# UMS Data CSV File Specification

26 November 2013

# Table of Contents

# Document Control

## Prepared by:

| Author: | Avinash Vungarala |
|---|---|
| Role: | Business Analyst |

## Document version history

| Version | Date | Amendment |
|---|---|---|
| 0.1 | 04.05.2012 | Initial draft |
| 0.2 | 14.05.2012 | Charges file removed |
| 0.3 | 11.06.2012 | Charges file added |
| 0.4 | 16.07.2012 | Updates from Western Power |

## Related/referenced documents

| Document title | Document ID link (DMS #) |
|---|---|
| UMS Data Improvements BRD | 3498651 (Synergy) |

# 1   **Document Purpose**

Purpose      This document is to define the specifications for the File Formats of the transfer of market UMS Data.

The requirement is to transfer UMS billing details from Western Power to Synergy.  This specification defines the formats and usage of the CSV files and the rules associated with the exchange of the files using the File Transfer Protocol (FTP).

## 2   CSV Format Rules

A CSV file contains the values in a table as a series of ASCII text lines organized so that each column value is separated by a comma from the next column's value, and each row starts on a new line.

This section specifies CSV format details.

### 2.1   Character Set

The character set that is to be used within a CSV file is ASCII 7-bit.

No Unicode characters are allowed.

### 2.2   Column Header

The first record in the CSV file will contain column header text.

### 2.3   Footer

CSV files will not contain a footer record.

### 2.4   Literals Treatment

The CSV import application shall be capable of parsing literals whether they are surrounded by double-quotes or not. A CSV import tool/parser shall interpret the following two rows from a CSV file analogously:

> 123,"This is a sample field",456

> 123,This is a sample field,456

If a literal containing double-quotes needs to be inserted into a CSV, the entire field must be surrounded by double-quotes in addition to prefixing each contained double-quote with another one, e.g. in order to insert the field

> This is a sample "quoted" field

into a CSV row, the following format shall be used:

> "This is a sample ""quoted"" field"

This treatment allows for the incorporation of commas and quotes into a CSV element, if necessary. As the "lowest denominator", the format produced by Microsoft® Excel matches this treatment of literals.

### 2.5   Line Breaks

The CSV components shall have a combination of Carriage Return (CR, ASCII decimal code 13) and Line Feed (LF, ASCII decimal code 10) at the end of each line.

Empty lines, i.e. lines containing just CR and LF, are not allowed.

## 2.6 **Values Separator**

A comma "," is to be used to separate values in CSV file. If a comma shall occur inside a literal, then the entire literal shall be surrounded by double quotes.

No trailing commas are allowed at the end of each line, i.e. the number of value separators in any one row will always be:

number_of_values – 1.

## 2.7 **Optional Elements**

Where a CSV element is defined as "optional", a placeholder for that element shall be present in a CSV file row.

The following example demonstrates this treatment in a 7-value CSV row for which 6th and 7th values are defined as optional.

abcdef1,defgh1,1234,123.45,qwertyuio,,

abcdef2,defgh2,6543,234.56,qwertyuio,,

## 2.8 **Numeric Values**

### 2.8.1 Positive and Negative Values

Positive numbers in CSV file shall be unsigned.

Negative numbers shall be prefixed with a negative sign '-'.

### 2.8.2 Leading and Trailing Zeroes

There shall be no leading zeroes unless a specific data format requires this. Trailing zeroes are allowed only when the scale value requires this.

### 2.8.3 Format

The numeric format is defined as numeric[[s](precision [, scale])].

[s] is the negative sign '-', which is included to indicate a negative number.

The precision and scale determine the range of values that can be stored in a numeric field:

   a) The precision specifies the maximum number of decimal digits that can be stored in the column. It includes all digits, both to the right and to the left of the decimal point.
   b) The scale specifies the maximum number of digits that can be stored to the right of the decimal point. The scale shall be less than or equal to the precision.
   c) The number of digits to the left of the decimal point cannot exceed
   precision – scale

Below are examples of valid values for a numeric type defined as numeric(s5,3)

12.345

12.000

0

-12.345

12

12.100

12.0

Here are some examples of *invalid* values for the type defined as numeric(s5,3):

1,200

12-

12.345678

123456.78

### 2.8.4 Dollar Amounts

Dollar amounts shall not use any dollar sign ("$") either as a prefix or a suffix.

Dollar amounts are assumed to be in Australian currency, and shall not use a currency designator (e.g. AUD) either as a prefix or a suffix.

### 2.8.5 Date

Except for DFIS timestamps, date elements will be expressed in the format 'YYYYMMDD'.

### 2.8.6 Date/time

Except for DFIS timestamps, date/time and time elements will be expressed in the format 'YYYYMMDDHHMMSS'.

### 2.8.7 Timestamps

DFIS Timestamps will be expressed in the format YYYY-MM-DD-HH.MM.SS.DDDDDD, where DDDDDD is the decimals of seconds.

## 2.9 Tab Characters

Tab characters shall not be used in CSV files.

## 2.10 End of File Marker

The application that parses CSV shall be able to handle End-Of-File mark (EOF, ASCII decimal code 26) at the end of the file, if present.

# 3    CSV File definitions

The UMS monthly data comprises of the delivery of the following files:

- UMS Asset Details File

- UMS Charges File

- UMS Bill Ready File

The field definitions for each file are provided below.

## 3.1  UMS Asset Details File

This file has a similar layout as the current UMS Details File being sent by WP to Synergy every month.

NOTE: The Size column in the table below is for information only and indicates the maximum possible size of the contents.

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| CUSTOMER CODE | 12 | CHAR | YES | The code for the customer such as a council, Main Roads Department (MRD), organisation or company, e.g 101, MRD,TELS (Telstra), WNetEnergy. |
| CUSTOMER NAME | 35 | CHAR | YES | The name of the customer (not currently being provided). This will be provided with each record rather than sending a separate table of customer codes and names. |
| CUSTOMER ASSET REF ID | 20 | CHAR | NO | The customer's own reference ID for the asset (free format). This needs to be included on Synergy invoices to the customer. |
| CUSTOMER LOCATION | 30 | CHAR | YES | For LGB's (identified by the Customer Code being a three-digit number) this is the LGB-Name (Fremantle, Perth, Joondalup, etc.), for others this is the Suburb. |
| DFIS-PIKID | 9 | CHAR | YES | Unique ID for the UMS |
| EQUIPMENT TYPE | 12 | CHAR | YES | The type of asset, e.g. SL (Streetlight), TL (Traffic Light), SS, AL, TV, etc. |
| LOAD | 10 | CHAR | YES | The wattage load (free format, whole number), e.g. 250. Can't be zero. |
| OPERATIONAL HOURS | 3.2[1] | CHAR | YES | Hours of UMS operation (free format, up to 2 decimal places) can't be zero. |
| INSTALL DATE | 8 | DATS | YES | Asset installation date |
| STREET | 30 | CHAR | YES | Street |
| SUBURB | 30 | CHAR | YES | Suburb |
| LOCATION | 30 | CHAR | YES | Location of UMS |
| CUSTOMER TYPE | 12 | CHAR | YES | For LGB's (identified by the Customer |

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| | | | | Code being a three-digit number), this will be "LGA", for others it is the Customer Code |
| TARIFF | 2 | CHAR | YES | Always RT10 for UMS |

[1]The two decimal places contain the %minute values and have to be calculated into minutes when loading into SAP. For e.g. 16.50 is equal to 16 hours and 30 minutes.

## 3.2 UMS Charges File

This file contains details of each UMS asset "charges and changes" logged during a billing period.

Note: Mandatory field is either 'YES' for mandatory, 'NO' for optional and 'C' for conditionally mandatory on some other value. Refer to comments for rule where condition makes value mandatory

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| DFIS-PIKID | 9 | CHAR | YES | Unique ID for the UMS with leading zeros. e.g. 0000038099 |
| ASSET CHANGE TYPE[2] | 1 | CHAR | YES | Type of change: A = Add; R = Remove; C = Change; N = No Change |
| ASSET CHANGE EFF-DATE[2] | 8 | DATS | YES | Date when the Add, Remove, or Change event occurred. |
| BILLING-DAYS [2] | 3 | CHAR | YES | No. of billing days |
| CUSTOMER CODE[2] | 12 | CHAR | YES | The code for the customer such as a council or Main Roads Department (MRD), e.g. 101, MRD, TELS, etc. |
| CUSTOMER NAME[2] | 35 | CHAR | YES | Name of the Customer code |
| CUSTOMER ASSET REF ID[2] | 20 | CHAR | NO | The customer's own reference ID for the asset (free format). This needs to be included on Synergy invoices to the customer. |
| EQUIPMENT TYPE[2] | 12 | CHAR | YES | The type of asset, e.g. SL (Streetlight), TL (Traffic Light), SS, AL, TV, etc. |
| LOAD[2] | 10 | CHAR | YES | The wattage load (free format, whole number), e.g. 250. Can't be zero. |
| OPERATIONAL HOURS[2] | 3.2[1] | CHAR | YES | Hours of UMS operation (free format, up to 2 decimal places) can't be zero. |
| STREET | 30 | CHAR | YES | The street where the UMS is located. |
| SUBURB | 30 | CHAR | YES | The suburb where the UMS is located. |
| LOCATION | 30 | CHAR | NO | A description of the location of UMS. |

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| TARIFF | 5 | CHAR | YES | Always RT10 for UMS |
| ASSET PRICE LIST DATE | 10 | DATE | YES | The date when the asset price took effect. |
| KWH | 10 | CHAR | YES | The accumulated kilowatt hours for the *price-period*.<br>**KWh** = (LOAD/1000) * Operational hours * Number of Days |
| DISTRIBUTION FIXED CHARGE | 10 | CHAR | YES | = Distribution fixed rate * Number of days * Total Count of UMS types |
| DISTRIBUTION VARIABLE CHARGE | 10 | CHAR | YES | = Distribution variable rate * KWh |
| TRANSMISSION VARIABLE CHARGE | 10 | CHAR | YES | = Transmission variable rate * KWh |
| TOTAL EX-GST[2] | 10 | CHAR | YES | = DISTRIBUTION FIXED CHARGE + DISTRIBUTION VARIABLE CHARGE +  TRANSMISSION VARIABLE CHARGE |
| GST | 10 | CHAR | YES | GST (10%) of TOTAL EX-GST.<br>= (TOTAL EX-GST) *  0.1 |
| GRAND TOTAL | 10 | CHAR | YES | TOTAL with GST.<br>= (TOTAL EX-GST) + GST |

[1]The two decimal places contain the %minute values and have to be calculated into minutes when loading into SAP. For e.g. 16.50 is equal to 16 hours and 30 minutes.

[2]Any change to Profile or Customer code that occur on the first day of the current billing period require a record with: Change-Type = "N", Asset-Eff-Date = 27th of the month, Previous Profile details, Previous Customer code/Customer name and zero billing amounts.

### 3.2.1 Exception handling

When processing the Charges File, the following rules are defined for the actions to handle the exception situations when there is insufficient data to perform a full conversion to the new format.

| Rule | Definition/Description |
|---|---|
| 1 | For any removals, changes or additions that do not have a valid adjustment record treat them as if they occurred on the 14th of the month., |
| 2 | Customer code/name changes occur on the 1st day of the billing period. |
| 3 | For any records with an effective date greater than one year, assume 365 days as this is the maximum number of days that can be charged (credit or debit) is 365 days (one year). |
| 4 | Where there are multiple adjustments for an addition, take the dates from the first adjustment.  The UMS was assumed to be installed on the original date but with |

| | |
|---|---|
| | incorrect details which have subsequently been rectified. |
| 5 | Where there are multiple adjustments for a removal, take the dates from the last adjustment. The UMS is assumed to be removed on the last record date. |
| 6 | Where there are multiple adjustments for a change, take the dates from the first adjustment. The assumption is that if a UMS changes multiple times in a month it's a clerical fix. |
| 7 | If there are any issues with data (e.g. a UMS is added/removed/changed where the effective date is in the future), then they are omitted from the charges and bill ready files. |

### 3.2.2 Scenarios

*Appendix 1 - Interpreting UMS files* shows examples of UMS Charges records that are created for various Add, Remove, Change and No Change scenarios.

## 3.3 UMS Bill Ready File

This contains the rolled up changes by Customer code, Load, Operational hours and Equipment type.

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| ASSET COUNT_DT | 8 | DATS | YES | The 'extract' run date. |
| CUSTOMER CODE | 12 | CHAR | YES | CUSTOMER CODE |
| CUSTOMER NAME | 35 | CHAR | YES | Name of the Customer code |
| SUBURB NAME | 35 | CHAR | YES | Suburb of the UMS |
| EQUIPMENT TYPE | 12 | CHAR | YES | The type of asset, e.g. SL (Streetlight), TL (Traffic Light), SS, AL, TV, etc. |
| LOAD | 10 | CHAR | YES | The wattage load (free format, whole number), e.g. 250. Can't be zero. |
| OPERATIONAL HOURS | 3.2[1] | CHAR | YES | Hours of UMS operation (free format, up to 2 decimal places) can't be zero. |
| COUNT_NUM | 10 | CHAR | YES | The number of UMS for a Customer in a Suburb of a particular UMS type (LOAD, EQUIPMENT TYPE and OPERATIONAL HOURS). |
| BILLING DAYS TOTAL | 3 | CHAR | YES | The accumulated days of usage. The rolled up number of billing days for the profile at the set asset price. |
| ASSET PRICE LIST DATE | 10 | DATE | YES | The date when the asset price took effect. |

| Description | Size | Type | Mandatory | Comments |
|---|---|---|---|---|
| KWH | 10 | CHAR | YES | The accumulated kilowatt hours for the *price-period*.<br>**KWh** = (LOAD/1000) * Operational hours * Total Count of UMS types * Number of Days |
| DISTRIBUTION FIXED CHARGE | 10 | CHAR | YES | = Distribution fixed rate * Number of days * Total Count of UMS types |
| DISTRIBUTION VARIABLE CHARGE | 10 | CHAR | YES | = Distribution variable rate * KWh |
| TRANSMISSION VARIABLE CHARGE | 10 | CHAR | YES | = Transmission variable rate * KWh |
| TOTAL EX-GST[1] | 10 | CHAR | YES | = DISTRIBUTION FIXED CHARGE + DISTRIBUTION VARIABLE CHARGE + TRANSMISSION VARIABLE CHARGE |
| GST | 10 | CHAR | YES | GST (10%) of TOTAL EX-GST.<br>= (TOTAL EX-GST) * 0.1 |
| GRAND TOTAL | 10 | CHAR | YES | TOTAL with GST.<br>= (TOTAL EX-GST) + GST |

[1]The two decimal places contain the %minute values and have to be calculated into minutes when loading into SAP. For e.g. 16.50 is equal to 16 hours and 30 minutes.

# 4    FTP Transfer Rules

All files are to be sent using File Transfer Protocol (FTP) to the address prescribed by IT.

The FTP account is exclusively for the UMS zip file and therefore all files will be placed in the root directory of the account.

This specification defines both business rules and technical requirements for:

- The naming of the files being FTP'ed
- The file format rules

## 4.1   File Naming Rules

The names of the files must adhere to the following format:

| File | File Name | Format |
|------|-----------|--------|
| UMS Asset Details file | YYYYMM_UMS_asset_details.csv | Refer to section **Error! Reference source not found.** |
| UMS Charges File | YYYYMM_UMS_charges.csv | Refer to section **Error! Reference source not found.** |
| UMS Bill Ready File | YYYYMM_UMS_bill_ready.csv | Refer to section **Error! Reference source not found.** |

## 4.2   File Formatting Rules

The following rules relate to the UMS billing data via FTP:

a)   Network Operator will send and receive all Network Billing transactions via a file sent using FTP. The format of the file is specified in the sections 3.1 UMS Asset Details File and 3.2 UMS Charges File of this document.

b)   All Billing files will have a ".csv" extension.

c)   All Billing files will be compressed into one zip file.

d)   The compressed file must have an extension of ".zip" and be named:

**YYYYMM_Vn_UMS.zip**

e)   The zip file with a temporary filename is to be copied to the FTP Server and then renamed with the correct extension to prevent synergy picking up the file before it is ready. For example, the file might initially be written as 'YYYYMM_Vn_UMS.zip.tmp' and then renamed as 'YYYYMM_Vn_UMS.zip'.

f)   The file name of each UMS billing file will comprise of the following components:

- YYYY – The Year that the UMS billing data relates to.

- MM – The Month that the UMS billing data relates to.

- Vn – The version of the file for the given year and month. This is used in the event that the UMS file needs to be re-generated for a given month. The 'V' is a literal value, and the 'n' will start at 1, and increment each file the file is re-generated.

# 5 Appendices

## 5.1 Appendix 1 – Interpreting UMS files

### 5.1.1 Charges, Refunds and the Price-period

If a UMS add, removal or change event occurred when a different price list was active the calculation must *refund* the old charge amount and *charge* the calculated amount at the new price. Similarly, if the UMS profile changes the calculation must *refund* the amounts based on the old UMS profile and *charge* the amount based on the new UMS profile.

So if either the UMS profile **or** the price list changes then respective refunds and charges for the impacted billing period have to be calculated.

The following diagram explains the concept of *Price-periods.* This particular example assumes that there was a change to a UMS in a previous billing period but it was not logged until the current billing period.

The top row is the timeline and shows the current billing period on the right and previous billing periods (up to a maximum of one year) on the left.
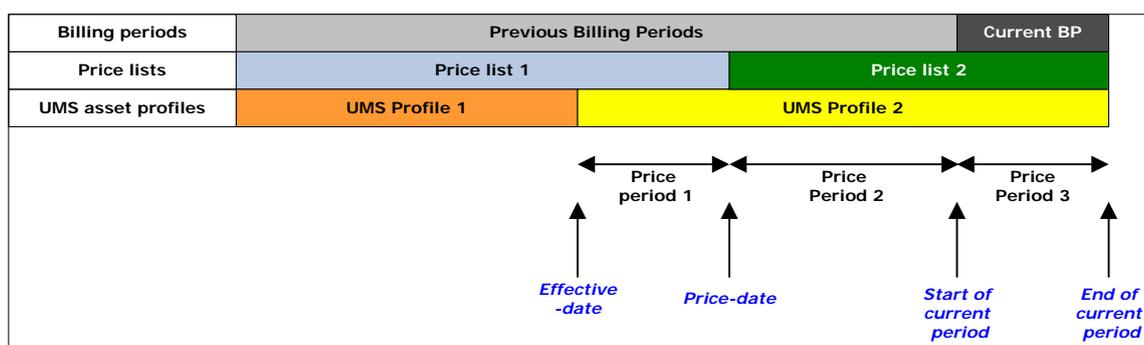


The second row shows there have been two price lists during the year:

The third row shows the profile of a UMS was changed in a previous period from UMS Profile1 to UMS Profile2.

Since the effective date of the change there are three *Price-periods* in this example:

- **Price-period1** from the effective date of the change to the last date of the old price list
- **Price-period2** from the first day of the new price-list to the start of the current billing period
- **Price-period3** - the current billing period

In this example, assume that the UMS has already been billed for the previous billing periods based on the old UMS profile <u>and</u> the price list that was in effect at the time of the billing. The system must now refund these amounts that have already been billed and apply the new billing amounts using the updated information. The system must also bill for the current period.

So the system will create the following records:
- *A refund for Price-period1 using PriceList1 and UMS Profile1*
- *A refund for Price-period2 using PriceList2 and UMS Profile1*
- *A charge for Price-period1 using PriceList1 and UMS Profile2*
- *A charge for Price-period2 using PriceList2 and UMS Profile2*
- *A charge for Price-period3 using PriceList2 and UMS Profile2*

The price list and profile for the last two records are the same and the system will combine the billing days and charges for these two records into one record.

### 5.1.2 Scenario Examples

Following are several examples showing the records created for a number of add, remove, change and no change scenarios. The first diagram shows the set-up and under this is a table of the UMS Charges records created.

Note that the Price Period (PP) column is not an actual field in the UMS Charges file but is included to explain the relationship between the diagram and the records.

**<u>Example 1 - UMS Add in CURRENT billing period and NO price change</u>**
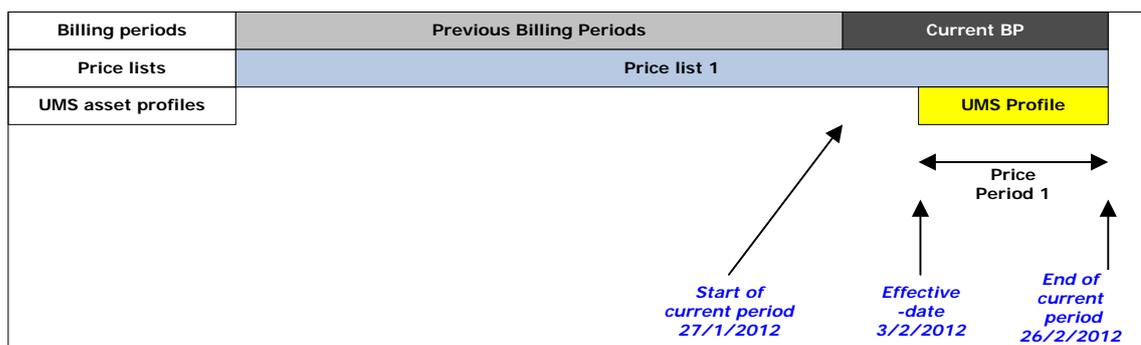
| Billing periods | Previous Billing Periods | | Current BP |
|---|---|---|---|
| Price lists | Price list 1 | | |
| UMS asset profiles | | | UMS Profile |

Price Period 1

Start of current period 27/1/2012

Effective-date 3/2/2012

End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID1 | 3/02/2012 | 101 | A | UMS-Profile | PriceList1 | 24 | +ve (Charge) |

## Example 2 - UMS Add in PREVIOUS billing period and NO price change
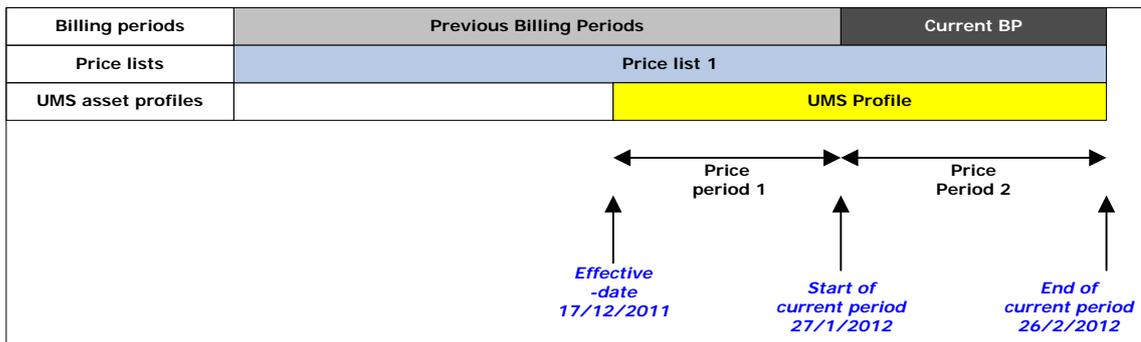
| Billing periods | Previous Billing Periods | | Current BP |
| --- | --- | --- | --- |
| Price lists | Price list 1 | | |
| UMS asset profiles | | UMS Profile | |

Price period 1 — Price Period 2

Effective-date 17/12/2011 — Start of current period 27/1/2012 — End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | PP1+PP2 | PIKID1 | 17/12/2011 | 101 | A | UMS Profile | PriceList1 | 72 | +ve (Charge) [1] |
| | [1] Details previous and current billing period charges have been consolidated | | | | | | | | |

## Example 3 - UMS Add in PREVIOUS billing period AND a price change
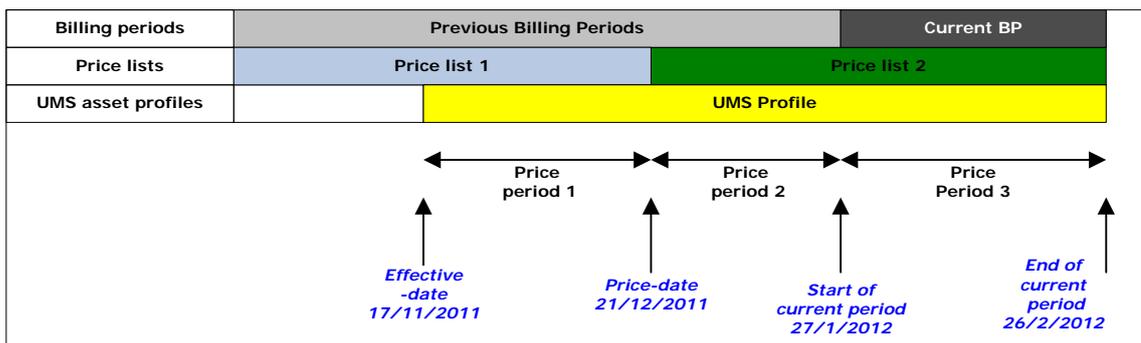
| Billing periods | Previous Billing Periods | | Current BP |
| --- | --- | --- | --- |
| Price lists | Price list 1 | Price list 2 | |
| UMS asset profiles | | UMS Profile | |

Price period 1 — Price period 2 — Price Period 3

Effective-date 17/11/2011 — Price-date 21/12/2011 — Start of current period 27/1/2012 — End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | PP1 | PIKID 1 | 17/11/2011 | 101 | A | UMS-Profile | PriceList1 | 34 | +ve (Charge) |
| 2 | PP2+PP3 | PIKID 1 | 21/12/2011 | 101 | N | UMS-Profile | PriceList2 | 68 | +ve (Charge) [1] |
| | [1] Details previous and current billing period charges have been consolidated | | | | | | | | |

## Example 4 – UMS Remove in CURRENT billing period and NO price change
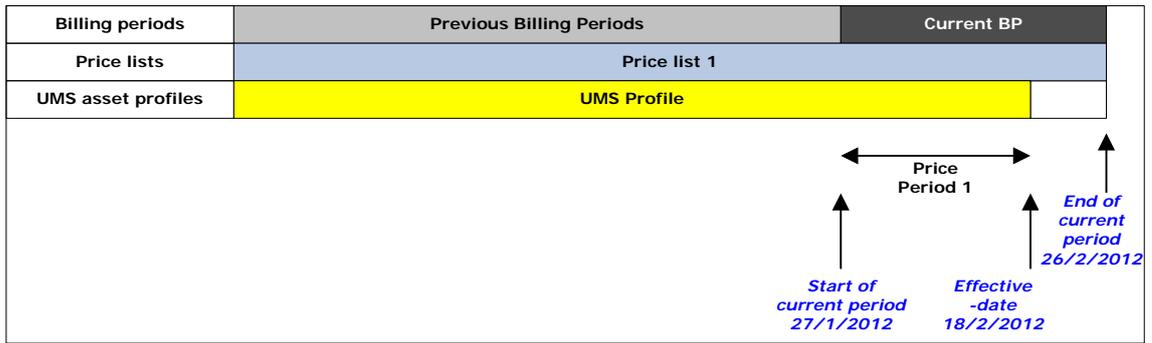


| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 18/02/2012 | 101 | R | UMS-Profile | PriceList1 | 22 | +ve (Charge) |

## Example 5 - UMS Remove in PREVIOUS billing period and NO price change
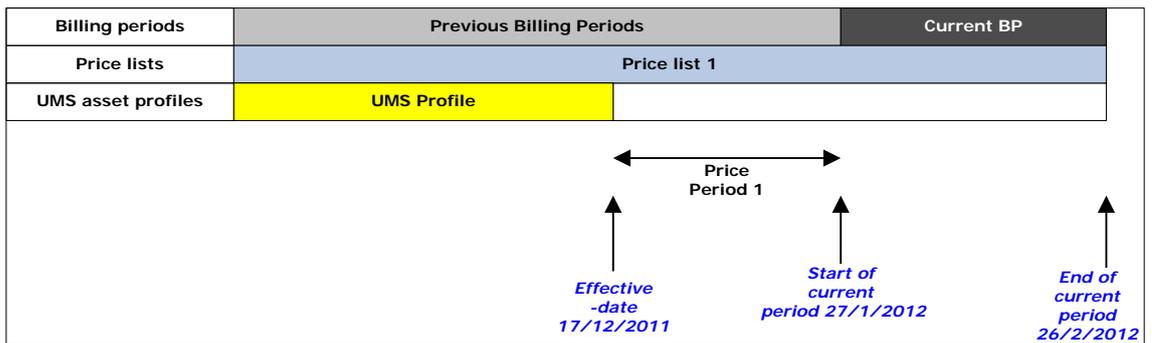


| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 17/12/2011 | 101 | R | UMS-Profile | PriceList1 | -41 | -ve (Refund) |

**Notes:**

The billing days are negative for refunds.

## Example 6 - UMS Remove in previous billing period AND a price change
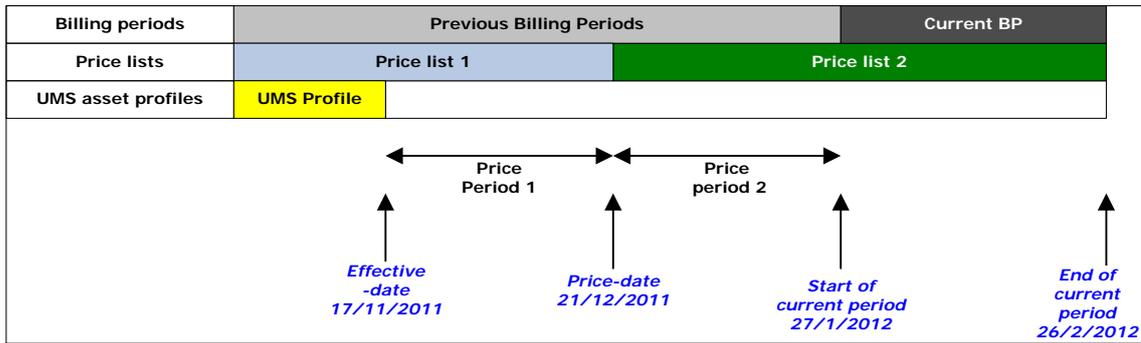


| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change -Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 17/11/2011 | 101 | R | UMS-Profile | PriceList1 | -35 | -ve (Refund) |
| 2 | PP2 | PIKID 1 | 21/12/2011 | 101 | N | UMS-Profile | PriceList2 | -36 | -ve (Refund) |

**Notes:**

The billing days are negative for refunds

### Example 7 - UMS Change in previous billing period and NO price change

| Billing periods | Previous Billing Periods | | Current BP |
|---|---|---|---|
| Price lists | Price list 1 | | |
| UMS asset profiles | UMS Profile 1 | UMS Profile 2 | |

Price Period 1 — Price period 2

Effective-date 17/12/2011

Start of current period 27/1/2012

End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 17/12/2011 | 101 | N | Profile1 | PriceList1 | -41 | -ve (Refund) |
| 2 | PP1+PP2 | PIKID 1 | 17/12/2011 | 101 | C | Profile2 | PriceList1 | 72 | +ve (Charge) [1] |

[1] Details previous and current billing period charges have been consolidated

**Notes:**

The billing days are negative for refunds.

There is an N Change-Type record followed by a C record with the same effective date.

### Example 8 - UMS Change in previous billing period AND a price change
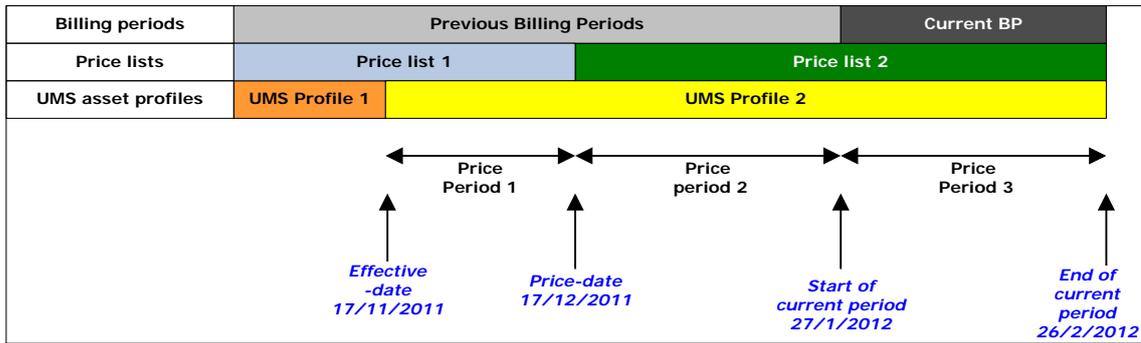


| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change -Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 17/11/2011 | 101 | N | Profile1 | PriceList1 | -30 | -ve (Refund) |
| 2 | PP2 | PIKID 1 | 17/12/2011 | 101 | N | Profile1 | PriceList2 | -40 | -ve (Refund) |
| 2 | PP1 | PIKID 1 | 17/11/2011 | 101 | C | Profile2 | PriceList1 | 30 | +ve (Charge) |
| 4 | PP2+PP3 | PIKID 1 | 17/12/2011 | 101 | N | Profile2 | PriceList2 | 71 | +ve (Charge) [1] |
| | [1] Details previous and current billing period charges have been consolidated | | | | | | | | |

**Notes:**

The billing days are negative for refunds.

There is an N Change-Type record and a C record with the same effective date.

## Example 9 - UMS Change on the first day of the billing period
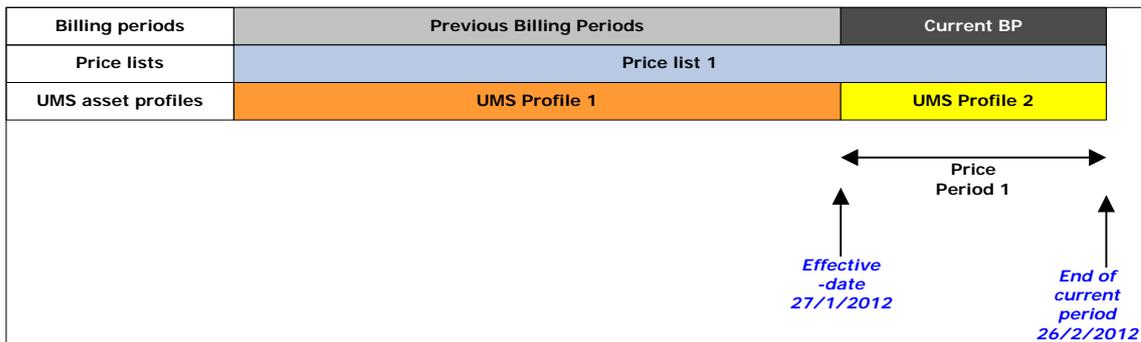


| Billing periods | Previous Billing Periods | | Current BP |
|---|---|---|---|
| Price lists | Price list 1 | | |
| UMS asset profiles | UMS Profile 1 | | UMS Profile 2 |

Price Period 1

Effective-date 27/1/2012

End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N/A | PIKID 1 | 27/01/2012 | 101 | N | Profile1 | PriceList1 | 0 | 0 |
| 2 | PP1 | PIKID 1 | 27/01/2012 | 101 | C | Profile2 | PriceList1 | 31 | +ve (Charge) |

### Notes:

There is a "dummy" N Change-Type record with a zero billing days followed by a C record with the same effective date.

## Example 10 - Change in Customer code
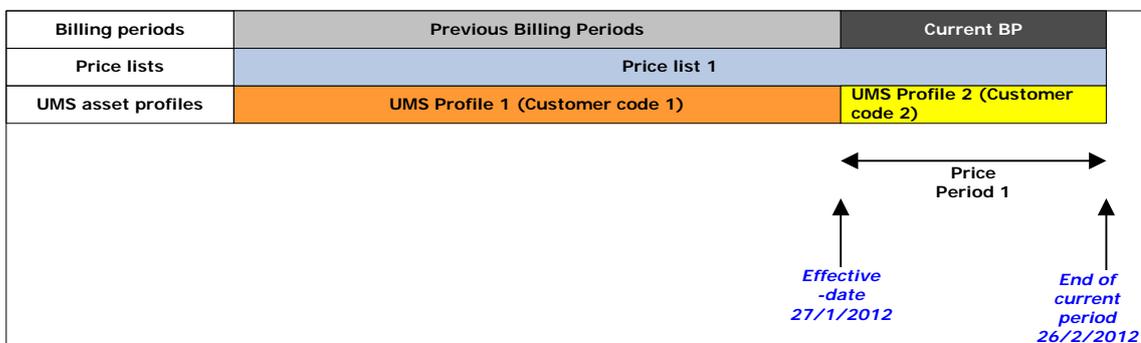


| Billing periods | Previous Billing Periods | | Current BP |
|---|---|---|---|
| Price lists | Price list 1 | | |
| UMS asset profiles | UMS Profile 1 (Customer code 1) | | UMS Profile 2 (Customer code 2) |

Price Period 1

Effective-date 27/1/2012

End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change-Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N/A | PIKID 1 | 27/01/2012 | 101 | N | Profile1 | PriceList1 | 0 | 0 |
| 2 | PP1 | PIKID 1 | 27/01/2012 | 104 | C | Profile2 | PriceList1 | 31 | +ve (Charge) |

### Notes:

There is a "dummy" N Change-Type record with a zero billing days followed by a C record with the same effective date.

## Example 11 - UMS No change
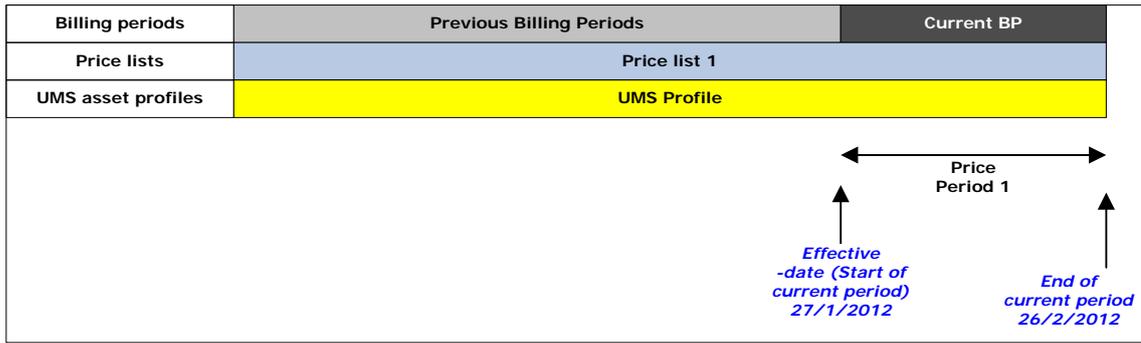
| Billing periods | Previous Billing Periods | | | | Current BP | | | |
|---|---|---|---|---|---|---|---|---|
| Price lists | Price list 1 | | | | | | | |
| UMS asset profiles | UMS Profile | | | | | | | |

Price Period 1

Effective -date (Start of current period) 27/1/2012

End of current period 26/2/2012

| Rec No | Price Period (PP) | UMS Id | Effective-Date | Customer code | Change -Type | Profile | Price List | Billing Days | Billing Amounts |
|---|---|---|---|---|---|---|---|---|---|
| 1 | PP1 | PIKID 1 | 27/01/2012 | 101 | N | UMS-Profile | PriceList1 | 31 | +ve (Charge) |