

Job Processor Deployment Guide

INTRODUCTION

The Radio Management (RM) Job Processor is responsible for taking the radio template data and the device specific data (ID's, Radio Alias, IP's, etc.) and combining them to create a device specific codeplug (analogous to CPS Clone). This process is repeated for each device that is being programmed.

An instance of a Job Processor is always installed on the same machine on which the RM Server is installed. However, there may be scenarios in which it may be desirable, or even necessary, to modify a Job Processor installation to support concurrent job processing or install another instance of a Job Processor on a separate machine which itself can also support concurrent job processing. This guide will provide the necessary information to perform the following tasks:

- How to determine the number of CPU cores available on the machine
- How to calculate the number of Job Processors necessary to achieve desired job throughput
- How to install a Job Processor on a machine different from the one hosting the RM Server
- How to configure a Job Processor to process multiple jobs concurrently
- How to configure a RM system to only use distributed Job Processors

CONSIDERATIONS

How many Job Processors do I need?

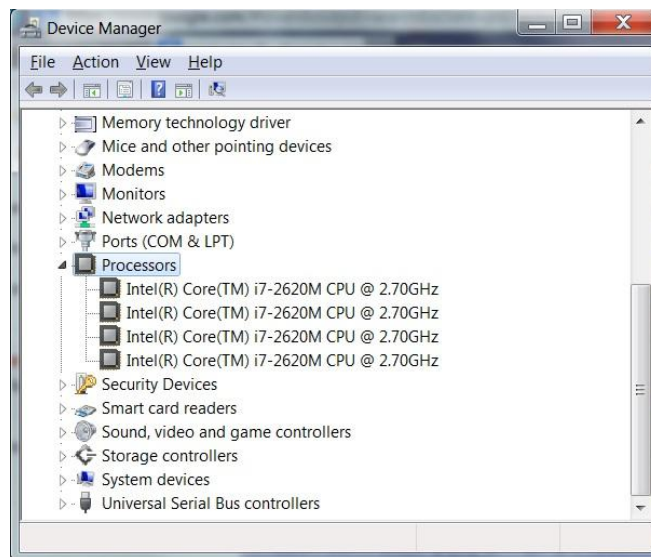
This is purely a function of the number of devices being programmed, the size/complexity of the template, and how long you are willing to wait for all the device specific codeplugs to be generated. For example, a large template that takes approximately 30 seconds to process is used by 1,000 radios. If there is a single Job Processor, it is going to take in the neighborhood of 500 minutes for that Job Processor to create the 1,000 device-specific codeplugs that are required to program the devices. The same job, using 10 Job Processors, would take about 50 minutes.

Do I need a computer for each Job Processor?

No. Radio Management supports multiple Job Processors running concurrently on the same machine provided the machine has sufficient hardware (processor and memory) to handle the load.

How do I determine the number of CPU cores on my machine?

1. Launch Device Manager.
2. Expand the **Processor** node and count the number of child nodes. This is the number of CPU cores available on the machine.



Example of machine with four CPU cores

How many Job Processors can execute on a single machine?

That is dependent upon the hardware specification of the machine and whether the machine is also being used simultaneously for other purposes (email, browsing, hosting other services, etc.). This is further conditioned based on the memory needs of each Job Processor (1 GB of available RAM per Job Processor for ASTRO, 200 MB of available RAM per Job Processor for PCR).

Table 1 presents the recommended number of concurrent Job Processors based on the number of available CPU cores and GBs of RAM on a machine which will be **dedicated** to host Job Processors.

CPU Cores	RAM (GB)			
	1	2	4	8
1	1	1	2	2
2	1	2	2	4
4	1	2	4	8
8	1	2	4	8

Table 1 - Recommended # of Concurrent Job Processors for a dedicated machine

Table 2 presents the recommended number of concurrent Job Processors based on the number of available CPU cores and GBs of RAM on a machine which will be **shared** among other tasks/duties in addition to hosting Job Processors.

CPU Cores	RAM (GB)			
	1	2	4	8
1	1	1	1	1
2	1	1	2	2
4	1	2	2	2
8	1	2	4	4

Table 2 - Recommended # of Concurrent Job Processors for a shared machine

INSTALLATION

Note: Administrator rights on the machine on which the install is to be performed is assumed.

There is no dedicated install option for installing a Job Processor during the installation of other components of the RM system. Therefore, the installation of a Job Processor must be done manually. To perform a manual installation:

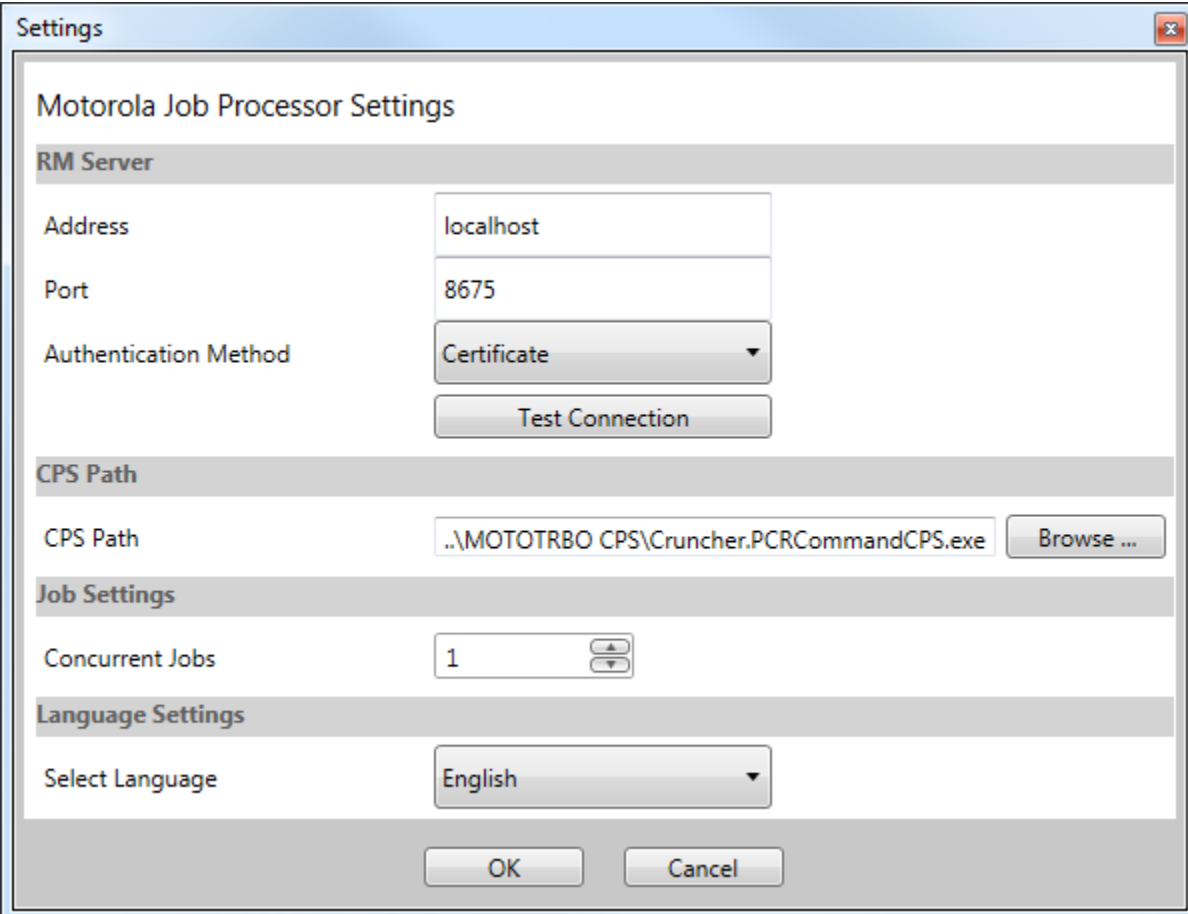
1. Open the installation media in Windows Explorer.
2. Navigate to folder **RMJobProcessor** and launch **Setup.exe**.
3. Follow the installer prompts.

CONFIGURATION

Once the Job Processor is installed, it will be necessary to configure in order for it to connect to the RM Server. Optionally, you may also specify the number of concurrent Job Processors to run on the machine, the display language of the RM Job Processor Config tool and the installation path to the CPS.

Basic Configuration

1. Launch the RM Job Processor Config tool. A shortcut can be found at **Start→All Programs→Motorola→RM Job Processor→RM Job Processor Config**. The Settings dialog will be displayed as follows:



The screenshot shows the 'Settings' dialog box for the Motorola Job Processor. The dialog has a title bar with 'Settings' and a close button. The main content area is titled 'Motorola Job Processor Settings' and is divided into four sections: 'RM Server', 'CPS Path', 'Job Settings', and 'Language Settings'. In the 'RM Server' section, there are text boxes for 'Address' (containing 'localhost') and 'Port' (containing '8675'), a dropdown for 'Authentication Method' (set to 'Certificate'), and a 'Test Connection' button. The 'CPS Path' section has a text box for 'CPS Path' (containing '..\MOTOTRBO CPS\Cruncher.PCRCommandCPS.exe') and a 'Browse ...' button. The 'Job Settings' section has a 'Concurrent Jobs' spinner box set to '1'. The 'Language Settings' section has a 'Select Language' dropdown set to 'English'. At the bottom are 'OK' and 'Cancel' buttons.

Motorola Job Processor Settings	
RM Server	
Address	localhost
Port	8675
Authentication Method	Certificate
Test Connection	
CPS Path	
CPS Path	..\MOTOTRBO CPS\Cruncher.PCRCommandCPS.exe
Browse ...	
Job Settings	
Concurrent Jobs	1
Language Settings	
Select Language	English
OK Cancel	

2. In the **Address** text box, type the IP address of the RM Server.
3. In the **Port** text box, type the IP port number of the RM Server.
4. In the **Authentication Method** dropdown, select the appropriate method.

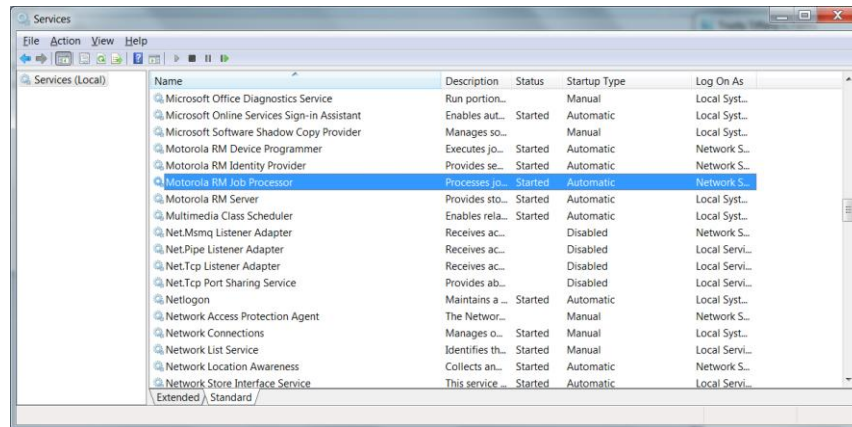
5. In the **Concurrent Jobs** spinner, select the number of concurrent jobs for this Job Processor instance.
 - a. For help on how to choose an appropriate value, see the answer to the question *How many Job Processors can execute on a single machine?* under the section titled *Considerations*.
6. [Optional] In the **Select Language** dropdown, select the display language for the RM Job Processor Config tool.
7. [Optional] Click the **Browse** button to navigate to the location of the CPS instance to use.
 - a. Changing the CPS Path is not advised unless a different CPS instance other than the one installed is needed.
8. Click the **Test Connection** button to test whether the Job Processor can connect to the RM Server. If the connection fails, ensure the following conditions are true:
 - a. IP address, IP port, and Authentication Method are correct
 - b. RM Server is running
 - c. Machine on which the Job Processor is running can reach the machine on which the RM Server via the network
 - d. Machine on which the Job Processor is running is authorized to connect to the RM Server
 - e. Job Processor version is compatible with RM Server version
9. Press OK to exit.

Advanced Configuration

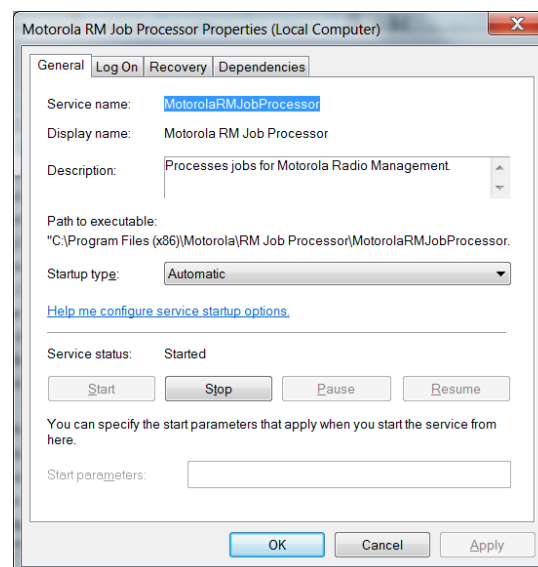
Under certain conditions, it may be advisable to configure an RM system to only use distributed Job Processors in order to allow the RM Server to handle a large number of simultaneous and/or frequent clients request more promptly and efficiently. For example, a RM system with many RM Clients and Device Programmers may experience better performance if the RM Server host is not also tasked to host an active Job Processor. In order to use only distributed Job Processors, the Job Processor instance that is also running on the RM Server must be disabled.

To disable the Job Processor instance running on the RM Server host:

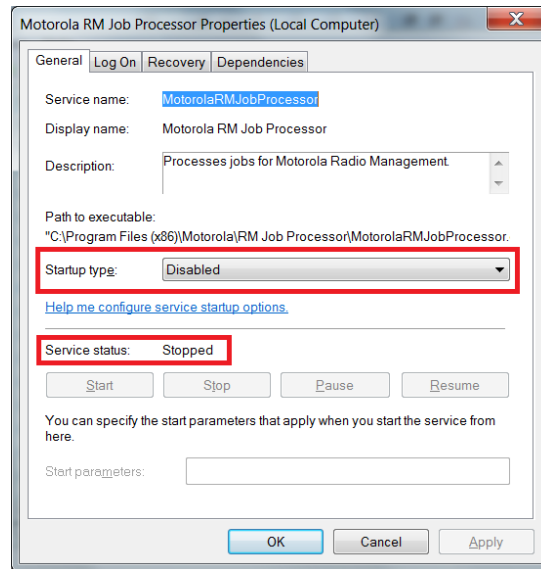
1. Launch the Windows Services applet, scroll down and select the entry named **Motorola RM Job Processor**.



2. Right click on the entry. Select **Properties** from the context menu. The **Properties** window will be displayed as shown below:



3. In the **General** tab, perform the following actions:
 - a. Click the **Stop** button to stop the service.
 - b. In the **Startup Type** dropdown, select **Disabled**.
4. Click the **Apply** button. The **Properties** window should look as follows:



5. Click **OK** button to close the **Properties** window.
6. Click the **File→Exit** menu item to close the Windows Services applet.