

# **Reference Manual**

## **For VOS3000 2.1.1.8 Client**

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## **Symbols**

- < >      Texts and elements visible in client-end interfaces
- \*          Tips for users' reference.
- \*\*         General information to help users fulfill certain operation.
- \*\*\*       Important information to be read carefully in order to avoid unnecessary loss.

## **Illustration of the client-end interface**

The screenshot displays a software application window titled "admin@172.16.1.34 vos3000.2.1.1.8". The interface includes a menu bar with options like "System", "Operation Management", "Audio Management", "Data Query", "Data Report", "CDR Analysis", "Cards Management", "System Management", and "Number Management". Below the menu is a toolbar with icons for "Open", "Filter", "Copy", "Paste", "Add", "Delete", "Apply", "Export", and "Import".

On the left side, there is a "Navigation" tree and a "Filter" panel. The "Filter" panel includes sections for "Account Type" (with "General" selected), "Filter Account" (with "All" selected), "Account Category" (with "Agent" and "Account" options), and "Account Status" (with "Active" selected). A "Filter" button is located below these sections.

The main area contains a spreadsheet table with the following data:

AccountID	Account Name	Current Balance	Overdraft Limit	Billing Rate	Today Consumption	Number of Gateway	Number of Phone N
0110	0110	10.000	0.000	test	0.000/0	1	0
0113	0113	10.000	0.000	test	0.000/0	1	0
111	111	10.000	0.000	test	0.000/0	2	0
112	112	10.000	0.000	test	0.000/0	1	0

At the bottom of the spreadsheet, there is a status bar showing "Total: 4Row(s)". The system tray at the bottom right displays "中国标准时间 2009-09-14 10:40:28" and "SoftSwitch:1 IVR:1".

Annotations with arrows point to the following elements:

- Status indicator (top right corner)
- Toolbar (top right, below status indicator)
- Spreadsheets (main table area)
- Filters (left side filter panel)
- Navigation tree (left side navigation pane)
- Current sheet (bottom right of the spreadsheet area)

## Chapter 1 Operation guide

In VOS3000, most data managements can be completed through sheets. Sheets can be opened by double-clicking corresponding nodes in <navigation>. The following operations are supported:

- Filter: Get current configuration from server.
- Copy: Copy the currently selected sheet line into the clipboard.
- Paste: Paste the line in the clipboard into a sheet with the same type.
- Insert: Insert new lines.
- Delete: Delete sheet lines. If the data are at the server, the selected lines will be marked as “to be deleted”.
- Apply: Send currently specified operations (such as insertion, deletion and modification) to the server to carry out. (\*\* Before clicking “apply”, all the operations of data are saved only at the client end and will not affect the server-end data; closing the management page would discard these operations)
- Export: Export the current sheet into local files.
- Import: Import data from local files into the sheet (supported by a few types of sheets)

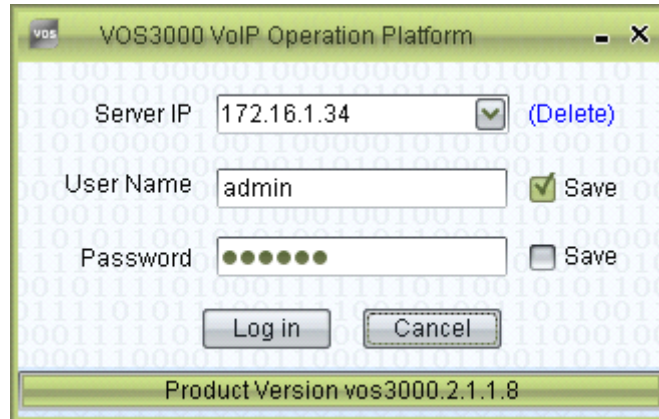
Batch data operations can be fulfilled by “copy”, “paste”, and column “fill-down” functions supported by spreadsheets in VOS3000. See the illustration below:

^ Rate-Group Name	Number of Rates
test	9697
	0

Open
Filling Downwards
Authorization

## 1 Login



Upon running VOS3000 client, the login dialogue will be shown.

- Server IP: IP address of the remote server.
- User Name: User names allowed by the platform.
- Password: User password allowed by the platform.

The system will record IP addresses typed by users for later use. Users can also delete these historical server IP. The initial User Name and Password are both *admin*.

## 2 Rate Management

### 2.1 Rate Group Management

The screenshot shows a web-based interface for Rate Management. The main window displays a table with columns: Rate Prefix, Rate Type, Area Name, First Time Rate, First Time Duration, Billing Rate, and Billing Cycle. The table contains numerous rows of data, including rate prefixes from 1150 to 1246251. On the left side, there is a navigation panel with options for Rate Prefix, Rate Type, and Area Name, along with routing settings and buttons for adding China Area Codes. The interface also includes a top menu bar with various system management options and a bottom status bar showing the current time and user information.

Rate Prefix	Rate Type	Area Name	First Time Rate	First Time Duration	Billing Rate	Billing Cycle
1150	International	United States	0.0000000	0	0.0001558	1
1177	International	United States	0.0000000	0	0.0001558	1
1201	International	United States - On Net	0.0000000	0	0.0001558	1
1202	International	United States - On Net	0.0000000	0	0.0001558	1
1203	International	United States	0.0000000	0	0.0001558	1
1204	International	Canada - Manitoba	0.0000000	0	0.0001192	1
1205	International	United States	0.0000000	0	0.0001558	1
1206	International	United States - On Net	0.0000000	0	0.0001558	1
1207	International	United States	0.0000000	0	0.0001558	1
1208	International	United States	0.0000000	0	0.0001558	1
1209	International	United States - On Net	0.0000000	0	0.0001558	1
1210	International	United States - On Net	0.0000000	0	0.0001558	1
1212	International	United States - New Y...	0.0000000	0	0.0001558	1
1213	International	United States - On Net	0.0000000	0	0.0001558	1
1214	International	United States - On Net	0.0000000	0	0.0001558	1
1215	International	United States - On Net	0.0000000	0	0.0001558	1
1216	International	United States - On Net	0.0000000	0	0.0001558	1
1217	International	United States	0.0000000	0	0.0001558	1
1218	International	United States	0.0000000	0	0.0001558	1
1219	International	United States	0.0000000	0	0.0001558	1
1224	International	United States - On Net	0.0000000	0	0.0001558	1
1225	International	United States	0.0000000	0	0.0001558	1
1226	International	Canada	0.0000000	0	0.0001283	1
1227	International	United States	0.0000000	0	0.0001558	1
1228	International	United States	0.0000000	0	0.0001558	1
1229	International	United States - On Net	0.0000000	0	0.0001558	1
1231	International	United States	0.0000000	0	0.0001558	1
1234	International	United States	0.0000000	0	0.0001558	1
1239	International	United States	0.0000000	0	0.0001558	1
1240	International	United States - On Net	0.0000000	0	0.0001558	1
1242	International	Bahamas	0.0000000	0	0.0005683	1
1246	International	Barbados	0.0000000	0	0.0017233	1
124623	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
124624	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
1246250	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
1246251	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1

#### How to start

- Double click <Navigation> → <Rate Management>

#### Spreadsheet items

- Rate group name: The name of the rate group. When new accounts are created, one rate group must be specified, and the name here will be used to identify the groups. (\*Try to choose more informative names that remind people of the rate's details)
- Number of Rates: The number of rates contained in the group.
- Memo: Additional comments
- Number of accounts: The number of accounts using this rate group.
- Creator: The name of the user who created this rate group.

#### Filters

- Add China Area Code(Full): Automatically add prefixes for all Chinese mobile phone numbers, which start with "013", "015", or "018".
- Add China Area Code(Brief): Automatically add prefixes from "01" to "09".



**Other operations**

- Double click the numbers at <Number of rates> to enter the rate management page.
- Double click the numbers at <Number of accounts> to enter the account management page.

**Right-click menu**

- Open: Enter the rate management page.
- Authorization: Enter the authorization management page (\*You can simultaneously select multiple rate groups).



(\*\* For agent, when login system, only those rate groups in the <Authorization> lists will be shown. As illustrated above, this rate group can be seen by “agent1”, “agent2” and “agent3”.)

## 2.2 Rate Management

The screenshot shows a web-based interface for Rate Management. The main area contains a table with the following columns: Rate Prefix, Rate Type, Area Name, First Time Rate, First Time Duration, Billing Rate, and Billing Cycle. The table lists various international rates for different areas like United States, Canada, and Barbados. On the left, there are filter options for Rate Prefix, Rate Type, and Area Name, along with routing settings for adding China area codes. The bottom status bar shows the time as 2009-09-14 11:19:21 and the system as SoftSwitch 1 IVR 1.

Rate Prefix	Rate Type	Area Name	First Time Rate	First Time Duration	Billing Rate	Billing Cycle
1150	International	United States	0.0000000	0	0.0001558	1
1177	International	United States	0.0000000	0	0.0001558	1
1201	International	United States - On Net	0.0000000	0	0.0001558	1
1202	International	United States - On Net	0.0000000	0	0.0001558	1
1203	International	United States	0.0000000	0	0.0001558	1
1204	International	Canada - Manitoba	0.0000000	0	0.0011921	1
1205	International	United States	0.0000000	0	0.0001558	1
1206	International	United States - On Net	0.0000000	0	0.0001558	1
1207	International	United States	0.0000000	0	0.0001558	1
1208	International	United States	0.0000000	0	0.0001558	1
1209	International	United States - On Net	0.0000000	0	0.0001558	1
1210	International	United States - On Net	0.0000000	0	0.0001558	1
1212	International	United States - New Y...	0.0000000	0	0.0001558	1
1213	International	United States - On Net	0.0000000	0	0.0001558	1
1214	International	United States - On Net	0.0000000	0	0.0001558	1
1215	International	United States - On Net	0.0000000	0	0.0001558	1
1216	International	United States - On Net	0.0000000	0	0.0001558	1
1217	International	United States	0.0000000	0	0.0001558	1
1218	International	United States	0.0000000	0	0.0001558	1
1219	International	United States	0.0000000	0	0.0001558	1
1224	International	United States - On Net	0.0000000	0	0.0001558	1
1225	International	United States	0.0000000	0	0.0001558	1
1226	International	Canada	0.0000000	0	0.0012831	1
1227	International	United States	0.0000000	0	0.0001558	1
1228	International	United States	0.0000000	0	0.0001558	1
1229	International	United States - On Net	0.0000000	0	0.0001558	1
1231	International	United States	0.0000000	0	0.0001558	1
1234	International	United States	0.0000000	0	0.0001558	1
1239	International	United States	0.0000000	0	0.0001558	1
1240	International	United States - On Net	0.0000000	0	0.0001558	1
1242	International	Bahamas	0.0000000	0	0.0055683	1
1246	International	Barbados	0.0000000	0	0.0017233	1
124623	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
124624	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
1246250	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1
1246251	International	Barbados - Mobile - CW	0.0000000	0	0.0031442	1

### How to start

- Select a line in the rate group management page, and choose <Open> in the right-click menu
- Double-click the <Number of rates> in the rate group management page.

### Spreadsheet items

- Rate prefix: The prefix of the called number which matches this rate.  
(\* The longest matching prefix will be used. For example, if there are two rate prefix, "0" and "01", the number "01117" will be match to "01" since it is the longest pattern that matches "01117").
- Rate type: Available options are "Net", "Local", "National", and "International".  
(\* The type will not only be shown in CDR, but also used in many filters and statistics. Please correctly specify the rate type. Meanwhile, this type will be checked before calling. If a caller does not have the authorization to call the type of number specified here, the call will be banned).
- Area Name: The area corresponding to the rate prefix
- First Time Rate: The rate for the first time duration when the session time is nonzero.

(Unit: Dollar)

- First Time Duration: The length of the first time. Sessions that exceeds this time interval will be charged according to the <Billing Rate> and <Billing Cycle> specified below. If this parameter is set to 0, the <Billing Rate> and <Billing Cycle> will be used from the beginning. (Unit: Second)
- Billing Rate: The fee charged for every Billing Cycle (Unit: Dollar)
- Billing Cycle: The session time that exceeds the “First Time Duration” will be divided into units with length specified here. When the time cannot be divided clear, it will be rounded up to the nearest integer. (\* An example: if the “First Time Rate” is “0.21”, the “First Time Duration” is “180”, the “Billing Rate” is “0.15”, and the “Billing Cycle” is 60, then according to this rate, a session that lasts 250s will be charged  $0.21 + 0.15 * 2 = 0.51$  Dollar)

### **Other operations**

- The spreadsheet supports <Import> and <Export> operations. Refer to the exported files for the import format.

### **Right-click menu**

- Add initials to prefixes: When selected lines are in the status of “to be added”, the function can be used to modify their initials.
- Remove initials from prefixes: When selected lines are in the status of “to be added”, the function can be used to modify their initials.  
(\* Some international rate list use nonstandard initials. These functions can be used to adjust the initials after import)

### **Tips**

- When creating rate policies for national calls, try to use rate prefixes like “01” -- “09” instead of using a single “0”. Otherwise, if the international rate policies are incomplete, some international calls might be matched to “0” and misclassified as national calls.

## 3 Package Management

### 3.1 Package Group Management

The screenshot displays the VOS3000 VoIP Operation Platform software interface. The main window shows the 'Package Management' section. On the left, there is a navigation tree with 'Package Management' selected. The main area contains a table with the following data:

Package Name	Lease Type	Lease Rent	Period Rate	Free Duration	Free Money Amount	Memo	Create
21	Monthly	0.0000000	0	0	0.0000000		admin
22	Monthly	0.0000000	0	0	0.0000000		admin
23	Monthly	0.0000000	0	0	0.0000000		admin
24	Monthly	0.0000000	0	0	0.0000000		admin
25	Monthly	0.0000000	0	0	0.0000000		admin
26	Monthly	0.0000000	0	0	0.0000000		admin
27	Monthly	0.0000000	0	0	0.0000000		admin
28	Monthly	0.0000000	0	0	0.0000000		admin
29	Monthly	0.0000000	0	0	0.0000000		admin

The status bar at the bottom indicates 'Selected 0 Row(s) Total: 9 Row(s)' and the time '2009-09-14 11:21:32'.

#### How to start

- Double-click <Navigation>→<Package Management>

#### Spreadsheet items

- Package Name: The name of the package.
- Lease Type: There are three options available: “Daily”, “Monthly” and “Yearly”.
- Lease Rent: The rent charged per lease.  
 (\* The rent will be charge at the beginning of each lease.)  
 (\* If there are multiple packages, the rent will be charge in the order of: daily, monthly and yearly ones. If the account balance does not suffice to pay a certain package, that package will not come into effect for this account.)
- Period Rate: The rate of a certain time period. Double-click to open the Period Rate Management. Please refer to the next section for details.
- Free Duration: Free sessions provided by the package. Double-click to edit it.  
 (\* The Free Duration will be used first, then the Free Money Amount.)

## 3.2 Package Free Duration Management

Rate Prefix	Free Duration	Billing Cycle	Memo
9	100	6	
10	100	6	
11	100	6	

### How to start

- Double-click <Navigation>→<Package Management>→<Package Free Duration Management>

### Spreadsheet items

- Rate Prefix: The prefix of Free Duration.
- Free Duration: Free time for the prefix.
- Billing Cycle: Charge cycle.
- Memo: Comments on the package

### Right-click menu

- Authorization (\*It is the same as that of rate groups)

### 3.3 Package Period Rate Management

Period Type	Begin Date	End Date	Begin Time	End Time	Period Rate
Week Period	Sunday	Saturday	00:00:00	24:00:00	0.05
Week Period	Sunday	Saturday	00:00:00	24:00:00	0.05
Week Period	Sunday	Saturday	00:00:00	24:00:00	0.05
Week Period	Sunday	Saturday	00:00:00	24:00:00	0.05

#### How to start

- Double-click the numbers at the <Package Management>-> <Package Period Rate>

#### Examples:

- The rate in the weekends are “0.05”.

Period Type	Begin Date	End Date	Begin Time	End Time	Period Rate
Week Period	Sunday	Saturday	00:00:00	24:00:00	0.05

- The rate from 23:00 to 8:00 is “0.3” and “0.4” for the rest of the time

Period Type	Begin Date	End Date	Begin Time	End Time	Period Rate
Week Period	Sunday	Saturday	00:00:00	08:00:00	0.3
Week Period	Sunday	Saturday	08:00:00	23:00:00	0.4
Week Period	Sunday	Saturday	00:00:00	08:00:00	0.3

- The rate from 00:00:00, May 1<sup>st</sup>,2009 to 21:00:00, May 7<sup>th</sup>, 2009 is “0.4”.

Period Type	Begin Date	End Date	Begin Time	End Time	Period Rate
Year Period	2009-05-01	2009-05-07	00:00:00	21:00:00	0.4

(\*\*\* The start and expiration time for yearly periods are different from those for weekly or monthly ones).

## 4 Account management

### 4.1 Ordinary accounts

Account ID	Account Name	Current Balance	Overdraft Limit	Billing Rate	Today Consumption	Number of Gateway	Number of Phone
0110	0110	10.000	0.000	test	0.000/0	1	
0113	0113	10.000	0.000	test	0.000/0	1	
111	111	10.000	0.000	test	0.000/0	2	
112	112	10.000	0.000	test	0.000/0	1	

#### How to start

- Double-click <Navigation>→<Account management>

#### Spreadsheet items

- Account number: The unique identification of the account. This number must be unique and cannot be modified once the account is created.
- Account name: The name of the account (such as the full name of the user)
- Balance: The current balance of the account
- Maximum credit: The maximum credit of the account
- Billing Rate: The rate policy rate group the account belongs to
- Daily consumption: The consumption today
- Number of gateways: Non-editable. The number of gateways for this account. Double-click to enter the gateway management page for this account.
- Number of phones: Non-editable. The number of phones in this account. Double-click to enter the phone numbers management page for this account.

- Number of cards in use: Non-editable. It shows the number of phones bound to this account.
- Number of packages: Non-editable. It shows the number of packages purchased by this account.
- Package status: Non-editable. The number of packages subscribed by the account.
- Agency: The <Account number> of its parent account. The parent account must exist. Upon designation, the parent account will become the “Agent” type.
- User information: Information about the user. Click <Edit> to change.
- Account type: <Account> or <Agent>. Non-editable. When an account has sub accounts, it automatically becomes an agent. Please refer to the “Agency” items for details.
- Balance type: Options include “ordinary account”, “card account”, and “balance account”.
- Memo: Comments on the account.
- Account status: <Normal> or <Locked>
- Expiration date: The expiration date of the account
- Date of creation: Non-editable. The date when the account is created.

#### **Other operations**

- Double-click the number at <Number of gateways> to enter the <Gateway management> page for the account
- Double-click the number at <Number of phones> to enter the <Phone number management> page
- Double-click the number at <Number of cards in use> to enter the <Card management> page
- Double-click the number at <Number of packages> to manage the packages subscribed by the account
- Double-click the number at <Package status> to edit the current package of the account

#### **Right-click menu**

- Disable account: Disable the account and all its sub accounts. Phone numbers belonging to these accounts will not be able to make phone calls.
- Enable account: Enable the disabled account

(\*\*\* If an account is deleted, phone numbers belonging to that account will belong to no account.)



## 4.1.1 Customer Package Management

Package Na...	Effective Date	Invalid Time	Lease Type	Lease Rent	Period Rate	Free Duration	Free Money Amount
21	2009-10-11	None		0.0000000	0	0	0.0000000
	2009-10-11	None		0.0000000	0	0	0.0000000
	2009-10-11	None		0.0000000	0	0	0.0000000

### How to start

- Double-click <Navigation>→<Account management>→ <Number of Package>

### Spreadsheet items

- Add packages for the account, set the start and expiration dates of packages, lease type, lease rent, tiPeriod Rate gift session, gift amount, etc.

(\*\* The expiration date is the date after which the package can be no longer purchased.

For example, if a monthly lease has its the starting date on the first day of a month, with its expiration date on the 15<sup>th</sup> of the month, the month lease subscribed in the beginning of the month will be in effect through the end of month, yet after 15<sup>th</sup>, the package will not be available for subscription)

## 4.2 Payment

### How to start

- Double-click <Navigation>→<Account management>→ Select an account → Click <Payment> in the right-click menu.

### Operation details

- Type of payment: Type of payment. If the recharge card is selected, the card number and password will be asked.
- Payment type: <Recharge> or <Repay>
- Amount: The amount of payment
- Memo: Comments will be kept as historical records

(\* Historical payments can be view in the payment record page)

(\* Payment will change account's expiration, please refer to system parameter:

SERVER\_ACCOUNTEXPIREDELAYAFTERPAYMENT)

## 4.3 Agent account

Agent accounts differ with ordinary accounts in that there are accounts belonging to agent accounts. Once an account becomes an agent account, it will occur in the navigation tree. Double-click the agent account in the navigation tree to open the <sub account management>

(\* Use the filter <Direct affiliation> and <All accounts>, respectively, to show the directly sub accounts and all (direct and indirect) affiliations of the account)

## 4.4 Billing

Phones, gateways and PSTN numbers will be charged according the account they currently belong to. If the number being called does not match any rate, the call will be terminated. And the cause of such termination will be shown in CDR. When the account belongs to other accounts, the call will cause the agent account to be charged according to its own rate (this backtracking process ends up at accounts that belong to no other accounts).

If the billing turns the account or any of its agent accounts into “disabled” status, the phones, gateways and PSTN numbers will no longer be able to make calls.

## 4.5 Authorization management



### How to start

- Double-click <Navigation>→<Account management>→ Select an account → Click <Authorizations> in the right-click menu

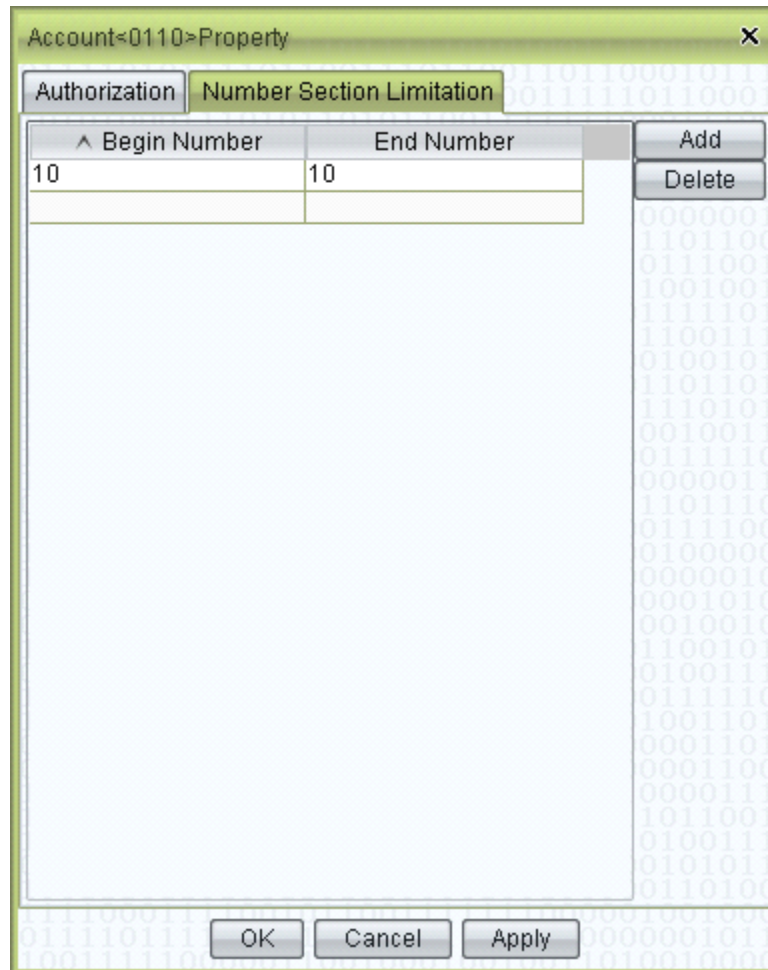
### Operation details

- Authorizations
  - Add/Delete/Modify Account: The right to create, delete or modify accounts
  - Add/Delete/Modify Phone: The right to manipulate phones belonging to the account
  - Delete/Modify Phone Card: The right to manipulate phone cards belonging to the account
  - Add/Delete Gateway: The right to manipulate gateways belonging to the account
  - Modify Gateway Information: The right to modify information about gateways except capacity

- **Modify Gateway Capacity:** The right to modify the number of lines
- **Payment For This Account:** The right to perform payment for the current account (including changing the amount of overdraft)
- **Payment For Sub Accounts:** The right to pay for the sub accounts

(\* This function is usually used to facilitate agent development. An agent user can have an agent-typed account in the system. Administrators can create one or more accounts for them, limiting their rights to recharge their own account, yet granting them authorizations to add new accounts, phones and gateways, and to recharge their sub accounts. The agent can create new accounts for its sub-agents. The agent account can only manipulate its sub accounts. Note that, accounts created by agent accounts must be designated to an agent account, and the creator must have the authorization to manipulate the designated agent account. Users logged in with an agent account can only see those accounts that authorized to the agent. This restriction applies to all account-related operations)

## 4.6 Number Section Limitation



### How to start

- Double-click <Navigation>→<Account management>→ Select an account → Click <Authorizations> in the right-click menu

### Operation details

- Begin Number: The smallest number of the segment (including the number itself)
- End Number: The largest number of the segment (including the number itself)

(\* Number restriction specifies the phone numbers that can be added to the current account, in order to avoid competition of number resources among agents)

(\* If account type is “agent”, the numbers of its sub accounts should also be in this range. Otherwise there will be error prompt from the system. If the account type is “ordinary”, the appropriate number segments will automatically added by the system)

## 5 Service management

### 5.1 Phone Services

#### 5.1.1 Phone management

The screenshot shows the VOS interface with the following components:

- Menu Bar:** System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, Number Management.
- Toolbar:** Open, Filter, Copy, Paste, Add, Delete, Apply, Export, Import.
- Navigation Pane:** Agent ID, Account ID, Account Name, Phone Number, Lock Type (No Lock, Bar Outgoing, Bar Incoming, Bar All Calls), Phone Authorization (Net, Local, National, International).
- Main Window:** Phone Management table with columns: Phone Number, Password, Display Caller ID, Lock Type, Authorization Type, Supplementary Service, Protocol Configuration, Rewrite.

Phone Number	Password	Display Caller ID	Lock Type	Authorization Type	Supplementary Service	Protocol Configuration	Rewrite
10	85505953	10	No Lock	International	Edit	Edit	
111	863567	11	No Lock	International	Edit	Edit	
111	111	111	No Lock	National	Edit	Edit	
12	689112	12	No Lock	International	Edit	Edit	
13	62161393	13	No Lock	International	Edit	Edit	

Concurrence: CDR  
Total: 5 Row(s)

中国标准时间 2009-09-14 11:45:53 | SoftSwitch 1 IVR 1

#### How to start

- Double-click <Navigation> → <Service management> → <Phone services> → <Phone management>

#### Spreadsheet items

- Phone Number: The number used as caller ID and the called number for the terminal
- Password: The password used for terminal registration (In the H323 protocol, it will be the H323ID)
- Display Caller ID: The caller ID shown at the called end. Select "Remote-Party-ID" to use the number of the original caller.
- Lock Type:
  - No restriction: No restrictions to the terminal
  - Call-out barring: The terminal is not allowed to call out
  - Call-in barring: The terminal is not allowed to be called

- Barring all calls: The terminal is denied from any service
- Authorization Type : When a call is initiated by this number, this type will be compared with the <Rate Type> of the rate. If the <Rate type> of the matching rate has higher precedence than the type specified here, the call will be denied.  
(\* The precedence of authorization is: International call > National call > Local call > net call)
- Supplementary Service:

- Display Caller ID : Display the caller's ID
- Call Forwarding: Forward the calls
- Do Not Disturb: Reject all calls
- Call Forwarding Unconditional: Forward all calls to specified number
- Call Forwarding No Reply: Forward calls to specified number when the call is not answered or the phone is out of connection
- Call Forwarding On busy: Forward incoming calls when the phone is busy
- Call Forwarding On Period: Forward calls in specified time period

- Protocol Setting:

The screenshot shows the 'Phone<13>Protocol Configuration' dialog box with the 'Advanced' tab selected. The settings are as follows:

- Phone Type:**  Static,  Dynamic
- Protocol:** H323
- IP:** [Empty text box]
- Signaling Port:** 1720
- Media Proxy:** Auto
- Billing Method for Callee Call Transfer:** By Callee
- Audio Service:** [Empty text box]
- H323 Section:**
  - Allow IVR to Control Billing Number
  - Enable Billing Number Settings
  - Local Ring
  - Transmit Polyphonic Ringtone
  - If phone is offline, try to use Routing Gateway for routing.
  - FastStart
  - H245Tunneling
  - H245InSetup
  - Send CallProceeding Immediately
  - Convert Trying
  - Change 183(SDP) To Alerting
- SIP Section:**
  - Reply Address:** Via Port
  - Request Address:** Contact Port
  - g729 Negotiation Mode:**  Including annexb,  Enable Timer Protocol
  - Remote Ring Back Mode:** Default
  - Call Authentication Mode:** IP
- DTMF Section:**
  - DTMF Receive:** All,  Payload: 101
  - DTMF Send(H323):** Auto,  Payload: 101
  - DTMF Send(SIP):** Auto,  Payload: 101

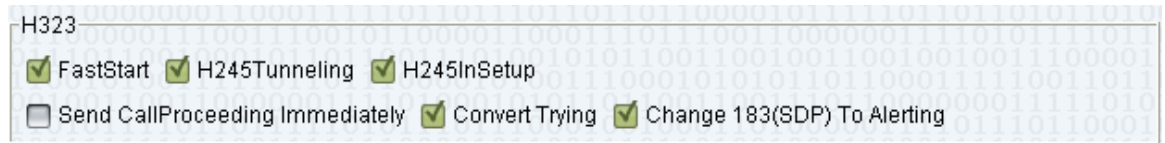
Buttons at the bottom: OK, Cancel, Apply.

- ◆ Phone Type: Static/Dynamic register
- ◆ Protocol: SIP/H323
- ◆ IP: Phone's IP
- ◆ Signaling port: Phone's signaling port
- Media Proxy:
  - ◆ Auto: Let the system decide whether enable media proxy (Recommended)
  - ◆ On: Always enable media proxy
  - ◆ Off: Always disable media proxy
- Billing Method for Callee Call Transfer:
 

(\*\* For example: If A calls B, and B forwards the call to C, and the “Billing for call forwarded by the called” is set to “By Callee”, then after the call, the system will generate two CDRs: A calls B, and B calls C. And the CDRfor B calling C will be charged on B's account.)



- Audio Service: The name of service, when static phone used as IVR.
- Allow IVR to control billing number: If this option is checked, the phone specified as the billing number by the IVR voice service will be charged. Otherwise, the current phone number will be charged.
- Enable billing number Settings: If IVR voice service of this phone number specified a billing number, check this option to use the settings, authorizations, caller IDs of the billing number.
- Local ring: Use the voice file specified in the voice service settings as the ring of this phone.
- Transmit Polyphonic Ringtone: If the device has its own ring, transmit it to the caller.
- Try routing gateways when offline: When the phone being called is offline, try to find a matching route in the routing gateway.
- H323 signal settings



- ◆ FastStart: Check to enable the FastStart signal; uncheck to disable it.
- ◆ H245Tunneling: Check to enable the H245mappingsignal; uncheck to disable it.
- ◆ H245InSetup: Check to enable the H245InSetup signal; uncheck to disable it.
- ◆ Send *CallProceeding* immediately: Check to send back the *CallProceeding* signal right after getting the *setup* signal of H323 protocol from the caller.
- ◆ Convert *Trying*: If the caller uses H323 protocol and the called uses SIP protocol, check this to send *CallProceeding* signal to the caller when the called returns the *Trying* signal.
- ◆ 183(SDP) to Alerting: If the caller uses and the called uses SIP protocol, check this to send the Alerting signal to the caller when the called returns a 183 signal with SDP messages. Uncheck to send back a *CallProceeding* signal in this case.

(\*\*\* If you are uncertain about the meanings of these options, please use them after consulting technical supports.)

- Response address: The address to which the response is sent when SIP receives a request.

- Socket: Send the response back to the requester (Recommended)
- Via Port: Send the response to the requesting IP address, using the port number specified here (For network reasons, some systems only work with this mode)
- Via: Send the response the address specified here (There are security risks for this mode)
- ◆ Request address: The address to which the request is sent after connection establishment
  - Socket: Send the request to the address of the caller (Recommend)
  - Contact Port: Send the request to the IP address of the caller, using the port number specified here
  - Contact: Send the request to the address specified here
- ◆ G729 negotiation
  - Included *annexb*: Use *annexb=no* or *annexb=yes* to negotiate for G729a and G729b. Otherwise, directly use the descriptions of G729a or G729b to negotiate.
- ◆ Remote back-ringing method
  - If the terminal returns a 183 or a 180 signal, then, by default, the VOS sends back whatever signals returned by the terminal.
- ◆ Authentication method
  - IP address: Allow calling only when the IP address of the caller is registered in the VOS.
  - IP address and port: Allow calling only when both the IP address and the port number of the caller are registered in the VOS.
  - Password: Allow calling only when the password from the caller is the same as what is registered in the system.
- ◆ DTMF settings: The same as those in <mapping gateways> and <routing gateways>.
  - Rewrite Rules: Rewrite Rules for the called number (c.f. Rewrite Rules).
  - Account number: Editable. Designating the billing account for this terminal. (Rate policies of this account will be used to bill and perform authorization checks upon calling. The operator that edits this number must have authorizations to manipulate phones of the concerned account)
  - Account name: Non-editable. When the account number is correctly set, the corresponding name of the account will be shown here. Double-click to the account management page for this account.

- Billing when called: When specified to “the called”, any call to the number will be charge on this account, instead of the caller.
- Web query password: The password used by users to login from the Web and query bills. When left blank, the <Phone password> will be used.
- Number of channels: The maximum number of channels for this phone, which limits the maximum sum of incoming and outgoing calls processed simultaneously.
- Memo: Descriptions to this phone number  
(\* Rewrite Rules can facilitate calling local numbers without area codes and performing routing in the case of multiple routing gateways. For example: If a Phone in Nanjing wish to call another local phone number without add the code area “025”, we can simply add a substitution rule that replaces “\*” with “025\*” and another rule that replace “0\*” with “0\*”. Please refer to Rewrite Rules for details).  
(\* Changing the account number will cause changes to the account and the number segment restrictions of its agent)

**Other operations**

- Double-click the content of <Account name> to open the account management page for this account.

## 5.1.1 Online telephones

The screenshot displays the 'Online Phone Management' interface. The main table contains the following data:

Phone Number	Number of Calling	Capacity	DeviceID	Protocol	Registered IP	Registration Time	Update Time
111	0	1	Transnet TransClie...	H323	172.16.1.131	2009-10-10 08:56:06	2009-10-10 08:56:11

The interface also includes a navigation pane on the left with a 'Filter' button and a 'Concurrence' graph. The status bar at the bottom shows 'Total: 1 Row(s)' and the time '2009-10-10 08:56:11'.

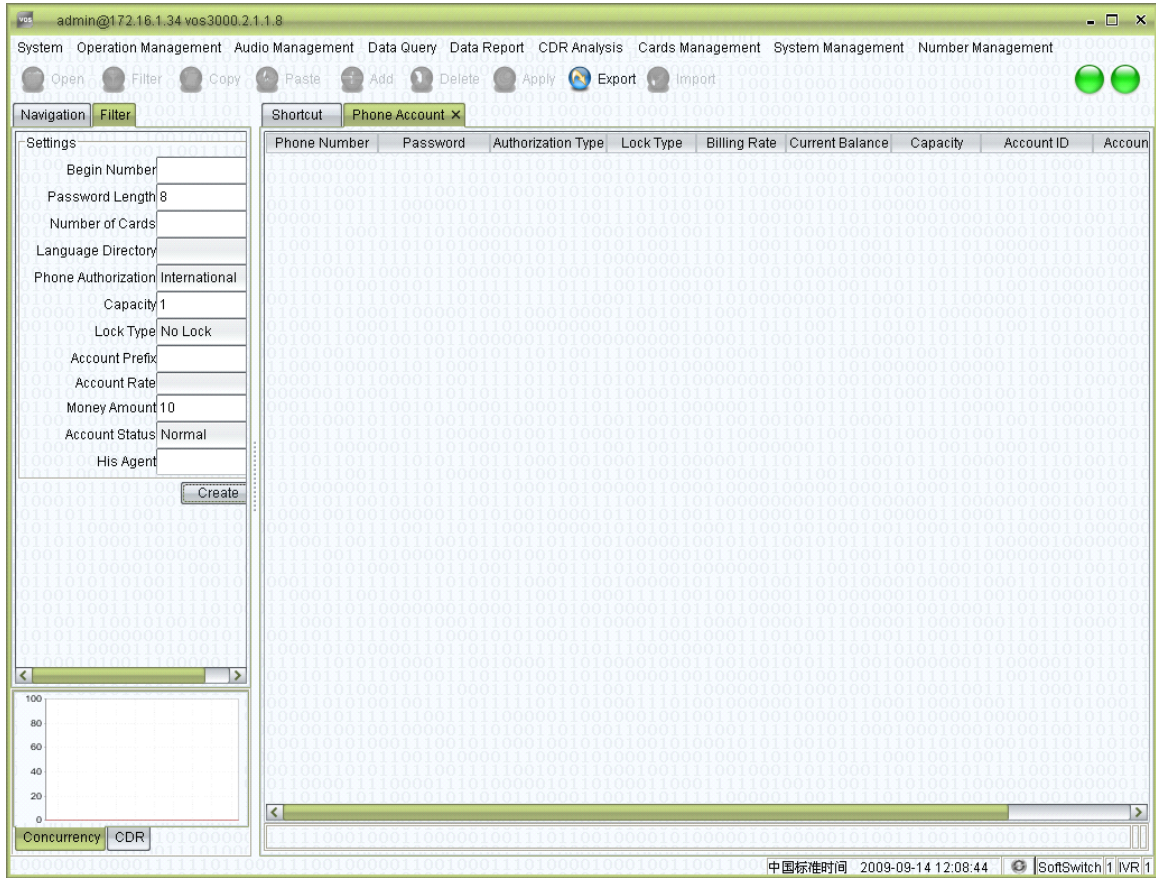
### How to start

Double-click <Navigation>→<Service management>→<Phone services>→<Online phone>

### Spreadsheet items

- Phone number: The number used by the terminal at registration (used as the caller ID and the called number)
- Device name: Model of the device
- Protocol: The protocol used at registration (SIP or H323)
- Registered address: The remote address of the terminal used at the registration. If the connection is established through a firewall, this address may be a local address.
- Time of registration: The server time of the terminal's most recent registration.
- Time of renewal: The time of the most recent confirmation that the terminal is online.
- Time elapsed: The time elapsed since the most recent registration

## 5.1.2 Phone accounts



### How to start

- Double-click <Navigation>→ <Service management>→<Phone services>→<Phone accounts>

### Spreadsheet items

- Phone number: See the descriptions in <Phone management>.
- Phone Password: See the descriptions in <Phone management>.
- Authorization type: See the descriptions in <Phone management>.
- Restriction type: See the descriptions in <Phone management>.
- Rate policy: See the descriptions in <Account management>.
- Account balance: See the descriptions in <Account management>.
- Number of channels: See the descriptions in <Phone management>.
- Account number: See the descriptions in <Account management>.
- Account name: See the descriptions in <Account management>.
- Agency: See the descriptions in <Account management>.

### **Card activation**

- Initial number: The initial number of the phone numbers to be created
- Password length: The length of the password on the phone card to be created
- Number of cards: The number of cards to be created
- Languages: The language used for voice prompt.
- Authorization: See the descriptions in <Phone management>.
- Restriction type: See the descriptions in <Phone management>.
- Account prefix: The prefix of the account number and account name.
- Rate policy: See the descriptions in <Account management>.
- Account balance: See the descriptions in <Account management>.
- Account status: Options include <Normal> and <Locked>
- Agency: The agent account that the phone card account belongs to

## 5.2 Gateway service

### 5.2.1 routing gateways

GatewayID	Gateway Prefix	Prefix Mode	Lock Type	Capacity	Priority	His SoftSwitch	Additional Settings	IP
1		Extension	No Lock	30	1	All	Edit	
2		Extension	No Lock	30	1	All	Edit	
3		Extension	No Lock	30	1	All	Edit	
4		Extension	No Lock	30	1	All	Edit	
5		Extension	No Lock	30	1	All	Edit	

#### How to start

- Double-click <Navigation> → <Service management> → <Gateway service> → <routing gateways>

#### Spreadsheet items

- Gateway ID: The unique ID of the device, used for the authentication of dynamic gateways. For static gateways (usually relay gateways), the only requirement is that their IDs do not conflict with one another.
- Gateway prefix: When the number being called is not registered in the system, the call will be routed only to gateways which match the prefix specified here. Multiple prefixes can be specified, separated by commas. Different gateways can be designated with the same prefix. When conflict occurs, the gateway will be chosen according to following numbers (the smallest comes first): Priority number, the ratio of the number of current calls to the number of channels, the number of historical calls, and the gateway ID.

- Prefix mode (for routing gateways only):
  - Carry through: Shorter prefixes will be tried if the routing gateway matched by this prefix cannot deliver the call.
  - Terminate: No more prefixes will be tried if the routing gateway matched by this prefix cannot deliver the call.

**Examples:**

GatewayID	Gateway Prefix	Prefix Mode	Lock Type	Capacity	Priority
gw.101-t	9	Extension	No Lock	1000	1
gw.101-t-err	900	Expiration	No Lock	1000	0
gw.102	90	Extension	No Lock	4	1
gw.103	900	Extension	No Lock	4	1

If the prefix mode of “gw.101-t-err” is set to “Terminate”, the prefixes being tried for the number “90080001” will be “gw.101.-t-err” and “gw.103” in order.

If the prefix mode of “gw.101-t-err” is set to “Carry through”, while others remain the same, the prefixes being tried for the number “90080001” will be “gw.101-t-err”, “gw.103”, “gw.102”, and “gw.101-t” in order.

- Softswitch: Specify the MBX used by this routing gateway.
- Supplement settings of the gateway
  - General:

- ◆ Type of the gateway
  - Dynamic: Registration is required before use.



- Static: No registration is required. These are usually relay gateways (i.e. routing gateways). Static IP addresses and ports can be specified for them.
- ◆ media proxy: See the descriptions in <Phone management> à <Supplementary services>.
- ◆ Encryption key: The encryption key for the encryption of connections between VOS platforms. In this case, an encryption port must be used for signaling, which, by default, is 3720 for H323 and 5070 for SIP.
- ◆ Signal timeout: The longest time for the call to be stayed in the signaling status. When the timeout is exceeded, the system will switch a gateway if it is in the “Setup” or “CallProceeding” status, and will hang up the call if it is in the “Alerting” status.
- ◆ Legal lengths of the caller number: The lengths of the caller numbers allowed to pass through the gateway (e.g. fill in “11, 14” to allow numbers of 11 digits or 14 digits only)  
Note: Left blank to allow numbers of all length to pass through, and fill in “0” to allow no numbers to pass through.
- ◆ Legal length of the called number: The lengths of the called numbers allowed to pass through the gateway.

■ Terminal prefix:

Gateway<gw.101-t>Additional Settings

Normal Routing Prefix Period Control Routing Settings Advanced Register

Routing Caller Prefix Mapping  
 Allow  Forbidden

Routing Callee Prefix Mapping  
 Allow  Forbidden

Call Restriction on Caller  
 Allow  Forbidden

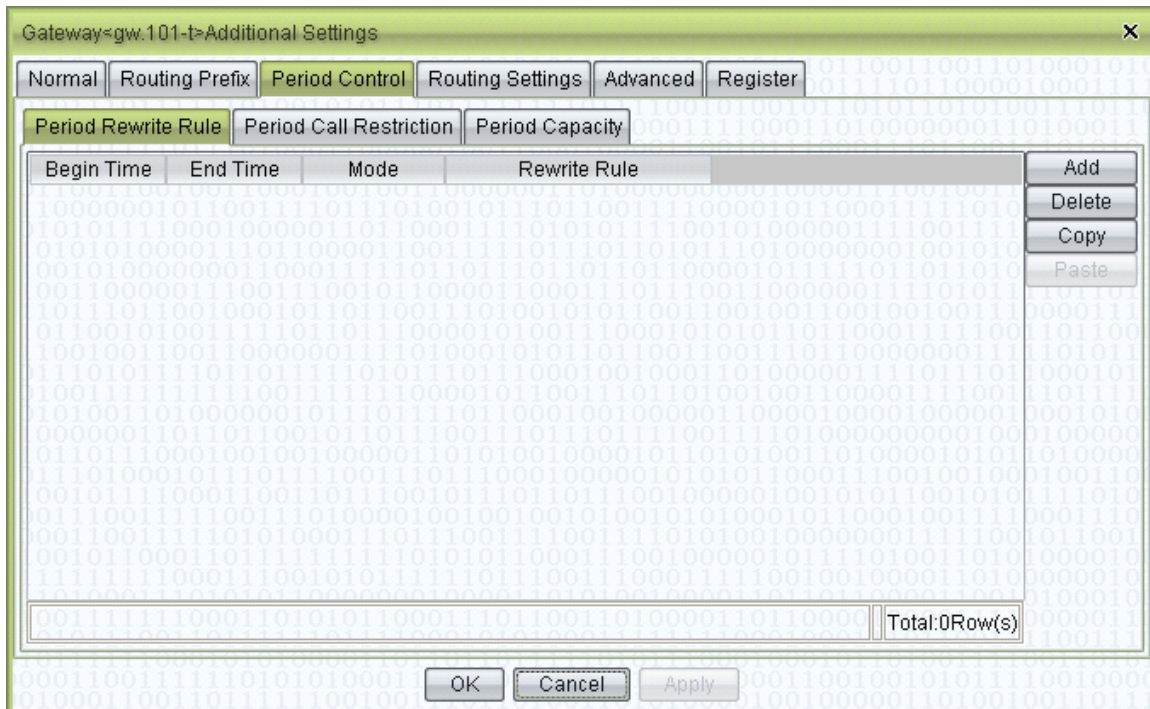
Routing Caller Rewrite Rule

Routing Callee Rewrite Rule

OK Cancel Apply

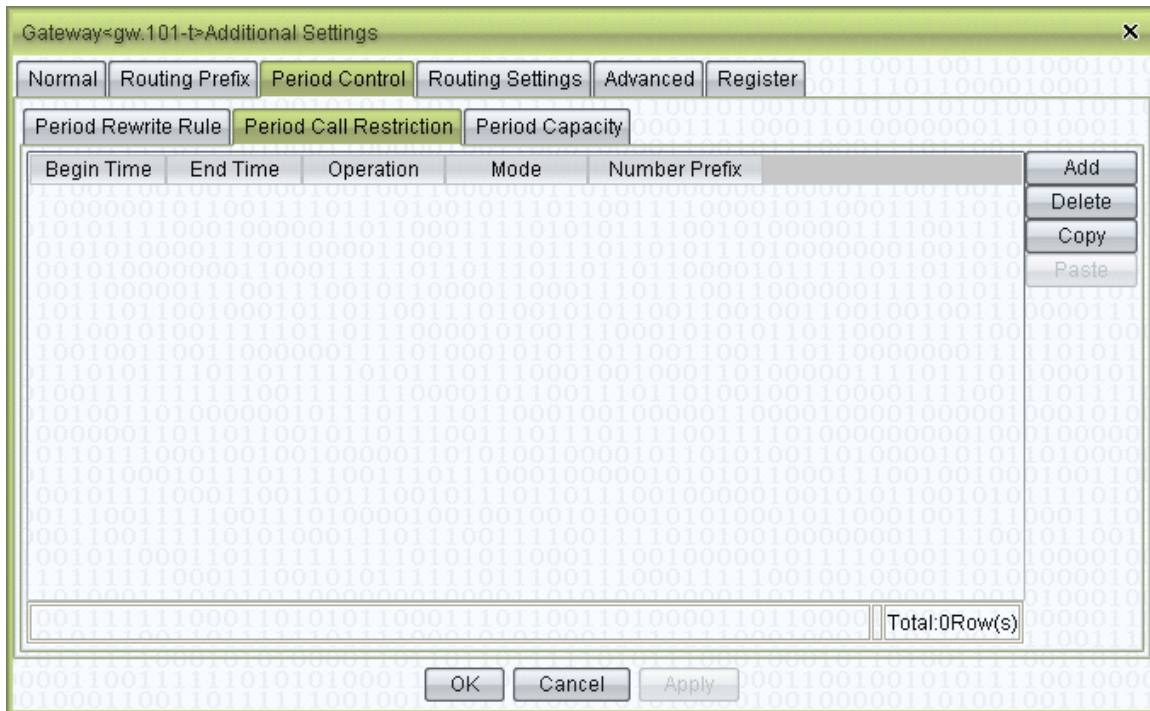
- ◆ Prefixes of the caller number

- Allow: Prefixes of the caller numbers allowed to pass through (left blank to allow all numbers)
- Disallow: Prefixes of the caller numbers disallowed to pass through
- (\*\* Only one of the “Allow” and “Disallow” options can be chosen)
- ◆ Prefixes of the called number
  - Allow: Prefixes of the called numbers allowed to pass through
  - Disallow: Prefixes of the called numbers disallowed to pass through
- ◆ Rewrite Rules for the caller number: Rewrite Rules for the caller number when called out through this gateway.
- ◆ Rewrite Rules for the called number: Rewrite Rules for the called number when called out through this gateway.
- ◆ (\* Terminal Rewrite Rules are usually used on routing gateways (c.f. Rewrite Rules))
- ◆ (\* mapping Rewrite Rules are usually used on mapping gateways (c.f. Rewrite Rules))
- Timing
  - ◆ Timed Rewrite Rules

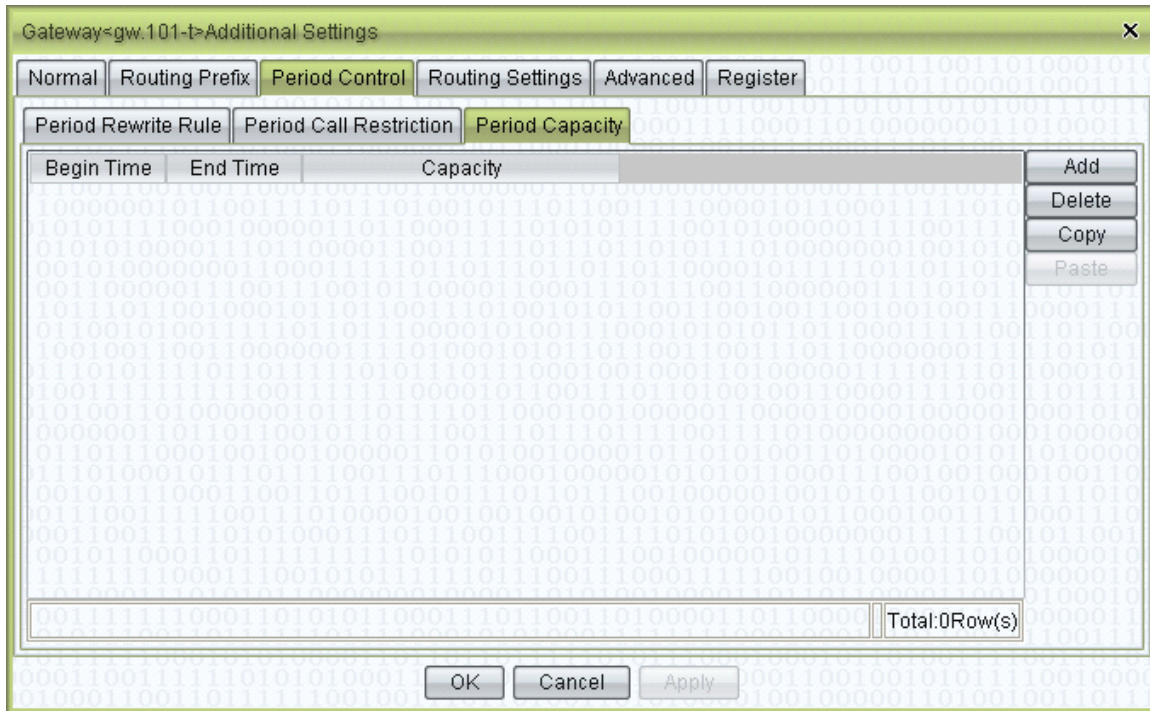


- Starting time: Time when the substitution rule comes into effect
- Expiration time: Time when the substitution rule expires
- Mode
  - The called: The substitution rule applies to the called number

- The caller: The substitution rule applies to the caller number
  - Substitution rule: The content of the rule
- ◆ Period Call Restrictions



- Starting time: Time when the rule comes into effect
  - Expiration time: Time when the rule expires
  - Operations
    - Disallow: Disallow operations for the matched prefixes
    - Allow: Allow operations for the matched prefixes
  - Mode
    - The caller: Matches the prefixes of the caller numbers
    - The called: Matches the prefixes of the called numbers
  - Prefix: The prefix of the number. Multiple prefixes can be specified, separated by commas.
- ◆ Timed number of channels



- Starting time: Time when the rule comes into effect
- Expiration time: Time when the rule expires
- Number of channels: The maximum number of channels allowed for this period of time
- IP address: See descriptions in the <Supplement settings>
- Password: The password used for gateway registration, which is also the password used for Web query.
- Memo: Comments on the gateway
- Billing account number: The billing account charged when the gateway is called
- Billing account name: The name of the billing account
- Billing account balance: The balance of the billing account

■ national services

- ◆ Automatically adding area codes for mobile phones: It needs the support from the <Area of mobile phones> function, and is disabled by default. When enabled, area codes will be added to all mobile phone numbers passing through this gateway. Users can also enable this function for mobile phone numbers from certain areas and disable it for those from the rest of the areas.
- ◆ Mobile phone area restriction: Specify the criteria for the caller to call a certain number (e.g. allowing “025:021” means numbers starting with “025” can only call numbers starting with “021”, and disallowing “\*:\*” means the caller number and the called not should not be the same, i.e. the caller cannot call itself)
- ◆ Local call restriction: Specify whether numbers in a certain area can call the numbers in the same area (e.g. allowing “025” means that only numbers in the “025” area are allowed to make locals calls, i.e. to call other numbers in the “025”, while numbers in other areas are not allowed to do so)
- ◆ The caller number restriction: Restricts the range of the caller numbers. Details are the same as the <The called number restriction> described below.
- ◆ The called number restriction: It needs the support from <Areas of mobile

phones> and <City codes> functions. When enable, only numbers that have passed standard validations can pass through this routing gateway, so that invalid numbers will be effectively prevented from occupying the relays.

■ Advanced

◆ H323

- Error message replacement: Specify the error message sent to the mapping gateway when the call cannot be established.
- Q931 ProgressIndicator: See the standard reference for H323.
- See the descriptions in <Phone management> for details about signaling checkboxes.

◆ SIP

- Response address: See the descriptions in <routing gateways>.
- Request address: See the descriptions in <routing gateways>.
- G729 negotiation: See the descriptions in <routing gateways>.
- Error message replacement: Specify the error message sent to the mapping gateway when the call cannot be established.
- If user authentication is specified for this gateway, it can be configured here.

◆ DTMF

- DTMF reception: Specifies the way by which DTMF signals are

received. The <All> option is recommended, which asks the system to accept all kinds of DTMFs. Once a certain kind of DTMF is received, this channel will accept the same kind of DTMFs only, thus effectively avoiding duplicate receptions.

- Payload: The *payload* value in RTP, for the DTMF of the RFC2833 mode.
- DTMF(H323) sending: It is set to <Auto> by default, indicating that the system would determine the best way to send DTMFs based on the receiver's capacity. If the receiver provides no capacity set, the system will send according to the default mode. The RFC2833 mode can only be specified for media proxy.
- DTMF(SIP) sending: It is set to <Auto> by default. The details are the same as those of <DTMF(H323) sending> described above.
- IP address: See the descriptions in <Supplement settings>
- Account number: The number of the billing account for this mapping gateway.
- Account name: The name of the billing account for this mapping gateway.
- Password: The password used for dynamic registration, which is also the password used for Web query.
- Memo: Comments on this gateway.

#### **Other operations**

- Double-click the content of <Account name> to open the account management page for this account.

#### **Right-click menu**

- Current sessions: Open the list of <Current sessions> for this gateway
- Status monitor: Monitor the gateway status and show the connection information of this gateway in the <Gateway status> page
- Connection analysis: Open the < Connection analysis> sheet for this gateway
- Interruption analysis: Open the < Interruption analysis> sheet for this gateway

## 5.2.2 Mapping gateways

The screenshot displays the 'Mapping Gateway' configuration window. The main area contains a table with the following data:

GatewayID	Lock Type	Authorization Type	Capacity	Priority	His SoftSwitch	Additional Settings	IP	Account
test1	No Lock	National	30	1	All	Edit		
test2	No Lock	National	30	1	All	Edit		

On the left side, there are several configuration panels:

- Navigation:** Includes fields for Agent ID, Account ID, Account Name, GatewayID, and IP.
- Lock Type:** Options for No Lock and Bar All Calls.
- Gateway Authorization:** Options for Net, Local, National, and International.
- Total Gateway:** Shows 'Number of Gateway: 1' and 'Capacity: 30'.
- Concurrence:** A graph showing CDR (Call Detail Record) data.

The status bar at the bottom indicates the system time as 2009-09-14 12:31:19 and shows 'Selected 0 Row(s) Total: 2 Row(s)'.

### How to start

- Double-click <Navigation> → <Service management> → <Gateway management> → <mapping gateways>

### Spreadsheet items

- Gateway ID: See the descriptions in <routing gateways>.
- Restriction type: See the descriptions in <Phone management>.
- Authorization type: See the descriptions in <Phone management>.
- Number of channels: The number of concurrent calls allowed by the gateway
- Priority number: In the static mapping mode, if tunnels with the same IP address exist, gateways will be selected according to their priority numbers.
- Softswitch: See the descriptions in <routing gateways>.
- Supplement settings
  - General



Gateway=test1 >Additional Settings

Normal Mapping Prefix Period Control Routing Settings **Advanced**

Gateway Type  Dynamic  Static

IP

Process TimeOut 0 (s)  Encryption Key

Media Proxy  Billing Method for Callee Call Transfer

Caller Number Allowable Length

Callee Number Allowable Length

Allow Phone Number Billing  Enable Phone Settings

Allow Bind Number Billing

OK Cancel Apply

- ◆ Gateway type
  - Dynamic: Registration is required.
  - Static: Gateway mappings are achieved directly through IP addresses.
- ◆ IP addresses: IP addresses of mapping gateways. Multiple addresses can be specified, separated by commas.
- ◆ Proceeding timeout: The maximum time waited after the call has reached the gateway. If the connection has not been established within the time limit, the system server will send a reject signal to the mapping gateway. Set "0" to indicate that there is no proceeding timeout.
- ◆ Encryption key: See the descriptions in <routing gateways>.
- ◆ media proxy: See the descriptions in <routing gateways>.
- ◆ Billing according to binding numbers: Billing according to the account that the caller belongs to, instead of the setting of the gateway itself.
- ◆ Billing for calls forwarded by the called: See the descriptions in <Phone management>.

- ◆ Legal lengths of the caller number: The lengths of the caller numbers allowed to pass through the gateway (e.g. fill in “11, 14” to allow numbers of 11 digits or 14 digits only)

Note: Left blank to allow numbers of all length to pass through, and fill in “0” to allow no numbers to pass through.

- ◆ Legal length of the called number: The lengths of the called numbers allowed to pass through the gateway

- mappingprefixes:

Gateway<test1>Additional Settings

Normal Mapping Prefix Period Control Routing Settings Advanced

Mapping Caller Prefix Mapping

Allow  Forbidden

Mapping Callee Prefix Mapping

Allow  Forbidden

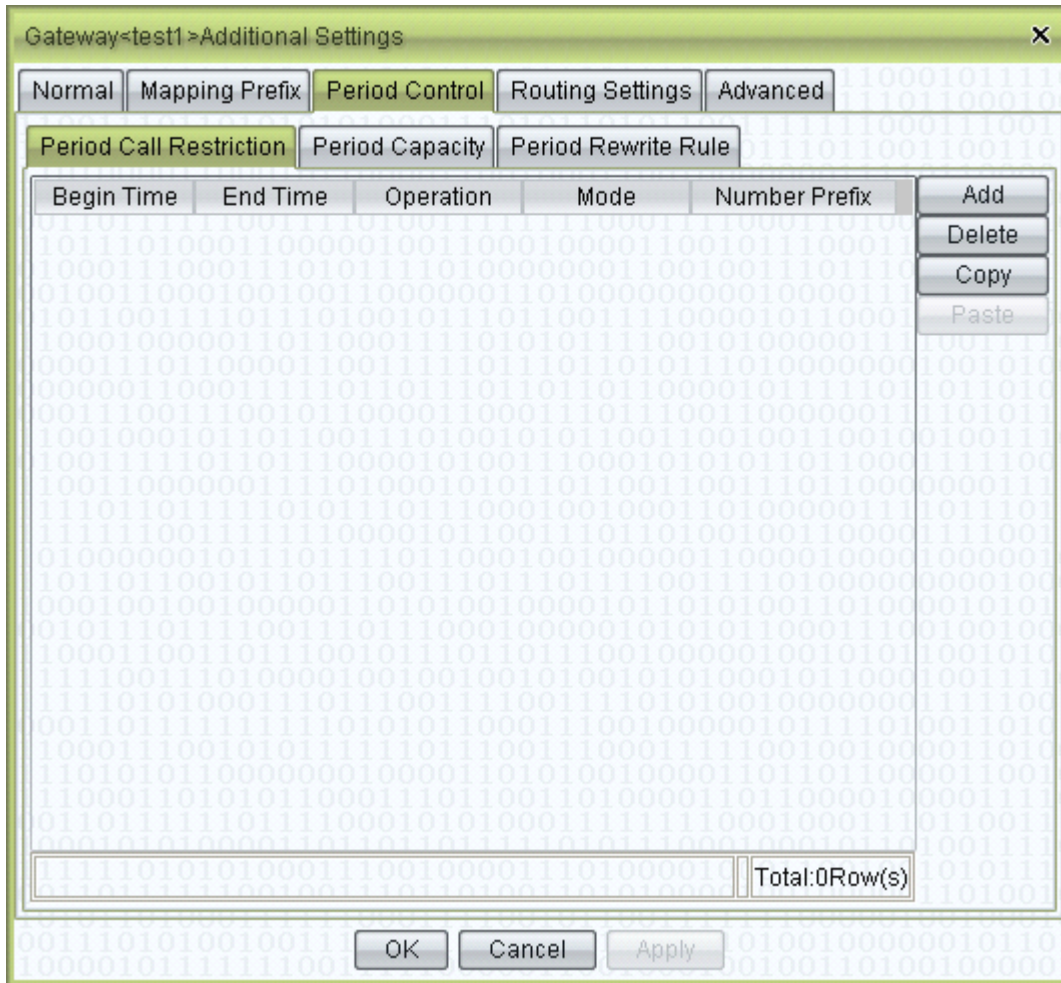
Mapping Caller Rewrite Rule

Mapping Callee Rewrite Rule

OK Cancel Apply

- ◆ Prefixes of the caller number: See the descriptions in <routing gateways>.
- ◆ Prefixes of the called number: See the descriptions in <routing gateways>.
- ◆ Rewrite Rules for the caller number: See the descriptions in <routing gateways>.
- ◆ Rewrite Rules for the called number: See the descriptions in <routing gateways>.

- Timing: See the descriptions in <routing gateways>.



■ Advanced

Gateway=test1>Additional Settings

Normal Mapping Prefix Period Control Routing Settings **Advanced**

**H323**

Replace Failed Reason No Replace

Q.931 ProgressIndicator Default

FastStart  H245Tunneling

Send CallProceeding Immediately  Convert Trying  Change 183(SDP) To Alerting

**SIP**

Reply Address Via Port Request Address Contact Port

Caller From Callee To

g729 Negotiation Mode  Including annexb  Enable Timer Protocol

Replace Failed Reason No Replace

Remote Ring Back Mode Default

Call Authentication Mode IP

**DTMF**

DTMF Receive All Payload 101

DTMF Send(H323) Auto Payload 101

DTMF Send(SIP) Auto Payload 101

OK Cancel Apply

◆ H323

- Error message replacement: Specify the error message sent to the mapping gateway when the call cannot be established.
- Q931 ProgressIndicator: See the standard reference for H323.
- See the descriptions in <Phone management> for details about signaling checkboxes.

◆ SIP

- Response address: See the descriptions in <routing gateways>.
- Request address: See the descriptions in <routing gateways>.
- G729 negotiation: See the descriptions in <routing gateways>.
- Error message replacement: Specify the error message sent to the mapping gateway when the call cannot be established.
- Remote back-ringing method: See the descriptions in <Phone management>.

- Authentication method: See the descriptions in <Phone management>.
- ◆ DTMF
  - DTMF reception: Specifies the way by which DTMF signals are received. The <All> option is recommended, which asks the system to accept all kinds of DTMFs. Once a certain kind of DTMF is received, this channel will accept the same kind of DTMFs only, thus effectively avoiding duplicate receptions.
  - Payload: The *payload* value in RTP, for the DTMF of the RFC2833 mode.
  - DTMF(H323) sending: It is set to <Auto> by default, indicating that the system would determine the best way to send DTMFs based on the receiver's capacity. If the receiver provides no capacity set, the system will send according to the default mode. The RFC2833 mode can only be specified for media proxy.
  - DTMF(SIP) sending: It is set to <Auto> by default. The details are the same as those of <DTMF(H323) sending> described above.
- IP address: See the descriptions in <Supplement settings>
- Account number: The number of the billing account for this mapping gateway.
- Account name: The name of the billing account for this mapping gateway.
- Password: The password used for dynamic registration, which is also the password used for Web query.
- Memo: Comments on this gateway.

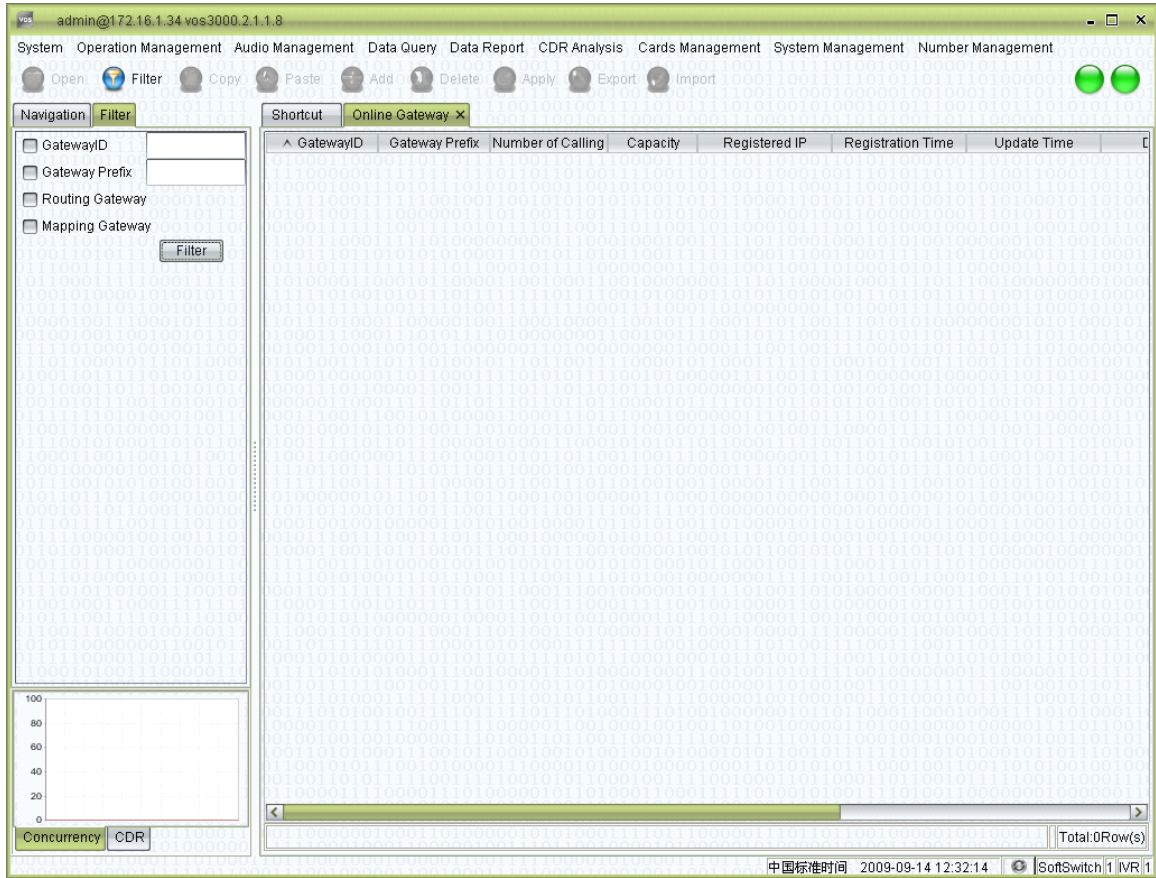
#### **Other operations**

- Double-click the content of <Account name> to open the account management page for this account.

#### **Right-click menu**

- See the descriptions in <routing gateways>.

## 5.2.3 Online gateways



### How to start

- Double-click <Navigation> → <Service management> → <Gateway management> → <Online gateways>

### Spreadsheet items

- Gateway ID: The device ID of the gateway
- Gateway prefix: The prefix of the gateway
- Number of session: The number of current sessions maintained by the gateway and the total capacity of it.
- Registered address: The current IP of the gateway
- Time of registration: The server time of the platform's most recent registration.
- Time of renewal: The time of the most recent confirmation that the platform is online.
- Time elapsed: The time elapsed since the most recent registration (for dynamic gateways). There is no "Time elapsed" item for static gateways.
- Type of encryption: The type of encryption used by the gateway
- MBX IP: The information on the softswitch that the gateway uses
- Softswitch: The name of the softswitch that the gateway uses

## Right-click menu

- Current sessions: Open the <Current sessions> page for this gateway

## 5.2.4 Gateway status

### How to start

- Double-click <Navigation> → <Service management> → <Gateway management> → <Gateway status>

Choose a routing gateway in the <Gateway management> interface and right-click <Status monitor>. The status of the routing gateway will be shown in the <Gateway status> page. If the selected gateway is already being monitored, choose the <Re-open status monitor> in the right-click menu.

### Spreadsheet items

- Gateway ID: The unique ID of the device
- Number of calls: The number of all calls processed up to now
- Number of connections: The number of successful connections and its ratio to the number of all calls.
- Number of rejections: The number of rejections from the called and its ratio to the

number of all calls

- Relay errors: The number of connection failures caused by relay errors and its ratio to the number of all calls
- Network errors: Failure caused by network errors, such as the loss of responses from the relay, or the termination of TCP connections.
- Give-ups from the caller: The calls given up by the caller
- Average session time: The total session time divided by the number of sessions
- Total session time: The sum of all session times (Unit: second)
- IP address: The IP address of the gateway
- Start time: The time of the last reset of statistics



## 5.3 Current sessions

### How to start

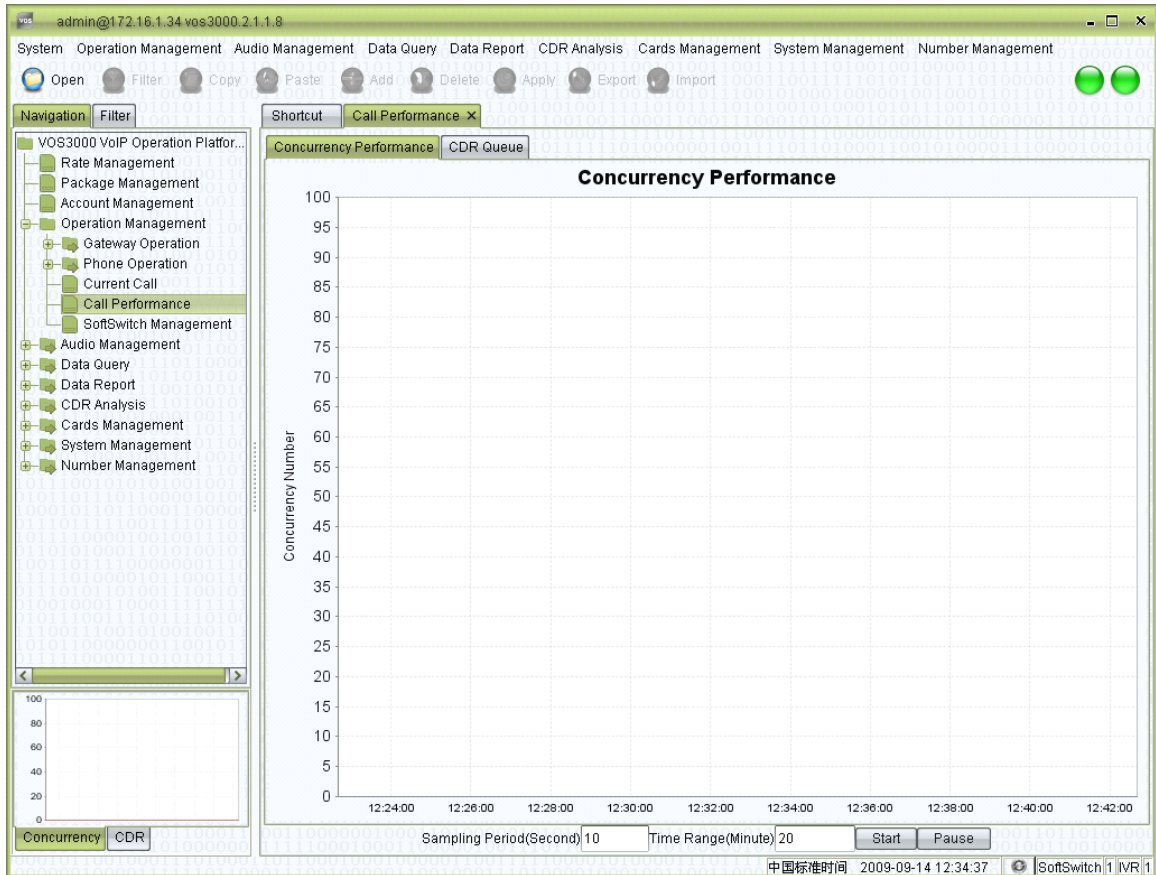
- Double-click <Navigation>→ <Service management>→<Current sessions>

### Spreadsheet items

- The caller number: The number of the caller
- The called number: The number of the called
- The caller gateway: The gateway between the caller and the softswitch
- The called gateway: The gateway between the called and the softswitch
- Time elapsed: The time elapsed since the establishment of the connection
- Voice encoding: The voice encoding used in the session
- Voice encodings of the caller: Voice encodings supported by the caller (acquired by analyzing the signals)
- Voice encodings of the called: Voice encodings supported by the called (acquired by analyzing the signals)
- Information about the caller: The IP and RTP IP of the caller.
- DTMF of the caller: The DTMF mode of the caller
- DTMF of the called: The DTMF mode of the called

- Media routing: Whether the RTP is routed by servers
- The caller device: The manufacturer of the caller device
- The called device: The manufacturer of the caller device
- The caller encryption type: The encryption used by the caller
- The called encryption type: The encryption used by the called
- MBX IP: The IP address of the softswitch
- Softswitch name: The name of the softswitch

## 5.4 Communication performance



### How to start

- Double-click <Navigation>→ <Service management>→<Communication performance>

The communication performance chart illustrates changes in the number of concurrent connections in a certain time period. Sampling rate and time period can be specified by users. The system will begin to draw the chart after the chart is opened from the navigation tree. If the chart is closed and reopened, it will be drawn from scratch.

The <Record queue> illustrates the number of call records waiting to be stored. It is also sampled and drawn according to the specified sampling rate and time period.

## 5.5 Softswitch management

The screenshot displays the VOS3000 VoIP Operation Platform interface. The main window shows the 'Softswitch Management' section. On the left is a navigation tree with categories like Rate Management, Package Management, Account Management, Operation Management, Gateway Operation, Phone Operation, Current Call, Call Performance, SoftSwitch Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The 'SoftSwitch Management' section is active, showing a table with the following data:

Access Name	Additional Settin...	Creation Time	Access Time	Access IP	Memo
MBX3000	Edit	2009-06-29 11:42:38	2009-09-14 09:28:51	127.0.0.1	

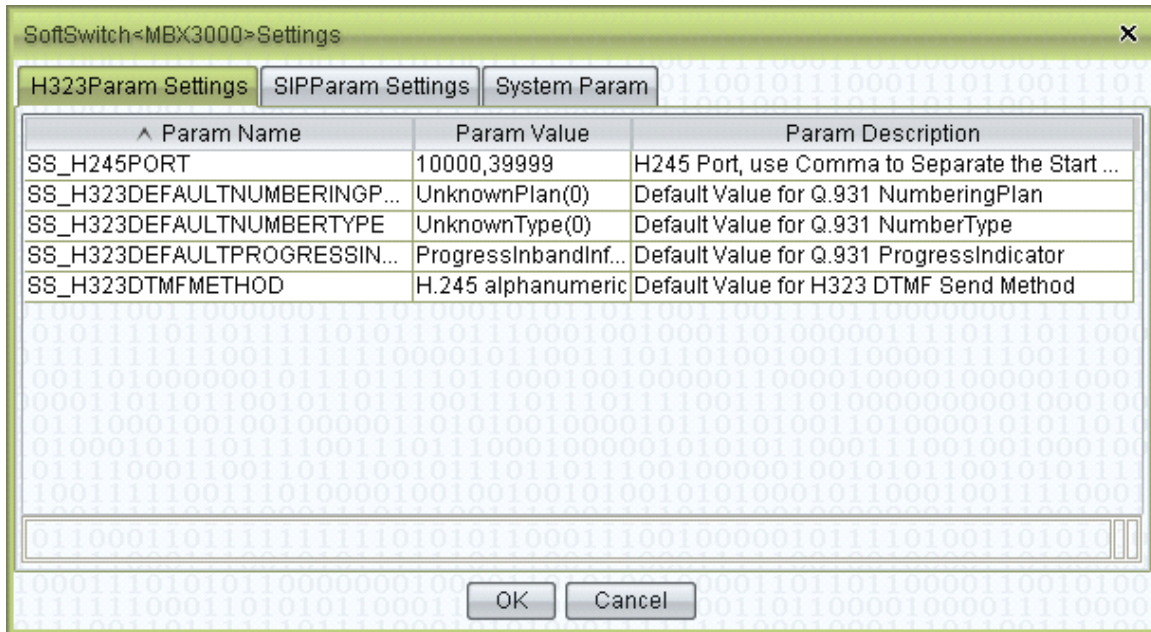
At the bottom right of the interface, the status bar shows 'Total:1Row(s)' and the system time '中国标准时间 2009-09-14 12:34:53'.

### How to start

- Double-click <Navigation>→ <Service management>→<Softswitch management>

### Spreadsheet items

- Access name: The name of the softswitch
- Supplement settings:



- Time of creation: The time of first access to the softswitch
- Access address: The IP address of the softswitch
- Time of access: The most recent access to the softswitch
- Memo: Comments on the softswitch

#### **Right-click menu**

- Synchronize settings: Synchronize settings of the softswitch with VOS3000
- Current sessions: Current sessions on the softswitch
- System information: Information about the softswitch

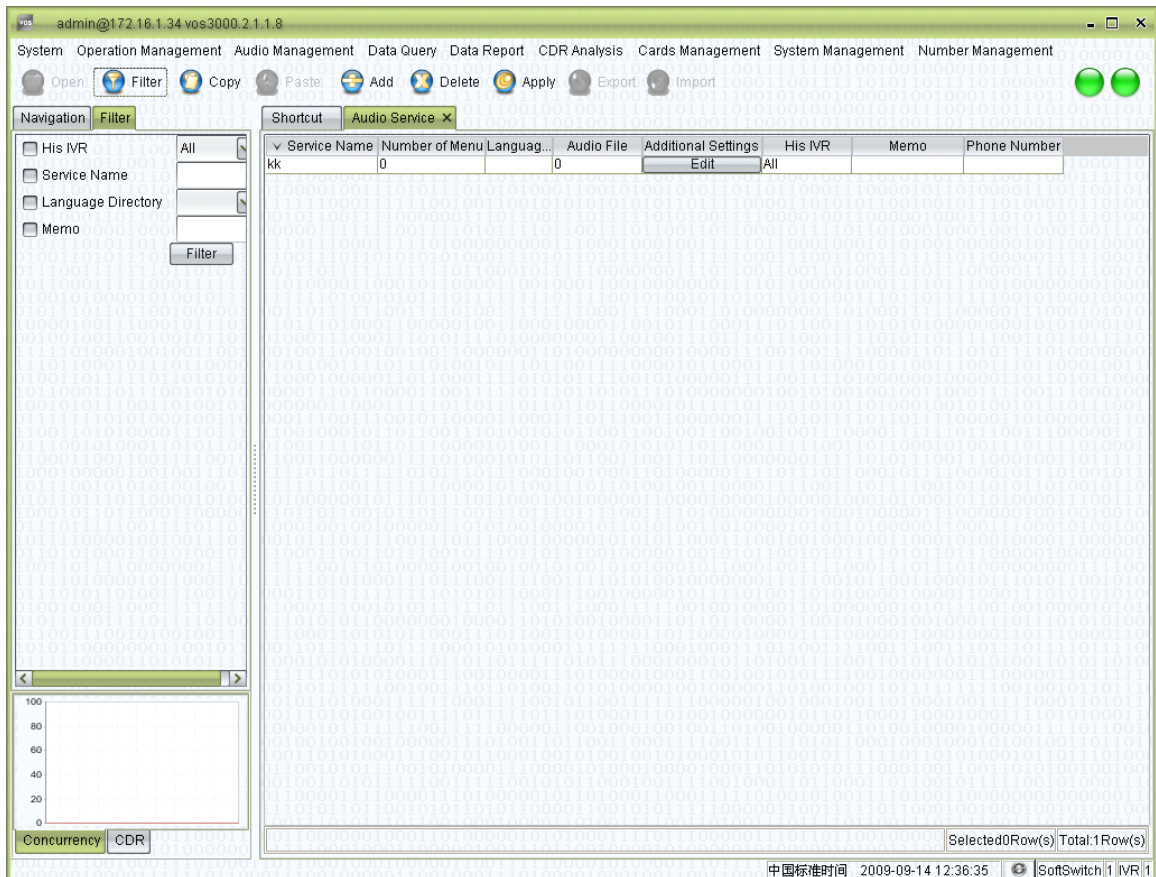
The screenshot displays a web-based management interface for a VoIP system. The main window is titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The top navigation bar includes 'System', 'Operation Management', 'Audio Management', 'Data Query', 'Data Report', 'CDR Analysis', 'Cards Management', 'System Management', and 'Number Management'. Below this is a toolbar with icons for 'Open', 'Filter', 'Copy', 'Paste', 'Add', 'Delete', 'Apply', 'Export', and 'Import'. The left sidebar shows a tree view of the system's structure, with 'SoftSwitch Management' selected. The main content area is divided into two panes: 'Shortcut' and 'SoftSwitch Management'. The 'SoftSwitch Management' pane is further divided into 'SoftSwitch=MBX3000>System Info'. This pane displays a table of system information, including license details, CPU specifications for two cores, RAM usage, network statistics for the eth0 interface, system uptime, and system time. At the bottom of the interface, there is a status bar showing the current date and time as '中国标准时间 2009-09-14 12:35:47' and the system version 'SoftSwitch 1 IVR 1'. A small graph in the bottom left corner shows 'Concurrency' and 'CDR' metrics over time.

Information Name	Information Value
<b>License Information</b>	
Product Information	H323/SIP
Terminal Limit	NoLimit
Concurrent Call Limit	NoLimit
Expiry Date	NoLimit
Additional Information	Routing Settings
<b>Operation System</b>	
Linux version 2.6.9-78.ELsmp	
<b>CPU</b>	
CPU ID Intel(R) Core(TM) i7 CPU 920 @ 2.67GHz	
Master Frequency	2698.394 MHz
Buffer	8192 KB
bogomips	5402.29
CPU Utilization	
CPU ID Intel(R) Core(TM) i7 CPU 920 @ 2.67GHz	
Master Frequency	2698.394 MHz
Buffer	8192 KB
bogomips	5398.97
CPU Utilization	
<b>RAM</b>	
Total	514332 kB
Buffer	275840 kB
Idle	347400 kB (67.54%)
<b>Network Meter</b>	
DeviceID	eth0
Bytes Received	
Packets Received	
Bytes Sent	
Packets Sent	
System Uptime	619:00:37
<b>System Time</b>	

## 6 Voice management

This menu item will be shown after installing IVR Interactive Voice Response system.

### 6.1 Voice services



#### How to start

- Double-click <Voice management> → <Voice services>

#### Spreadsheet items

- Service name: The unique name of the service.
- Menu items: The number of menu items for this service.
- Language catalogue: The language catalogue used by the service
- Language files: The number of voice files for this service
- IVR: Choose from the drop-down menu an IVR that it belongs to
- Memo: Comments on the voice service
- Supplement setting: See the illustration below.

The screenshot shows a configuration window titled 'kk' with a 'Normal' tab. It contains three main sections:

- Normal:**
  - Call Out Display Number: IVR Number (dropdown)
  - Call Out Charge Number: IVR Number (dropdown)
  - Call Quick Display Number: IVR Number (dropdown)
  - Call Out Callee Rewrite Rule: (text field with browse button)
- Ringing Control:**
  - First Time Audio Delay: 2 (text field)
  - Access Alerting Time: None (dropdown)
  - Alerting End Action: Connect (dropdown)
- Callback:**
  - Call Back Charge Number: IVR Number (dropdown)
  - Call Back Delay: 20 (text field)
  - Access Decline Signaling: Bad Gateway(502) (dropdown)
  - Retry Times: 3 (text field)
  - Retry Interval: 20 (text field)
  - Call Back Rewrite Rule: (text field with browse button)

Buttons at the bottom: OK, Cancel, Apply.

- Billing number for outgoing calls: Options include <IVR number>, <Card number>, and <Phone number>.
- Caller ID for outgoing calls: Options include <IVR number> and <The caller number >.
- Caller ID for shortcut calls: Choose whether the IVP number or the caller number is sent the called for shortcut calls.

IVR number: The access number of the IVR

Card number:

The caller number: The phone number of the caller

(\* These options only take effect when the <Caller ID> is set to "Remote-Party-ID" in the <Phone management>)

- Rewrite Rules for outgoing calls: Rewrite Rules of the called number for calls initiated by the IVR.
- Ringing control
  - First voice delay: Set the delay after which the voice will be played upon access to the IVR. (Unit: second)
  - Call-in ringing timeout: Maximum time for call-in ringing (Unit: second)
  - Operation after ringing: Options include <Connect> and <Hang up>.

(\* For callbacks, please choose the maximum ringing timeout, and <Hang up> after ringing)

- Call back
  - Billing numbers for callbacks: Options include <Auto>, <IVP number>, <Card number>



and <Phone number>.

Callback delay: Time waited before calling back (Unit: second)

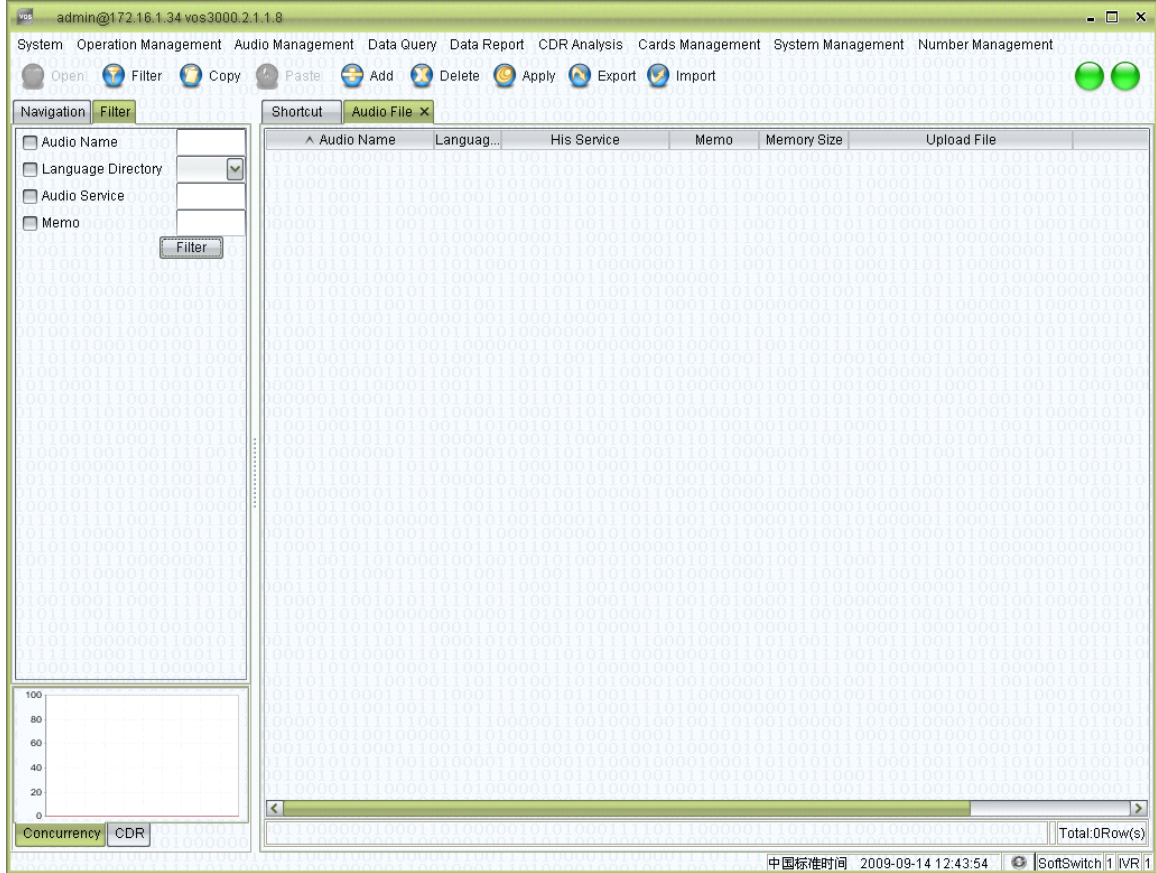
Rejection signaling: Specify the rejection signal for IVR callbacks.

Number of retries: The number of retries for unsuccessful callbacks.

Retry intervals: The time interval between two retries (Unit: second).

Rewrite Rules for callbacks: The substitutions rules applied to the called number during callback.

## 6.2 Voice files



### How to start

- Double-click <Voice management> → <Voice files>

### Spreadsheet items

- Voice name: Customized name for user added voice files
  - Note: Special characters like “\\*\?\*<>|!#%&” and “..” are not allowed for the name.
- Language catalogue: The language catalogue that the added voice belongs to. If left blank, the voice belongs to the public catalogue.
- Belonging service: The service that the added voice belongs to. If left blank, the voice belongs to the public service.
- Memo: Comments on the voice file
- File size: Display of the size of the voice file. (“0” indicates the file has not been uploaded yet)
- Upload file: Specify the local path of the voice file for upload.
- Voice format: Display the format of the uploaded voice file.
- Toolbar

Filter: Filter the items.

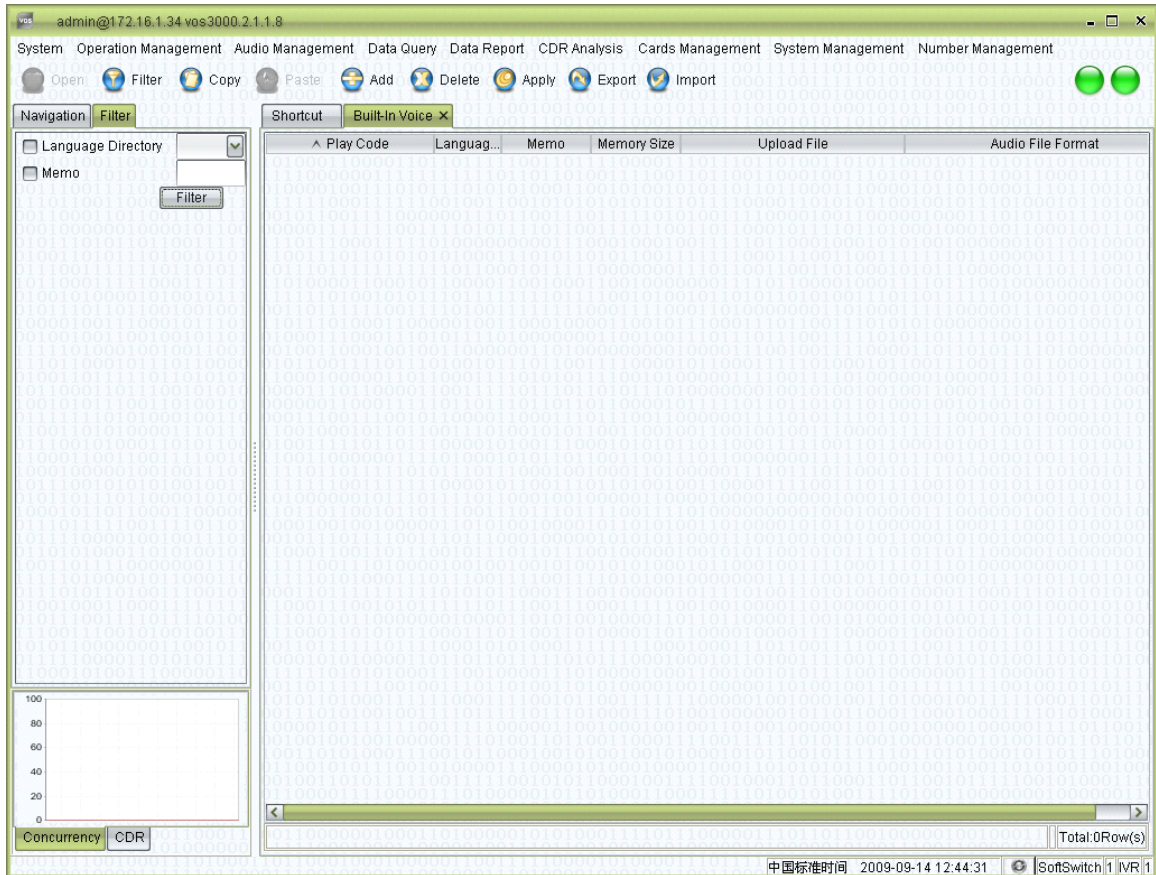
Copy: Copy the selected voice information. The actual voice file data will not be copied.

Add: Add contents to the service (e.g. add rate policies, users, etc.)

Delete: Delete selected contents

Import: Import voice files in batch mode. The voices will be automatically named according to their file names. Supported formats include WAV files (8KHz, 16 bit, monophonic) and TXT files containing voice files.

## 6.3 Built-in voices



### How to start

- Double-click <Voice management> → <Built-in voices>

### Spreadsheet items

- Voice code: Built-in voice code for error prompt.
- Language catalogue: The language catalogue that the added voice belongs to. If left blank, the voice belongs to the public catalogue.
- Memo: Comments on the built-in voice
- File size: The size of the voice file
- Upload file: Specify the local path of the voice file for upload.
- Voice format: Display the format of the uploaded voice file.

## 6.4 Language management

Directory Name	Audio File	Memo
Chinese	0	
English	0	

### How to start

- Double-click <Voice management> → <Language Management>

### Spreadsheet items

- Catalogue name: The name of the language catalogue
- Voice files: The number of voice files uploaded for this language
- Memo: Information related to the language catalogue

Double-click any number at the <Voice files> to display the voice files belonging to the language catalogue.

## 6.5 IVR management

The screenshot displays the VOS3000 VoIP Operation Platform interface. The main window shows the IVR Management section with a table of IVR configurations. The table has the following columns: Access Name, Number of Service, Additional Settings, Memo, Creation Time, Access IP, and Access Time. The first row shows an IVR SIP with 0 services, created on 2009-06-29 at 11:49:39, with an access IP of 127.0.0.1 and an access time of 2009-09-14 09:29:06. The interface also includes a navigation tree on the left, a status bar at the bottom, and a background of binary code.

Access Name	Number of Service	Additional Sett...	Memo	Creation Time	Access IP	Access Time
IVR SIP	0	Edit		2009-06-29 11:49:39	127.0.0.1	2009-09-14 09:29:06

Total:1 Row(s)

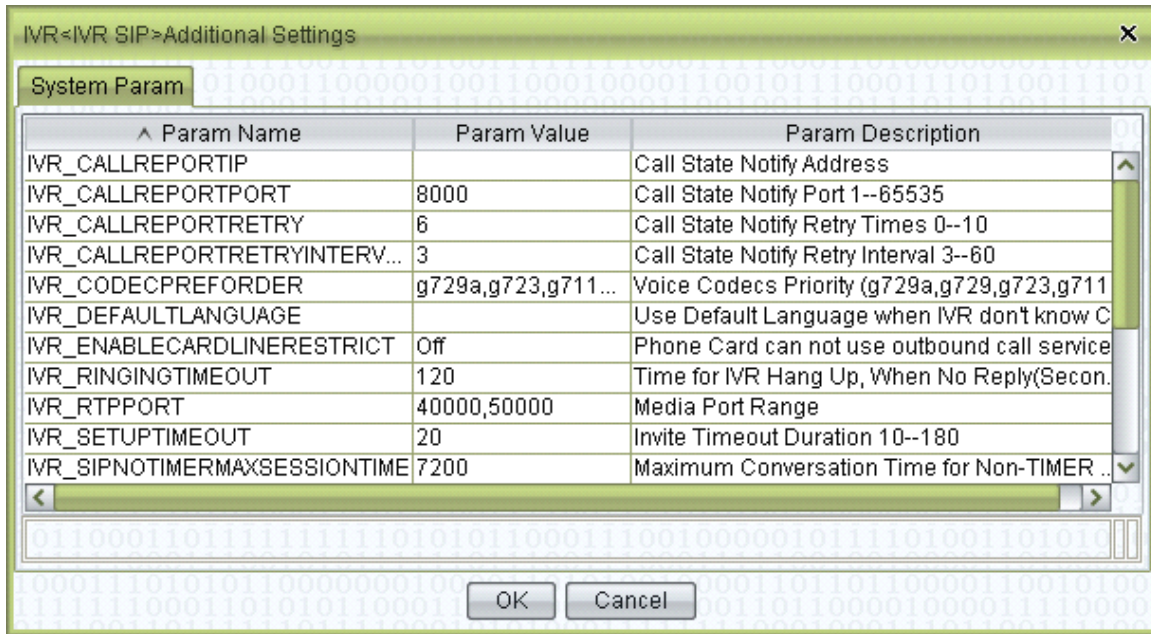
中国标准时间 2009-09-14 12:48:00 | SoftSwitch 1 IVR 1

### How to start

- Double-click <Navigation tree> → <Voice management> → <IVR management>, or click <Voice management> → <IVR management>

### Spreadsheet items

- Access name: The IVR name for the VOS access
- Number of services: The number of services contained in this IVR
- Memo: Comments on the IVR
- Time of creation: The time of creation for this IVR
- Access address: Display the IP address of the access server.
- Access time: The time when the IVR is installed to the VOS
- Complement settings: Specify global parameters for the IVR system



(\*\* The address and port of the softswitch must be specified for IVR to proceed calls)

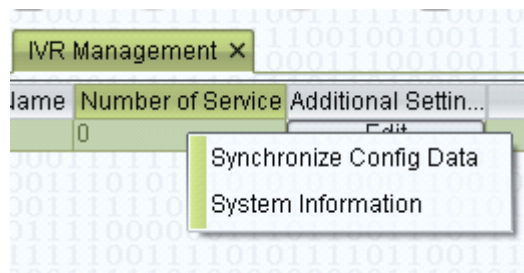
Please refer to the <Parameter description> for explanations of parameters.

Double-click <Number of services> to open the <IVR services> page.

### Spreadsheet items

Note the catalogue on the left side. The shortcut leads to the <Voice services> menu, displaying only services belonging to this IVR. Please refer to the descriptions in <Voice services> for further instructions.

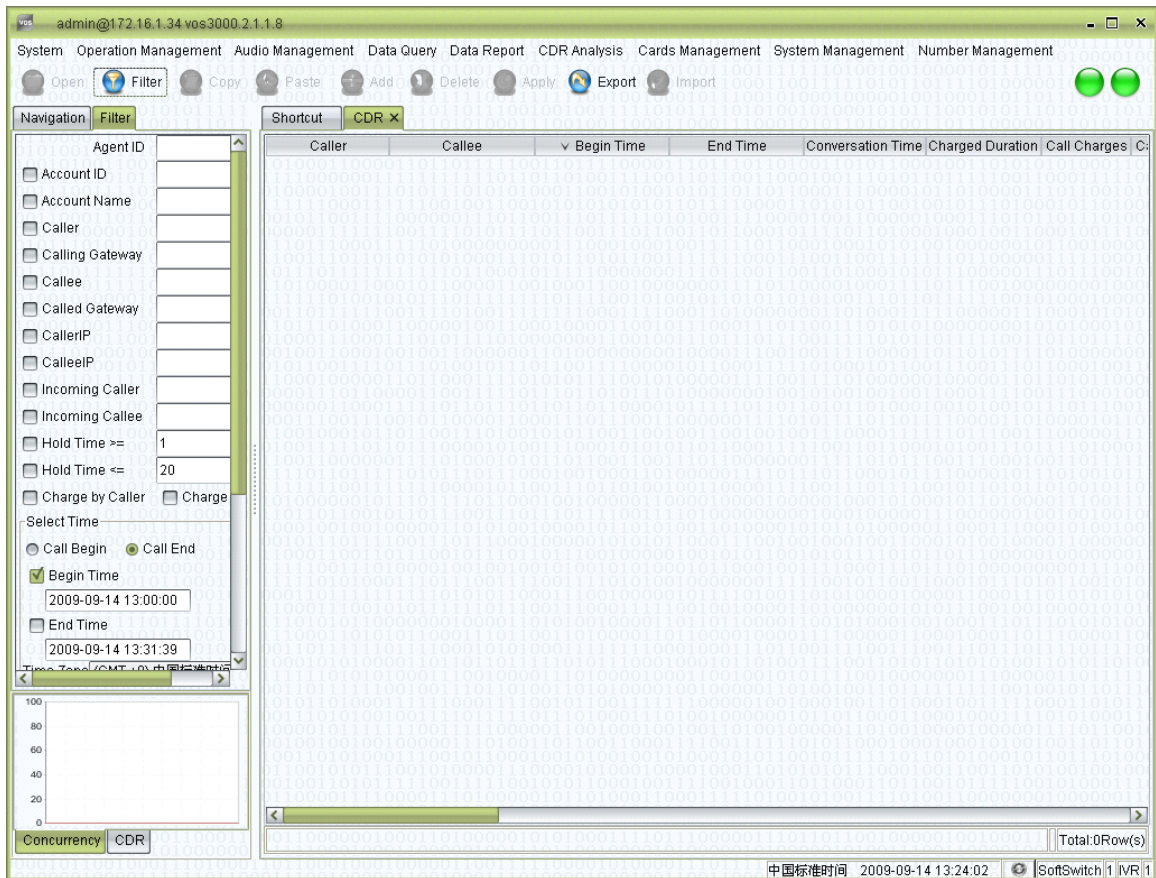
### Right-click menu



- Synchronize settings: Synchronize settings of the IVR with VOS3000
- System information: System information related to the IVR

## 7 Data query

### 7.1 Historical records



#### How to start

- Double-click <Navigation> → <Data query> → <Historical records>

#### Spreadsheet items

By default, the system displays 1000 records every page. This number can be changed in <System parameters>.

- The caller number: The phone number of the caller
- The called number: The phone number of the caller
- Start time: Time when the call is initiated
- Time elapsed: The time the call lasts
- Billing length: The time used for billing, which is calculated according the Billing Cycle specified in rate policies
- Income: The fee charged for this call
- Cost: The cost of delivering this call
- Cause of termination: See [Appendix](#) for details.



- The caller gateway: The ID of the gateway between the caller and the softswitch
- The called gateway: The ID of the gateway between the called and the softswitch
- The caller IP: The IP address of the caller
- The called IP: The IP address of the called
- Account name: The name of the account used for billing this call
- Account name: The number of the account used for billing this call
- Type of the call: It may be <In-network call>, <Local call>, <national call>, or <International call>.
- Rate prefix: The prefix used for billing this call
- The substituted caller number: The caller number sent to the called after the application of Rewrite Rules.
- The substituted called number: The called number sent to the called after the application of Rewrite Rules.
- Terminator: The party that terminates the call
- Free Duration: Time consumed from the Free Duration of a service package
- Gift amount: The amount consumed from the gift amount of a service package
- Billing type
  - The caller: The caller account is charged for the call
  - The called: The called account is charged for the call

**Right-click menu**

- Time correction: Correction of the start time. Only integers are supported (Unit: second)
- Signaling analysis: Open the <Signaling analysis> page.

## 7.2 Payment records

### How to start

- Double-click <Navigation> → <Data query> → <Recharge records>

### Spreadsheet items

- Account number: The number of the account being recharged
- Account name: The name of the account being recharged
- Payment amount: The amount being recharged
- Account balance: The account balance after recharge
- Payment type: Options include <Open an account>, <Recharge>, <Repay>
- Time of payment: Time of the payment
- Payment method: Method of the payment
- Payment user: The name of the user that fulfills this payment
- Memo: Comments on the payment

## 7.3 Bill inquiry

### 7.3.1 Income details

#### How to start

- Double-click <Navigation>→ <Data query>→ <Data reports>→ <Income details>  
The details of payment for each account

## 7.3.2 Gateway bills

The screenshot displays the 'Gateway Bill' interface. The left sidebar contains a 'Filter' section with the following options:

- Agent ID (dropdown)
- Account ID (checkbox)
- Account Name (checkbox)
- Caller (checkbox)
- Calling Gateway (checkbox)
- Callee (checkbox)
- Called Gateway (checkbox)
- CallerIP (checkbox)
- CalleeIP (checkbox)
- Hold Time >= 1 (checkbox)
- Hold Time <= 20 (checkbox)
- Select Time:
  - Call Begin (radio)
  - Call End (radio)
  - Begin Time (checkbox) [2009-09-13 00:00:00]
  - End Time (checkbox) [2009-09-14 00:00:00]
  - Time Zone (GMT +8) 中国...
- Statistic Information:
  - Number of CDR: 0
  - Total Charges: 0.000
- Concurrency: CDR

The main table has the following columns: GatewayID, IP, His Account ID, Total Charges, Total Duration, Local Charges, Local Duration, National Charges, and National Duration. The table content is obscured by a binary pattern. The status bar at the bottom shows '中国标准时间 2009-09-14 13:45:47' and 'SoftSwitch 1 IVR 1'.

### How to start

- Double-click <Navigation> → <Data query> → <Data reports> → <Gateway bills>  
Detailed bills for each gateway

### 7.3.1 Phone bills

#### How to start

- Double-click <Navigation> → <Data query> → <Data reports> → <Phone bills>  
Detailed bills for each Phone number

### 7.3.1 Area details

The screenshot shows a software application window titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The menu bar includes: System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The toolbar contains icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The sidebar on the left has a 'Navigation' tab and a 'Filter' section with various checkboxes and input fields for filtering data. The main window displays a table with the following columns: Rate Prefix, Call Type, Area Name, Total Charges, Total Duration, Package Charges, Package Duration, and Number of CDR. The table content is obscured by a binary code pattern. At the bottom left, there is a 'Concurrence' chart showing a peak of 100. At the bottom right, it says 'Total: 0 Row(s)'. The system status bar at the very bottom shows '中国标准时间 2009-09-14 13:46:14' and 'SoftSwitch 1 IVR 1'.

#### How to start

- Double-click <Navigation>→ <Data query>→<Data reports>→<Area details>

With the area information provided in rate policies, the “Area details” report summarizes phone calls to a certain area in a certain time period.

## 7.3.2 Account balance

The screenshot shows the 'Account Balance' window in a software application. The window title is 'admin@172.16.1.34 vos3000.2.1.1.8'. The menu bar includes System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The toolbar has buttons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The left sidebar has a 'Navigation' tab and a 'Filter' section with various checkboxes and input fields. The main area is a table with columns: Account ID, Account Name, Revenue, Expenditure, Agent Account ID, and Agent Account Name. The table content is mostly obscured by a binary pattern. At the bottom right, it says 'Total: 0 Row(s)'. The status bar at the very bottom shows '中国标准时间 2009-09-13 13:46:25' and 'SoftSwitch 1 IVR 1'.

### How to start

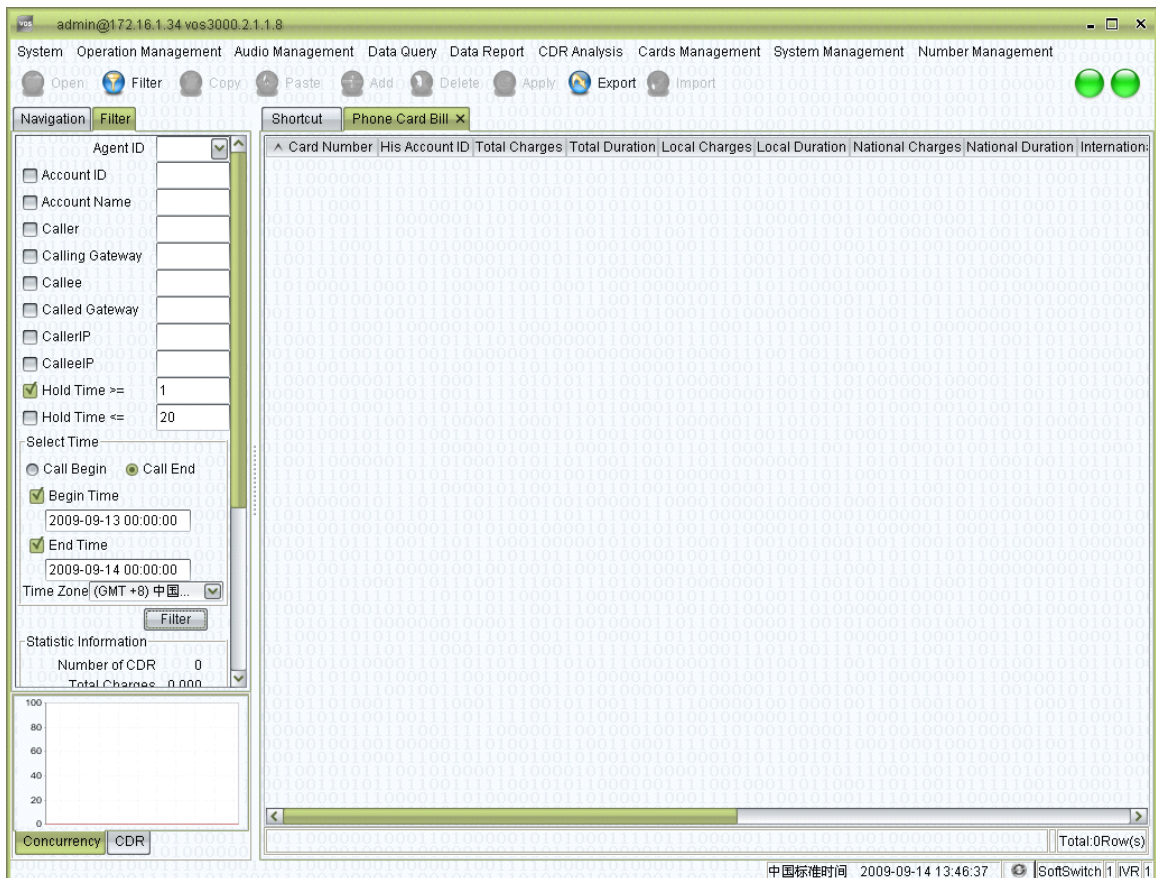
- Double-click <Navigation>→ <Data query>→<Data reports>→<Account balance>

### Spreadsheet items

This chart shows income and expenditures of agent accounts. For ordinary accounts, there will only be expenditures in the chart.

## 7.4 Card inquiry

### 7.4.1 Phone card bills



#### How to start

- Double-click <Navigation>→ <Data query>→ <Card inquiry>→ <Phone card bills>

Display phone card bills according to specified filter criteria. The bills will be sorted according to the card numbers.



## 7.4.2 Bills for binding numbers

### How to start

- Double-click <Navigation>→ <Data query>→<Card inquiry>→<Bills for binding numbers>

Display bills according to specified filter criteria. The bills will be sorted according to the caller numbers.

## 7.5 Settlement

### 7.5.1 Account settlement

The screenshot displays the 'Account Settlement Balance' query results in a table format. The table has the following columns: Account ID, Account Name, Number of CDR, Total Charges, Total Duration, Settlement Costs, Settlement Duration, and Package Charges. The data is presented as a grid of binary digits (0s and 1s).

On the left side of the interface, there is a 'Filter' panel with various options for refining the query:

- Routing Settlement Account ID
- Routing Settlement Account Name
- Account ID
- Account Name
- Caller
- Calling Gateway
- Callee
- Called Gateway
- CallerIP
- CalleeIP
- Incoming Caller
- Incoming Callee
- Hold Time >= 1
- Hold Time <= 20
- Charge by Caller  Charge
- Select Time:
  - Call Begin
  - Call End
- Begin Time: 2009-09-13 00:00:00
- End Time

At the bottom of the interface, there is a status bar showing the time '中国标准时间 2009-09-14 13:47:12' and the software version 'SoftSwitch 1 IVR 1'.

#### How to start

- Double-click <Navigation>→ <Data query>→<Settlement>→<Account settlement>

Display the expenditures on each account on different settlement account in order to quickly calculate operating profits.

## 7.5.2 Settlement account details

The screenshot displays a software application window titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The interface includes a menu bar with options like 'System', 'Operation Management', 'Audio Management', 'Data Query', 'Data Report', 'CDR Analysis', 'Cards Management', 'System Management', and 'Number Management'. Below the menu is a toolbar with icons for 'Open', 'Filter', 'Copy', 'Paste', 'Add', 'Delete', 'Apply', 'Export', and 'Import'. The main area is divided into two panes. The left pane, titled 'Navigation', contains a list of filterable fields: 'Routing Settlement Account ID', 'Routing Settlement Account Name', 'Account ID', 'Account Name', 'Caller', 'Calling Gateway', 'Callee', 'Called Gateway', 'CallerIP', 'CalleeIP', 'Incoming Caller', 'Incoming Callee', 'Hold Time >= 1', 'Hold Time <= 20', 'Charge by Caller', and 'Charge'. It also has a 'Select Time' section with radio buttons for 'Call Begin' and 'Call End', and checkboxes for 'Begin Time' (set to '2009-09-13 00:00:00') and 'End Time'. A 'Concurrency' dropdown is set to 'CDR'. The right pane, titled 'Settle-Account Details', shows a table with columns: 'Routing Settl...', 'Routing Settl...', 'Total Charges', 'Total Duration', 'Local Charges', 'Local Duration', 'National Charges', 'National Duration', and 'Internati...'. The table contains a large amount of data, which appears to be binary code (0s and 1s) for most of the rows. At the bottom right of the window, the status bar shows 'Total:0Row(s)', '中国标准时间 2009-09-14 13:57:49', and 'SoftSwitch 1 IVR 1'.

### How to start

- Double-click <Navigation>→ <Data query>→<Settlement inquiry>→<Settlement account details>

Display the billing details of settlement accounts.

## 7.5.3 Settlement gateway details

The screenshot displays a software application window titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The interface includes a menu bar with options like 'System', 'Operation Management', 'Audio Management', 'Data Query', 'Data Report', 'CDR Analysis', 'Cards Management', 'System Management', and 'Number Management'. Below the menu is a toolbar with icons for 'Open', 'Filter', 'Copy', 'Paste', 'Add', 'Delete', 'Apply', 'Export', and 'Import'. The main window is divided into two panes. The left pane, titled 'Navigation', contains a list of filterable fields: 'Routing Settlement Account ID', 'Routing Settlement Account Name', 'Account ID', 'Account Name', 'Caller', 'Calling Gateway', 'Callee', 'Called Gateway', 'CallerIP', 'CalleeIP', 'Incoming Caller', 'Incoming Callee', 'Hold Time >=' (set to 1), 'Hold Time <=' (set to 20), 'Charge by Caller', and 'Charge'. There are also radio buttons for 'Call Begin' and 'Call End', and checkboxes for 'Begin Time' (checked) and 'End Time' (checked). A date field shows '2009-09-13 00:00:00'. The right pane, titled 'Settle-Gateway Details', shows a table with the following columns: 'GatewayID', 'IP', 'Total Charges', 'Total Duration', 'Package Charges', 'Package Duration', 'Local Charges', 'Local Duration', and 'Nation'. The table contains multiple rows of data, each represented by a long string of binary digits (0s and 1s). At the bottom right of the table, it says 'Total: 0 Row(s)'. The status bar at the bottom of the window shows '中国标准时间 2009-09-14 13:58:01' and 'SoftSwitch 1 IVR 1'.

### How to start

- Double-click <Navigation>→<Data query>→<Settlement inquiry>→<Settlement gateway details>

Display the settlement details of routing gateways.

## 8 Data reports

Users can specify in the <System parameters> whether to generate certain data report.

By default: the following reports are generated: Income reports, gateway billing reports, and Phone billing reports. These reports can be queried through the Web.

The generation of reports will begin at 1:00 A.M every day. (The time of completion depends on the capacity of the server and the amount of data)

SERVER_REPORTCLEARINGCUSTOMER...	Off	Auto Generate Settle-Account Details Report
SERVER_REPORTCLEARINGCUSTOMERIO	Off	Auto Generate Account Settlement Balance Report
SERVER_REPORTCLEARINGGATEWAYFEE	Off	Auto Generate Settle-Gateway Details Report
SERVER_REPORTCUSTOMERFEE	On	Auto Generate Revenue Details Report
SERVER_REPORTCUSTOMERIO	Off	Auto Generate Account Balance Report
SERVER_REPORTGATEWAYFEE	On	Auto Generate Gateway Bill Report
SERVER_REPORTPHONECARDE164FEE	Off	Auto Generate Bind Number Bill Report
SERVER_REPORTPHONECARDFEE	Off	Auto Generate Phone Card Bill Report
SERVER_REPORTPHONEFEE	On	Auto Generate Phone Bill Report

## 8.1 Billing reports

### 8.1.1 Income reports

The screenshot shows a software application window titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The menu bar includes: System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, Number Management. The toolbar contains icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The interface is divided into several panes:

- Navigation:** Shows 'Agent ID' and 'Revenue Details Report x'.
- Filter:** Includes fields for 'Account ID', 'Account Name', 'Begin Time' (2009-09-13), and 'End Time' (2009-09-13), with a 'Filter' button.
- Statistic Information:**
  - Number of CDR: 0
  - Total Charges: 0.000
  - Total Package: 0.000
  - Intranet Charges: 0.000
  - Local Charges: 0.000
  - National Charges: 0.000
  - International Charges: 0.000
  - Total Duration: 0
  - Package Duration: 0
  - Intranet Duration: 0
  - Local Duration: 0
  - National Duration: 0
  - International Duration: 0
- Main Table:** A table with columns: Date, Account ID, Account Name, Total Charges, Total Duration, Local Charges, Local Duration, National Charges, National Duration. The table content is mostly binary data.
- Concurrency:** A small graph showing 'Concurrency' for 'CDR'.
- Status Bar:** Shows 'Total: 0 Row(s)', '中国标准时间 2009-09-14 14:00:10', and 'SoftSwitch 1 IVR 1'.

#### How to start

- Double-click <Navigation>→ <Data reports>→ <Billing reports>→ <Income reports>

#### Spreadsheet items

- Data: The date of records in the report
- Account number: The number of the account being displayed
- Account name: The name of the account being displayed
- Total amount: The total amount of charges
- Total time: The total amount of session time for all calls
- Local fee: The amount charged for local calls
- Local time: The amount of session time for local calls
- national fee: The amount charged for national calls
- national time: The amount of session time for national calls
- International fee: The amount charged for international calls
- International time: The amount of session time for international calls

- In-network fee: The amount charged for in-network calls
- In-network time: The amount of session time for in-network calls
- Gift amount: The total consumption of gift amount
- Free Duration: The total consumption of Free Duration
- Number of records: The total number of phone records

## 8.1.2 Gateway billing reports

The screenshot shows a web application interface for generating Gateway Billing Reports. The top navigation bar includes options like System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. Below this is a toolbar with icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The main interface is divided into three sections:

- Navigation/Filter:** Contains a dropdown for Agent ID, checkboxes for Account ID and Account Name, date pickers for Begin Time (2009-09-13) and End Time (2009-09-13), checkboxes for GatewayID and IP, and a Filter button.
- Statistic Information:** A list of metrics with values:
 

Number of CDR	0
Total Charges	0.000
Total Package	0.000
Intranet Charges	0.000
Local Charges	0.000
National Charges	0.000
International Charges	0.000
Total Duration	0
Package Duration	0
Intranet Duration	0
Local Duration	0
National Duration	0
International Duration	0
- Main Table:** A table with columns: Date, GatewayID, IP, His Account ID, Total Charges, Total Duration, Local Charges, Local Duration, and National CP. The table is currently empty.

The bottom status bar indicates 'Total: 0 Row(s)' and the time '2009-09-14 14:00:21'.

### How to start

- Double-click <Navigation> → <Data reports> → <Billing reports> → <Gateway billing reports>

### Spreadsheet items

- Gateway ID: The unique ID of the device, used for the authentication of dynamic gateways. For static gateways (usually relay gateways), the only requirement is that their IDs do not conflict with one another.
- IP address: The IP address of the gateway
- Please refer to the descriptions in <Income reports> for further instructions.



## 8.1.3 Phone billing reports

The screenshot displays the 'Phone Bill Report' interface. On the left, there is a 'Filter' section with fields for Agent ID, Account ID, Account Name, Begin Time (2009-09-13), and End Time (2009-09-13). Below this is a 'Statistic Information' panel showing various metrics such as Number of CDR (0), Total Charges (0.000), and durations for Intranet, Local, National, and International calls. At the bottom left, there is a 'Concurrency' section with a 'CDR' button. The main area is a data table with the following columns: Date, Phone Number, His Account ID, Billing Method, Total Charges, Total Duration, Local Charges, Local Duration, and National Charge. The table is currently empty, showing only the header row. The interface also includes a 'Total:0Row(s)' indicator at the bottom right of the table area. The status bar at the very bottom shows the time as 2009-09-14 14:00:47 and the system as SoftSwitch 1 IVR 1.

### How to start

- Double-click <Navigation>→ <Data reports>→<Billing reports>→<Phone billing reports>

### Spreadsheet items

- Phone number: The number used as caller ID and the called number for the terminal
- Account number: The number of the account that the phone belongs to
- Billing type: Whether the caller or the called is charged
- Please refer to the descriptions in <Income reports> for further instructions.

## 8.1.4 Account balance reports

### How to start

- Double-click <Navigation>→ <Data reports>→<Billing reports>→<Account balance reports>

### Spreadsheet items

- See the descriptions in <Income reports>.

## 8.2 Card reports

### 8.2.1 Phone card billing reports

The screenshot shows a software application window titled "admin@172.16.1.34 vos3000.2.1.1.8". The menu bar includes: System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The toolbar contains icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The interface is divided into several panes:

- Navigation:** Shows a tree view with "Phone Card Bill Report" selected.
- Filter:** Contains input fields for Agent ID, Account ID, Account Name, Begin Time (2009-09-13), End Time (2009-09-13), and Card Number, along with a "Filter" button.
- Statistic Information:** A table showing various metrics:
 

Number of CDR	0
Total Charges	0.000
Total Package	0.000
Intranet Charges	0.000
Local Charges	0.000
National Charges	0.000
International Charges	0.000
Total Duration	0
Package Duration	0
Intranet Duration	0
Local Duration	0
National Duration	0
International Duration	0
- Concurrence:** A small chart showing a single bar for "CDR" with a value of 100.
- Main Data Table:** A table with columns: Date, Card Number, His Account ID, Total Charges, Total Duration, Local Charges, Local Duration, National Charges, National Duration. The table is currently empty, showing "Total: 0 Row(s)".

The status bar at the bottom indicates "中国标准时间 2009-09-14 14:01:58" and "SoftSwitch 1 IVR 1".

#### How to start

- Double-click <Navigation>→ <Data reports>→<Card reports>→<Phone card billing reports>

#### Spreadsheet items

- See the descriptions in <Income reports>.

## 8.2.2 Billing reports for binding numbers

The screenshot displays a software application window titled "admin@172.16.1.34 vos3000.2.1.1.8". The main menu includes System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The toolbar contains icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The interface is divided into several sections:

- Navigation:** Shows "Bind Number Bill Report" selected under the "Filter" tab.
- Filter:** Includes fields for Agent ID, Account ID, Account Name, Begin Time (2009-09-13), End Time (2009-09-13), Card Number, and Phone Number, with a "Filter" button.
- Statistic Information:**

Number of CDR	0
Total Charges	0.000
Total Package	0.000
Intranet Charges	0.000
Local Charges	0.000
National Charges	0.000
International Charges	0.000
Total Duration	0
Package Duration	0
Intranet Duration	0
Local Duration	0
National Duration	0
International Duration	0
- Main Table:** A spreadsheet view with columns: Date, Incoming Caller, Card Number, His Account ID, Total Charges, Total Duration, Local Charges, Local Duration, National Charges. The table content is mostly obscured by a binary pattern overlay.
- Concurrency:** A small graph showing "Concurrency" for "CDR" with a scale from 0 to 100.
- Status Bar:** Shows "Total:0Row(s)", "中国标准时间 2009-09-14 14:02:18", and "SoftSwitch 1 IVR 1".

### How to start

- Double-click <Navigation>→ <Data reports>→<Card reports>→<Billing reports for binding numbers>

### Spreadsheet items

- See the descriptions in <Income reports>.

## 8.3 Settlement reports

### 8.3.1 Account settlement reports

#### How to start

- Double-click <Navigation>→ <Data reports>→<Settlement reports>→<Account settlement reports>

#### Spreadsheet items

- See the descriptions in <Income reports>.

## 8.3.2 Settlement account billing reports

The screenshot displays the 'Settle-Account Details Report' window. The interface includes a menu bar with options like 'System', 'Operation Management', 'Audio Management', 'Data Query', 'Data Report', 'CDR Analysis', 'Cards Management', 'System Management', and 'Number Management'. Below the menu is a toolbar with icons for 'Open', 'Filter', 'Copy', 'Paste', 'Add', 'Delete', 'Apply', 'Export', and 'Import'. The main window is split into a left sidebar and a main table area. The sidebar contains a 'Statistic Information' section with various metrics such as 'Number of CDR', 'Total Charges', 'Total Package', 'Intranet Charges', 'Local Charges', 'National Charges', 'International Charges', and 'Total Duration', all showing a value of 0. There is also a 'Concurrency' chart and a 'CDR' button. The main table area displays a grid with columns for 'Date', 'Routing Settle...', 'Routing Settle...', 'Total Charges', 'Total Duration', 'Local Charges', 'Local Duration', 'National Charges', and 'National'. The table content is filled with binary code (0s and 1s). The status bar at the bottom indicates the time as '中国标准时间 2009-09-14 14:04:29' and the system as 'SoftSwitch 1 IVR 1'.

### How to start

- Double-click <Navigation>→ <Data reports>→<Settlement reports>→<Settlement account billing reports>

### Spreadsheet items

- See the descriptions in <Income reports>.

### 8.3.3 Settlement gateway billing reports

The screenshot displays the 'Settle-Gateway Details Report' interface. The left sidebar contains a navigation menu with 'Navigation' and 'Filter' tabs. Below the navigation menu is a filter section with checkboxes for 'Routing Settlement Account ID', 'Routing Settlement Account Nam', 'GatewayID', and 'IP'. A 'Statistic Information' section lists various metrics, all of which are currently 0. The main area of the interface is a data table with the following columns: Date, GatewayID, IP, Total Charges, Total Duration, Package Charges, Package Duration, Local Charges, and Local Duration. The table is currently empty. The bottom status bar shows the time as 2009-09-14 14:04:44 and the user as SoftSwitch/1 IVR/1.

#### How to start

- Double-click <Navigation>→ <Data reports>→<Settlement reports>→<Settlement gateway billing reports>

#### Spreadsheet items

- See the descriptions in <Income reports>.

## 8.4 Report management

### How to start

- Double-click <Navigation>→ <Data reports>→<Report management>

### Spreadsheet items

- Date: Date of records in the report
- Date of generation: The date when the report is generated
- Operator: The operator that generated the report
- Memo: Items included in the report

### Right-click menu

#### How to start

- Double-click <Navigation>→ <Data reports>→<Report management>→Right-click any record in it.

Select all reports of a certain day, or generate certain types of reports.



## 9 Record analysis

### 9.1.1 Session analysis

#### How to start

- Double-click <Navigation>→ <Record analysis>→<Session analysis>

Session analysis shows the success rate of gateway connections. Rates for the caller cases and the called ones can be analyzed separately.

## 9.1.2 Interruption analysis

### How to start

- Double-click <Navigation>→ <Record analysis>→<Interruption analysis >

Session analysis summarizes the causes of interruptions. Ratios of different causes can be analyzed for the caller cases and the called ones separately.

## 9.1.3 Call distribution

The screenshot shows a web-based interface for call distribution analysis. The top navigation bar includes options like System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The left sidebar has a 'Filter' tab with various search criteria. The main content area is titled 'Call Distribution' and contains a large empty graph. The bottom status bar indicates the current time and user session.

### How to start

- Double-click <Navigation>→<Record analysis>→<Call distribution>

Call distribution shows the pie chart illustrating the total number of calls in each of the 24 hours every day.

## 9.1.4 Historical performance

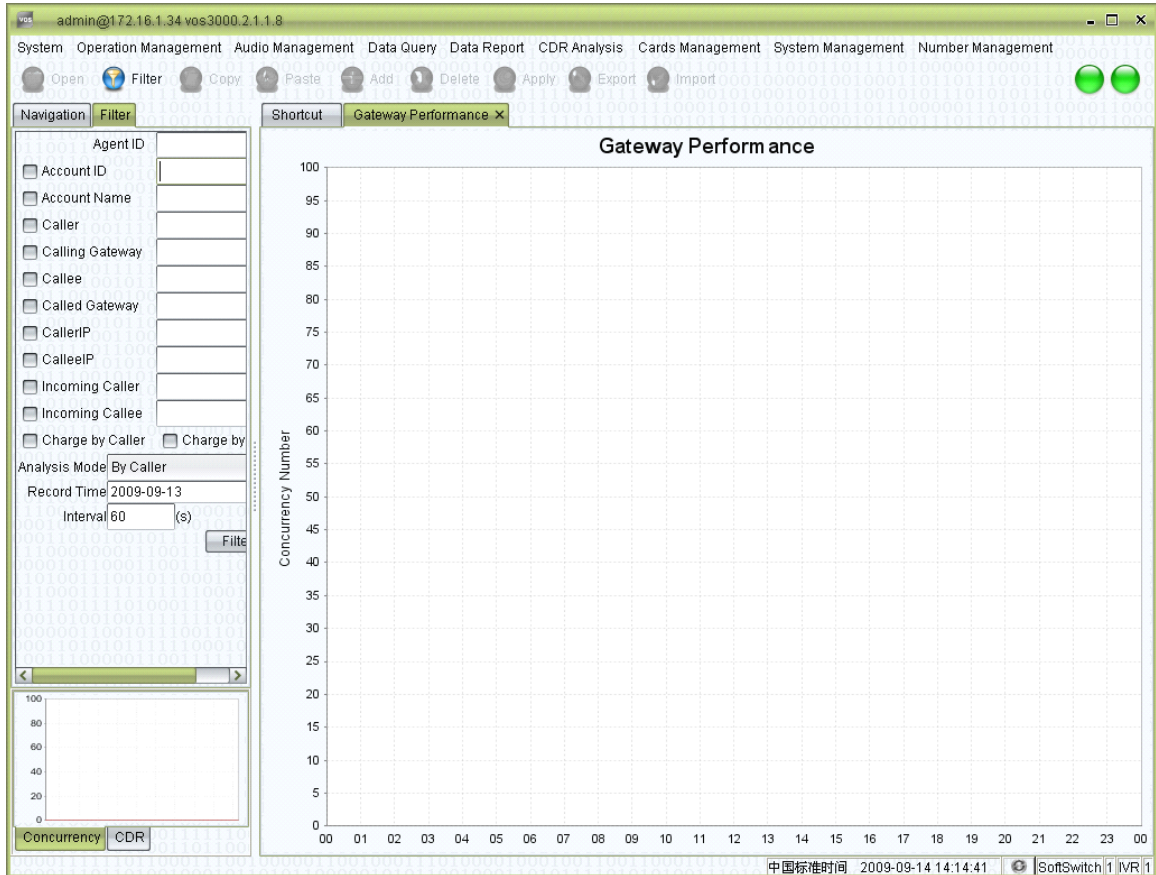
The screenshot shows a web-based interface for CDR analysis. The top menu includes System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The main window is titled 'Call Distribution' and features a navigation pane on the left with various filters and a central graph area. The graph area is currently empty, with a '0Hour' marker. The bottom status bar indicates the time as 2009-09-14 14:14:13 and the user as SoftSwitch1 IVR1.

### How to start

- Double-click <Navigation>→ <Record analysis>→<Historical performance>

Historical performance shows the concurrent calls processed on any specified date in history. Unsuccessful calls are not counted here, so the number shown in the chart will be slight lower than that in reality.

## 9.1.5 Gateway performance

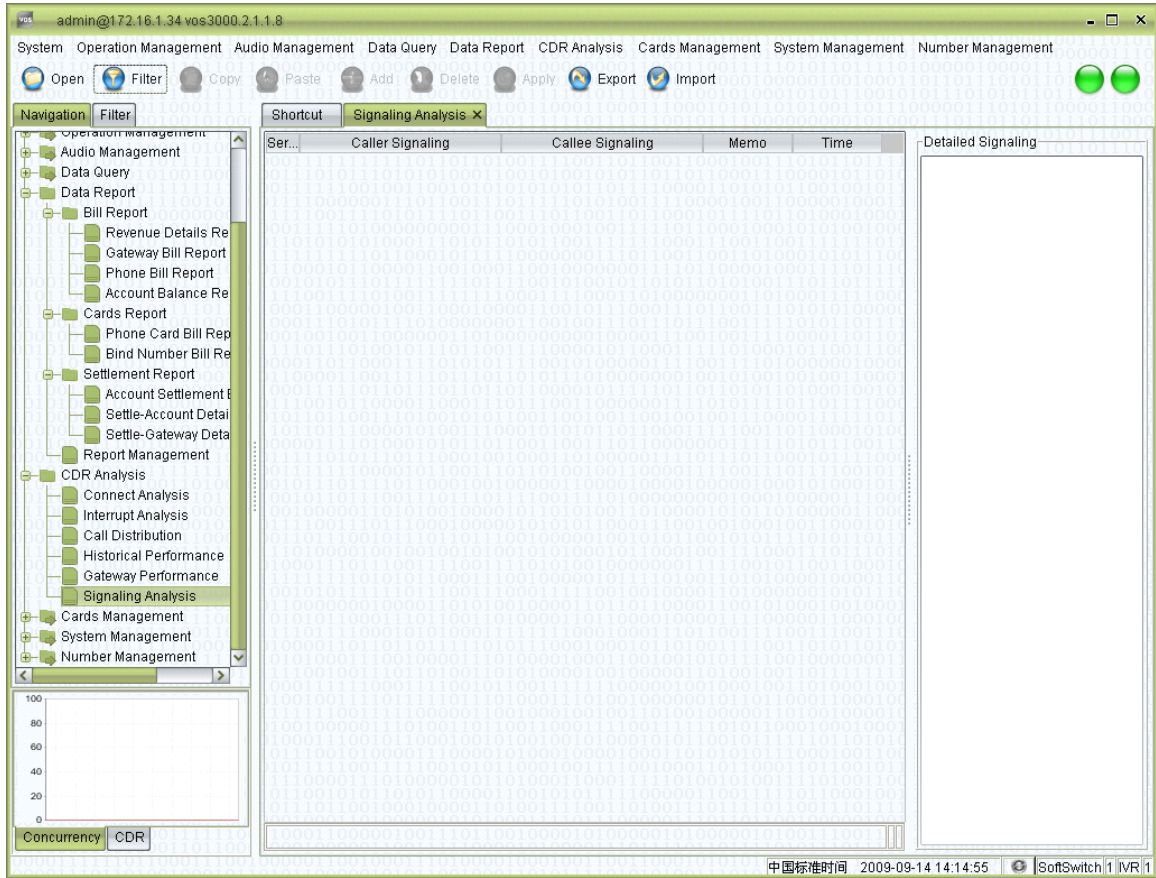


### How to start

- Double-click <Navigation>→ <Record analysis>→<Gateway performance >

Gateway performance shows the concurrent calls processed by the gateway on any specified date in history. Unsuccessful calls are not counted here, so the number shown in the chart will be slight lower than that in reality.

## 9.1.6 Signaling analysis



### How to start

- Double-click <Navigation> → <System management> → <Signaling analysis>

### Operation details

Enable signal tracing: <Menu> → <Signal tracing >. The following dialog will be shown:



The system will monitor all signals arriving in the next 5 minutes. (The time can be specified in <System parameters>). All phone records created within this time period contain a full record of signaling process, which can be view by choosing <Signaling analysis> in the right-click menu.

## 10 Card management

### 10.1 Phone cards

The screenshot displays the 'Phone Card' management interface. The left sidebar contains a 'Navigation' pane with a 'Filter' section and a 'Concurrency' chart. The main area shows a table of phone cards with the following data:

Serial Nu...	Card Number	Password	Money Amount	Billing Rate	Package Name	His Agent	Lock Type	Produce Tir
1	11283328	10	test	10			No Lock	2009-08-20
2	11642682	10	test	10			No Lock	2009-08-20
3	11010203	10	test	10			No Lock	2009-08-20
4	11009119	10	test	10			No Lock	2009-08-20
5	11794968	10	test	10			No Lock	2009-08-20
6	11058614	10	test	10			No Lock	2009-08-20
7	11361480	10	test	10			No Lock	2009-08-20
8	11176737	10	test	10			No Lock	2009-08-20
9	11021502	10	test	10			No Lock	2009-08-20
10	11216346	10	test	10			No Lock	2009-08-20
11	11119802	10	test	10			No Lock	2009-08-20

The interface also shows a 'Concurrency' chart for 'CDR' and a status bar at the bottom indicating 'Total: 11 Row(s)' and the time '2009-09-14 14:15:31'.

#### How to start

- Double-click <Navigation> → <Card management> → <Phone cards>

#### Spreadsheet items

- Sequence number: The sequence number of activated cards. The initial number can be specified by users.
- Card number: The unique ID of a recharge card. Card numbers of existing cards cannot be modified.
- Password: The password used for authentication in recharge
- Amount: The amount to be recharged
- Rate policy: The rate policy used for PSTN cards
- Package name: The name of the package used for PSTN cards
- Agency: The agent account specified in account binding for PSTN cards
- Restriction type: <No restriction> or <Restricted>
- Issue date: The date when the card is issued

- Expiration date: The date of expiration
- Memo: Descriptions of the card
- Serial number: The internal code for the card
- Recharge account number: When used, the number of the account being recharged
- Recharge account name: When used, the name of the account being recharged
  - Serial number: The serial number of the card
  - Recharge account number: When used, the number of the account being recharged

### **Batch creation of recharge cards**

- Number of cards: The number of cards to be created
- Initial sequence number: The initial sequence number of the cards. The last sequence number will be automatically determined according to the number of card to be created.

Note: If the initial sequence number is left blank, it will be set to the number that is one plus the largest sequence number activated up to now.

- Password mode: Whether the cards being created have passwords
- Initial card number: The initial card number of the cards
- Password length: The length of the passwords. Passwords are generated automatically by the system.
- Number prefix: The prefix number of the cards being created
- Amount: The amount to be recharged
- Rate policy: The rate policy used for PSTN cards
- Package name: The name of the package used for PSTN cards
- Agency: The agent account specified in account binding for PSTN cards

(\* Up to now, the card creation has not been completed yet. You can still modify items, such as adding <Comments>. The creation will be completed after clicking <Apply>.)

(\* If the expiration date extension is specified in <System parameters>, the expiration date of an account will be re-calculated accordingly after recharge)



## 10.2 Cards in use

The screenshot displays the VOS system interface for 'Cards in use' management. The window title is 'admin@172.16.1.34 vos3000.2.1.1.8'. The menu bar includes: System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The toolbar contains icons for Open, Filter, Copy, Paste, Add, Delete, Apply, Export, and Import. The navigation pane on the left shows 'Navigation' and 'Filter' tabs. The filter section includes checkboxes for 'Account ID', 'Account Name', and 'Card Number', with a 'Filter' button. Below the filter is a 'Concurrency' graph and a 'CDR' button. The main area shows a table titled 'Inuse Phone Card X' with columns: Card Number, Password, Enable Date, Number of Bind Number, Account ID, and Account Name. The table contains a large amount of data represented by binary strings. The status bar at the bottom shows 'Total:0Row(s)', '中国标准时间 2009-09-14 14:17:14', and 'SoftSwitch 1 IVR 1'.

### How to start

- Double-click <Navigation> → <Card management> → <Cards in use>

Display cards that have been activated.

## 11 System management

### 11.1 User management

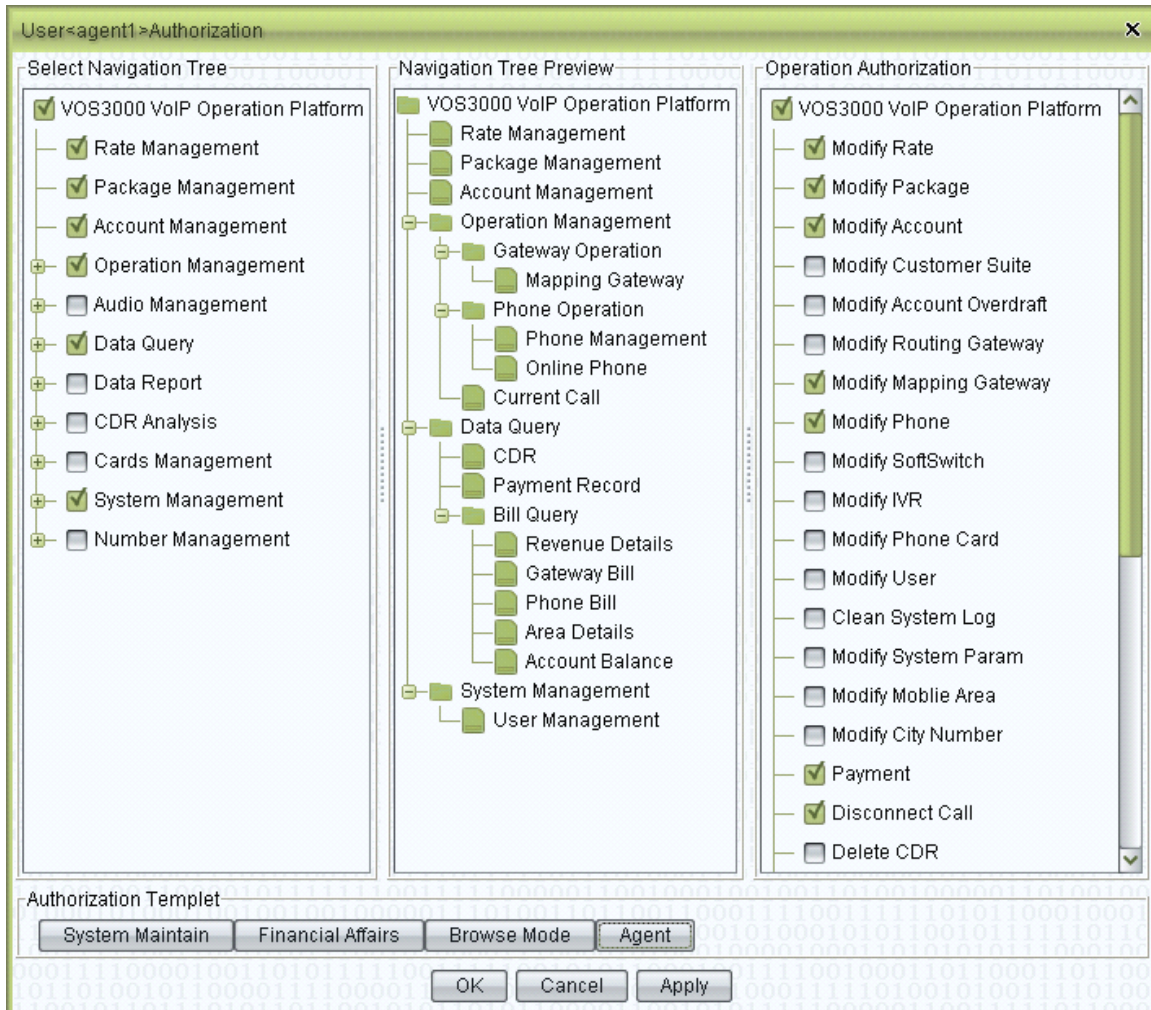
^ Login Name	User Password	User Name	User Type	Authorization	Memo
admin	*****	Administrator	Administr...	Edit	
agent1	*****		Agent	Edit	
agent2	*****		Agent	Edit	
agent3	*****		Agent	Edit	
demo	*****		Agent	Edit	

#### How to start

- Double-click <Navigation> → <System management> → <User management>

#### Spreadsheet items

- Login ID: The ID used to login
- Login Password: The login password
- User name: The name of the user
- User type
  - Administrator: Users with all authorizations
  - Operator: Users with certain authorizations for operations
  - Agent: Users that are only allow to view the accounts, rate policies and service packages.
- Authorizations



- Users can specify interfaces and operations available for a non-administrator user. All settings come into effect immediately.
- Authorization templet: Several templates for authorizations are provided. Users can select a template and then tune the configurations.
- Memo: Comments about the user
  - (\* Users of the “agent” type who have the authorization to create users will be able to see all the users they created in the table, while other users are invisible to them. It is the same when they specify the availability of rates, packages, and accounts to other users.)

## 11.2 System log

Type	Record Time	Operating User	Event	Detailed Info
Information	2009-09-14 13:22:20	admin	Operation Mana...	Add Audio Service 1
Information	2009-09-14 13:22:20	admin	Operation Mana...	Add Audio Service 2
Information	2009-09-14 13:22:20	admin	Operation Mana...	Add Audio Service 3
Information	2009-09-14 13:22:20	admin	Operation Mana...	Add Audio Service 4
Information	2009-09-14 12:45:13	admin	Operation Mana...	Add Language Chinese
Information	2009-09-14 12:45:13	admin	Operation Mana...	Add Language English
Information	2009-09-14 12:31:16	admin	Operation Mana...	Add Gateway test1
Information	2009-09-14 12:31:16	admin	Operation Mana...	Add Gateway test2
Information	2009-09-14 12:13:46	admin	Operation Mana...	Add Gateway gw.101-t-err
Information	2009-09-14 12:13:46	admin	Operation Mana...	Add Gateway gw.103
Information	2009-09-14 12:13:46	admin	Operation Mana...	Add Gateway gw.102
Information	2009-09-14 12:13:46	admin	Operation Mana...	Add Gateway gw.101-t
Information	2009-09-14 12:11:35	admin	Operation Mana...	Delete Gateway 1
Information	2009-09-14 12:11:35	admin	Operation Mana...	Delete Gateway 2
Information	2009-09-14 12:11:35	admin	Operation Mana...	Delete Gateway 3
Information	2009-09-14 12:11:35	admin	Operation Mana...	Delete Gateway 4
Information	2009-09-14 12:11:35	admin	Operation Mana...	Delete Gateway 5
Information	2009-09-14 12:10:26	admin	Operation Mana...	Add Gateway 1
Information	2009-09-14 12:10:26	admin	Operation Mana...	Add Gateway 2
Information	2009-09-14 12:10:26	admin	Operation Mana...	Add Gateway 3
Information	2009-09-14 12:10:26	admin	Operation Mana...	Add Gateway 4
Information	2009-09-14 12:10:26	admin	Operation Mana...	Add Gateway 5
Information	2009-09-14 11:35:07	admin	Package Manag...	Package 21 Add 1 item(s) of Period Rate
Information	2009-09-14 11:32:08	admin	Package Manag...	Package 21 Modify 3 item(s) of Period Rate
Information	2009-09-14 11:31:40	admin	Rate Managem...	Modify Rate-Group 0.3
Information	2009-09-14 11:31:40	admin	Rate Managem...	Modify Rate-Group 0.4
Information	2009-09-14 11:31:40	admin	Rate Managem...	Modify Rate-Group 0.5
Information	2009-09-14 11:30:41	admin	Package Manag...	Package 21 Modify 1 item(s) of Period Rate
Information	2009-09-14 11:30:34	admin	Package Manag...	Package 21 Modify 1 item(s) of Period Rate
Information	2009-09-14 11:30:13	admin	Rate Managem...	Add Rate-Group 0.05
Information	2009-09-14 11:29:35	admin	Rate Managem...	Add Rate-Group 0.5
Information	2009-09-14 11:29:35	admin	Rate Managem...	Add Rate-Group 0.6
Information	2009-09-14 11:29:35	admin	Rate Managem...	Add Rate-Group 0.7
Information	2009-09-14 11:29:02	admin	Package Manag...	Package 21 Modify 2 item(s) of Period Rate
Information	2009-09-14 11:28:58	admin	Package Manag...	Package 21 Add 3 item(s) of Period Rate
Information	2009-09-14 11:22:34	admin	Package Manag...	Package 21 Add 3 item(s) of Free Duration

### How to start

- Double-click <Navigation>→ <System management>→<System log>

Log of user operations will be shown.

## 11.3 System parameters

Param Name	Param Value	Param Description
SERVER_ACCOUNTEXPIREDELAYAFTER...	365	Extend the validity(Day) after recharge. 1--3650
SERVER_CDRMAXQUERYDAYINTERVAL	2	Maximum Interval for CDR Inquiry(Day) 1--91
SERVER_CDRMINTIME	0	Free Duration(Second) 0--86400
SERVER_CDRQUERYDENYTIME		No CDR Query Time(24 hour) e.g. 18,19,20,21,22,23
SERVER_CDRRECORDEZEROHOLDTIME	On	Record CDR with Non Charged Duration
SERVER_CUSTOMERALARMMONEY	20	Account Warning Amount(Dollar) 0--100000
SERVER_GATEWAYROUTEPREFIX		Routing Additional Routing Prefix, separated by commas.
SERVER_LOGCYCLELIMIT	100000	Log Wire-Wrap Limit(tem) 100--1000000
SERVER_MAXCDRPENDINGLISTSIZE	100000	Length of CDR Queue Limit 10000--100000
SERVER_NOCDRE164S		Toll-free Number separated by commas
SERVER_PHONECARDPAYRELATETOAG...	Off	Charge Agent Accounts, which Use Lower Rate, at the same time, when cus
SERVER_QUERYMAXONEPAGESIZE	200000	Maximum Number of Data per Page
SERVER_QUERYMAXSIZE	100000	Data Query Limit(tem) 0--1000000
SERVER_QUERYONEPAGESIZE	10000	Number of Data per Page(tem) 1000--200000
SERVER_REPORTCLEARINGCUSTOMER...	Off	Auto Generate Settle-Account Details Report
SERVER_REPORTCLEARINGCUSTOMERIO	Off	Auto Generate Account Settlement Balance Report
SERVER_REPORTCLEARINGGATEWAYFEE	Off	Auto Generate Settle-Gateway Details Report
SERVER_REPORTCUSTOMERFEE	On	Auto Generate Revenue Details Report
SERVER_REPORTCUSTOMERIO	Off	Auto Generate Account Balance Report
SERVER_REPORTGATEWAYFEE	On	Auto Generate Gateway Bill Report
SERVER_REPORTPHONECARDE164FEE	Off	Auto Generate Bind Number Bill Report
SERVER_REPORTPHONECARDFEE	Off	Auto Generate Phone Card Bill Report
SERVER_REPORTPHONEFEE	On	Auto Generate Phone Bill Report
SERVER_SERVICEE164S		Special Service Number, separated by commas
SERVER_SMTPECUSTOMEREMAIL	Off	SMTP Send Account Consumption Email Automatically
SERVER_SMTPFROM	127.0.0.1	SMTP Domain Name
SERVER_SMTPSERVER	127.0.0.1	SMTP Server IP
SERVER_TRACEFILELENGTH	40960	Size of Debug File(kB) 4096--4096000
SERVER_TRACEMASK	ERROR	Set Display of Debug Information
SERVER_TRACEFILE	On	Output Debug Information into File

### How to start

- Double-click <Navigation>→ <System management>→<System parameters>
  1. The number of days added to the expiration date after a positive amount of money is recharged into the account. (Range: 1 – 3650 days)
  2. Free calls (The numbers that can be called free of charge), e.g. if the first access of a dial-up user is not charged, the access number can be specified here.
  3. Reports generation: Enable or disable the automatic generation of various reports.
  4. Prohibited time period for call list query: Specify time periods during which users can not query their call lists. (Format: 18, 19, 20, 21, 22, 23).

## 11.4 System information

The screenshot shows a web-based management interface. The top menu includes System, Operation Management, Audio Management, Data Query, Data Report, CDR Analysis, Cards Management, System Management, and Number Management. The left navigation pane is expanded to 'System Management' > 'System Information'. The main content area displays the following system information:

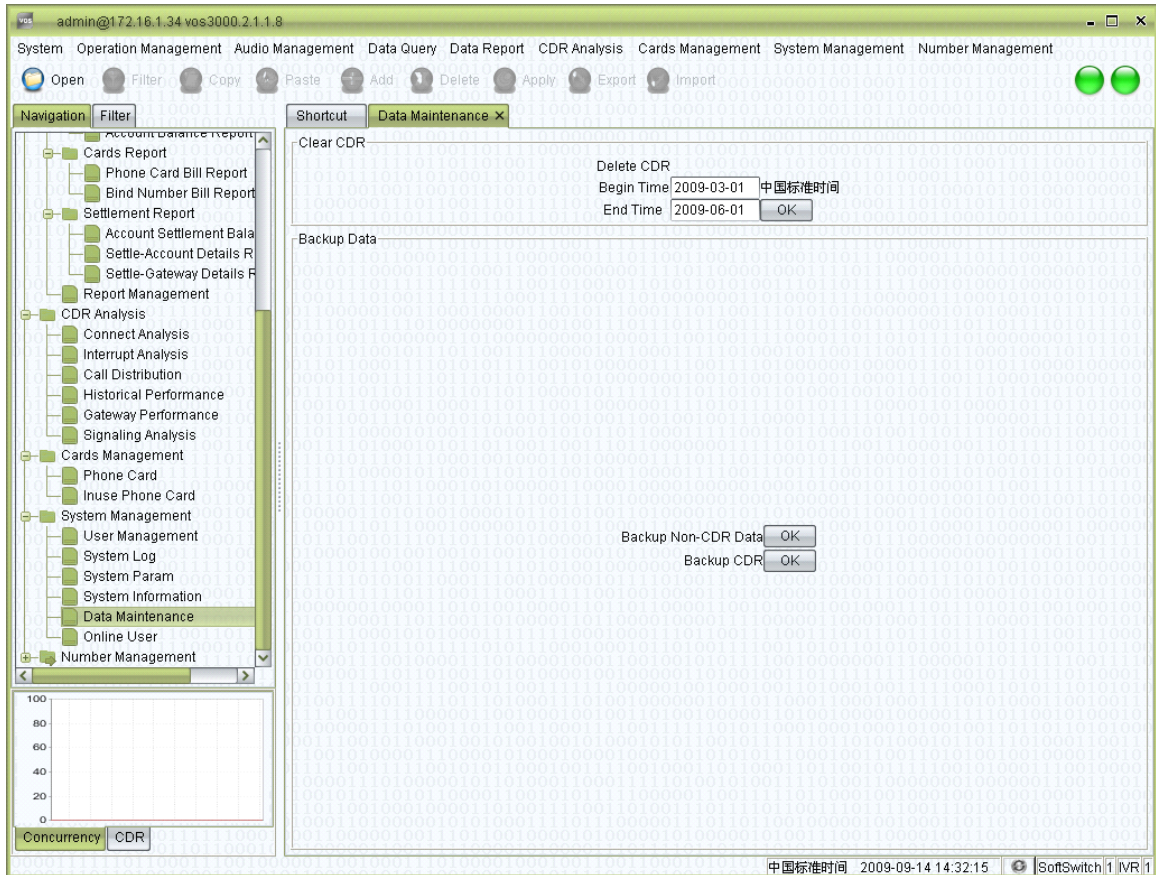
Information Name	Information Value
<b>License Information</b>	
Product Information	SIP/H323
Expiry Date	NoLimit
Authorization Information	
Additional Information	CDR Analysis, Cards Management, Package Management, Routing Settings, IVR Management
<b>Operation System</b>	
Linux version 2.6.9-78.ELsmp	
<b>CPU</b>	
CPU ID	Intel(R) Core(TM) i7 CPU 920 @ 2.67GHz
Master Frequency	2698.394 MHz
Buffer	8192 KB
bogomips	5402.29
CPU Utilization	
CPU ID	Intel(R) Core(TM) i7 CPU 920 @ 2.67GHz
Master Frequency	2698.394 MHz
Buffer	8192 KB
bogomips	5398.97
CPU Utilization	
<b>RAM</b>	
Total	514332 kB
Buffer	275836
Idle	346952(67.46%)
<b>Network Meter</b>	
DeviceID	eth0
Bytes Received	0 bps
Packets Received	0 pps
Bytes Sent	0 bps
Packets Sent	0 pps
<b>Hard Disk</b>	
DeviceID	/dev/mapper/VolGroup00-LogVol00
Total Capacity	6.8G
Idle	63%

The status bar at the bottom indicates the time as 2009-09-14 14:21:48 and the user as SoftSwitch 1 IVR 1.

### How to start

- Double-click <Navigation> → <System management> → <System information>

## 11.5 Data maintenance



### How to start

- Double-click <Navigation>→ <System management>→<Data maintenance>

### Operation details

- Clear call records
  - Delete call records in specified time period (including the boundary)
- Data backup
  - Backup non-record data: Backup all the data except the phone records
  - Backup phone records: Login the Linux server with SSH tools, enter the path “/var/lib/mysql/vosdb” and backup the phone records. For example, to backup the phone records in May 2007, copy the files “e\_cdr\_200705\*”.

(\* To back up the whole system data, simply back up all the files in the path “/var/lib/mysql/vosdb”)

## 11.6 Current users

Login Name	User Name	User Type	Login IP
admin	Administrator	Administrator	172.16.1.206.3045
admin	Administrator	Administrator	172.16.1.206.3422

### How to start

- Double-click <Navigation>→ <System management>→<Current users>

All the users currently logged in will be shown.



## 12 Number management

### 12.1 Querying number segments

The screenshot displays a web application interface for number management. The main window is titled 'admin@172.16.1.34 vos3000.2.1.1.8'. The navigation pane on the left shows 'Used' and 'Unused' filters. The main data table, titled 'Number Section Query', contains the following data:

Begin Number	End Number	User's Account ID	User's Account Name
1	9		Unused
10	10	0110	0110
11	11	111	111
12	12	112	112
13	13	0113	0113
14	110		Unused
111	111	111	111
112			Unused

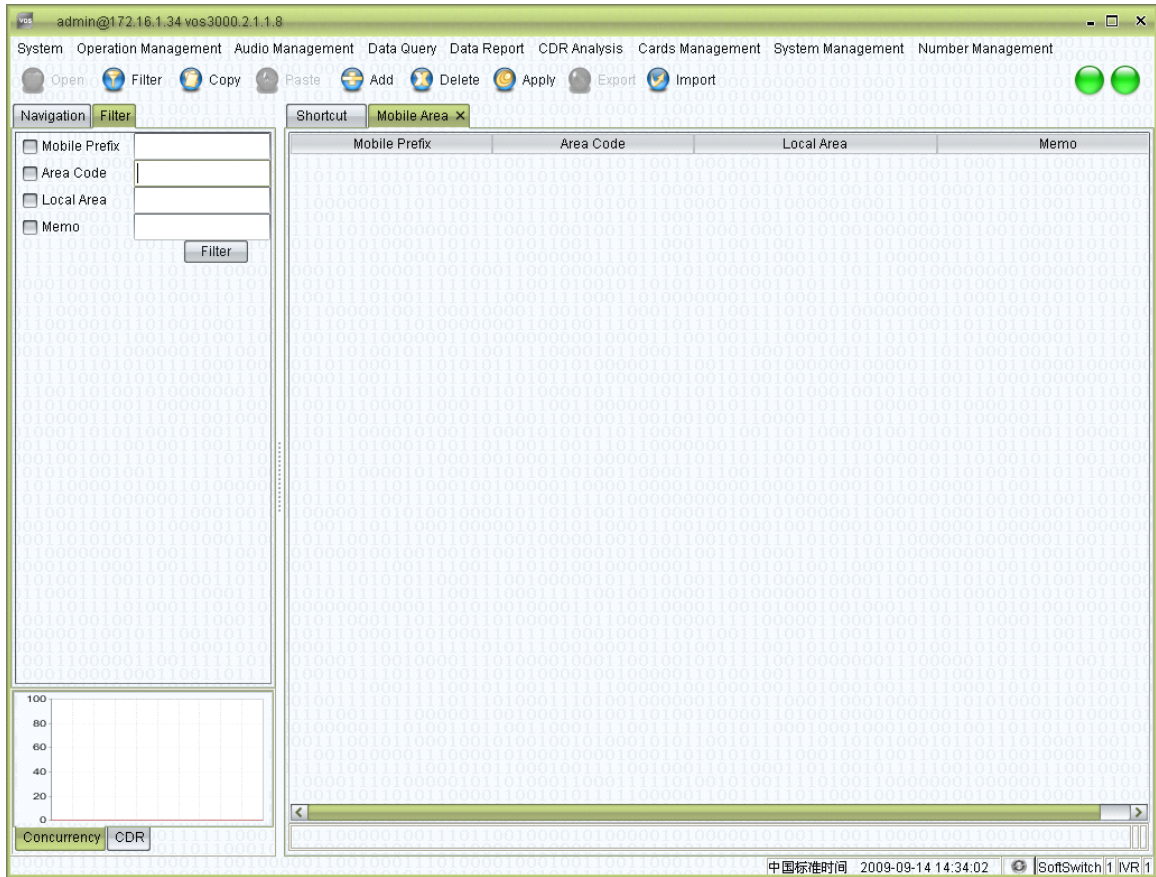
The interface also includes a concurrency graph at the bottom left and a status bar at the bottom right showing 'Total:8Row(s)' and the time '2009-09-14 14:33:51'.

#### How to start

- Double click <Navigation> → <Number management> → <Query number segments>

The number segments currently used and unused will be shown to facilitate number segment management and allocation.

## 12.2 Mobile phone areas



### How to start

- Double-click <Navigation> → <Number management> → <Mobile phone areas>

The mobile phone numbers and their corresponding area codes will be shown. The mobile phone numbers must be 7-digit long.

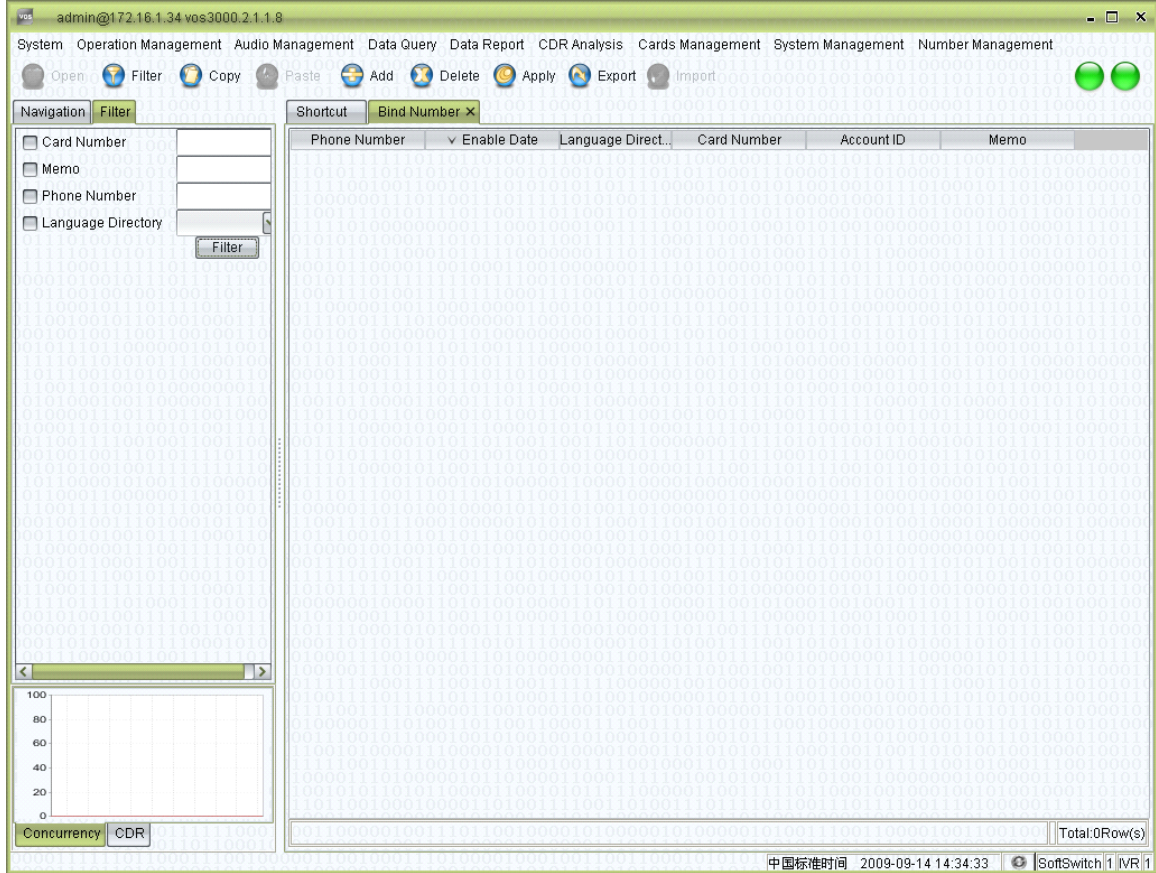
## 12.3 City codes

### How to start

- Double-click <Navigation >→ <Number management> → <City codes>

The current configuration of city codes and lengths of phone numbers will be shown. This is used in the <Allowed city codes> in the number restriction function at <Gateway management>. Only numbers that fit the lengths and area codes specified here will pass the validation.

## 12.4 Phone number binding



### How to start

- Double-click <Navigation> → <Number management> → <Phone number binding>

This is used for PSTN number management from card users. When direct-call or call-back cards are issued, users may bind their account with certain telephones. Binding phone numbers can be managed here.

## Chapter 2 Supplement

### 1 Filters

The wildcard characters “\*” and “?” can be used to specify filter criteria. For example, the filter criterion “800\*” indicates all strings starting with “800”, and the filter criterion “888??000” represents all 7-digit strings that start with “888” and end with “00”.

The time of filter criteria in CDR and related spreadsheets can be specified according to either <Beginning of the call> or <End of the call>. When <Beginning of the call> is specified, then calls started in the specified time span will be matched. Otherwise, calls ended in the specified time span will be matched. Usually, operators use the time of the <End of the call> to classify calls.




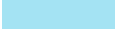
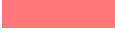
### 2 Shortcuts

- F5: Enable filtering
- CTRL + C: Copy the selected spreadsheet cells
- ALT + F: Open <Rate policy management>
- ALT + K: Open <Shortcuts>
- ALT + S: Open <Package management>
- ALT + D: Open <mapping gateways>
- ALT + G: Open <routing gateways>
- ALT + C: Open <Account management>
- ALT + P: Open <Phone management>
- ALT + A: Open <Current sessions>
- ALT + H: Open <Historical communication records>
- ALT + U: Open <User management>
- ALT + L: Open <Logging management>

### 3 Meaning of cell colors

#### Colors of spreadsheet cells

White: Normal

- : To be added after clicking the “apply” button
- : To be modified after clicking the “apply” button
- : To be deleted after clicking the “apply” button
- : Selected
- : Operation failed

#### Colors of gateway spreadsheet cells


: Barring outgoing/incoming calls

: Barring all calls

: Conflict IP address configurations for mapping gateways

**Colors of account spreadsheet cells**

: Insufficient balance

: Account terminated

## 4 Rewrite Rules

Find what: The prefix to be found

Replace with: The prefix to be replaced with

The following are examples of substitutions:

Find what	Replace with	Number before substitution	Number after substitution	Comments
0	0	02584316146	02584316146	No substitution
010	025	01012345678	02512345678	
025		02584316146	84316146	The prefix "025" removed
*	025*	117	025117	Add "025" to every number
025*	010	02584316146	010	Replace all numbers starting with "025" with "010"
025*	010*	02584316146	01002584316146	
*		02584316146		This rule clears off all numbers
*	12345678	02584316146	12345678	Replace all numbers with "12345678"
025*	8008100-8008121	02584316146	8008100 or 8008101 or ...	The substituted number can be any one between "8008100" and "8008121"
*	12345?78	02584316146	12345178 or 12345278 or ...	"?" will be replaced with a digit randomly generated by the system
*	12345678; 8008100-8008121; 12345?78	02584316146	12345678, or any number between 8008100 and 8008121, or 12345?78 ("?" can be any digit)	One of the three substitution targets will be picked at random (with uniform probability), and substitution will be performed according to that.
0??8431	8431	02584316146	84316146	There can be any two digits placed in between the "0" and "8" in the original prefix

Multiple substitution targets can be specified, separated by the symbol ";".

When the symbol "?" exists in the substitution targets, each "?" will be replaced by a randomly generated digit. The "?" can occur more than once in the target pattern.

When multiple Rewrite Rules exist, the longest matching pattern will be selected. For example, if there are two Rewrite Rules: one replaces "0" with "0", while the other replaces "010" with "025", then the number "01012345678" will be replaced with "02512345678" (since "010" is longer than "0"). The pattern "\*" has the lowest priority and will only be

matched when there are no other matching patterns.



- Caller locked: The caller is currently locked.
- Connection establishment timeout: The connection is not established within the timeout limit set by the mapping gateway. The time limit can be changed by setting the proceeding timeout parameter in the mapping gateway.
- Account expired: The account is expired.
- Connection limit exceeded: The maximum number of outgoing calls is reached. The maximum number can be specified in the system.
- Forcible hang-up: The server disconnected the session, usually because the client chose to end the session in their user interface.
- Account disabled: The account is currently disabled. Please check the status of the account it belongs to.
- The called not online: There is no appropriate device to accept this call. For example, there is no matching routing gateway.
- No-answer forwarding by the caller: The caller has set the no-answer forwarding
- Timed forwarding: The call matches the timed forwarding criteria specified in the phone management settings.
- On-busy forwarding: The call matches the on-busy forwarding criteria specified in the phone management settings.
- No-answer forwarding by the called: The call matches the no-answer forwarding criteria specified in the phone management settings.
- Forwarding loop: Due to the wrong configuration of users, the forwarding route has loops.
- Call forwarding by the called: The call matches the call forwarding criteria specified in the phone management settings.
- Do-not-disturb from the called: The called is in the do-not-disturb status
- Session closed by the called: The called did not send the hang-up signal, but disconnected the TCP connection
- Session closed by the caller: The caller did not send the hang-up signal, but disconnected the TCP connection
- Illegal call: The call comes from an unauthorized IP address and the caller's number is not registered in the system.
- No matching rate: There is no rate policy that matches this call.
- No matching account: There is no account to bill this call.
- Insufficient balance: The account has insufficient balance
- Call restriction: The call is prevented by restrictions (such as <International call>) set by the phone or the gateway.

- Hang-up by the called: The hang-up signal comes from the called.
- Hang-up by the caller: The hang-up signal comes from the caller.

## 5.2 Terminations caused by VoIP devices

Terminations caused by devices are defined by device manufacturers. Please consult the manufacturers for detailed information about these causes.

### 5.2.1 H323 devices

UnknownCauseIE  
UnallocatedNumber  
NoRouteToNetwork  
NoRouteToDestination  
SendSpecialTone  
MisdialedTrunkPrefix  
ChannelUnacceptable  
CallAwarded  
Preemption  
PreemptionCircuitReserved  
NormalCallClearing  
UserBusy  
NoResponse  
NoAnswer  
SubscriberAbsent  
CallRejected  
NumberChanged  
Redirection  
ExchangeRoutingError  
NonSelectedUserClearing  
DestinationOutOfOrder  
InvalidNumberFormat  
FacilityRejected  
StatusEnquiryResponse  
NormalUnspecified  
NoCircuitChannelAvailable  
CallQueued  
NetworkOutOfOrder

FrameModeOOS  
FrameModeOperational  
TemporaryFailure  
Congestion  
AccessInformationDiscarded  
RequestedCircuitNotAvailable  
PrecedenceCallBlocked  
ResourceUnavailable  
QoSNotAvailable  
RequestedFacilityNotSubscribed  
OutgoingCallsBarred  
OutgoingCallsBarredInCUG  
IncomingCallsBarred  
IncomingCallsBarredInCUG  
BearerCapNotAuthorised  
BearerCapNotPresentlyAvailable  
InconsistentOutgoingIE  
ServiceOptionNotAvailable  
BearerCapNotImplemented  
ChannelTypeNotImplemented  
RequestedFacilityNotImplemented  
OnlyRestrictedDigitalBearerCapAvailable  
ServiceOrOptionNotImplemented  
InvalidCallReference  
IdentifiedChannelNonExistent  
CallIdentifyNotSuspendedCall  
CallIdentifyInUse  
NoCallSuspended  
ClearedRequestedCallIdentity  
UserNotInCUG  
IncompatibleDestination  
NonexistentCUG  
InvalidTransitNetwork  
InvalidMessageUnspecified  
MandatoryIEMissing  
MessageTypeNonexistent

MessageNotCompatible  
IENonExistantOrNotImplemented  
InvalidIEContents  
MessageNotCompatibleWithCallState  
TimerExpiry  
ParameterNonexistent  
UnrecognisedParamaterDiscarded  
ProtocolErrorUnspecified  
InterworkingUnspecified  
ENDREASON128=ErrorInCauseIE

### **5.2.2 SIP devices**

Multiple Choices  
Moved Permanently  
Moved Temporarily  
Use Proxy  
Alternative Service  
Bad Request  
Unauthorized  
Payment Required  
Forbidden  
Not Found  
Method not Allowed  
Not Acceptable  
Proxy authentication Required  
Request Timeout  
Gone  
Request Entity Too Large  
Request-URI Too Long  
Unsupported Media Type  
Unsupported URI Scheme  
Bad Extension  
Extension Required  
Session Interval Too Small  
Interval Too Brief

Temporarily Unavailable  
Call/Transaction Does not Exist  
Loop Detected  
Too Many Hops  
Address Incomplete  
Ambiguous  
Busy Here  
Request Terminated  
Not Acceptable Here  
Request Pending  
Server Internal Error  
Not Implemented  
Bad Gateway  
Service Unavailable  
Server Time-out  
Version not Supported  
Message Too Large  
Busy Everywhere  
Decline  
Does not Exist Anywhere  
Not Acceptable