

IBM

Mobile Workload

Reporting Tool

Users Guide

MWRT
Version 3.1.0

ZSL03332-USEN-02

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This edition applies to Version 3.1.0 of the Mobile Workload Reporting Tool (MWRT) and to all subsequent releases and modifications until otherwise indicated in new editions.

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- Title and date of this publication
- Page number or topic related to your comment

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Overview

The Mobile Workload Reporting Tool (MWRT) is a Windows-based reporting tool that supports Mobile Workload Pricing (MWP). MWRT provides similar function to SCRT with the addition of new functionality for mobile workloads. MWRT replaces SCRT when you take advantage of MWP for z/OS®. All other sub-capacity terms and conditions will continue to apply.

MWP Contractual Requirements

IBM authorizes the use of MWRT only when you have signed or otherwise agreed to the terms of the MWP contract: the IBM Addendum for System z Mobile Workload Pricing (Z126-6300). The MWP contract has an associated supplement form (Z126-6628) where you will describe your mobile application name, the MWP Defining Programs used, the data source used to track the CPU time of mobile transactions, an explanation of how mobile transactions CPU time will be distinguished from that of other workloads, and the process for capturing and processing the mobile data.

IBM must approve the process used to capture the records for mobile transactions that will be used for monthly reporting. IBM will reject all sub-capacity reports that show an MWP benefit if the MWP contractual terms and conditions are not in place.

MWRT Function

MWRT functions very much like SCRT, including support for No89 products, GSSP products, IWP function, and z/OS running under z/VM®. It only supports z/OS.

Further information and definitions for SCRT functions are in the SCRT Users Guide available at <http://www.ibm.com/systems/z/swprice/subcap/scrt/>.

MWRT will calculate the rolling four-hour average of the reported mobile transaction general purpose processor time consumed by the Mobile Workload Pricing Defining Programs, and subtract 60% of those values from the traditional sub-capacity MSUs for **all** of the sub-capacity eligible programs running in the same LPAR(s) as the mobile workloads, on an hour-by-hour basis, per LPAR.

Like is done in SCRT, the resulting program values for the same hour are summed across all of the LPARs (and any z/OS guest systems running under z/VM) in which the program runs to create an adjusted sub-capacity value for the program, for the given machine, for each hour. MWRT will determine the billable MSU peak using these **adjusted** MSU values for every sub-capacity eligible program on the machine.

MWRT PC Requirements

The following is a list of requirements for your PC System.

- Intel Core Duo or equivalent
- 8GB of memory (8GB or more recommended to accommodate large amounts of data that may be loaded into the tool)
- Graphics adapter and display (1024x768 or better)
- Microsoft Windows 7 64-bit

Obtaining and installing MWRT

Download the MWRT deliverable, **mwrtool.exe**, which runs on your PC, from the IBM MWRT download web page at <https://ibm.biz/MWRTdownload>

(This short URL will automatically expand to the following URL:

https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-zsltd&S_PKG=mwrtool)

The MWRT deliverable was built using Flexera InstallShield Software. It is a self-extracting file that uses the Windows Installer engine to install MWRT to your workstation. By default MWRT will be installed into a folder named “IBM CPS Tools”.

Preparing to use MWRT

MWRT needs SMF record types 70 subtype 1 and 89 subtype 1 and 2. There is no problem with including additional types, although they will slow down processing. These mainframe (host) files **MUST** be downloaded to the PC using the RDW parameter. Start a FTP session, and use the following commands.

- ftp yourhostname
- user
- password
- binary
- quote Site RDW
- get hostfilename pcfilename

Note: These commands assume that the FTP was initiated from the receiving PC end. If the FTP is initiated from the z/OS end, rather than entering “quote Site RDW” enter “locsite RDW” instead.

All of the SMF records do not need to be in one file. MWRT can take multiple files as input and produce a combined result. If you use a file extension of **.smf** then processing multiple files will be simpler for you.

Format for Customer CSV file mobile transaction input to MWRT

This is an example of the format for the mobile transaction CSV file. The field separator character may be a comma or a semicolon, but must be consistent throughout.

There must be a separate CSV file for each product family, i.e. CICS, MQ, IMS, WebSphere, or DB2.

"Product"	"5655-S97"	"5655-M15"	
"Date"	"2827-0F4D7:SYSF"	"2827-0F4D7:SYSG"	"2827-0F4D7:SYSH"
"2014-03-02T00:00:00"	3026	4103	229
"2014-03-02T01:00:00"	1954	3582	257
"2014-03-02T02:00:00"	2444	3876	262

The **first row** is the Product row containing the product id (or ids) for all the versions of a particular product family the customer is using for mobile workload processing. Specify multiple product ids if using multiple versions. These products must all be in the same family. This row is independent of everything else in the file. Specify the product id(s) that you are using only one time. Typically the only reason that you would specify more than one product id is if you are migrating from one version of that product to another.

Any completely **blank row** in the file is ignored. Any row starting with a double quote immediately followed by an asterisk is considered a **comment** and is ignored.

The **first non-blank, non-comment row** after the Product row is the **Header row**.

Column one of the Header row is the date header; either:

- **Date** indicating that all times are local in ISO-8601 format
- **DateUTC** indicating that all times are in UTC in ISO-8601 format

The **subsequent columns** of the **Header row** must contain the LPAR names in one of two formats; either:

- just the LPAR name (e.g. "SYSF"), or
- type-serial:LPAR name (e.g. "2827-0F4D7:SYSF")

If there is a possibility that you have now (or may someday create) duplicate LPAR names on different machines, the second qualified format must be used.

Any **non-blank, non-comment rows** after the Header row must contain the mobile transaction data.

Column one of the mobile transaction data rows is the **date**. The date must be in ISO-8601 format (e.g. "2014-03-21T03:00:00" to indicate three AM on March 21, 2014). If the date header is **DateUTC**, all times are assumed to be UTC.

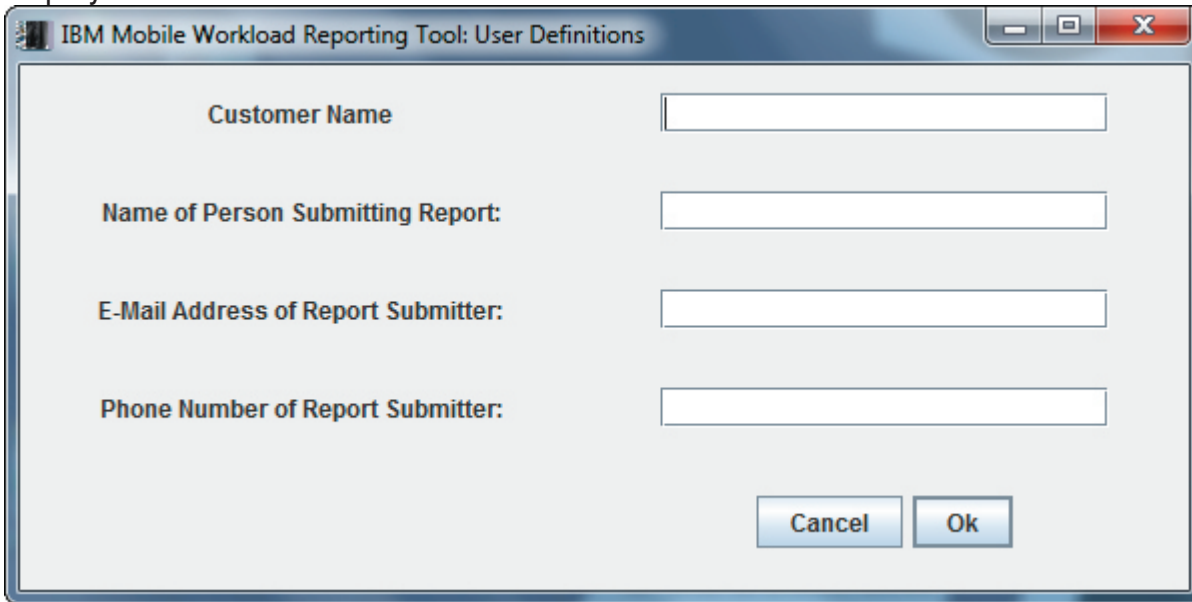
Then **each cell** in the mobile transaction data row must have CPU seconds for that hour in that LPAR as a floating point number.

Using MWRT

To launch MWRT on your PC, click on the IBM Mobile Workload Reporting Tool icon to start the tool. You can also launch MWRT from the **Start** menu→**All Programs**→**IBM CPS Tools** folder (if you used the default installation folder location).

User Definitions Panel

The very first time that MWRT is launched on your workstation, the "User Definitions" panel is displayed.



The screenshot shows a Windows-style dialog box titled "IBM Mobile Workload Reporting Tool: User Definitions". The dialog box has a standard Windows title bar with minimize, maximize, and close buttons. The main content area contains four text input fields, each with a label to its left: "Customer Name", "Name of Person Submitting Report:", "E-Mail Address of Report Submitter:", and "Phone Number of Report Submitter:". At the bottom right of the dialog box, there are two buttons: "Cancel" and "Ok".

Input the requested information in the four fields. Then click **Ok** to display the main panel

Main Panel

IBM Mobile Workload Reporting Tool

Customer / Submitter Information:

Customers Inc.

Update

Customers / customers@us.ibm.com / 999-999-9999

SMF Files to Process:

Add File

Delete File

Customer Mobile CPU Consumption CSV Files:

Add File

Delete File

Reporting Month: August 2014

Integrated Workload Pricing

Suppress Detail Data

No89

Exclude

About

Process

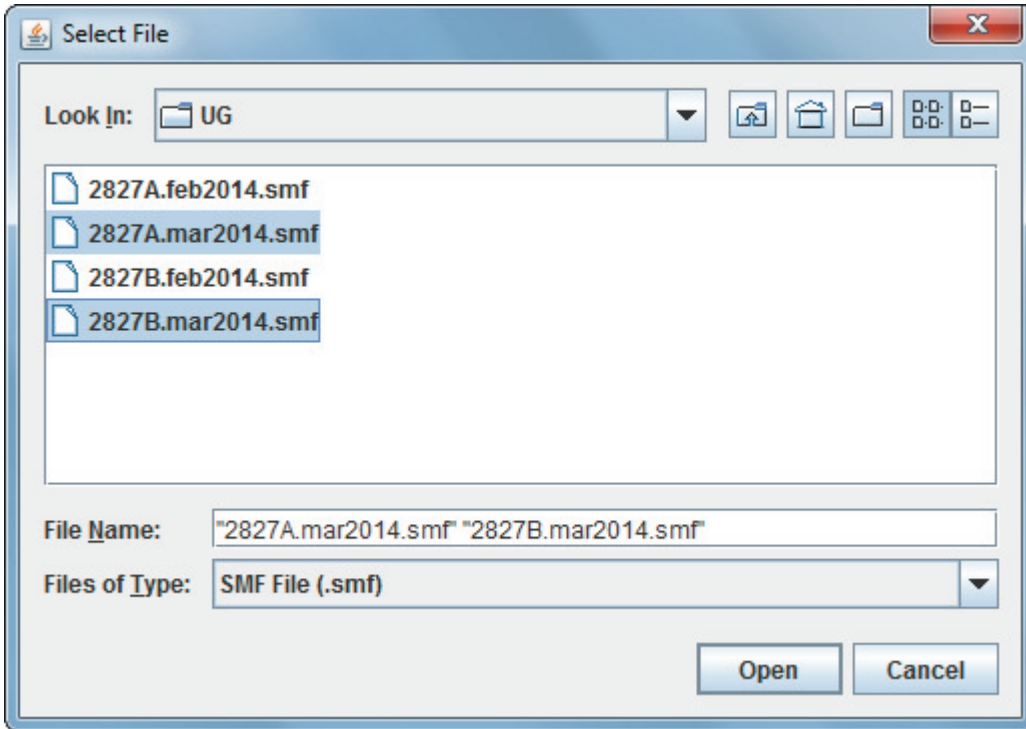
The upper part of this panel displays the information that was input on the "User Definitions" panel, along with a button to allow updates to this information.

The **About** button will display a panel with the MWRT Version and Release as well as the Build identifier for this instance of MWRT.

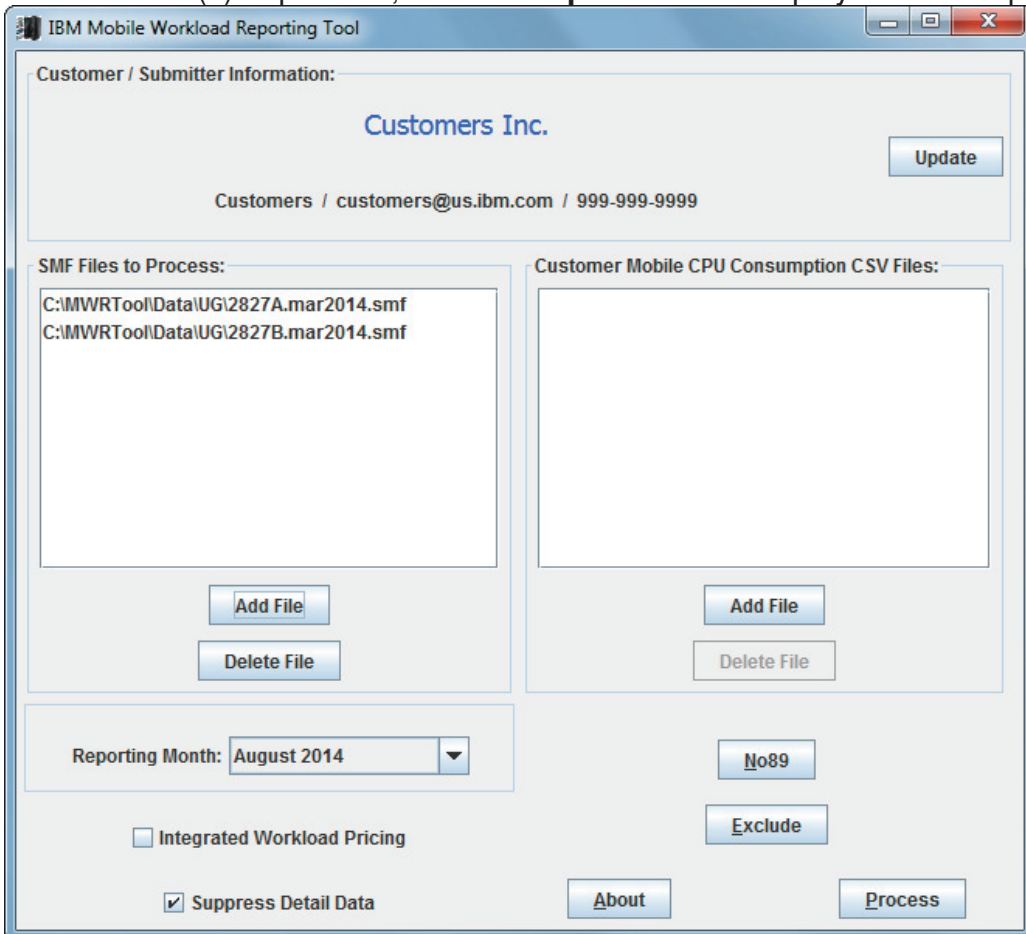
The **SMF Files to Process** box will include the data file(s) that you downloaded from the mainframe. To specify the file id containing your SMF data, click **Add File**.

Please note: MWRT is capable of processing data from more than one machine at a time, but IBM recommends processing each machine's data separately due to the large size of the MWRT Report output files.

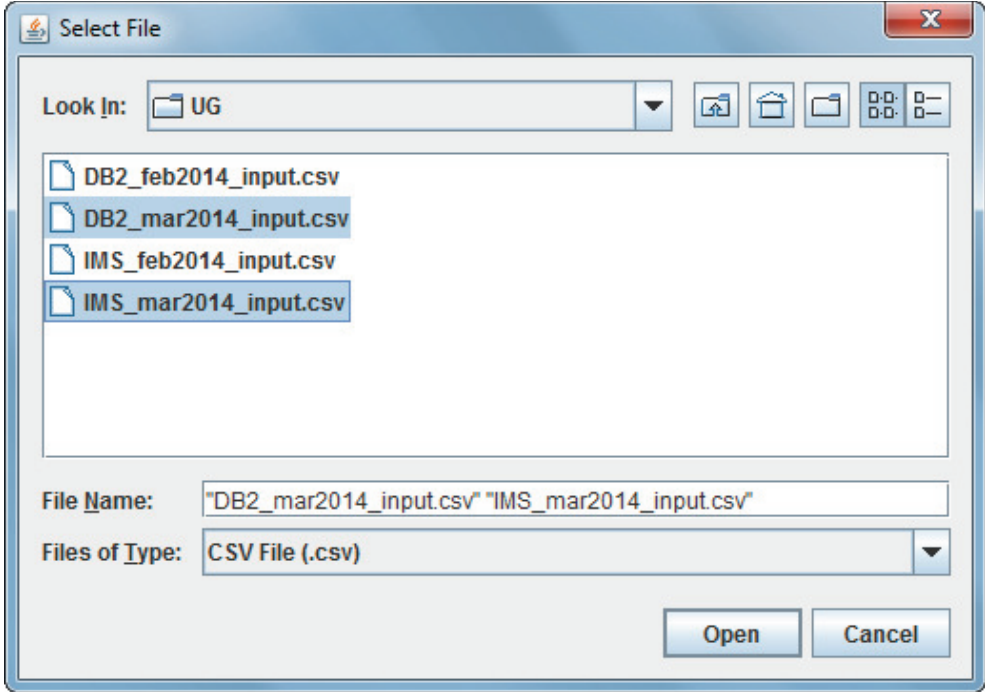
Select File Panel



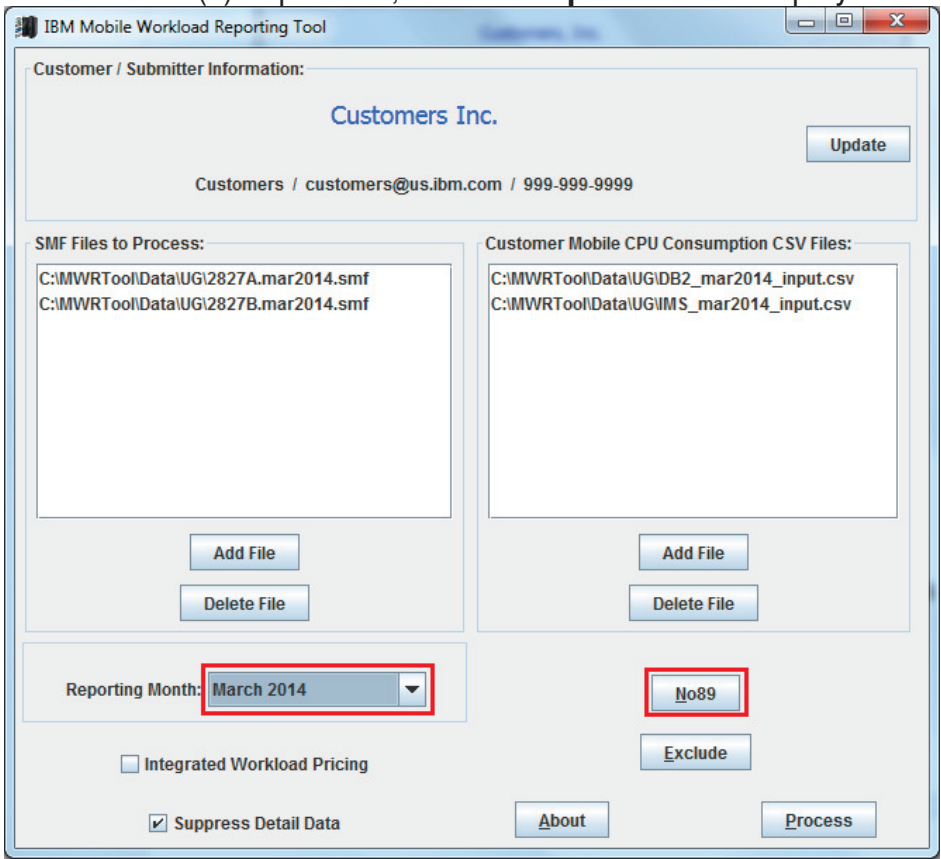
Select the file(s) to process, and click **Open** which redisplay the main panel.



The **Customer Mobile CPU Consumption CSV Files** box will include the file(s) containing details of the Mobile Workload Pricing Defining Programs. To add a file (or files) into this box, click **Add File**.

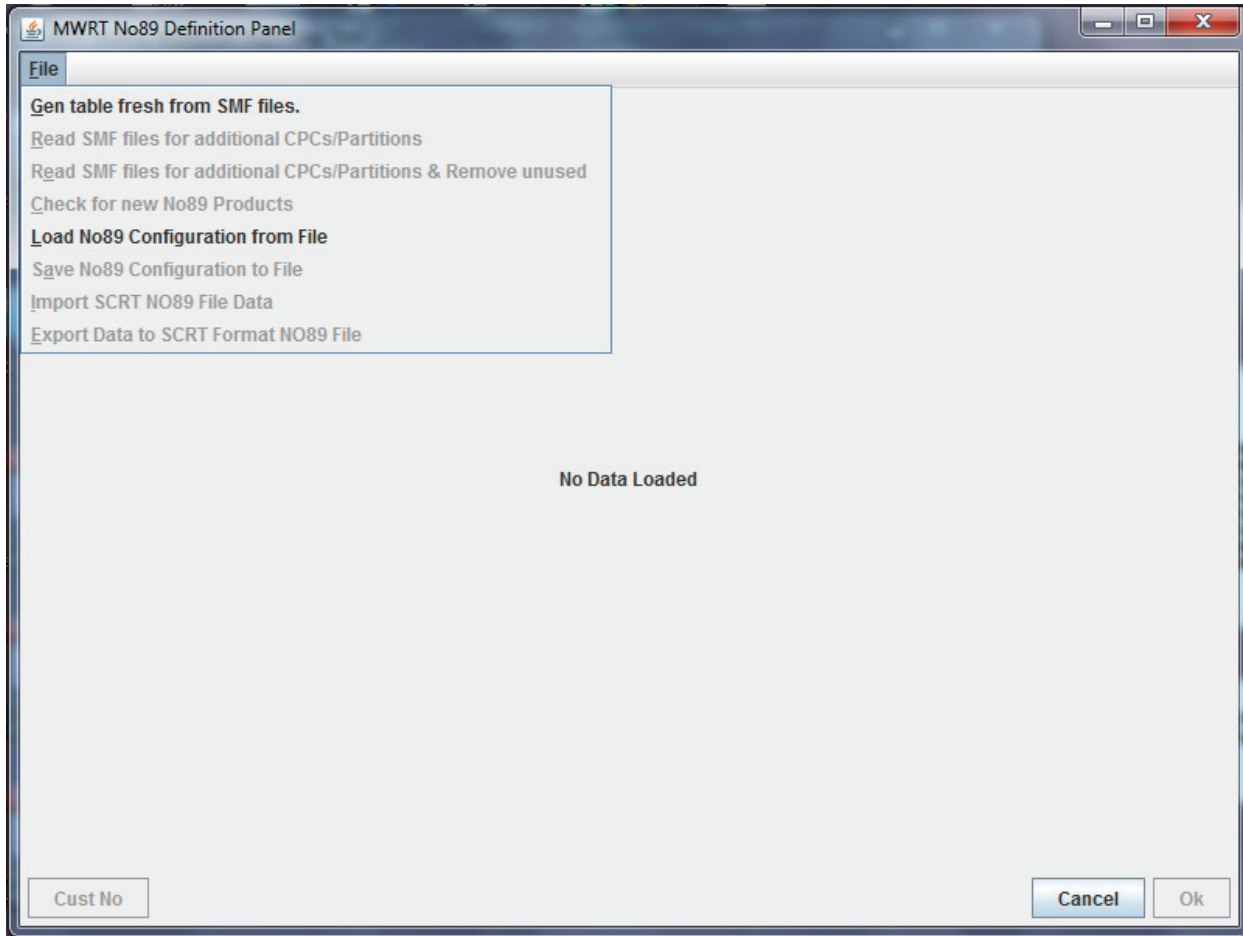


Select the file(s) to process, and click **Open** which redisplay the main panel.



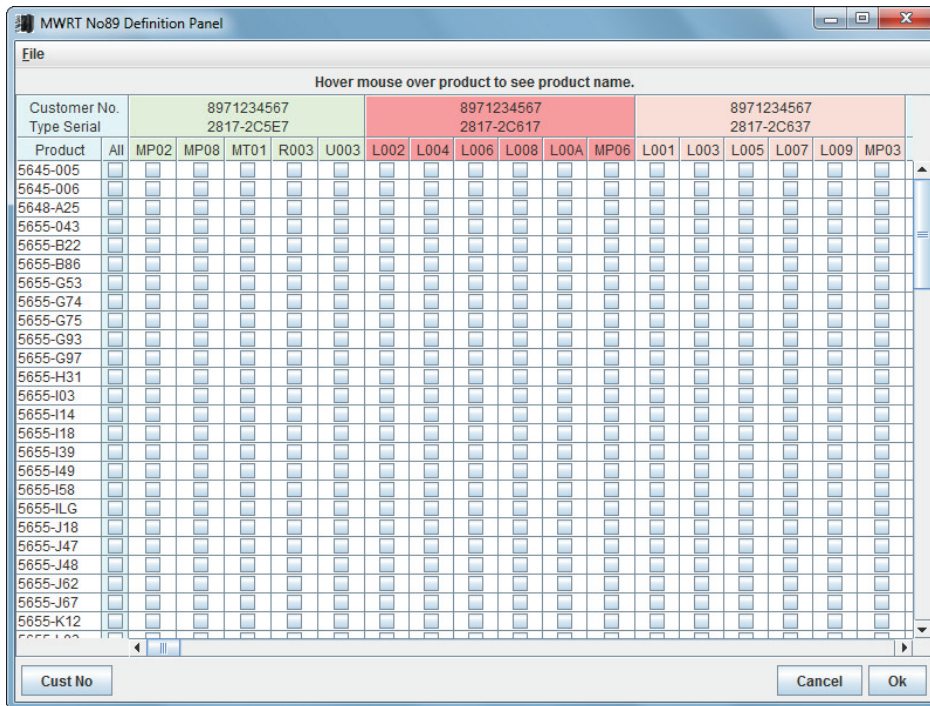
Scroll the list to select the correct **Reporting Month** then click **No89**.

No89 Panel



Initially the panel will read “No Data Loaded.” The first menu item is **Gen table fresh from SMF files**. MWRT will read the files specified on the main panel, and present a grid of No89 Products with the CPCs and partitions. The result will be the following panel.

Please note: The specifying of NO89 products in MWRT is quite different from the way you identify them in SCRT. MWRT is able to import existing SCRT JCL NO89 statements, see below for an explanation of the “Import SCRT NO89 File Data” function, if you wish, after completing this step.



On this panel each **CPC/partition** is displayed across the top, and the **No89 Products** are displayed along the left hand column. The name of the **No89 Product** can be displayed by hovering the mouse pointer over the product number.

At this point it is necessary to indicate in which partitions any given No89 Product runs. This is done by putting a check in the appropriate box. It may be helpful to obtain a copy of the NO89 data from the last SCRT run and use that as a guide.

If this is your first run of the tool, after selecting the partitions click **Cust No** in the lower left corner to assign customer numbers to your processors. The assignment process is described below in the "Assign Customer Numbers" section. This assignment only needs to be done once. Then click **Ok** to save the data and close the panel.

The **File** menu on the "No89 Definition" panel has additional functions. Descriptions of the other File menu items are as follows.

Read SMF files for additional CPCs/Partitions

Use this selection in the case where additional CPCs or Partitions have been added in the past month, and rather than erasing all of the data, the user would prefer to simply have the program leave the current data intact, and add any new CPCs and Partitions that are in this month's data. After this function has completed all of the existing CPCs and Partitions and checkmarks will remain, and new CPCs/Partitions will be added to the headers. A dialog box will open listing the new CPCs and Partitions which have been added, so only they will need to be reviewed for additional checkmarks.

Read SMF files for additional CPCs/Partitions and Remove unused

This selection works exactly as the previous except that it will remove any CPCs and Partitions which are no longer present in the data. The panel, that comes up after the function completes, will list what was added and also what was removed.

Check for new No89 Products

This function is intended for new releases where additional products were added to the No89 table. This function will add those new products to the table, and provide a list of these new products, while preserving all of the preexisting data.

Load No89 Configuration from File

This function allows you to load a previously saved No89 Configuration from a file. It will overlay any existing data.

Save No89 Configuration to File

This function will save the current configuration to a file.

Import SCRT NO89 File Data

The list of CPCs and partitions must be generated first. Selecting this function along with a valid SCRT NO89 data file will cause the checkboxes on this panel to have checks reflecting the specification in the SCRT NO89 data file.

Note: The SCRT NO89 data must be downloaded in ASCII mode. Importing an SCRT file will add checkmarks. Thus, multiple NO89 files can be loaded one after another, and the checkboxes will reflect all of the files.

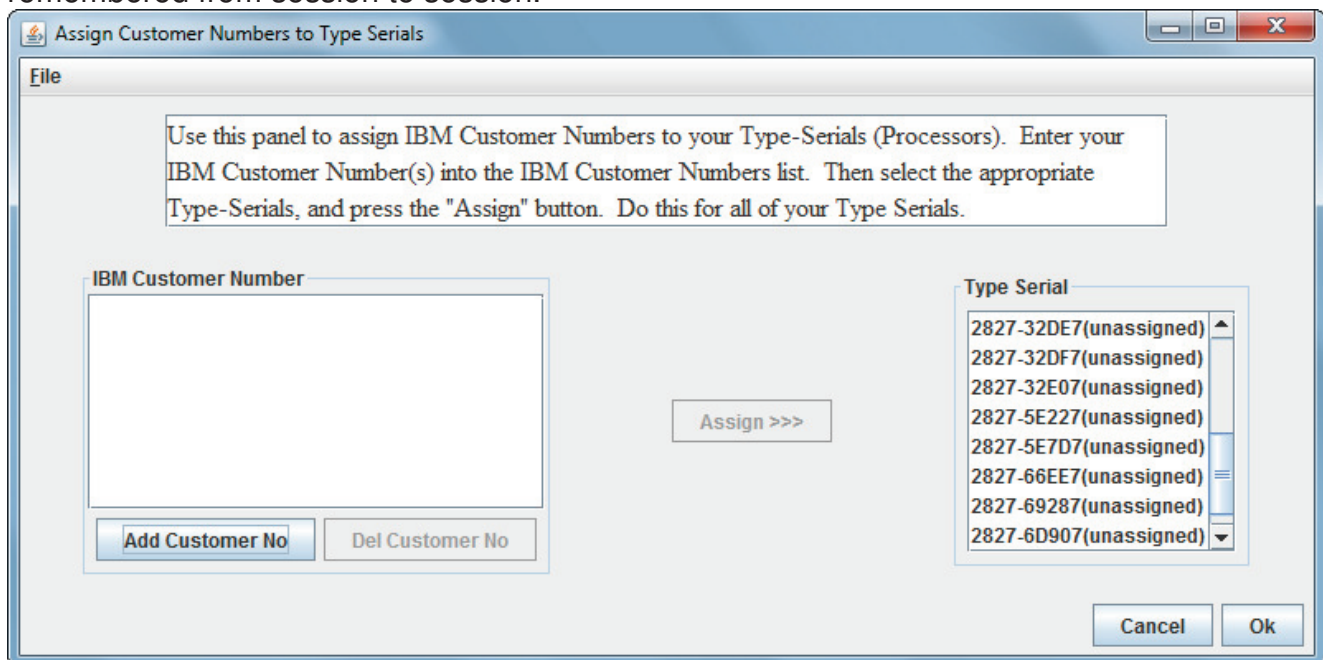
Export Data to SCRT Format NO89 File

The selection state of the products will be exported to an SCRT formatted NO89 data file.

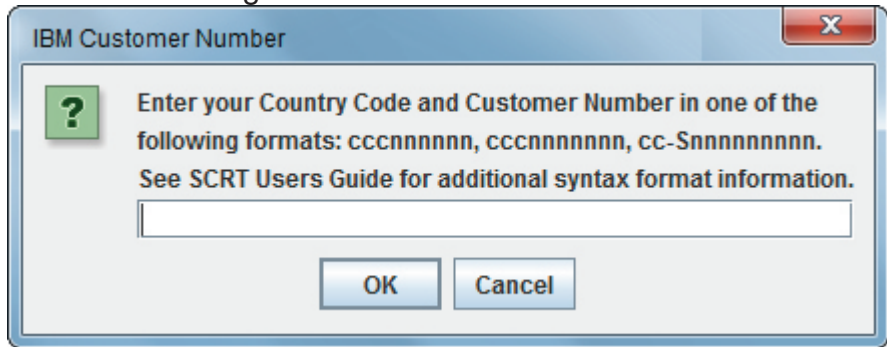
Note: The configuration is saved automatically from invocation to invocation. Therefore, in most cases it will not be necessary to save and restore these configurations.

Assign Customer Numbers

The "Assign Customer Numbers" panel has the function of associating IBM Customer Numbers with specific CPCs. Report files without customer numbers will be rejected, therefore, it is a necessary step that must be done **only once**, as the associations are remembered from session to session.

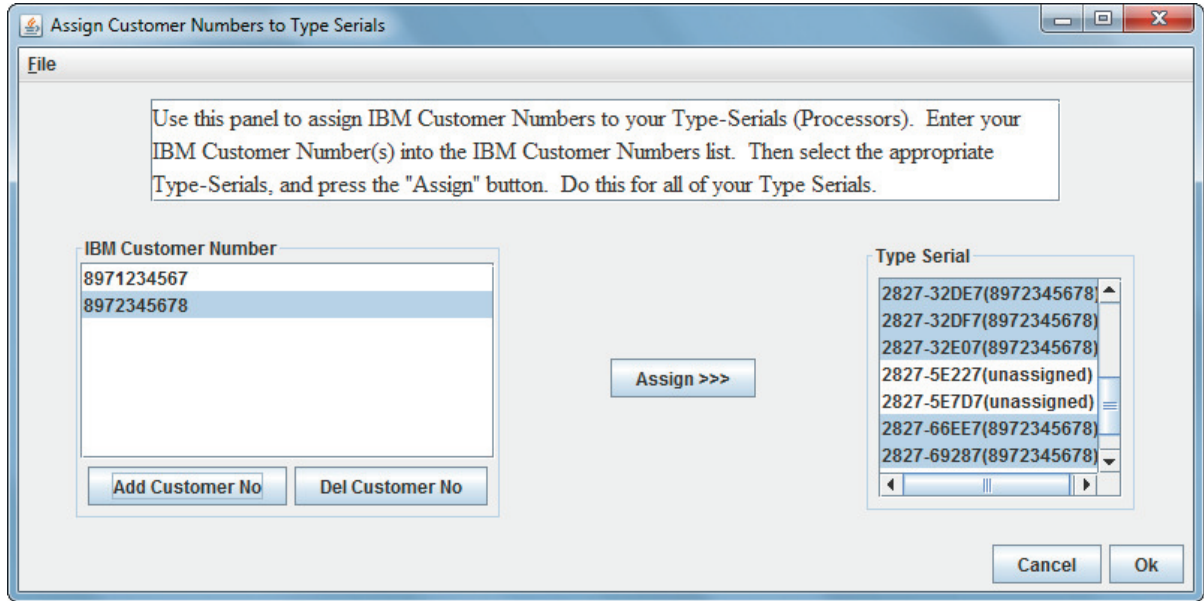


Click **Add Customer No** to enter each of your valid IBM Customer Numbers for later assignment to each of your CPCs. You should enter the same Customer Number(s) that you use when running SCRT.

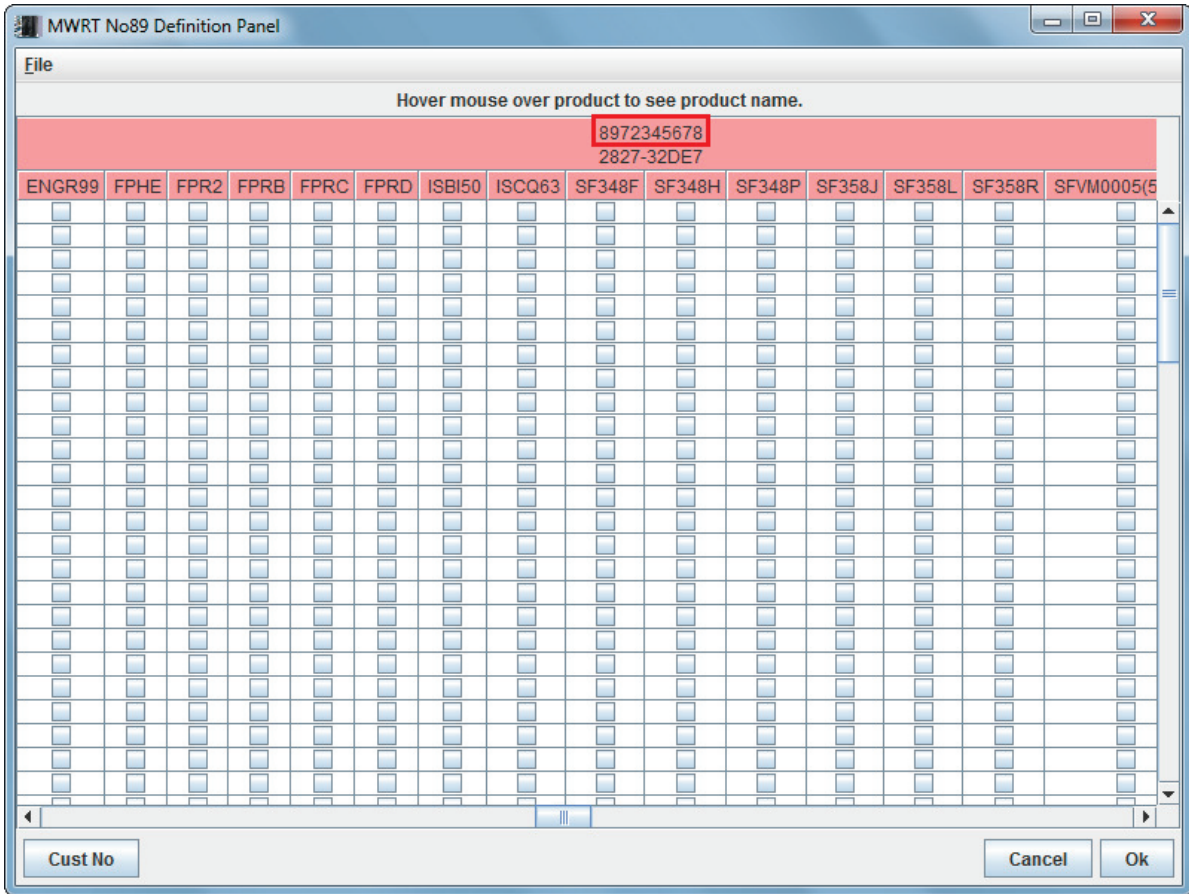


Input the customer number in the format appropriate to your country, and click **OK** to redisplay the "Assign Customer Numbers to Type Serials" panel.

Note: See the SCRT Users Guide for more information about Customer Number format.



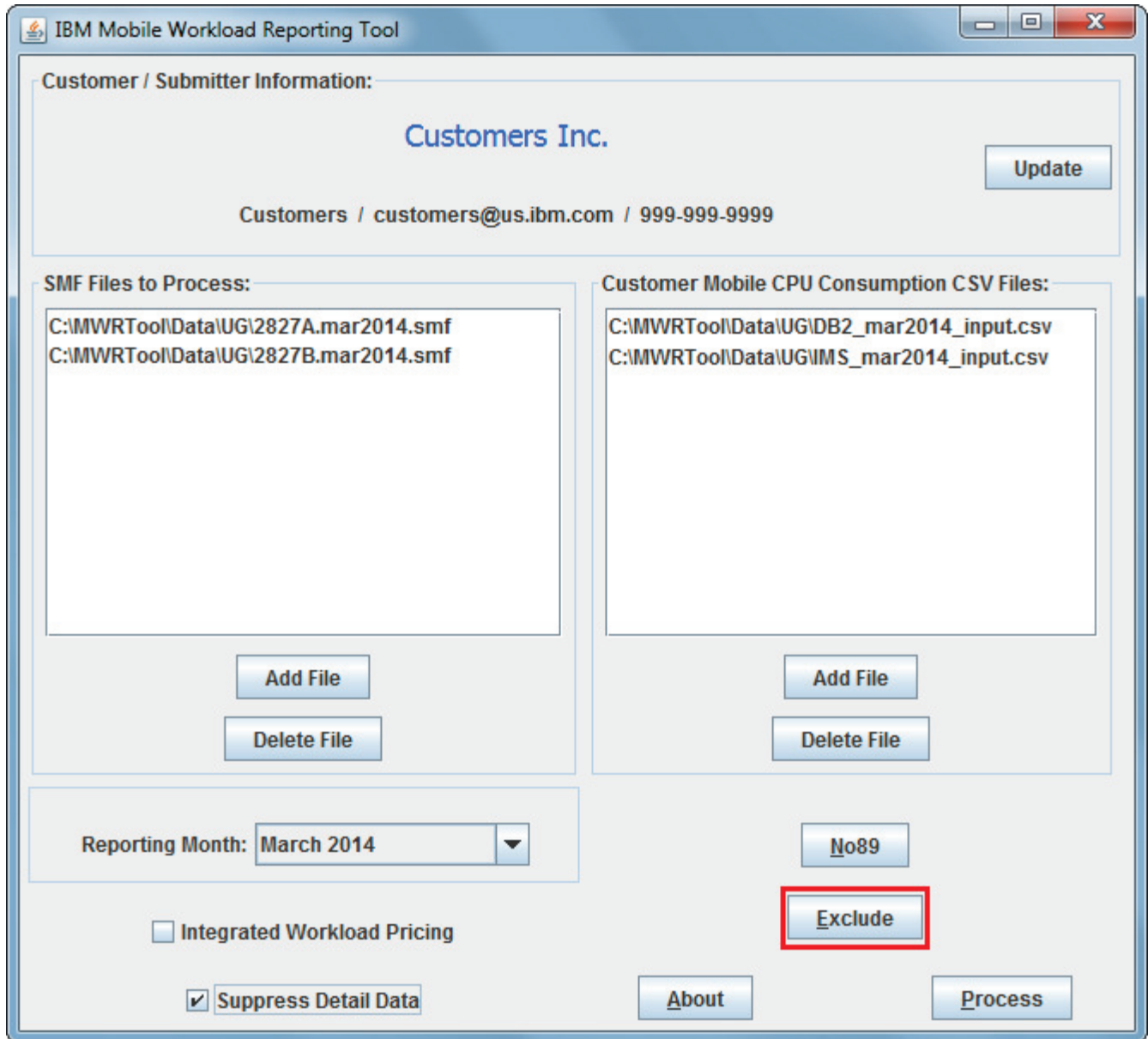
Select the customer number then the appropriate type serial, and click **Assign** for **each processor**. Click **Ok** to return to the "No89 Definition Panel".



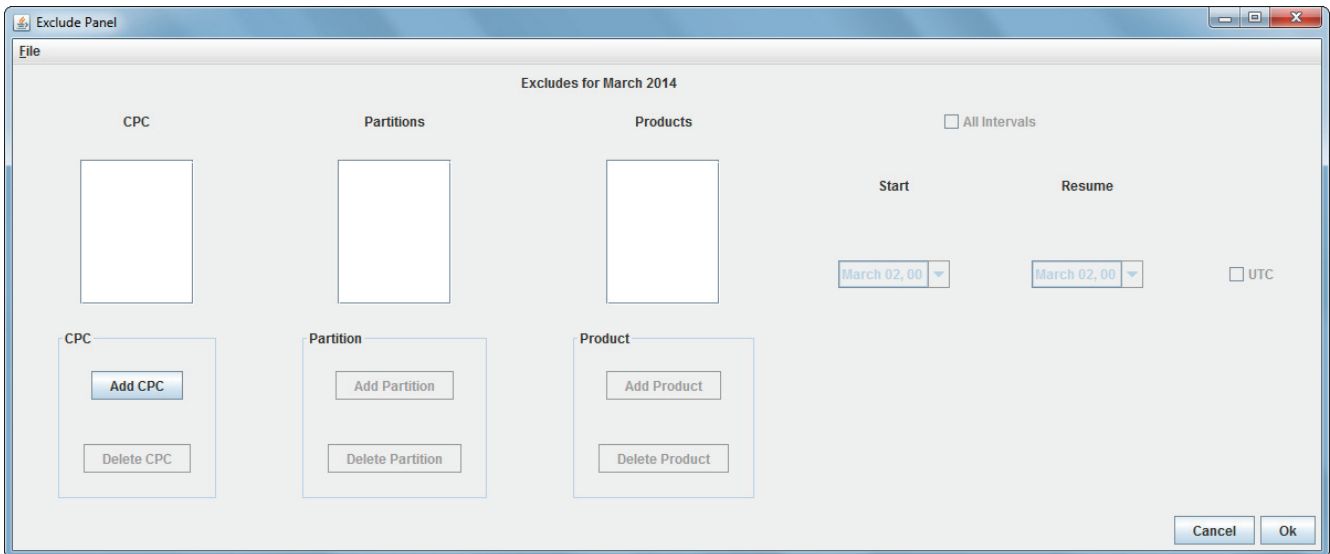
The customer number assignments are now shown. Click **Ok** to return to the MWRT main panel.

Exclude Data

On the main MWRT panel, you may optionally exclude data, similar to using the SCRT Exclude control statement.

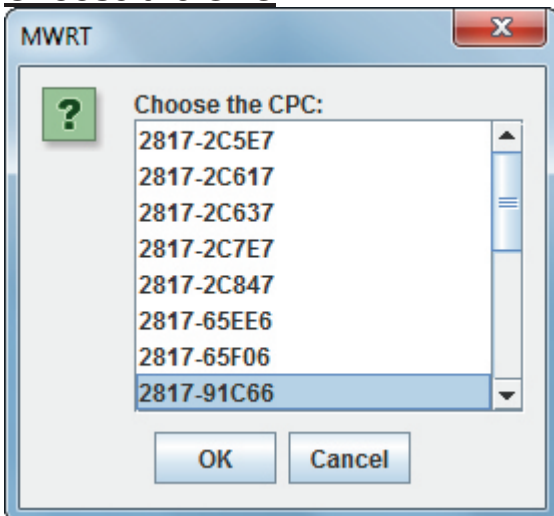


Click **Exclude** to display the "Exclude Panel"..

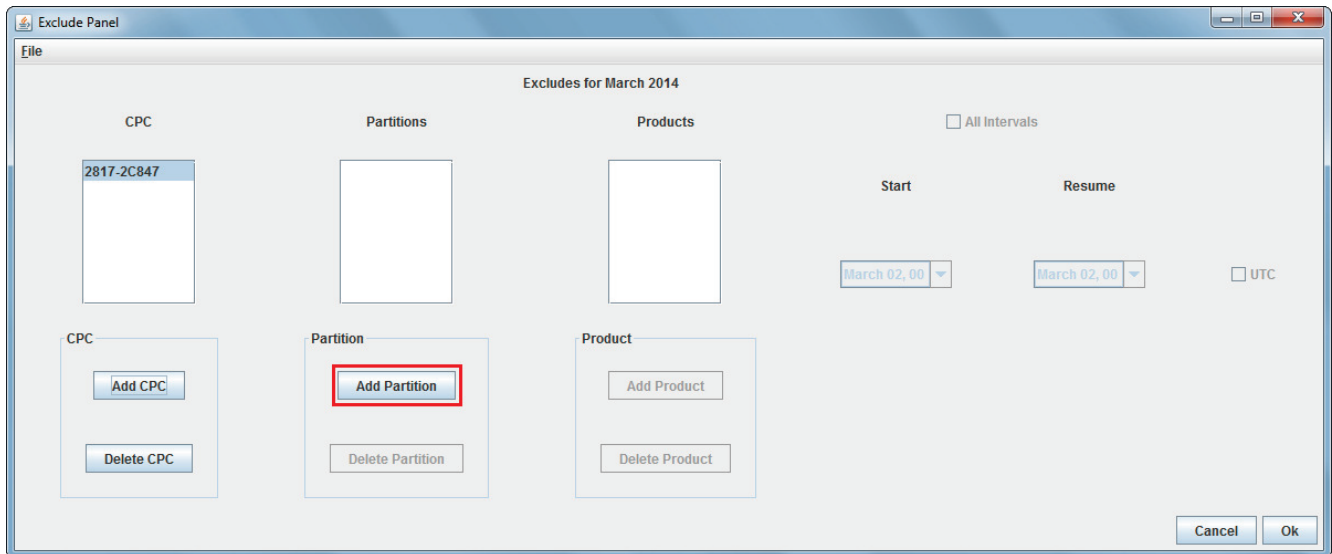


To start the process of excluding data, click **Add CPC**.

Choose the CPC

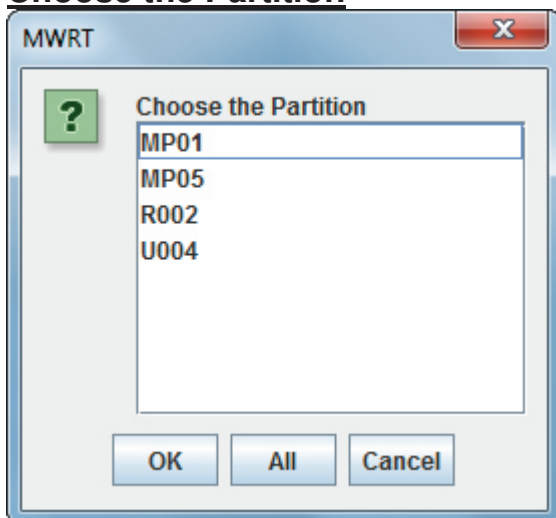


Select the CPC Type-Serial, and click OK. The Exclude panel will redisplay showing the text highlighted in the CPC box. This automatically enables **Add Partition**.



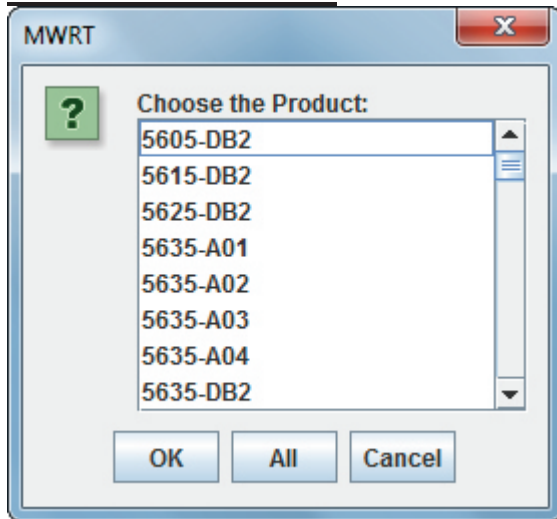
Click **Add Partition** to designate the names of the partition(s) you wish to Exclude.

Choose the Partition

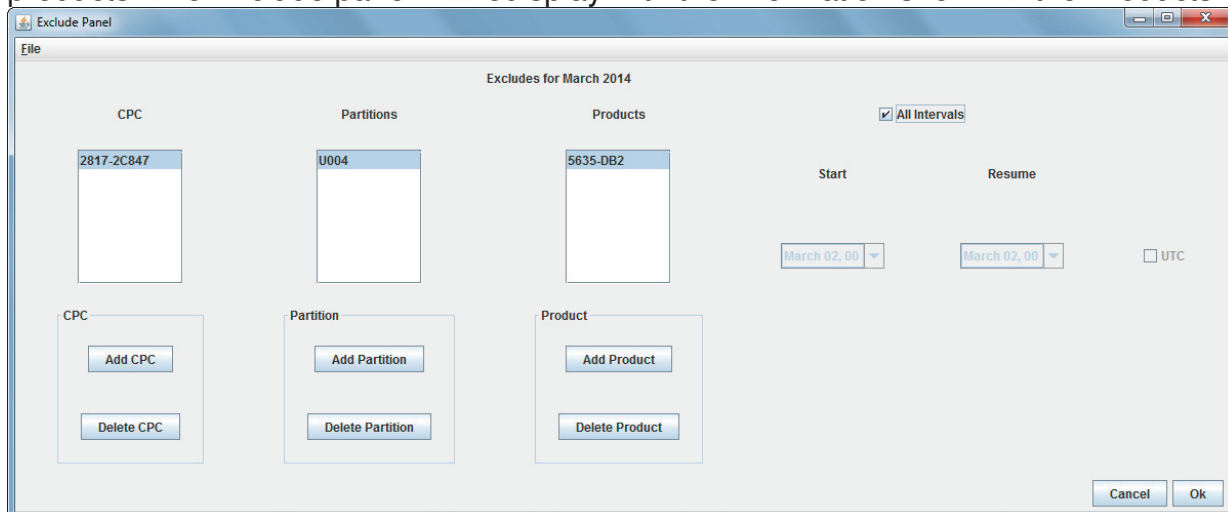


Select the partition name and click **OK**. **Note:** Alternatively, you can click **All** to select all partitions. The Exclude panel will redisplay with the information shown and selected in the Partitions box. The **Add Product** button is automatically enabled. Click it to choose the product.

Choose the Product



Select the Product ID and click **OK**. **Note:** Alternatively, you can click **All** to select all products. The Exclude panel will redisplay with the information shown in the Products box.

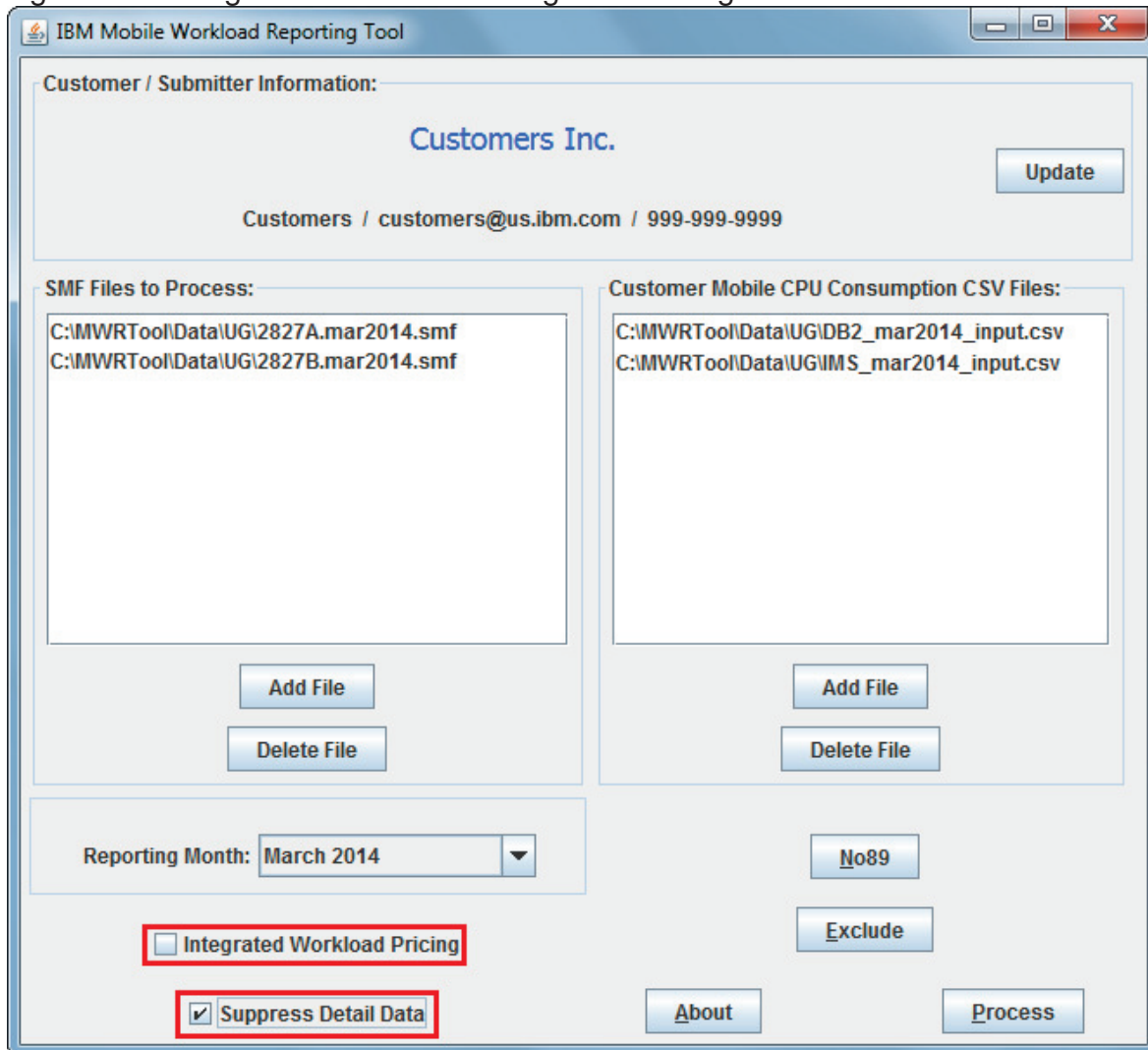


The Start and Resume drop-down boxes will automatically be enabled. Make the appropriate selections. Select the UTC box if applicable. Or you can select the “All Intervals” checkbox which will apply this Exclude to the entire Reporting Interval.

Note: It is possible to save and restore the Exclude information using the **File** menu.

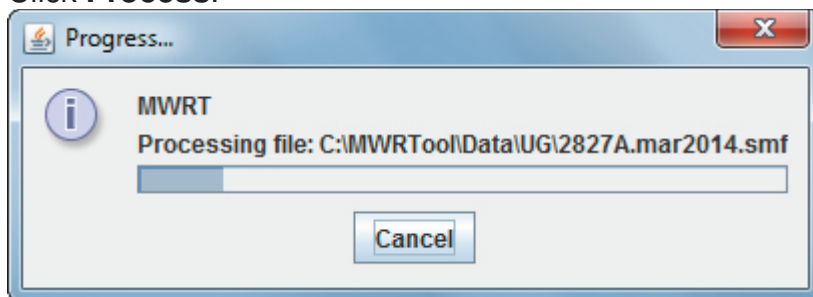
When all desired excludes have been entered, click **Ok** to return to the main MWRT panel.

On the main MWRT panel, there is a checkbox for **Integrated Workload Pricing**. If you have signed the “Integrated Workload Pricing” contract agreement then check this box.



The default, **Suppress Detail Data**, suppresses the Mobile Pricing Detailed Data section (V5) in the MWRT Report File, which is large and not required for submission.

Click **Process**.



At this point the files will be read and processed, which may take some time. Upon completion, a summary display of the results will appear on the screen.

Output Panel

IBM Mobile Workload Reporting Tool release Sep 10, 2014.

Prepared for Customers Inc..

By Customers at email: customers@us.ibm.com phone: 999-999-9999.

On Sep 12, 2014, MWRT was run for the month of Mar, 2014, (Mar 1, 2014 - Apr 1, 2014.)

Processor:

Processor Description	2817-734
Serial Number	2C5E7
IBM Customer Number	8971234567
Processor MSU	3134
% Data Collected	99%

Results.

MLC	Product	Peak	Peak MSU
Product Name	Number	MSU	Time
z/OS	(All)	504	19 Mar 2014 - 21:00
z/OS V2	5650-ZOS	16	30 Mar 2014 - 07:00
z/OS V1	5694-A01	504	19 Mar 2014 - 21:00
DB2 10 for z/OS	5605-DB2	491	19 Mar 2014 - 21:00
CICS TS for z/OS V4	5655-S97	491	19 Mar 2014 - 21:00
CICS TS for z/OS V3	5655-M15	491	19 Mar 2014 - 21:00

Back Gen File

The summary data for this analysis is shown on the output panel. Click **Gen File** to produce the MWRT Report file with all of the details which may then be submitted to IBM (see “Submitting the MWRT Report to IBM” section). For more information about the MWRT Report, see “The MWRT Report File” section.

If the Customer Mobile CPU Consumption CSV File contained invalid data you would receive an error panel instead of the output panel pictured above (see “MWRT Error” section).

Click **Back** on the Output panel to return to the MWRT main panel. When you are ready to exit the tool, click the x in the title bar.

MWRT Error Panel

The data values in each Customer Mobile CPU Consumption CSV File for an MWP Defining Program are compared to the program usage data contained in the SMF89 records for that Program. If any of the CSV File data values for a particular interval in an LPAR exceed the program usage data in the corresponding SMF89 record, MWRT will report that error on this panel:

IBM Mobile Workload Reporting Tool Error

The Customer Mobile CPU Consumption CSV File contains values that exceed the usage measured by SMF 89 records. This report cannot be submitted.

Intervals where this occurs are.

CPC	Partition	Time	Product Group
2817-2C5E7	R003	2014-03-04T13:00:00	CICS
		2014-03-11T12:00:00	CICS
2817-2C7E7	R001	2014-03-04T13:00:00	CICS
		2014-03-11T19:00:00	CICS
2817-2C847	R002	2014-03-04T13:00:00	CICS
		2014-03-12T07:00:00	CICS

Back Gen File

Note that the **Gen File** button is greyed out and will not be available until the data error in the CSV File is fixed.

The MWRT Report File

==V5=====														
MOBILE PRICING DETAILED DATA														
MLC Products														
5694-A01		z/OS V1												
Date Time of RMF Interval	Type	CPC MSU	Partition										Group	CPC Total
			GRLV20	ISCW75	PLXC5A	PLXC5C	PLXC5E	PLXC5L	ROSA02	TEMP24	TULS26	WESTHA1	WESTLEG1	
02 Mar 2014 - 00:00 UTC	2827-713	1822	-	-	7	46	36	3	-	-	40	-	-	132
02 Mar 2014 - 01:00 UTC	2827-713	1822	44	12	8	44	56	3	-	59	54	-	-	280
02 Mar 2014 - 02:00 UTC	2827-713	1822	61	12	8	50	59	3	45	73	65	-	-	376
02 Mar 2014 - 03:00 UTC	2827-713	1822	68	12	8	49	58	3	50	80	64	-	-	392
02 Mar 2014 - 04:00 UTC	2827-713	1822	79	12	7	39	55	3	65	92	46	-	-	398
02 Mar 2014 - 05:00 UTC	2827-713	1822	67	11	7	36	46	3	71	77	34	-	-	352
02 Mar 2014 - 06:00 UTC	2827-713	1822	52	11	7	33	59	3	57	59	36	-	-	317
02 Mar 2014 - 07:00 UTC	2827-713	1822	56	13	7	45	81	3	68	63	50	-	-	386
02 Mar 2014 - 08:00 UTC	2827-713	1822	58	16	7	59	137	3	69	66	59	-	-	474
02 Mar 2014 - 09:00 UTC	2827-713	1822	60	17	7	73	161	4	78	75	64	-	-	539
02 Mar 2014 - 10:00 UTC	2827-713	1822	64	16	7	103	146	4	76	90	53	-	-	559
02 Mar 2014 - 11:00 UTC	2827-713	1822	54	15	7	127	121	3	63	91	45	-	-	526
02 Mar 2014 - 12:00 UTC	2827-713	1822	48	12	7	124	64	3	49	90	43	-	-	440
02 Mar 2014 - 13:00 UTC	2827-713	1822	45	12	7	110	30	3	39	85	39	-	-	370
02 Mar 2014 - 14:00 UTC	2827-713	1822	43	12	7	74	26	3	38	76	35	-	-	314

The MWRT Report is a plain text file in the same format as an SCRT Report. Most of the sections of the report are the same as the corresponding section in the SCRT Report, except for an additional section V5 entitled "MOBILE PRICING DETAILED DATA".

There will be a detail section for each sub-capacity eligible program on the machine (e.g. 5694-A01 z/OS V1 shown in the example above).

Following the machine MSU column are columns containing the MSU values for each partition on the machine (e.g. KANSA1 through KANSC3). These are the LPAR rolling four-hour averages with the mobile reduction already applied. Following these partitions are the Mobile partitions (e.g. KANSB1 and KANSC1) running each of the MWP Defining Programs (e.g. IMS). The values in those columns reflect the mobile reduction (which was already deducted from the respective columns previously), that is, the 60% of the mobile rolling four-hour average MSUs.

There are several codes which may appear in the V5 section of the report:

- A **minus sign** in a column indicates no data for this interval.
- A **"G"** in a column indicates that the sum of the partitions exceeded the group capacity, thus, the group capacity was used for this hour.
- A **"P"** in a column indicates that the sum of the partitions exceeded the processor capacity, thus, the processor capacity was used.

This very large V5 section of the report can optionally be suppressed if the **Suppress Detail Data** checkbox is selected on the main MWRT panel.

Submitting the MWRT Report to IBM

As of the time this version of the MWRT User's Guide was written it is not yet possible to submit an MWRT Report using the IBM License Management Support (LMS) process the way SCRT Reports are submitted.

It is IBM's intention to enhance LMS to accept MWRT Reports in the future, and at that time use of LMS for MWRT Reports in all countries supported by LMS will become mandatory.

Do not email your MWRT Reports to the SCRT Support email id!

Until MWRT Reports are able to be submitted through LMS, you must email the MWRT Report file to the appropriate email id for your country.

The correct email ids for each country are listed on the SCRT Country web page:

<http://ibm.com/systems/z/swprice/subcap/scrt/country.html>

To determine the correct email id for MWRT Report submission:

1. Find the row for your country in the table on the SCRT Country page.
2. If there is an email id in the third column then use that email id for MWRT Report submission.
3. If the third column says "LMS not yet available" then use the email id in the fourth column for MWRT Report submission.

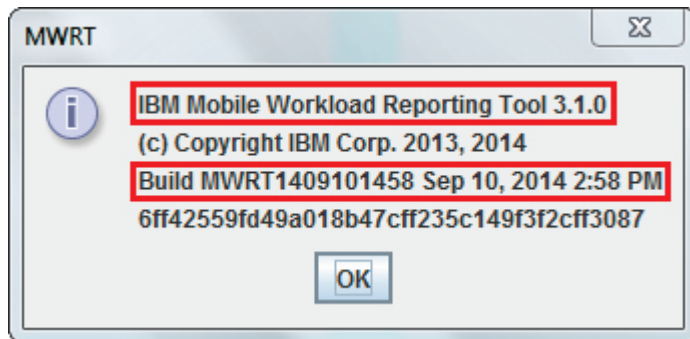
Support for MWRT

Submitting questions to IBM about MWRT

For help about running the MWRT program or help interpreting the MWRT Report, please contact the IBM SCRT Support Team via email. **Please be sure to include all of the following information in any correspondence with the SCRT Support Team:**

- An email Subject line containing “MWRT”
- Your name
- Your email address
- Your Company's name
- Your IBM Customer Number
- A thorough description of the problem or question
- The MWRT Report file (in CSV format)
- An explanation of the parameters you used when running MWRT
- The MWRT Version and Release, and Build identifier

The MWRT Version and Release and Build identifier will be displayed when you click the “About” button on the main MWRT panel. For example:



The email address for the SCRT Support Team is: scrt@us.ibm.com

The SCRT Support Team maintains business hours of 9:00am to 5:00pm US Eastern Time, Monday through Friday. We will normally respond to your question/problem within two business days, however, some complex issues may require more time to research.

MWRT Users Guide

The most current version of this MWRT Users Guide can be downloaded from the following URL: <https://ibm.biz/MWRTguide>

(This short URL will automatically expand to the following URL:

[http://www.ibm.com/common/ssi/cgi-](http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&appname=STGE_ZS_SW_USEN&htmlfid=ZSL03332USEN&attachment=ZSL03332USEN.PDF)

[bin/ssialias?subtype=WH&infotype=SA&appname=STGE_ZS_SW_USEN&htmlfid=ZSL03332USEN&attachment=ZSL03332USEN.PDF\)](http://www.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&appname=STGE_ZS_SW_USEN&htmlfid=ZSL03332USEN&attachment=ZSL03332USEN.PDF)

MWRT Deliverable

The most current version of the MWRT deliverable, can be downloaded from the following URL: <https://ibm.biz/MWRTdownload>

(This short URL will automatically expand to the following URL:

[https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-zsltd&S_PKG=mwrtool\)](https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-zsltd&S_PKG=mwrtool)

SCRT Users Guide

The most current version of the SCRT Users Guide can be downloaded from the following URL: <https://ibm.biz/SCRTguide>

(This short URL will automatically expand to the following URL:

[http://www.ibm.com/common/ssi/fcgi-](http://www.ibm.com/common/ssi/fcgi-bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03022USEN&attachment=ZSL03022USEN.PDF)

[bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03022USEN&attachment=ZSL03022USEN.PDF\)](http://www.ibm.com/common/ssi/fcgi-bin/ssialias?infotype=SA&subtype=WH&appname=STGE_ZS_ZS_USEN&htmlfid=ZSL03022USEN&attachment=ZSL03022USEN.PDF)

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