# 1MAGE Tier-1 Tech Support Playbook

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#### 1MAGE Tier-1 Tech Support Playbook — Part 1: Purpose of this Document

# Part 1: Purpose of this Document

The purpose of this document is to provide a loose framework and quick reference guide—what we're calling a "Playbook"—that Support Agents can use to understand, troubleshoot, and hopefully resolve tech support issues relating to the 1MAGE DMS. This guide is intended for Tier-1 support, but the ideas discussed inside are both foundational to, and applicable for, all 1MAGE DMS support levels.

What this document is *not* is a comprehensive user or admin guide. Inside these pages, readers will find no code examples, network/system diagrams, technical requirements, or any other highly specific instruction. Instead, we will provide background information on some basic Tier-1 Support diagnostic tests, a description of some basic support utilities included on most installations, and an issue-by-issue description of how 1MAGE would like all Support Agents to respond to various types of tech support calls.

#### How to Use This Document

First, every Support Agent should read it one time through and have access to a copy of the most recent version of it while working for 1MAGE. Second, all Support Agents should have a solid understanding of the concepts, techniques, and programs described in <u>Part 2: Basic Tier-1 Support</u>. Finally, all Support Agents should refer to <u>Part 3: Tier-1 Support Playbook</u> whenever they are interacting with a 1MAGE DMS customer.

# Part 2: Basic Tier-1 Support

Providing support for 1MAGE Software can be intimidating due to the highly-customized nature of our clients' DMS implementations. Where other companies can rely on standardization for servicing their customers' systems, 1MAGE cannot. Regardless, all Support Agents should be familiar with the basics discussed in this section before taking 1MAGE Support calls.

#### Basic Questions for All Support Sessions

No matter where a call comes from, and no matter what level the call ultimate is escalated to, Support agents should always attempt to collect several items of information from the customer at the Tier-1 level:

- Name
- Contact Information
- Error Codes or Messages
  - Screenshots preferred!
- Description of what they were trying to accomplish
- Computer IP
- Computer Operating System
- Application Name & Version
- The relevant COMO log for the user session (Not a Question)

Collecting this information will help you or any Tier-2 Support Agent set this customer right as quickly as possible.

# 1MAGE Tier-1 Tech Support Playbook — Part 2: Basic Tier-1 Support Error Code List (abridged)

Below is a list of the error codes that Tier-1 Support Agents should be familiar with. Not all of these will be seen with frequency, and not all will be solvable at Tier-1, but understanding what is and isn't Tier-1 is important for quickly determining whether to escalate to Tier-2 or not.

Error #	Description	Page #
1	Cannot connect to server	<u>8</u>
2	Server not responding	<u>8</u>
3	Login incorrect	<u>10</u>
4	Environment variable \$PATH not set	<u>10</u>
6	recv() call failed	<u>8</u>
7	recv() call timed out	<u>8</u>
11	bind() call failed	<u>11</u>
14	Environment variable \$SERVER_ID not set	<u>10</u>
15	Environment variable \$IMAGEDBSH not set	<u>10</u>
16	Environment variable \$IMAGEHOME not set	<u>10</u>
17	Environment variable \$IMAGEHOST not set	<u>10</u>
18	Environment variable \$GW_CONNECT_TIMEOUT is invalid	<u>10</u>
26	gethostbyname() call failed	<u>8</u>
27	connect() call failed	<u>8</u>
28	send() call failed	<u>11</u>
111	Error executing cp command	<u>11</u>
130	Database error	<u>11</u>
137	No data returned	<u>11</u>
138	User does not have permission	<u>11</u>
140	Cannot open files	<u>12</u>
141	Cannot open image storage directory	<u>12</u>
142	Cannot read record from file	<u>12</u>
143	Cannot read record in 1MAGE.CATC	<u>12</u>
145	Cannot read record in 1MAGE.MASTER	<u>12</u>
146	Cannot read record in 1MAGE.NETPRT	<u>12</u>
148	Cannot read record in 1MAGE.WORKM	<u>12</u>
149	Cannot read record in 1MAGE.WORKD	<u>12</u>
150	Cannot read record in 1MAGE.XCTRL	<u>12</u>
152	Record already locked	<u>12</u>
157	Insufficient data to initiate search	<u>12</u>
158	Secure documents removed from returned list	<u>12</u>
160	Subroutine error detected; no action taken	<u>12</u>
168	Invalid combination of files	<u>12</u>
169	Image class or extension does not match	<u>12</u>
180	Output error	<u>13</u>
301	Cannot find license file	<u>9</u>
302	Invalid license syntax	<u>9</u>
304	Licensed number of users already reached	<u>9</u>
305	No such feature exists	<u>9</u>
309	Invalid host – In ISP	<u>9</u>
310	Feature has expired	<u>9</u>
1282	No application responded to a DDE initiate	<u>13</u>

There are quite a large number of other error codes not listed above or discussed further in this playbook. If a Tier-1 Support Agent is given one of these unfamiliar codes, please gather the default information and escalate to Tier-2.

## 1MAGE Tier-1 Tech Support Playbook — Part 2: Basic Tier-1 Support Billable Hours

Paying 1MAGE's annual maintenance fee entitles customers to our customer support. However, this customer support is intended to address errors, answer questions, and fix bugs in our code, if any appear. Customers do not understand this very well. Many believe that they are entitled not just to tech support, but to system administration as well. When customers make requests of 1MAGE that are not covered under our agreement, our policy is to provide them this additional support, provided the client agrees to a separate contract specifying that this system administration work is billable.

Tier-1 will never need to worry about this, since these contracts only apply to Tier-2 and above. However, it is important to understand the variety of requests that would NOT fall under normal tech support. This list includes, but is not limited to:

- Setting up new users on the 1MAGE system
- Giving users permissions to DocTypes or Queues
- Fixing connectivity issues (even between 1mage products)
- Deleting or recovering batches that were accidentally indexed or deleted, respectively
- Setting up a 1MAGE Server or VM
- Clearing disk space on an existing 1MAGE Server
- Moving a 1Scan Station to a new machine
- Upgrading to a new version of 1MAGE
- API integration questions and requests

#### IMAGEHOME

The 1MAGE DMS's can be installed anywhere the client would like. That flexibility is nice, but means that technicians will need to be able to locate the installation directory. For this, we have a special ENV variable called IMAGEHOME, which can always be quickly referenced to locate this important root directory.

#### Finding COMO Logs

When clients call in with errors, one of the first jobs for Tier-1 support is to locate their individual session log on the 1MAGE server. We call these files "COMO" logs, because they are stored in the "&COMO&" directory located under IMAGEHOME.

10.120.220.36~WIN32~UC1HQIMGE201601	2/3/2022 12:37 PM	36~WIN32~UC1H	3 KB
0.212.105.58_3819~1ACCESS~10.120.220.36	2/10/2022 10:34 AM	36 File	62 KB
10.212.105.61_3811~1ACCESS~10.120.220.36	2/9/2022 11:11 AM	36 File	36 KB

Above is a screenshot of 3 files located in &COMO& on 1MAGE's internal Windows 1MAGE Server. Look at the filename for each. The string that the system used to name them is what we refer to as the SERVER\_ID. SERVER\_IDs contain three bits of information separated by tildes (~). Let's look at one of our examples below:



#### 1MAGE Tier-1 Tech Support Playbook — Part 2: Basic Tier-1 Support

This SERVER\_ID can tell us a lot! If a customer calls in with a 194 error, for example, Tier-1 Support can find any specific user's COMO log on the server if they know:

- The IP address (or hostname) that the client was running on
- The approximate time that the error happened
- The application in which the error occurred

Using only these three pieces of information, once can quickly find the relevant COMO log.

#### Reading COMO Logs (Basic)

COMO logs can contain thousands of lines of information, and vary wildly from issue to issue. Because of this, Support Agents should only really focus on identifying where in the log an error occurs, and backtracking from there to see what the system was doing at the time. The image below illustrates a hypothetical 165 error:

447	10:34:34	09 FEE	2022:	REQUEST = <ului></ului>
448	10:34:34	09 FEE	2022:	IN1 = <scan-queue1></scan-queue1>
449	10:34:34	09 FEE	2022:	IN2 = <>
450	10:34:34	09 FEE	2022:	IN3 = <>
451	10:34:34	09 FEE	2022:	IN4 = <r></r>
452	10:34:34	09 FEE	2022:	REPLY = <165>

So a support agent might open up this COMO log, and run a search for the error they are looking for. In this case, we can see the error on line 452. We backtrack from here to see that the API where this error occurred is "ULUI", and the arguments passed to it were "SCAN-QUEUE1", null, null, and "R", resulting in the 165 that the user reported.

#### Feature Types

As discussed above in the Finding COMO Logs section, one of the pieces of information embedded in the SERVER\_ID is the Feature name. Features are different types of products or services that can be enabled or disabled with the 1MAGE DMS licensing system. As the example showed, "1Access" has its own feature type. Not all programs are this obvious, so please refer to the following chart to determine which programs use which features.

Feature Name	Related Programs
1Access	1Access 1
DTL	1Suite
WIN32/WTS	WinClient
V1A/JSP	V1A
ADMIN	1mageadmin

#### Diagnostic Programs

1MAGE ships many utility programs with its DMS. Many of these are useful for diagnostic purposes. The table below is provided for reference, and should give a good understanding of where each of these diagnostic programs is, and what they are used for.

Program Name	Description	Shell
check_1mage	Runs a series of 1MAGE diagnostic programs	Linux/CMD
GREPPHAN	List Phantoms Currently Running	Linux/UV
GREPSERV	List Servers Currently Running	Linux/UV
FIXTOOL	Examine or Fix a UV file	Linux/CMD
uvlictool	Generate UV license-seat usage report	Linux/CMD
tiffy	Analyzes a TIF file for debugging purposes	Linux/CMD

# 1MAGE Tier-1 Tech Support Playbook — Part 2: Basic Tier-1 Support SwiftServe Setup

SwiftServe is requires is installed on the 1MAGE server for proper functioning of the system. SwiftServe is installed during initial server setup. Whenever the server is migrated from one machine to another, SwiftServe will need to be re-licensed, which can be accomplished by reaching out to 1MAGE. A unique password (license string) is issued for each computer that SwiftServe is installed on. As this license string is used quite frequently, it is a good idea to keep this license string in a safe place for future reference.

#### Windows Installation

Before running any commands, please ensure that the *PERM* binaries are in place in C:\1MAGE\bin\. On Windows, these include svtiserv.exe and pwserv.exe. Care should be taken to back up the *DEMO* binaries in this folder for future use.

The following commands are used to install, service, and uninstall SwiftServe on Windows. When running any of these commands, always enter the fully qualified path to the program (e.g. C:\1MAGE\bin\sview.exe instead of sview.exe).

Intention	Command to Run
Install SwiftServe	[path]\svtiserv.exe -I[LICENSE STRING] -drC:\ -i
Check License status	[path]\svtiserv.exe -I[LICENSE STRING] -v
Check License (alt)	[path]\pwserv.exe -I[LICENSE STRING] -v
Uninstall SwiftServe	[path]\svtiserv.exe -e

Note 1: Above, the "-I" indicates a lowercase "-L"

*Note 2: All initial installations come with a demo SwiftServe license that will allow viewing of one-page documents only. The demo license string is* 0005kfigodfnfn8. Using it requires the DEMO binaries.

Following this, please ensure that

#### Linux Installation

Before running any commands, please ensure that the *PERM* binaries are in place in /1MAGE/1VIEW/. On Linux, these include sviserv3, pwserv, and svsrvd. Care should be taken to back up the *DEMO* binaries in this folder for future use.

Following this, SwiftServe is installed by modifying the /1MAGE/bin/rc.ss file. All that needs to be done here is the license string should be typed in the following location:



The file should then be saved and run manually using rc.ss.

#### Cygwin

The 1MAGE DMS is designed to run primarily on Systemd Linux/Unix systems like CentOS, Alma, or Rocky Linux. 1MAGE makes frequent OS-level calls that are formatted specifically for Linux, and uses . However, 1MAGE is able to offer support for Windows by making use of a 3<sup>rd</sup> party software package called Cygwin. What Cygwin does is it enables a Windows system to interpret and run Linux-style commands like "cd", "cp", "chmod", and so forth.

#### 1MAGE Tier-1 Tech Support Playbook — Part 2: Basic Tier-1 Support Cygwin vs Cygserver

Normal Cygwin Setup is covered in the Windows Installation manual and will not be repeated here. However, it is important to note that 1MAGE has encountered system in the past where Cygwin, once installed, will take a very long time (≈30 seconds) to launch, and a similarly long time to execute single commands. As 1MAGE is fully reliant on efficient command interpretation and execution, this will fully prevent our system from running.

In such cases, we have provided an optional step in Cygwin's installation instructions that provide the steps necessary to install Cygwin as a server, which eliminates all delays in either launching Cygwin or in its execution.

# 1MAGE Administration

#### 1mageadmin

1MAGE will almost always come with a GUI Admin tool that is available through a web portal accessible to any computer connected to the same local network as the 1MAGE server. This GUI tool is called 1mageadmin, and runs on a Tomcat web server on the 1MAGE server. Please contact 1MAGE if you are having issues accessing 1mageadmin.

### Backend Administration

1MAGE also ships with a large number of backend utilities that allow 1MAGE administrators to set up and modify the way their DMS works from the UniVerse TCL prompt. A list of these applications and their function is below. Each can be launched directly from the TCL prompt:

All of these operations can also be performed from the front-end 1mageadmin program, but since this method requires a lot of other subsystems to be running, often the easiest/simplest way to make changes to a system is through these "greenscreen" programs.

For information on using the GUI 1mageadmin program, please see the guide available at <u>https://www.1mage.com/documents</u>.

Command	Description
IM100	Index Key Code Codes
IM103	Image Category Codes
IM105	Image Type Codes
IM110	Index Entry
IM115	Image Inquiry
IM130.GUM	Edit User or Group Security Policies for Image Types, Queues, and Tags
IM160	Image Queues
IM163	Image 1Scan Server Maintenance

# 1MAGE Tier-1 Tech Support Playbook — Part 3: Tier-1 Support Playbook

# Part 3: Tier-1 Support Playbook

# **Connectivity** Issues

An application is unable to connect to and/or communicate with the 1MAGE DMS for whatever reason. See flowchart below for remediation.



#### Licensing Issues

Licensing errors are represented by error codes 3XX. Most of the time these errors will only be resolved by 1MAGE generating a new license file for the client. Regardless, below is a flowchart to provide some background information on a few common issues.



# 1MAGE Tier-1 Tech Support Playbook — Part 3: Tier-1 Support Playbook

#### Environment Variable Issues

ENV variable issues are very rare, since a significant portion of the initial 1MAGE setup process is dedicated to configuring them correctly. If any of these error codes comes up while servicing 1MAGE customers, please check the status of whichever ENV variable is throwing the error on the system, and correct it according to the table below:

ENV Variable Name	Value
\$PATH	Escalate to Tier-2 if unset
\$SERVER_ID	Escalate to Tier-2 if unset
\$IMAGEDBSH	Path to the UniVerse shell executable
\$IMAGEHOME	Path to the 1MAGE installation directory
\$IMAGEHOST	Hostname of the image server
\$GW_CONNECT_TIMEOUT	Escalate to Tier-2 if unset

#### Java Issues

Java must be installed on client systems for various 1MAGE programs to function correctly. If Java is not installed, or if it has recently been updated, then it is likely that users will encounter errors associated with this. These issues can be remedied by opening up the Java configuration tool, navigating to the "Java" tab, and correcting the path to javaw.exe.

### Jakarta/Tomcat Issues

In order for customer to be able to use V1A and the GUI 1mageadmin tool, Apache Tomcat (Jakarta) needs to be set up and running on the 1MAGE server. This should all have been done already by 1MAGE during setup. If users report issues with connecting to either service, please check if Jakarta is running and start or restart if necessary. On Windows, if Java has been updated recently, please check the Apache Tomcat configuration to ensure that it can find jvm.dll. Otherwise escalate to Tier-2.

#### Phantom Issues

Phantoms are (roughly) the UniVerse equivalent of Daemons: processes that run in the background to accomplish some given task. Many of our customer systems rely on an array of Phantoms to process files scanned-to or dropped-into a specific folder(s) on the server.

On linux systems these phantoms are managed within the 1MAGE system itself. Linux/Unix phantoms rarely require much maintenance. Windows systems, however, do not give us the same access or reliability that Linux/Unix provides. Instead, we rely on the Task Scheduler system to run an Executable that will run the rest of the Phantom within the UniVerse environment. Occasionally, these Windows scheduled tasks get "stuck" and will need to be restarted. Please check on these first before escalating to Tier-2.

#### Error 3 — Login Incorrect

An Error #3 simply means that the entered password is not valid for the entered username. 1MAGE does not keep records of user passwords or offer password retrieval/reset services. That is a job for the client organization's 1MAGE administrator.

#### Error 6 — Recv() Call Timeout

This error is discussed briefly in the diagram on page 8. If increasing 1Access's timeout value doesn't work, then check if opening a single page TIF works. If so, check if the server's IP has recently changed. If it has, then this customer probably needs a new SwiftServe license.

# 1MAGE Tier-1 Tech Support Playbook — Part 3: Tier-1 Support Playbook Error 11 — Bind() Call Failed

An Error #11 is usually caused by a corrupted SERVER.PORTS record inside of the 1MAGE.CTRL file. Our recommendation here is to wipe out the entire SERVER.PORTS record and re-create it from scratch as follows:

0001: 10000 0002: 36767 0003: 36767

Regarding the above, please check with the System or Network administrator to ask if they have custom specific port ranges for security reasons.

One other cause for this error is when ISD has been killed manually, but the port ISD uses has not been cleared, so the system thinks it is unavailable. In this case, the port will need to be cleared manually before ISD will be able to start successfully.

# Error 28 — Send() Call Failed

An Error #28 is sometimes seen when something is sent to WinClient, but WinClient isn't running. Naturally, the first remediation step is to check if WinClient is running on the client machine. If so, then please check if a recent Windows update has put a firewall in place. If not, then please examine the WinClient log in the Windows System Tray during a re-test, and escalate to Tier-2 if necessary.

# Error 111 — Error Executing 'cp' Command

An Error #111 simply means that a system command was unable to operate on some file on the Server. Find the correct COMO Log to get a record of which file the system is looking for. Does the file still exist? Is the file's permissions configured for "777" and owned by "root"? If not please update this information and re-test.

# Error 130 — Database Error

An Error #130 generally indicates corrupted files or records within the UniVerse system. First step is to locate the relevant COMO Log and find the section within where the 130 is thrown. Second step is to identify the particular UniVerse file or record associated with triggering this error. Third step is to Run FIXTOOL -FILE [FILENAME] to diagnose the extent of the issue, and then finally run FIXTOOL -FIX [FILENAME] to repair.

If these steps do not resolve the issue, escalate to Tier-2.

# Error 137 — No Data Returned

We sometimes get calls alerting from customers who get this message, with the customer claiming that an error occurred. In reality, this just means that the inquiry that the customer ran as expected, but no hits were found in the database. The question to the customer, therefore, should seek to discover why they expected this inquiry to return results in the first place.

If they are searching for an item recently scanned into an auto-indexing folder the document may simply still be waiting to be processed still.

# Error 138 — User Does Not Have Permission

An Error #138 usually indicates that a 1MAGE Administrator needs to provide this particular user with access to the correct batches/queues.

## **1MAGE Tier-1 Tech Support Playbook** — Part 3: Tier-1 Support Playbook Errors 140-150 — Cannot Open [X] || Cannot Read [X]

Most often encountered when some UV file or another is suddenly missing. Gather info about recent system changes and ask about any data-restorations that may have occurred. Escalate as needed.

# Error 152 — Record Already Locked

Sometimes occurs when a user is indexing manually and the system crashes. This file lock will need to be cleared manually. Note which file is locked. Log to the UV prompt. First enter the "LIST.READU" command, which will list out all the active account locks. Then locate the locked file in this list, and note the User number associated. Finally, enter the command "UNLOCK [USER\_NUMBER] ALL". This will unlock all locked files for this user at the UniVerse level. USER\_NUMBER may be omitted in the command above, but if so, please ensure no other users are currently using the 1MAGE system.

(Also, this error may resolve itself before an agent gets the chance to do so)

# Error 157 — Insufficient Data to Initiate Search

An Error #157 indicates that a user initiated a search that contained a complex key, but that user did not provide all of the required simplex keys (which are subordinate to the complex key) for the search to be run successfully. If the user requires further specific information about what they have done wrong, the 157 error can be found in the COMO log for this session, where it will be able to better illustrate any specific issues with the query.

# Error 158 — Secure Documents Removed from Returned List

An Error #158 is more of a warning than an "error," and is likely the system working as intended. Here's a hypothetical to illustrate: Suppose a user, who has been given access to all HR documents in the IT department, runs an inquiry on ALL DOCUMENTS from March 1st. The API that generates the initial SELECTLIST will contain documents that this user shouldn't have access to. Well, this 158 error is simply informing the user that the API has removed documents from the FINAL list based on his lack of security access rights.

This can be remedied by the organization's 1MAGE Administrator.

# Error 160 — Subroutine Error Detected; No Action Taken

WinClient itself may be returning this error.

If a user attempts to open an "O"ther type document, then WinClient is going to take that document and copy it into its own temporary cache area. The 160 Error gets thrown if WinClient is unable to write to this area on disk. First step is to update the permissions of this cache area on the client workstation so that anyone can read/write.

NOTE: WinClient's temporary cache area location depends on what version of Windows is running. On modern systems it can usually be found at AppData/local/1MAGE Software/WinClient/Cache. System Administrators will need to be able to find this location on their own.

# Error 168 & 169 — Invalid Combination of Files || Image Class or Extension Mismatch

The 1MAGE DMS stores images as proprietary objects that allow us to represent multi-page images using multiple references to different image files at different locations on the server. This system works very well, but is not without its limits. One common limit is that this system does not allow images of different "type" to be combined this way. The three most common types are laid out below:

Image Type	Description
"I"mage	The file is an image type file: JPG, BMP, TIF, PNG, etc.
"C"OLD	Documents are ASCII data

Looking at the chart above, please understand that combining two or more images into a single multipage image will only work if both source images are of type "I". If a user attempts to combine any other combination of image types, an error 168 or 169 will be thrown and the operation will fail.

## Error 180 — Output Error

SwiftConvert was called without a SwiftConvert license available. This is a licensing issue related to SwiftView, not 1MAGE. However, Tier-1 should still gather the required information for our contact to update this license. In addition to the standard information, please be sure to get the 1MAGE Server IP and Hostname before escalating.

### Error 1282 — No Application Responded to a DDE Initiate

An Error #1282 is usually more of a warning than an error. This error indicates that a user has manually closed a window before a program could close that same window gracefully. Therefore, aside from startling the user into calling tech support, there isn't much to do.