

MARExpress User Guide

Version 2.0

Revision History

Version	Date	Description
1.0	Initial Release	First draft
2.0	July 2026	Professional formatting, organization, and documentation improvements

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1. Introduction

MARExpress is a deployment utility designed to automate the application of Microsoft Digital Product Keys (DPKs) during Windows deployment while operating in Audit Mode.

The application performs several automated tasks including:

- Windows compatibility validation
- Windows edition detection
- DPK retrieval
- Firmware programming
- Computer Build Report (CBR) generation

- Automatic CBR upload to the MDOS Smart Client

The goal is to provide a repeatable, automated process while minimizing technician interaction.

2. Requirements

Before running MARExpress, verify the following requirements.

Required Files

The MARExpress download package contains:

- MAR folder
- Install_DPK.bat

Required Environment

- Windows installed and booted into Audit Mode
 - USB flash drive
 - Network connectivity to the MDOS Smart Client
 - Valid Business ID
 - MDOS Smart Client IP Address
-

3. Preparing the USB Drive

1. Download the MARExpress package from:

<https://blairtech.com/refurbisher>

1. Extract the downloaded archive.
2. Copy the following items to the root of the USB drive.

```
USB Drive
|
├─ Install_DPK.bat
└─ MAR
```

The USB drive is now ready for use.

4. Running MARExpress

1. Boot the computer into Windows Audit Mode.
2. Insert the prepared USB drive.
3. Open the USB drive.
4. Run **Install_DPK.bat**.

MARExpress will automatically begin the initialization process.

5. First-Time Configuration

The first time a new version of MARExpress is executed, the application prompts for two values:

- Business ID
- MDOS Smart Client IP Address

After these values are entered, they are stored for future use.

Configuration file:

```
\MAR\Configuration\deployment-configuration.json
```

This configuration only needs to be completed once for each version of MARExpress.

6. Windows 11 Compatibility Validation

Before requesting a Digital Product Key, MARExpress performs a Windows 11 compatibility assessment.

The following items are validated:

Validation	Description
Operating System Build	Confirms a supported Windows build
TPM	Verifies TPM is enabled
Secure Boot	Verifies Secure Boot is enabled

Validation	Description
CPU	Checks Intel processor compatibility
Memory	Confirms sufficient RAM
Storage	Confirms sufficient disk capacity

If any validation fails, MARExpress immediately stops processing and no license is applied.

Screenshot Placeholder – Compatibility Failure

7. Windows Edition Detection

After compatibility validation completes successfully, MARExpress detects the installed Windows edition.

Windows Home

If Windows Home is detected, MARExpress automatically begins the Digital Product Key application process.

Windows Pro

If Windows Pro is detected, the technician is presented with a selection menu.

Available options include:

- Windows 11 Pro License
- Citizenship License

After a selection is made, processing continues automatically.

8. License Application Process

Once a license type has been selected, MARExpress performs the following operations.

Step 1 – System Information

The application gathers computer information and verifies the installed PowerShell version.

Step 2 – MDOS Smart Client Connection

MARExpress attempts to establish communication with the MDOS Smart Client.

If communication is successful:

- An available Digital Product Key is requested.

If communication fails:

Unable to contact KPS

is displayed.

Step 3 – Digital Product Key Retrieval

If no DPK is available, MARExpress may generate a generic error.

Review the appropriate log directory for additional information.

Example:

```
MAR
└─ Pro11
   └─ Log
```

If a DPK is available, OA3Tool begins the activation process.

Step 4 – Firmware Programming

OA3Tool verifies that the MSDM table:

- Exists
- Is accessible
- Can be written

Successful MSDM Access

If the MSDM table is writable:

- The DPK is programmed into firmware.
- A Computer Build Report (CBR) is generated.

MSDM Access Failure

If the MSDM table cannot be accessed:

- The MAR method is used.

- The license is applied using SLMGR.
 - A Computer Build Report (CBR) is generated.
-

9. Report Upload

After the Computer Build Report has been created, MARExpress attempts to upload the report to the MDOS Smart Client using SFTP.

If the upload fails, MARExpress retries the connection up to three times.

Upload Failure

After three unsuccessful attempts, a red message is displayed indicating that the report upload failed.

Upload Success

If the upload succeeds, the console window changes to green and confirms that the report was successfully uploaded to the MDOS Smart Client.

10. Log Files

When troubleshooting, review the log files generated by MARExpress.

Example directory:

```
MAR
└─ Pro11
   └─ Log
```

The log files contain diagnostic information for:

- Communication failures
 - DPK retrieval failures
 - OA3Tool execution
 - Upload failures
 - General processing errors
-

11. Exit Codes

At completion, MARExpress sets the variable:

MAR_EXIT

Exit Code	Meaning
0	DPK applied successfully and CBR uploaded successfully
1	Processing completed with an error. Review the log files for additional information.

12. Completion

When processing completes successfully:

- The console window displays a successful completion message.
- The Windows edition selection window may be closed.
- The USB drive may be safely removed.
- The computer is ready for the next deployment step.

Troubleshooting

Symptom	Possible Cause	Recommended Action
Unable to contact KPS	Network connectivity	Verify the MDOS Smart Client IP address and network connectivity.
Generic DPK Error	No available DPK	Review the log files and verify available inventory in the MDOS Smart Client.
CBR Upload Failed	SFTP communication failure	Verify network connectivity and review the generated log files.
Compatibility Validation Failed	Unsupported hardware or configuration	Review the failed validation item and correct the system configuration before retrying.

Acronyms

Acronym	Description
DPK	Digital Product Key
CBR	Computer Build Report
OA3	OEM Activation 3.0
MSDM	Microsoft Digital Marker Table
MSC	MDOS Smart Client
SFTP	Secure File Transfer Protocol