Configuring Call Pricing

This option allows the user to define how calls are charged. Call costs are unique to a rate group. For Each Rate group, we allocate dialling number prefixes that are charged according to the rate group. Dialling number prefixes are allocated to a rate group through Table Maintenance > Prefixes

<div align="center">Table Maintenance > Rates</div>

For each rate group we enter the costing structure information including the following fields

Rate Group (Key – smallint) A unique smallint number identifying the rate group.

Call Type A Drop down box identifies the type of Call that the rate group belongs to. The Call Type may be Local, STD, NATIONAL etc. The values are populated by the information entered in Table Maintenance > Call Type. If no Call Type information is displayed in the drop down box, please enter the Call Type information first. When a dialled number is charged according to this pricing structure (rate group), the Call Type given to the call is based on the value selected in this field. Call Type series of reports base their information from this value.

Carrier A drop down box identifies the telecommunication carrier that the rate group belongs to. Carrier reports will obtain their data from what is entered in this field. The information is populated through Table Maintenance > Carrier. If no information is displayed in the drop down box, please enter information first.

Costing Method The type of costing for this group. Permissible values are Flat or Time based. Using the Flat costing method, a call is priced at a fixed price irrespective of the call duration, while using Time Based costing, the call is charged according to the time of the day and the day of the week and the call duration. If the costing method is flat, the Initial Cost field that will accept the flat cost is enabled, all other input fields are disabled.

Max Cost The maximum cost of a phone call. Value is in local currency eg 2.50

Initial Cost This is sometimes called the flag fall or connection cost. Value is in local currency eg 2.50

Initial Time The number of seconds the initial cost is applied for. This value may be used to apply to a costing regime where there is a flat connection cost for example for the first 30 seconds and then the call reverts to time per interval pricing.

Cost Is The currency value applied for every *For Each* interval.

For Each Used in Time Based costing. If a call is charged on a per second basis, then the value entered here is 1 (ie 1 second), if a call is charged in blocks of 60 seconds, then the value entered here is 60. If a call is charged in 6 second intervals, then the value entered is 6 and so on. For each time interval entered (or part thereof), the *Cost Is* value is applied to the call. If a call duration is less than the value entered, the Cost Is value is applied to the phone call. As an example, if a call has a duration of 10 seconds and the call is charged at 0.35 per 60 seconds, the cost of the call is 0.35 (eventhough 60 seconds interval has not been reached).

Until There are 3 time bands available for CALLTRAK costing. The until field identifies the end time of the band and is selectable from a drop down box starting in hour intervals from 01:00 through to 23:59:59. The pricing policy in the first band starts from Midnight AM and is applicable until the field entered in *Until*. If the Until time is < 23:59:59, then user input will be directed to the next time band, if that is less than 23:59:59, then the final band is displayed which has an until time of 23:59:59.

Walkthrough – Inserting a Rate Group

1. Start CALLTRAK

2. Hover over Table Maintenance > Rate and then left click. If the option is disabled, then user permissions have to be granted. To grant permissions go to Table Maintenance > Users and retry this step.

3. Click on the New link at the bottom left of the page.

4. A new page is ready for data input. The default settings are for the rate group to be priced according to Flat Costing Method ie the rate group pricing is based on a flat charge for the length of the call.

5. Enter a unique Rate Group number. To find a unique Rate Group, you may enter a Rate Group number and then search for a matching entry or traverse the entries below to identify entered rate groups.

6. Select from the Call Type drop down list the Call Type. The Call Type identifies the category of the rate group. Any calling numbers best matching this rate group will have this rate category displayed. The drop down box is populated from data entered in Table Maintenance >Call Type. If no values are displayed in the drop down box, the initial Call Type values must first be entered.

7. Select from the Carrier drop down list the Telecommunications Carrier. The Carrier identifies the telecommunications carrier used in the rate group. Any calling numbers best matching this rate group will have this carrier displayed. The drop down box is populated from data entered in Table Maintenance > Carrier. If no values are displayed in the drop down box, the initial Carrier values must first be entered.

8. Select from the Costing Method drop down list the costing structure to be used for this rate group.

INSERTING FLAT METHOD COSTING GROUP

9. The input fields are all greyed out except the Initial Cost field. Enter the currency value for the initial cost (Flag fall). You can enter separate flat costs for Weekdays or Saturday or Sunday. Hit the tab key.

10. You will be sent to the Saturday Initial Cost, enter the value required. Hit the Tab Key.

11. Enter the Initial cost required for Sunday

12. Check the information entered, go to step 21.

INSERTING TIME BASED COSTING GROUP

For each time band until 23:59:59, enter the following values.

13. Enter the *Max Cost* value. This value contains the maximum call cost for the time Band. If the call has no maximum cost, leave this value as 0 (zero)

14. Enter the *Initial Cost*. This is the flag fall or connection cost. If there is no flagfall, enter 0.

15. Enter the *Initial Time*. This is the duration of the call that will be charged at the Initial Cost. Example. If a value of 20 is entered, then the call for the first 20 seconds will be charged at the Initial Cost and only after the 20 seconds will variable pricing be added to the call. If there is no initial time pricing, enter 0.

16. Enter the *Cost Is*. This is the cost applied to the interval (seconds) defined in *For Each*. Eg. If the cost is 2 cents per second, enter 0.02

17. Enter *For Each*. This is the time interval in which a cost as entered in *Cost Is* is applied during the call cost calculation. Example 1. If the value of 1 (one) is entered in For Each, then per second costing is applied to the call. Example 2. If a value of 60 is entered in For Each and the Cost Is 0.30, then the call is priced in minimum of 60 second blocks at the defined cost. If a call has a duration of 10 seconds which is less than the For Each interval, the call will be charged at the minimum black rate of 0.30. If the Call is 75 seconds, then the call is charged at 2 block intervals ie 0.60 etc

18. Enter the *Until* upper time. From the drop down box, select the Time that the band will be applicable for. If the call is priced at the same variable rate through out the day, then only 1 time band will be used and the *Until* value will be 23:59:59. If variable pricing changes during the day as in example peak rates at 08:00:00 until 18:00:00, then enter 08:00:00 in the *Until* field for the first time band. This will cause Band 2 to be activated. Enter the values required and in the *Until* field, enter the peak rate closing time of 18:00:00. This will cause the final band to be displayed with the default *Until* value being 23:59:59. Enter the remaining band information.

19. Proceed to enter the Saturday and Sunday rates similarly as described.

20. Check the information entered

21. Click on the Insert link at the bottom left

22. On successful insertion, the message Record inserted will be displayed at the bottom of the page. If an attempt to enter a duplicate (existing) rate group is attempted, the following message appears

    Can not insert duplicate key. Use unique SiteId - attempt to store duplicate value (visible to active transactions) in unique index

    Retry the entry process and create a unique Rate Group number. To determine whether a Rate Group already exists, you may do a search on the Rate Group prior to entering.

    The page remains in input mode

23. To exit input mode, click on the Cancel link at the bottom of the page.

Walkthrough – Editing/Changing a Rate Group

To change a rate group, it is important to determine **what** rate group is being applied in determining a call's cost.

1. Start CALLTRAK

2. Hover over Table Maintenance > Rates and then left click. If the option is disabled, then user permissions have to be granted. To grant permissions go to Table Maintenance > Users and retry this step.

3. Find the Rate Group that needs changing. Traversing the data may be accomplished by clicking on the page numbers at the bottom of the screen

<p style="text-align:center">1 2 3 4 5 6 7 8 9 10 …</p>

or by entering the Rate Group and then clicking on the search button to search and retrieve the record if it exists.

4. Click on the Edit Key

The fields that may be changed display an edit box around them. NOTE: you will not be able to edit the primary key ie Rate Group.

5. Change the values as required and then click on the Update button on the bottom left. After you click on the update button, the following message appears.

Record Updated

6. If you decide not to make the changes to the record. Click on the Cancel button.

7. The page refreshes and displays all the data.

Walkthrough – Deleting a Rate group

1. Follow steps 1-3 as in Walkthrough – Editing/Changing a Rate Group

2. Then click on the Delete button on the right. This will remove the rate group.

Rate Group Examples

Example 1. Time based costing – We have created a rate group, 8, that is defined as a NATIONAL

call type, made by Telecommunications Carrier TELSTRA and it has Time Based costing ie variable pricing depending on the time of the day and the day of the week and the call duration. Any dialling numbers that best match prefixes allocated to this group will be priced according to this structure and have the Call Type of NATIONAL.

The pricing applicable for weekday rates is as follows

Maximum call cost is $2.50. From the start of the day (midnight), on connection, there is an Initial Cost of 0.20. The Initial Cost is also called the flag fall and the initial time the flag fall is applicable for is for 0 seconds. Ie Variable time pricing starts immediately. Then, a cost of 0.005 dollars is applicable for each 1 second until 09:00:00. Then the pricing structure in Band 2 is utilised. From 09:00:00 till 10:00:00, there is a maximum call cost of $2.50 per call. Calls during this time band have an initial cost (flag fall) of 0.20, then charging occurs at the rate of 0.01 dollars per 1second interval until 10:00:00. Then in Band 3, we can see that call pricing reverts back to the same as in Band 1 ie Maximum call cost is $2.50. On connection, there is an Initial Cost of 0.20 that is applicable for 0 seconds. Then, a cost of 0.005 dollars is applicable for each 1 second until 23:59:59.

Both Saturday and Sunday are charged according to the same pricing structure ie Max call cost of $2.50 with calls charged at 0.0033 dollars per second until midnight.

Example 2 Flat costing - We have created a rate group 1, that is defined as a NATIONAL call type, made by Telecommunications Carrier TELSTRA and the costing Method is Flat ie a constant cost for the duration of the call. Any dialling numbers that best match prefixes allocated to this group will be

priced according to this structure. The pricing applicable for weekday, Saturday and Sunday rates is a Flat cost of 0.22 dollars irrespective of time. The value in For Each is ignored when Costing Method is set to Flat. The only value used in the call pricing is the Initial Cost (Flag fall).

Prefixes

CALLTRAK requires a matching prefix entry to the CDR/SMDR dialled number appearing from the PBX or Phone system. If no matching prefix entry is found, then calls are processed with a 0 (zero) cost and a description of UNKNOWN Dial and Rate Category type of OUTGOING is used. When a dialled number matches a prefix entry, accurate descriptions such as NATIONAL, STD, LOCAL etc and pricing are applied.

The prefixes are allocated to a data collection site's data stream (CDR/SMDR records) using the Area field. The Area field is entered in System Admin > Site Detail

Prior to creating prefix entries, the rate groups must be created. They are created in Table Maintenance > Rates.

Table Maintenance > Prefixes

The data displayed may be sorted on the headings. The field(s) in this table are

Area (Key - 5 Chars) This is a key. The Area field is used to reference the data collection site. There must be a matching Area name entered in System Admin > Site Detail. Typically Area will be a name of the City where the data stream is received from eg Melb, Lon or a common pricing name.

Prefix (Key – 16 Chars) – A prefix for a dailled number. Eg 09 (local calls), 004 (Mobile calls),

00011 (international calls), 0001144 (UK), 0001161 (Australia), 01800 (Free calls) etc. It is important to include any access codes as displayed by the phone system. Phone systems may typically put a 0 (zero) or 9 in front of outgoing dialling numbers.

Description (40 Chars) – A description of the Prefix eg Australia, UK, USA, Mobile etc. This description is the same that appears in detailed reports.

Pfx Type (1 Char) – This drop down field will identify how we process the prefix entry. The available values are **Cost** or **Transfer Pfx** or **Length**. **Cost** Type is applied to prefixes where the Prefix is costed according to the pricing structure defined by the Rate Group. The **Transfer Pfx** Type is used when the access code is to be interpreted as defined in the field Interpret As. In some instances, the PBX may display an access code in the dialling number string such as 401 (example) for calls going out on a route group 401 and may display an access code of 402 going out on Route group 402, however we want all access codes, processed as if the dialling number had a prefix of 0. So, in this example, we would transfer prefixes of 401 and 402 to be interpreted as 0. When transferring a prefix, make sure that an entry exists for the transferred prefix. The **Length** pfx type is used when we want to define a dialled number that has a length as defined in the **Interpret As** field to be costed according to a rule in rate group. As an example we can define all dialled numbers that are 10 characters long and begin with 04, to be costed according to rate group 20. It is important to note that length type prefixes take preference over a Cost type prefix.

Eg of **Transfer** Prefix.

Prefix 401   Transferred to 0   (prefix entry of 0 must exist)

Prefix 402   Transferred to 0   (prefix entry of 0 must exist)

CDR Dialled number	Interpreted As
40193061403	093061403
40293061403	093061403
4010411822543	0411822543

Eg of **Length** type prefix

Prefix 04   Interpret As 10   Rate Group 20

This means that any dialled numbers that are exactly 10 chars long and starting with the dialled number prefix of 04, will be charged according to rate group 20. If the number dialled is 9 chars long, then this length type prefix will not be applicable and an alternative pricing for this dialled number needs to be defined.

Rate Group (smallint) – The costing structure applied to calls (dialling numbers) matching the prefix. Rate groups are selected by a drop down box. The values are populated by Table Maintenance > Rates. The Rate table entries must exist prior to creating prefix entries.

Interpret As (16 Char) – The dialling number to be used when a Prefix is selected to be of Transfer Pfx type. The **Interpret As** value replaces the Prefix entry. It is important that there is an entry in the prefix tables matching the **interpret as** value entered. If a Pfx Type of **L** is used, the Interpret As field is used to identify the number of characters that the dialling number length must match in order

Discount (smallint) – A numeric value up to 100. This is a discount that is applied to calls matching this dialled number prefix.
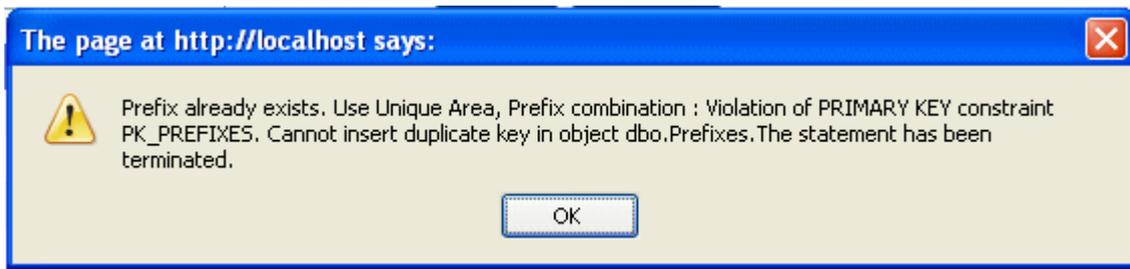
Alarm (drop down box) – The user can select an Alarm that will be triggered whenever a match to this dialling number prefix is triggered. The drop down box is populated from values entered in Table Maintenance > Alarms.

Walkthrough – Inserting a Prefix

1. Start CALLTRAK

2. Hover over Table Maintenance > Prefixes and then left click. If the option is disabled, then user permissions have to be granted. To grant permissions go to Table Maintenance > Users and retry this step.

3. At the dark grey bar at the bottom of the input screen, enter the information for the prefix entry. The key fields are the area, prefix and prefix type. The key field needs to be unique or else the entry will be rejected.

4. Click the Insert button and the prefix will be entered.

   If the following message appears

The page at http://localhost says:

⚠ Prefix already exists. Use Unique Area, Prefix combination : Violation of PRIMARY KEY constraint PK_PREFIXES. Cannot insert duplicate key in object dbo.Prefixes. The statement has been terminated.

OK

an attempt to enter a record with the key criteria already exists and can not be entered. A unique key value is required.

Walkthrough – Editing/Changing a Prefix

1. Start CALLTRAK

2. Hover over Table Maintenance > Prefixes and then left click. If the option is disabled, then user permissions have to be granted. To grant permissions go to Table Maintenance > Users and retry this step.

3. Find the Prefix that needs changing. Traversing the data may be accomplished by clicking on the page numbers at the bottom of the screen

1 2 3 4 5 6 7 8 9 10 ...

or by entering the prefix and then clicking on the search button to search and retrieve the record if it exists. The search will match all prefixes that begin with the value entered.

4. Click on the Edit Key for the entry to change
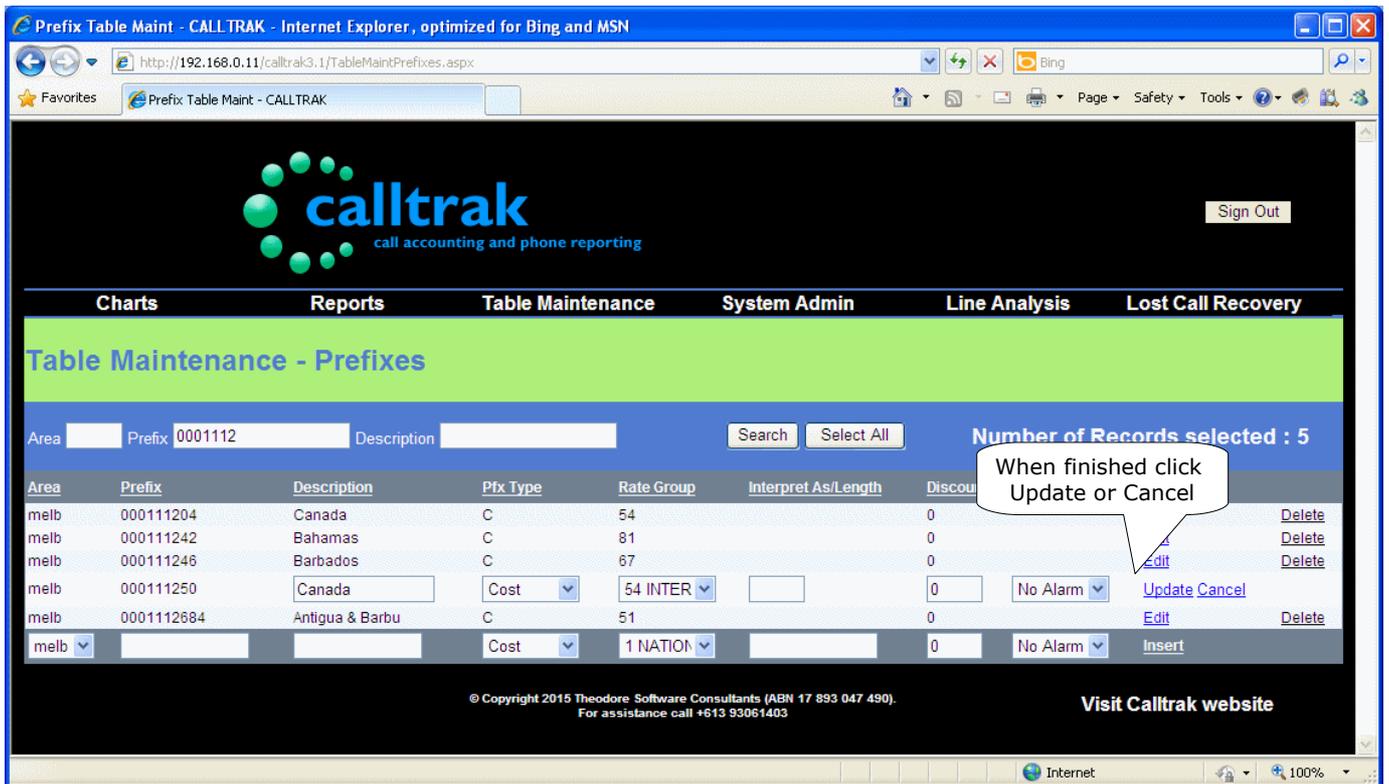
The fields that may be changed display an edit box around them. NOTE: you will not be able to edit the primary key ie Area and Prefix.

5. Change the value as required and then click on the Update button on the right. If you decide not to make the changes to the record. Click on the Cancel button. Typically the change made will be allocating a prefix to a different group or changing the description. All changes will be applicable for subsequent costing runs.

Walkthrough – Deleting a Prefix

1. Follow steps 1-3 as in Walkthrough – Editing/Changing a Prefix

2. Then click on the Delete button on the right. This will remove the Prefix. Take caution when deleting prefixes as they are used in pricing.