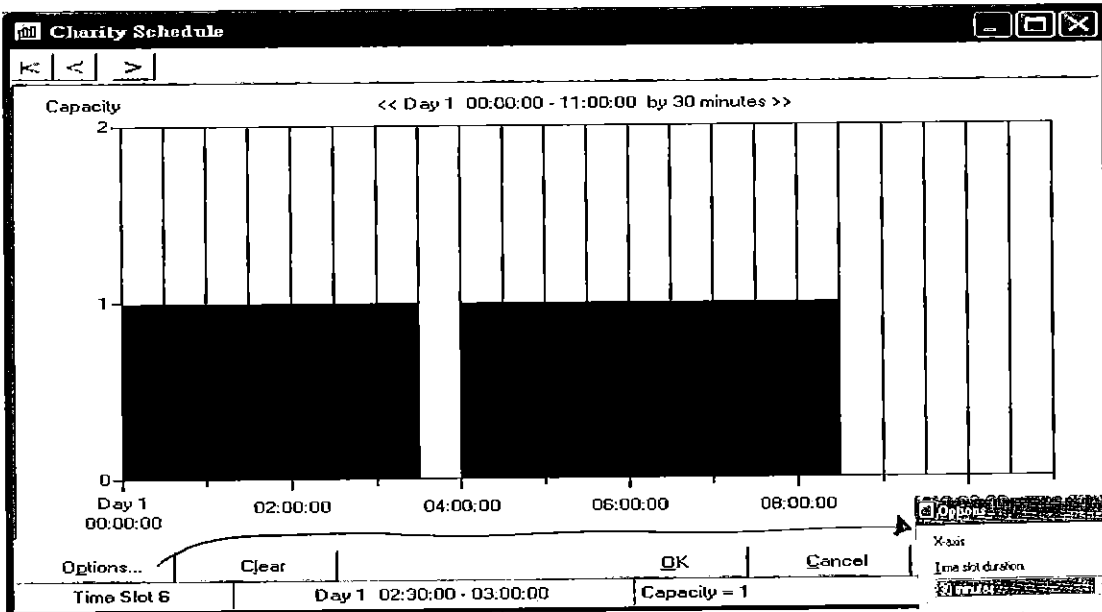
Schedule - Basic Process

	Name	Format Type	Type	Time Units	Scale Factor	Durations
1	Clarity Schedule	Duration	Capacity	Halfhours	1.0	4 times
2	Noak Schedule	Duration	Capacity	Halfhours	1.0	4 times
3	Molly Schedule	Duration	Capacity	Halfhours	1.0	5 times
4	Anna Schedule	Duration	Capacity	Halfhours	1.0	5 times
5	Sammy Schedule	Duration	Capacity	Halfhours	1.0	5 times
6	Tenney Schedule	Duration	Capacity	Halfhours	1.0	4 times
7	Aida Schedule	Duration	Capacity	Halfhours	1.0	4 times
8	Emma Schedule	Duration	Capacity	Halfhours	1.0	5 times
9	Shelley Schedule	Duration	Capacity	Halfhours	1.0	4 times
10	Jenny Schedule	Duration	Capacity	Halfhours	1.0	4 times
11	Christie Schedule	Duration	Capacity	Halfhours	1.0	5 times
12	Animal Schedule	Duration	Animal	Halfhours	1.0	20 times
13	Sales Schedule	Duration	Capacity	Halfhours	1.0	10 times

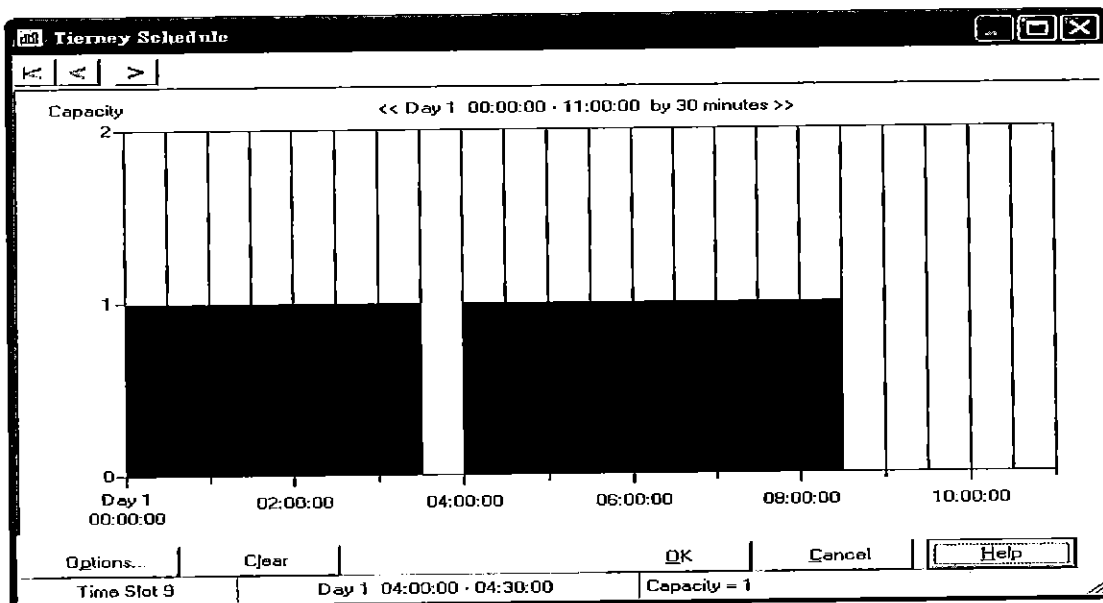
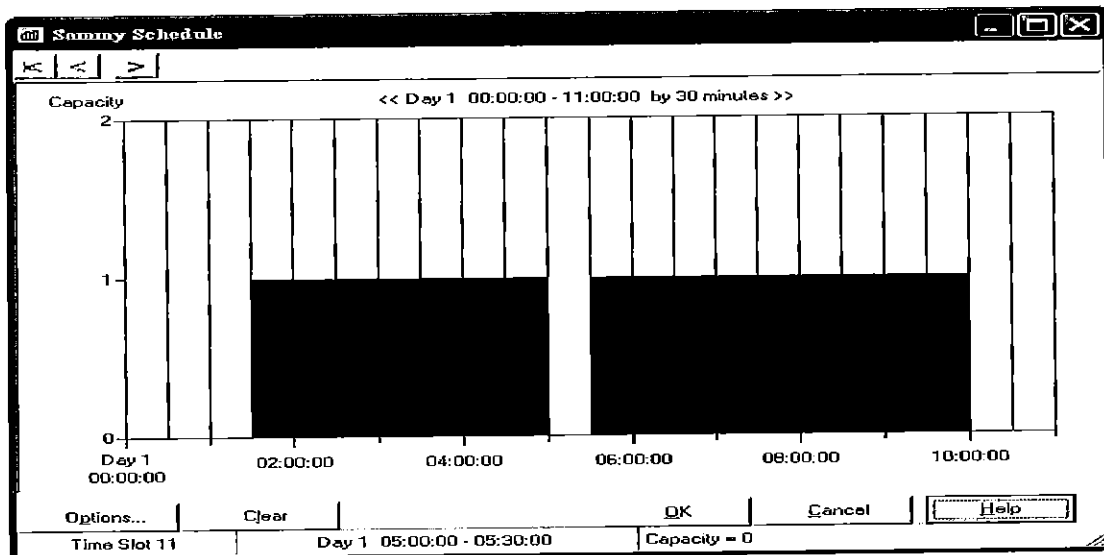
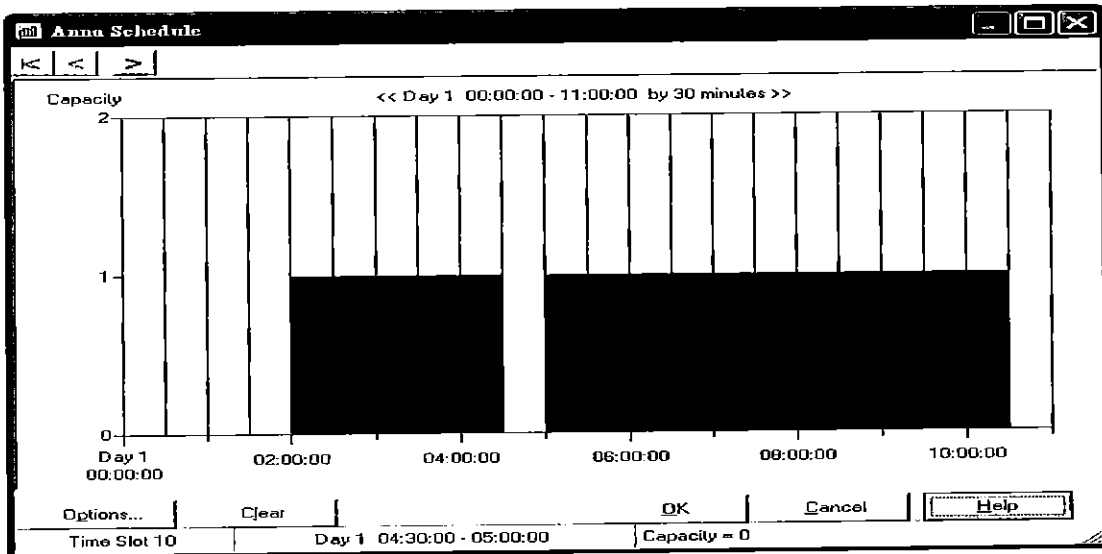
Double-click here to add a new row.

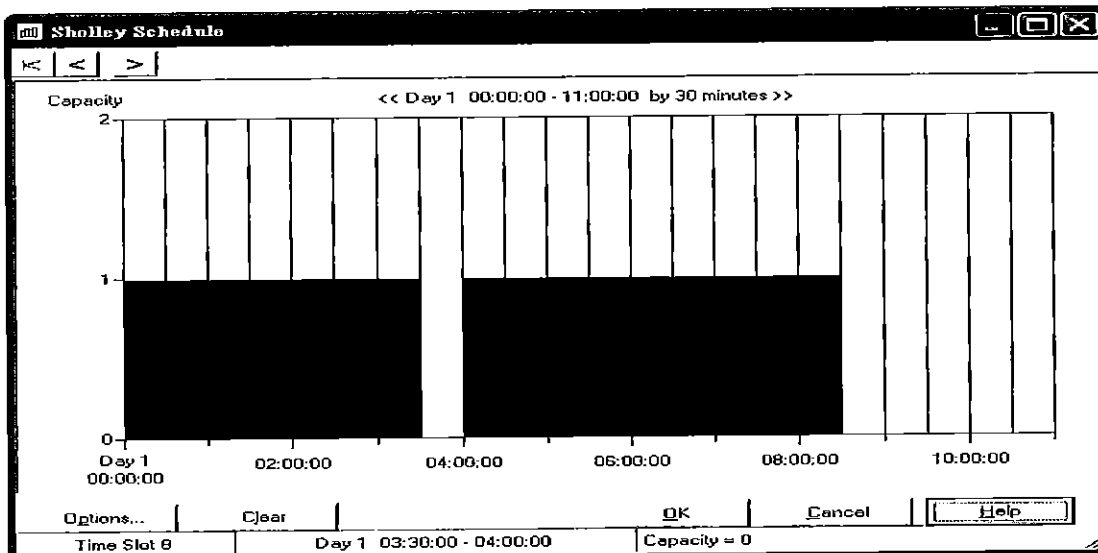
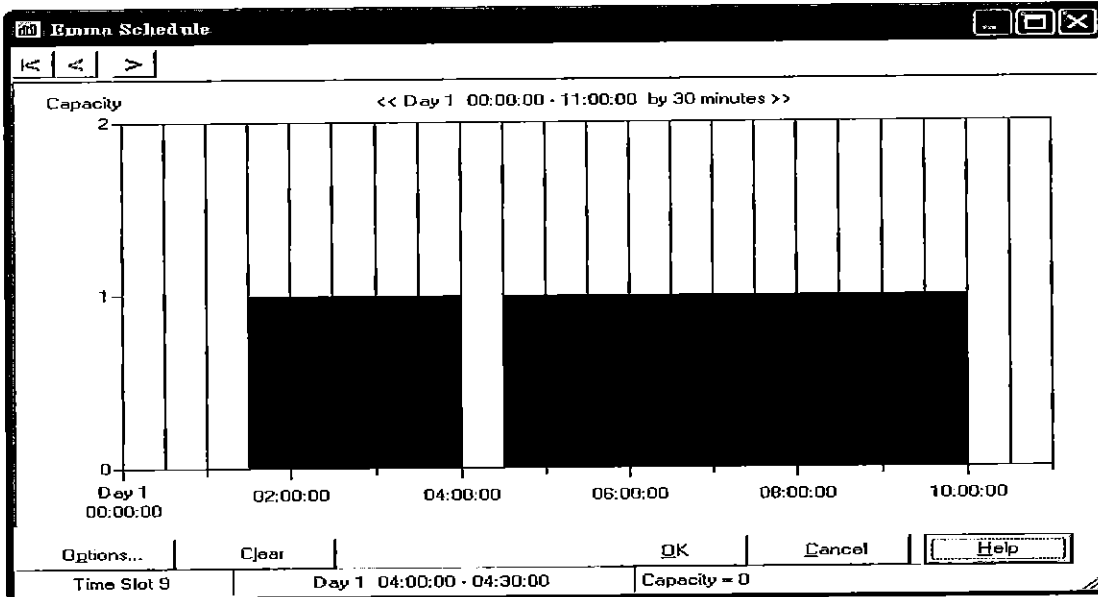
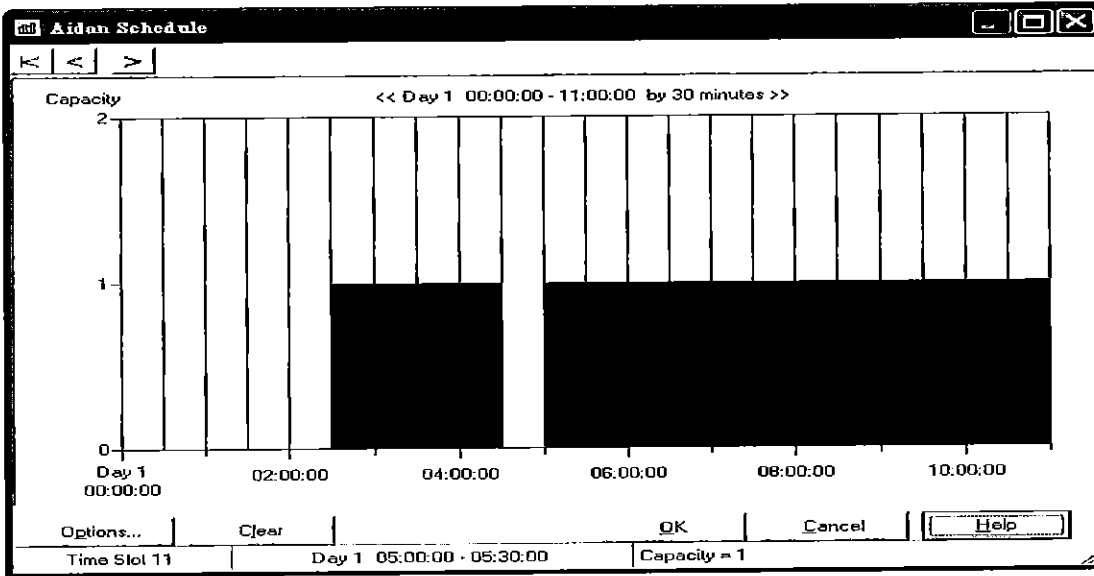
← 依 P 226 下方逐一输入

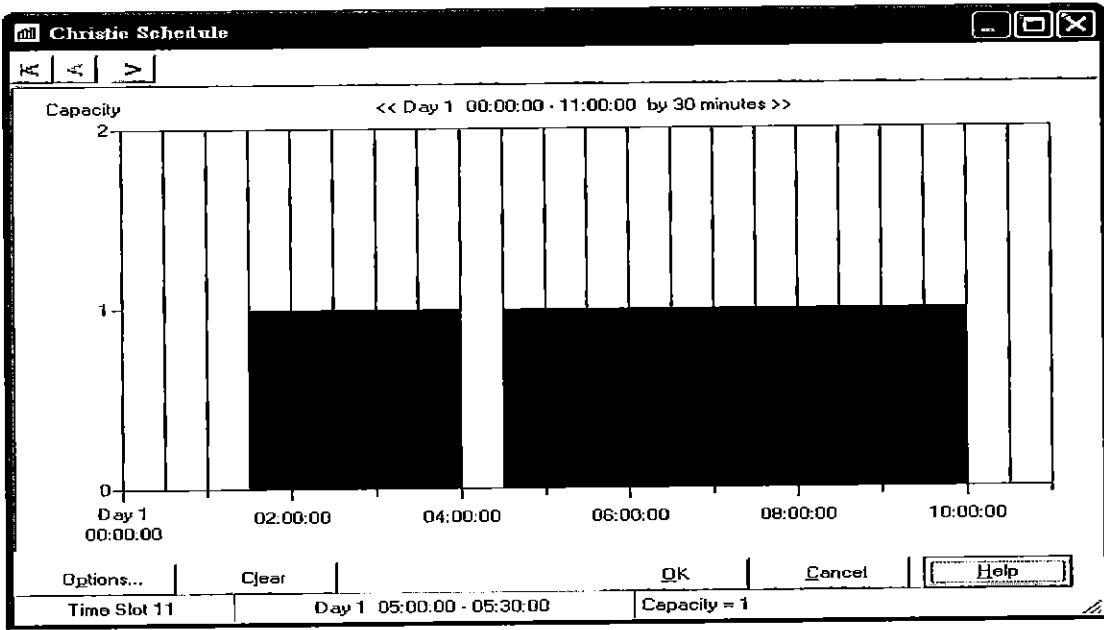
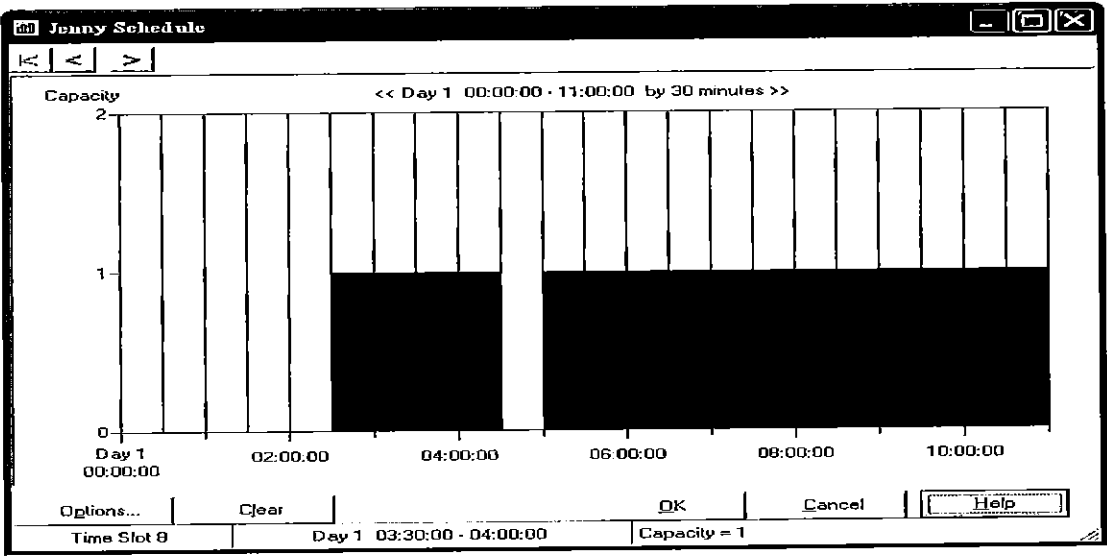
← 依 P 226 下方逐一输入

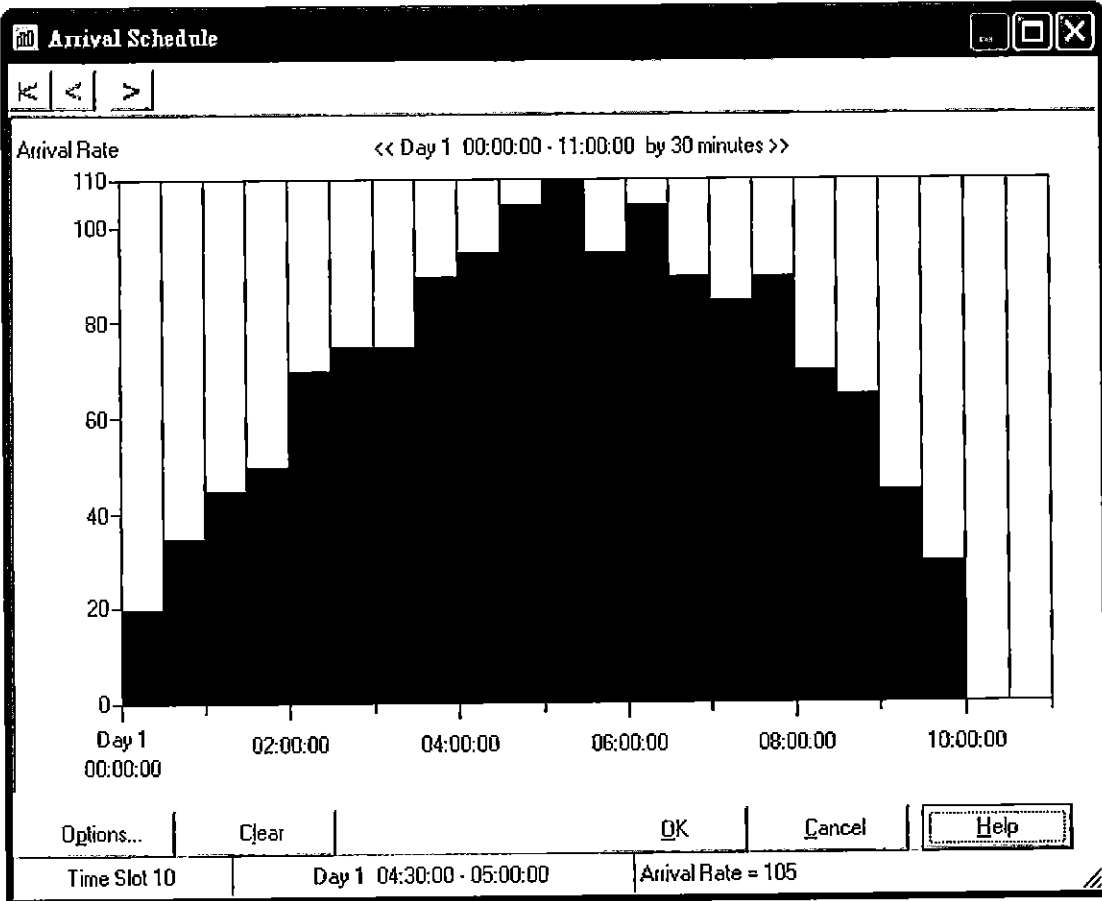












**Options** [Close]

**X-axis**

Time slot duration: [30 minutes]

Range (time slots): [22]

Calendar speed (slots per click): [1]

Show vertical grid lines

**Y-axis**

Maximum: [110]

Minimum: [0]

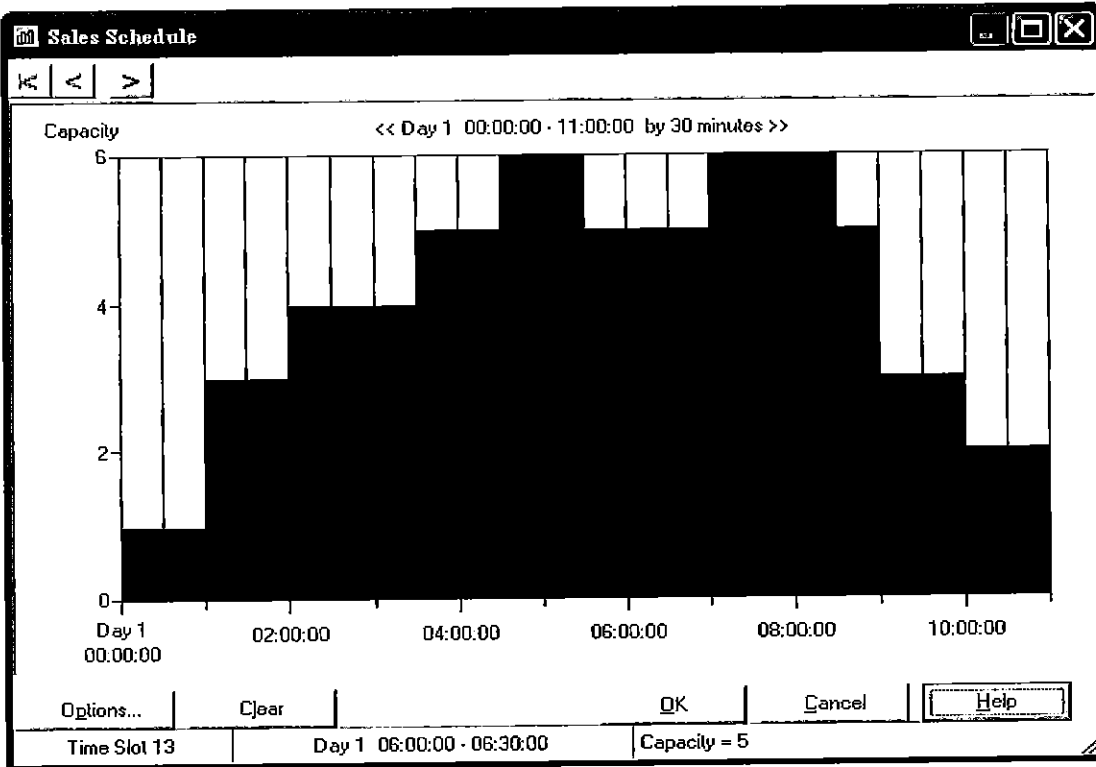
Snap spacing: [1]

When at end of schedule:

Repeat from beginning

Remain at arrival rate [0]

Apply | Cancel



BASIC PROCESS / SET

Arena - [Model05-02.doc]

File Edit View Tools Arrange Object Run Window Help

Toolbar icons: Undo, Redo, Copy, Paste, Select, etc.

Process List

	Name	Type	Members
1	Product1	Resource	5 rows
2	Product2	Resource	5 rows
3	Product3	Resource	6 rows
4	Rejected Calls	Counter	10 rows

Double-click here to add a new row.

Charity

Members	
	Resource Name
1	[Redacted]
2	Noah
3	Molly
4	Anna
5	Sammy

Double-click here to add a new row.

PRODUCT 1

Members	
	Resource Name
1	Hemey
2	Aidan
3	Emma
4	Anna
5	Sammy

Double-click here to add a new row.

PRODUCT 2

Members	
	Resource Name
1	Shelley
2	Jenny
3	Christie
4	Molly
5	Anna
6	Sammy

Double-click here to add a new row.

PRODUCT 3

Members	
	Counter Name
1	Period 01 Rejected Calls
2	Period 02 Rejected Calls
3	Period 03 Rejected Calls
4	Period 04 Rejected Calls
5	Period 05 Rejected Calls
6	Period 06 Rejected Calls
7	Period 07 Rejected Calls
8	Period 08 Rejected Calls
9	Period 09 Rejected Calls
10	Period 10 Rejected Calls

Double-click here to add a new row.

Rejected calls

# Advanced Process / Statistic

The screenshot shows a software window with a menu bar (File, Edit, View, Tools, Arrange, Object, Run, Window, Help) and a toolbar. Below the toolbar is a diagram with two boxes: 'Create Call Arrivals' and 'Record Attempted Call', connected by an arrow. Three arrows point down from the diagram to a table below.

	Name	Type	Counter Name	Limit	Initialization Option	Coax	Report Label	Outp
1	Period 01	Counter	Period 01 Rejected Calls	Rejects	Rejects		Period 01	
2	Period 02	Counter	Period 02 Rejected Calls	Rejects	Rejects		Period 02	
3	Period 03	Counter	Period 03 Rejected Calls	Rejects	Rejects		Period 03	
4	Period 04	Counter	Period 04 Rejected Calls	Rejects	Rejects		Period 04	
5	Period 05	Counter	Period 05 Rejected Calls	Rejects	Rejects		Period 05	
6	Period 06	Counter	Period 06 Rejected Calls	Rejects	Rejects		Period 06	
7	Period 07	Counter	Period 07 Rejected Calls	Rejects	Rejects		Period 07	
8	Period 08	Counter	Period 08 Rejected Calls	Rejects	Rejects		Period 08	
9	Period 09	Counter	Period 09 Rejected Calls	Rejects	Rejects		Period 09	
10	Period 10	Counter	Period 10 Rejected Calls	Rejects	Rejects		Period 10	
11	Exclusive Research WIP	Time-PerfStat				NSIC/Exclusive Research Storage	Exclusive Research WIP	
12	Task 1 Total Online WIP Stat	Time-PerfStat				Task 1 Total Online WIP	Task 1 Total Online WIP Stat	
13	Task 2 Total Online WIP Stat	Time-PerfStat				Task 2 Total Online WIP	Task 2 Total Online WIP Stat	
14	Task 3 Total Online WIP Stat	Time-PerfStat				Task 3 Total Online WIP	Task 3 Total Online WIP Stat	

Handwritten notes on the left side of the screenshot include 'copy' and 'copy' with arrows pointing to the table. At the bottom, there is a handwritten note in Chinese: '此處 已 反 白 的 再 更 改 可 以 建 操 作'.

4

The 'Create' dialog box has the following fields:

- Name: Create Call Arrivals
- Entity Type: Incoming Call
- Time Between Arrivals: (empty)
- Type: Schedule
- Schedule Name: Arrival Schedule
- Entities per Arrival: 1
- Max Arrivals: Infinite

Buttons: OK, Cancel, Help

①

① 删除

Assign module

**Run Setup**

Run Speed	Run Control	Reports
Project Parameters	Replication Parameters	Array Sizes
Number of Replications:   1	Initialize Between Replications	
	<input checked="" type="checkbox"/> Statistics	<input checked="" type="checkbox"/> System
Start Date and Time:   [ ]		
Warm-up Period:   0.0	Time Units:   Hours	
Replication Length:   Infinite	Time Units:   Minutes	
Hours Per Day:   24	Base Time Units:   Minutes	
Terminating Condition:   TNOW >= 600.0 && NR(Trunk Line) == 0		

確定      取消      説明



②

**Record**

Name: Rejected Calls Type: Count

Value: | 1

Record into Set

Counter Set Name: Rejected Calls Set Index: AINI((TNOW/60) + 1)

OK      Cancel      Help

③

**Assign**

Name: TechCallEntitySystemPicture

Assignments:

<u>Entity Type TechCall</u>	Add...
Entity Picture, Picture, Tech Call 1	Edit...
Attribute, Tech Call Type, 1	
<End of list>	Delete

OK      Cancel      Help



4

5

**Assign**

Name: Tech Call 2, Entity Type and Picture

Assignments:

- Entity Type, Tech Call 2 Add...
- Entity Picture, Picture, Tech Call 2 Edit...
- Attribute, Tech Call Type, 2 Delete
- <End of list>

OK Cancel Help

**Assign**

Name: Tech Call 2, Entity Type and Picture

Assignments:

- Entity Type, Tech Call 3 Add...
- Entity Picture, Picture, Tech Call 3 Edit...
- Attribute, Tech Call Type, 3 Delete
- <End of list>

OK Cancel Help

**Assignments**

Type: Entity Type Entity Type: Tech Call 3

Tech Call 1  
Tech Call 2

OK Cancel Help

3 4 5

**Assignments**

Type: Entity Picture Entity Picture: Picture, Tech Call 3

Picture, Tech Call 1  
Picture, Tech Call 2

OK Cancel Help

3 4 5

**Assignments**

Type: Attribute Attribute Name: Tech Call Type

New Value: 3

OK Cancel Help

3 4 5

1 2 /

3

**Process**

Name: 2 Type: Standard

Logic

Action: Seize Delay Release Priority: Medium(2)

Resources: 3

Preferred Order  
 Tech Agent Index  
 Add...  
 Edit...  
 Delete

---

Delay Type: Expression Units: Minutes Allocation: Value Added

Expression: Tech Time

Report Statistics

OK Cancel Help

6 7 8

**Resources**

Type: 3

Set Name: 2, 3 Quantity: 1

Selection Rule: Preferred Order Save Attribute: Tech Agent Index

OK Cancel Help

6 7 8

PRODUCT (Tech Agent Index)

**Decide**

Name: Backoffice Research and Return Call? Type: 2-way by Chance

Percent True (0-100): 4 %

OK Cancel Help

9

**Release**

Name:

Resources:

<input type="text" value="Resource Trunk Line"/>	Add...
<End of list>	Edit...
	Delete

OK Cancel Help

(10)

**Resources**

Type:

Resource Name:  Quantity:

OK Cancel Help

(10)

**Dalry/Bhck**

Label:

Mark Attribute:

Next Label:

Duration:

Storage ID:

Allocation:

Comments:

OK Cancel Help

(11)

取得済  
Advanced  
Process  
Storage

下書き

Backoffice Research  
Storage

**Assign**

Name:

Assignments:

<input type="text" value="Variable Array (ID) Tech Return WIP Tech"/>	Add...
<End of list>	Edit...
	Delete

OK Cancel Help

(12)

**Assignments**

Type:	Variable Name:	Row:
<input type="text" value="Variable Array (ID)"/>	<input type="text" value="Tech Return WIP"/>	<input type="text" value="Tech Call Type"/>
New Value:		
<input type="text" value="Tech Return WIP(Tech Call Type) + 1"/>		

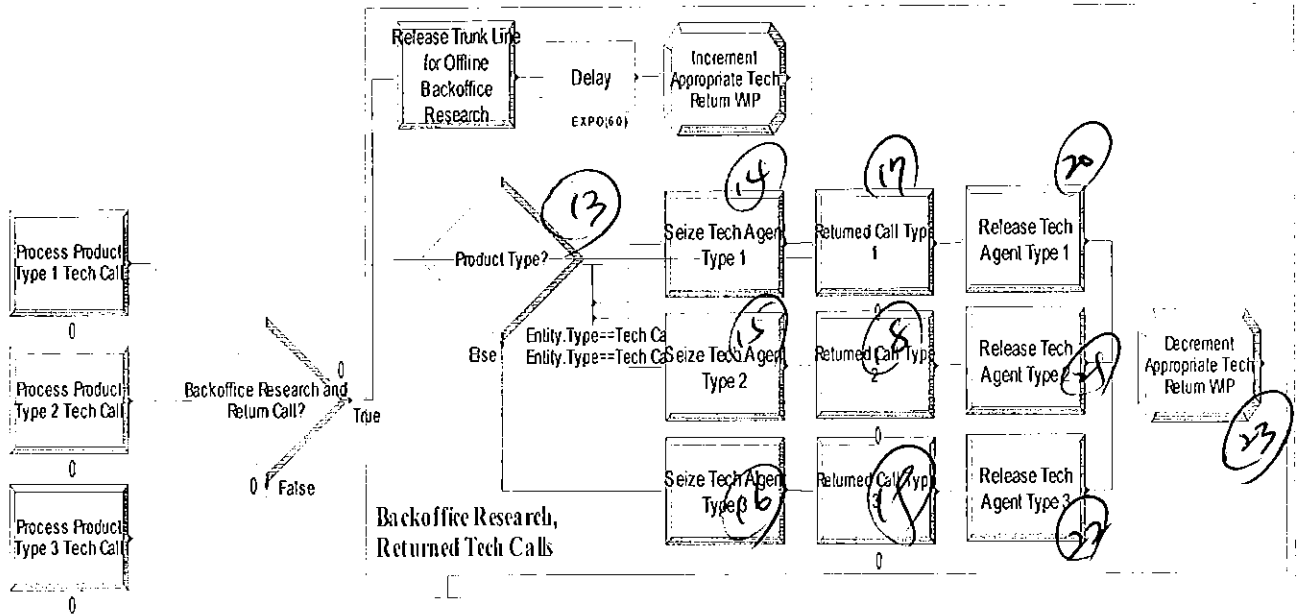
OK Cancel Help

(12)

Tech Return WIP (Tech Call Type)

Tech Call Type = 1, 2, 3

- 1 product 1
- 2 product 2
- 3 product 3



**Decide**

Name:  Type:

Conditions:

<del>Entity.Type == Tech Call 1</del>	Add...
Entity Type, Tech Call 2	Edit...
<End of list>	Delete

OK Cancel Help

(13)

**Conditions**

If:  Named:

OK Cancel Help

(13)'

**Condition**

If:  Named:

OK Cancel Help

(13)

**Seize**

Name:  Allocation:  Priority:

Resources:

Add...

<End of list> Edit...

Delete

Queue Type:  Queue Name:

OK Cancel Help

(14) (15) (16)

**Resources**

Type:

Set Name:  Quantity:

Selection Rule:  Set Index:

Resource State:

OK Cancel Help

(14)' (15)' (16)'

**Process**

Name: Returned Call Type 1 Type: Standard

Logic

Action: Seize Delay Release Priority: High(1)

Resources:

Resource: ~~Trunk Line~~ Add...  
 <End of list> Edit...  
 Delete

---

Delay Type: Expression Units: Minutes Allocation: Value Added

Expression: Returned Tech Time

Report Statistics

OK Cancel Help

(17) (18) (19)

Advanced Process  
 Expression  
 TRIA(2,4,9)

**Release**

Name: Release Tech Agent Types

Resources:

Set: Product 1 Specific Member: Tech Agent Add...  
 <End of list> Edit...  
 Delete

OK Cancel Help

(20) (21) (22)

**Resources**

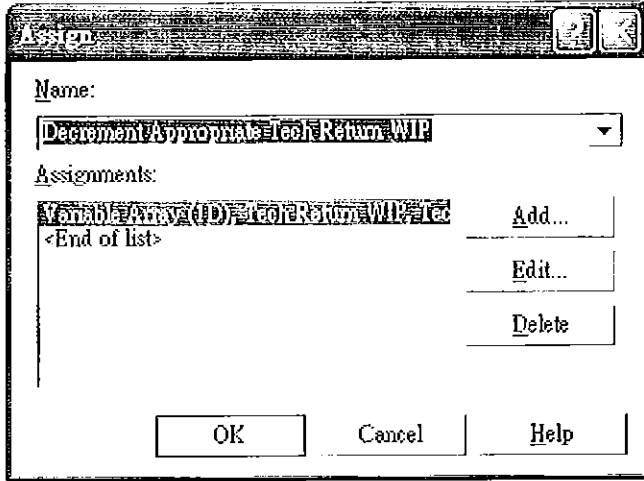
Type: Set

Set Name: Product Quantity: 1

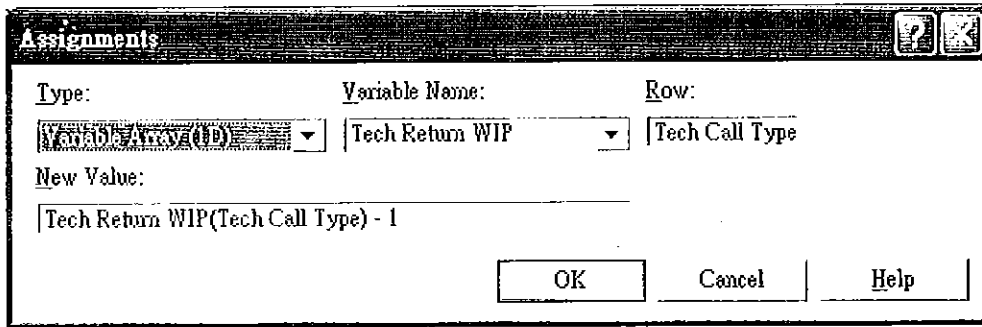
Release Rule: Specific Member Set Index: Tech Agent Index

OK Cancel Help

(20) (21) (22)



23



23

~~Advance~~ BASIC PROCESS / VARIABLE

Tech Return WIP

Row  
3

记得宣告

\*

共

Expression 下有 4 项, Returned Tech Time

Tech Time

Tech 1 Total Online WIP  
 Tech 2 Total Online WIP  
 Tech 3 Total Online WIP

Process Product Type 1 Tech Call, WIP + Tech Return

2

WIP(1)

3

(2)

(3)