

# MAG\*3.0\*147 Pixel Representation Fix Patch Description

VistA Imaging July 2014

Department of Veterans Affairs Office of Enterprise Development Health Provider Systems

# MAG\*3.0\*147 Patch Description July 2014

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Rev	Date	Notes	Author
	12/5/2013	Initial draft	Doug Clayton
1 1	6/5/2014	Update in preparation	Maryann Shovestul
1.1	0/3/2014	for release	
		Updates from review	Stacey Marner
1.2	7/14/14	meeting with Jeannie	
		Jernigan.	
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		Jeannie and Peter.	Kuzmak

#### **Revision Table**

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# Patch 147 Overview

This patch will avoid errors in Image Processing caused by some encapsulated PDFs that do not follow the DICOM standard and improperly include the Pixel Padding Value (0028,0120) data element. This results in an "<UNDEFINED>" error and interrupts the processing of the DICOM encapsulated PDFs. The patch allows for the processing of these objects.

**NOTE:** All sites running VistA Imaging 3.0 that have implemented DICOM Gateways must install the updated DICOM Gateway software on all DICOM Gateway systems.

#### **Distribution of Software**

To obtain MAG\*3.0\*147 files, use the File Transfer Protocol (FTP) to retrieve MAG3\_0P147.RTN from one of the following OI Field Offices' ANONYMOUS.SOFTWARE directories:

FTP Address	Directory
ftp.fo-albany.med.va.gov	anonymous.software
ftp.fo-hines.med.va.gov	anonymous.software
ftp.fo-slc.med.va.gov	anonymous.software
	FTP Address  ftp.fo-albany.med.va.gov ftp.fo-hines.med.va.gov ftp.fo-slc.med.va.gov

#### Patch Contents

This patch includes the following files.

#### Software

MAG3\_0P147.RTN – Routine set to be installed on the DICOM Gateway.

MAG3\_0P147.KID – KIDS (Kernel Installation and Distribution System) package to be installed on the VistA hospital database.

#### Documentation

MAG3\_0P147\_Patch\_Description.pdf – The release build of this patch can be downloaded from the FTP folder. Installation instructions are included in this document.

#### **Associated Patches**

Before MAG\*3.0\*147 can be installed, the following considerations need to be made:

- This patch **must be installed on a MAG\*3.0\*53 or later** legacy DICOM Gateway.
- This patch **MAY NOT be installed on a MAG\*3.0\*138** test DICOM Gateway.

#### **Test Sites**

The following sites are test sites for this patch:

- Hines. IL Medical Center
- Southern Arizona HCS Tucson, AZ

### **Remedy Calls**

The following Remedy help desk calls are addressed in this patch:

Ticket # 962507	- Site unable to import non-DICOM standard encapsulated PDF; 2-3 window errors out with encapsulated PDF.
Ticket #	- DICOM Gateway is getting an error when importing non-
968973	DICOM standard encapsulated PDF.

### NSRs

There are no National Service Requests (NSRs) addressed in this patch.

# Patch 147 Changes

The MAG\*3.0\*147 patch will enable the sites to process DICOM encapsulated PDFs that do not conform to the DICOM standard and include the Pixel Padding Value (0028,0120) data element.

#### Security Keys

There are no new or modified security keys in this patch.

#### **Remote Procedure Calls**

There are no new or modified Remote Procedure Calls in this patch

#### **Menu Options**

There are no new menu options in this patch.

#### **Data Dictionaries**

There are no new or modified menu options in this patch.

#### Routines

#### **VistA Routines**

This section lists new and modified Imaging routines for the VistA system. For each routine, the second line will contain the following information.

;;3.0;IMAGING;\*\*147\*\*;Mar 19, 2002;Build 3

Please note that the "before" checksum may differ if any test software has been installed. Checksum values are calculated using the kernel utility program, CHECK1^XTSUMBLD.

Routine Name	Checksum Before	Checksum After	Patch List
MAGIP147	N/A	4110425	**147**

Routine MAGIPS147 is an installation routine that is automatically deleted after the KIDS installation.

#### **DICOM Gateway Routines**

This section lists new and modified Imaging routines for the DICOM Gateway system. Please note that the before checksum may differ if any test software has been installed. Checksum values are calculated using the kernel utility program CHECK1^XTSUMBLD.

Routine Name	Checksum Before	Checksum After	Patch List
MAGDDW2	52530205	52939671	**10, 30, 51, 54, 53, 147**
MAGDDR2	32387608	32693504	**10, 11, 30, 54, 147**
MAGDVRSN	21494340	24194340	**1, 7, 9, 26, 21, 10, 36, 3, 11, 30, 5, 51, 50, 52, 69, 75, 102, 103, 54, 53, 66, 49, 99, 123, 118, 147**

# Installation

### **Installation Planning**

When planning the installation of MAG\*3.0\*147, consider the following factors:

- This patch is to be installed on the DICOM Gateways and VistA. Installing the routines on this system will take less than five minutes.
- Users should not use the DICOM Gateways during installation. All gateway operations should be suspended at this time.

Review all installation instructions in this document before beginning the installation process.

### Installation Prerequisites

**NOTE**: All released VistA Imaging patches must be installed on the VistA system before installing MAG\*3.0\*147.

Users can download the patch installation files from the OI Field Offices' Anonymous Software directories. All instructions in this section assume that the distribution files for this patch have been copied to a local storage location. For the list of distribution files for this patch, see page 1.

### **KIDS Installation**

#### KIDS Package Installation Steps

The KIDS installation will take less than one minute.

**1** Important: Before installing the KIDS, perform the following steps for each DICOM Gateway:

- a. Stop each process (use CTRL+C if needed) in each active process/telnet window. (Note that clicking only closes the window; it does not stop the process).
- b. Navigate to the main DICOM Gateway menu and enter "5" (Quit).
- c. Ensure that Caché is running. (When Caché is running, the Caché cube in the Windows taskbar is blue, not grey.)

**2** On the VistA system, access the Kernel Installation and Distribution System Menu [XPD MAIN].

**3** Run the **Installation** option [XPD INSTALLATION MENU].

- **4** Load the KIDS file by performing the following step:
  - a. Run the Load a Distribution option [XPD LOAD DISTRIBUTION] to load the KIDS distribution.
  - b. When prompted, enter the path and file name (MAG3\_0P147.KID) of the Patch 147 KIDS file.
  - c. When prompted to continue with the load, enter YES. A Distribution OK! message will be displayed when the load is complete.

**5** After loading the KIDS file, use the following options to verify the contents of the patch and to back up any affected routines.

- a. Verify Checksums in Transport Global [XPD PRINT CHECKSUM] Run this option to ensure the integrity of the routines in the patch.
- b. Compare Transport Global to Current System [XPD COMPARE TO SYSTEM] Run this option to view all changes that will be made when the patch is installed. All components (routines, options, and so on) in the patch will be compared.
- c. Backup a Transport Global [XPD BACKUP] Run this option to create a backup message of any routines exported with the patch. It will NOT back up any of the other changes.

**6** After performing the load and any optional verification steps, install the KIDS file by performing the following steps:

- a. Run the Install Package(s) [XPD INSTALL BUILD] option.
- b. When prompted for the install name, enter MAG\*3.0\*147.
- **c**. Answer NO to the following prompts:

Want KIDS to Rebuild Menu Trees Upon Completion of Install? NO// Want KIDS to INHIBIT LOGONS during the install? NO// Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO//

- 7 When installation is finished, an Install Complete message will be displayed.
- **8** Restart the DICOM Gateways and associated processes.

#### **KIDS Installation Example**

The sample below illustrates the installation of MAG\*3.0\*147.

Select Installation Option: 6 Install Package(s)

Select INSTALL NAME: MAG\*3.0\*147 5/1/14@20:03:24 => MAG3 0P147 ;Created on Feb 11, 2014@05:43:11 This Distribution was loaded on May 01, 2014@20:03:24 with header of VistA Imaging V3.0- Patch 147 ;Created on Feb 11, 2014@05:43:11 It consisted of the following Install(s): MAG\*3.0\*147 Checking Install for Package MAG\*3.0\*147 Install Questions for MAG\*3.0\*147 Want KIDS to INHIBIT LOGONs during the install? NO// Want to DISABLE Scheduled Options, Menu Options, and Protocols? NO// Enter the Device you want to print the Install messages. You can queue the install by enter a 'Q' at the device prompt. Enter a '^' to abort the install. DEVICE: HOME// HERE Install Started for MAG\*3.0\*147 : May 01, 2014@20:03:47 Build Distribution Date: Feb 11, 2014 Installing Routines:... May 01, 2014@20:03:47 Running Post-Install Routine: POS^MAGIP147. Post Install Mail Message: May 01, 2014@20:03:47 Updating Routine file..... Updating KIDS files..... MAG\*3.0\*147 Installed. May 01, 2014@20:03:47

## **DICOM Gateway Routine Installation**

#### **Routine Installation**

Users should not use the DICOM Gateways during installation. Installation will take less than five minutes on each DICOM Gateway.

- **1** The MAG3\_0P147.RTN files must be transferred to the DICOM Gateways. Create a C:\MAGPATCHES\P147\M\ directory on the DICOM Gateway and place the MAG3\_0p147.RTN file in the directory.
- **2** After the routine file is placed on the DICOM Gateway, the user should open the Caché Studio from the Caché cube located on the taskbar.
- **3** From the Caché Studio window, the user should open the File menu located on the Studio toolbar and select the **Change Namespace** option. The user should verify that the DICOM namespace is highlighted. If not, the user should select the DICOM namespace and click OK.

🕂 Studio - LOCALTCP/DICOM-Default	t_system	. 🗆 ×
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教誓科問も対す	Connection Manager	
Workspace	Select a server and namespace from the list and enter your username and password.	×
E . CALTCP:DICOM	Server Connection:	
	Delete	
	Namespace:	
	%CACHELIB 2SYS	
	DICOM	
	SAMPLES	
Afindows Namespace /	system	
	Password:	
E	Cancel	
a.t.		-
Result Find In Files	] न	$\mathbf{F}_{\mathbf{a}}$
Ready		/

**4** Prior to installation, the user should backup up the original routine files (MAGDDR2.INT, MAGDDW2.INT, MAGDVRSN.INT) with the following steps:

Installa	ation
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A Studio - LOCALTCP/DICOM-Defaultsystem	
Eile Edit View Project Build Debug Tools Utilities Help	
D,   2, II () () () () () () () () () () () () ()	
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Workspace 📃 💌	Inspector 🔺 🗙
E- B LOCALTCP:DICOM	
E Routines	
↓ Mindows Namespace /	
	<u> </u>
×	
5	
Result Find In Files	
Ready	

a. From the Caché Studio window, the user should open the Tools menu located on the Studio tool bar and select the Export option on the menu.



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b. First, select routine **MAGDDR2.INT** in the default Export in the XML format setting. (Make sure the location is set to Export to LOCAL file.) Enter the destination folder "C:\MAGPATCHES\P147\M\" and change to the filename to MAG3\_0P147BACK.XML.

Export LOCALTCP:DICOM			×
<ul> <li>Export in XML format</li> <li>Export in CDL Format (Class Definitions Only)</li> <li>Export current Project (XML only)</li> </ul>			
Name Type		Add	
		<u>R</u> emove	
		Remove All	
C Export to Remote File			
	Browse		
<ul> <li>Export to Local File</li> </ul>	_		
C:\MAGPATCHES\P147\M\MAG3_0P147BACK.XML	<u>B</u> rowse		
	ОК	Cancel	

c. Select Add and select the MAGDDR2.INT routine.

🗖 Open				×
Look jn:	DICOM	• <b>E</b> 💣		1 (Kaje
DICRW.INT DILINT MAG7UP.INT MAGBRTA4.IN MAGBRTA5.IN MAGBRTA6.IN MAGBRTB1.IN MAGBRTB2.IN MAGBRTB3.IN MAGBRTB3.IN MAGBRTB4.IN	MAGBRTLR.INT     MAGBRTP1.INT     MAGDACP1.INT     MAGDACP2.INT     MAGDACP3.INT     MAGDACP3.INT     MAGDACR1.INT     MAGDACR3.INT     MAGDACR3.INT     MAGDACU.INT     MAGDACU.INT     MAGDACU1.INT	<ul> <li>MAGDACU2.INT</li> <li>MAGDACU3.INT</li> <li>MAGDACW3.INT</li> <li>MAGDACW1.INT</li> <li>MAGDACW2.INT</li> <li>MAGDAIR0.INT</li> <li>MAGDAIR1.INT</li> <li>MAGDAIR1.INT</li> <li>MAGDAIR3.INT</li> <li>MAGDAIR3.INT</li> <li>MAGDAIR4.INT</li> <li>MAGDAIR5.INT</li> <li>MAGDAIR6.INT</li> </ul>	MAGDAIRA.INT MAGDAIRC.INT MAGDAIRD.INT MAGDAIRL.INT MAGDAIRM.INT MAGDAIRP.INT MAGDAIRR.INT MAGDAIRS.INT MAGDAIRU.INT MAGDAIRW.INT MAGDAIRW.INT	H MAG H MAG MAG H MAG H MAG H MAG H MAG H MAG H MAG H MAG
•				F
File <u>n</u> ame:	MAGDDR2.INT		<b>•</b> (	)pen
Files of type:	Intermediate Routine (*.int	)	<b>-</b>	
🔲 Open as read-or	nly 🔲 Add to Project	🔲 Include System	Items C	ancel

d. Press "Open."

Export LOCALTCP:DICOM				×
<ul> <li>Export in XML format</li> <li>Export in CDL Format (Class Definitions Only)</li> <li>Export current Project (XML only)</li> </ul>				
Name	Туре		<u></u>	
MAGDDR2.INT	Caché Routir	nes		
			<u>R</u> emove	
			Remove All	
C Export to Remote File				
		<u>B</u> rowse		
Export to Local File				
C:\MAGPATCHES\P147\M\MAG3_0P147BACK.XML		<u>B</u> rowse		
		OK	Conset	

e. Then, select Add and select the **MAGDDW2.INT** routine.

Open				×
Look in:	ысом	- 🖻 🖻		Tedy
DICRW.INT DILINT MAG7UP.INT MAGBRTA4.INT MAGBRTA5.INT MAGBRTA6.INT MAGBRTB1.INT MAGBRTB2.INT MAGBRTB3.INT MAGBRTB4.INT MAGBRTB4.INT	MAGBRTLR.INT MAGBRTP1.INT MAGDACP1.INT MAGDACP2.INT MAGDACP3.INT MAGDACR1.INT MAGDACR1.INT MAGDACR3.INT MAGDACCU.INT MAGDACU0.INT MAGDACU1.INT	<ul> <li>MAGDACU2.INT</li> <li>MAGDACU3.INT</li> <li>MAGDACW1.INT</li> <li>MAGDACW2.INT</li> <li>MAGDAIR0.INT</li> <li>MAGDAIR1.INT</li> <li>MAGDAIR1.INT</li> <li>MAGDAIR3.INT</li> <li>MAGDAIR3.INT</li> <li>MAGDAIR4.INT</li> <li>MAGDAIR5.INT</li> <li>MAGDAIR6.INT</li> </ul>	<ul> <li>MAGDAIRA.INT</li> <li>MAGDAIRC.INT</li> <li>MAGDAIRD.INT</li> <li>MAGDAIRL.INT</li> <li>MAGDAIRM.INT</li> <li>MAGDAIRP.INT</li> <li>MAGDAIRR.INT</li> <li>MAGDAIRS.INT</li> <li>MAGDAIRS.INT</li> <li>MAGDAIRW.INT</li> <li>MAGDAIRW.INT</li> <li>MAGDAIRW.INT</li> </ul>	MAG MAG MAG MAG MAG MAG MAG MAG MAG MAG
•				►
File <u>n</u> ame:	MAGDDW2.INT			pen
Files of type:	Intermediate Routine (*.int	)	-	
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f. Press "Open."

Export LOCALTCP:DICOM				×
<ul> <li>Export in XML format</li> <li>Export in CDL Format (Class Definitions Only)</li> <li>Export current Project (XML only)</li> </ul>				
Name	Туре		<u>A</u> dd	
MAGDDR2.INT	Caché Routir	nes		
MAGDDW2.INT	Caché Routir	nes	<u>R</u> emove	
			Remove All	
C Export to Remote File			-1	
		Browse		
Export to Local File				
C:\MAGPATCHES\P147\M\MAG3_0P147BAC	K.XML	<u>B</u> rowse		
		OK	Cancel	

g. Then, select Add and select the **MAGDVRSN.INT** routine.

Open				×
Look jn:	DICOM			(Kaje
IDICRW.INT   IDILINT   IDILINT   IDIAGBRTA4.IN   IDIAGBRTA5.IN   IDIAGBRTA6.IN   IDIAGBRTB1.IN   IDIAGBRTB2.IN   IDIAGBRTB3.IN   IDIAGBRTB4.IN   IDIAGBRTB4.IN   IDIAGBRTB4.IN	MAGBRTLR.INT MAGBRTP1.INT MAGDACP1.INT MAGDACP2.INT MAGDACP3.INT MAGDACP3.INT MAGDACR3.INT MAGDACR3.INT MAGDACCU.INT MAGDACU0.INT MAGDACU0.INT	MAGDACU2.INT MAGDACU3.INT MAGDACW1.INT MAGDACW2.INT MAGDAIR0.INT MAGDAIR1.INT MAGDAIR2.INT MAGDAIR3.INT MAGDAIR3.INT MAGDAIR5.INT MAGDAIR6.INT	MAGDAIRA.INT     MAGDAIRC.INT     MAGDAIRD.INT     MAGDAIRD.INT     MAGDAIRM.INT     MAGDAIRP.INT     MAGDAIRP.INT     MAGDAIRS.INT     MAGDAIRS.INT     MAGDAIRV.INT     MAGDAIRW.INT     MAGDAIRW.INT	MAG MAG MAG MAG MAG MAG MAG MAG MAG MAG
•				►
File <u>n</u> ame:	MAGDVRSN.INT			pen
Files of type:	Intermediate Routine (*.int	)	-	
🔲 Open as read-o	nly 🔲 Add to Project	🔲 Include System	Items Ca	ncel

h. Press Open.

Export LOCALTCP:DICOM				×
<ul> <li>Export in XML format</li> <li>Export in CDL Format (Class Definitions Only)</li> <li>Export current Project (XML only)</li> </ul>				
Name	Туре		Add	
I MAGDDR2.INT	Caché Routir	nes		
₩ MAGDDW2.INT	Caché Routir	nes	Remove	
INT MAGDVRSN.INT	Caché Routir	nes		
			Remove All	
C Export to Remote File				
		Browse		
<ul> <li>Export to Local File</li> </ul>				
C:\MAGPATCHES\P147\M\MAG3_0P147BAC	K.XML	<u>B</u> rowse		
		OK	Cancel	

i. Press OK to create the XML routine backup.



**5** Next, to install the new MAG3.0P147 routine from the Caché Studio window, the user should open the Tools menu located on the Studio toolbar and select the **Import Local** option on the menu.

📩 Studio - LOCALTCP/DICOM-Default_	_system	
File Edit View Project Build Debug   D D D D D D   Vorkspace Image: Second Secon	Iools       Utilities       Help         Class       Browser       Ctrl+W         Activate       Wizard         Source       Control       Importer         Templates       Import Remote       Import Local         Qptions       Options	
Result Find In Files		۸ ۲ ۲
leady		

**6** The user should navigate to and then select the MAG3\_0P147.RTN file located on the DICOM Gateway at C:\MAGPATCHES\P147\M, and then press the Open button.

Open	? 🔀
Look jn: 🗀 M 💌 🗲 🖪	-11 📩
MAG3_0P147.RTN	
File name:	, Open
Files of type: Routine files (*.rtn;*.mac;*.int;*.inc;*.rsa)	Cancel

7 Make sure that the Compile Import Items option is checked and press the OK button.

Import			×
Select items you wish to import			
Item	Exists	Timestamp	
MAGDDR2.INT	Yes	2014-03-11 07:27:04	
MAGDDW2.INT	Yes	2014-03-11 07:27:04	
MAGDVRSN.INT	Yes	2014-03-11 07:27:04	
Add Imported Items to Project			
Compile Imported Items			
Select All Unselect All		OK Ca	ncel

**8** The patch routines have now been applied to the DICOM Gateway. The user may now close the Caché Studio window (and start the gateway process again). The following screen shows that the compilation has finished successfully.

A Studio - LOCALTCP/DICOM-Defaultsystem		
Elle Edit View Project Build Debug Icols Utilities Help		
D, 2, 2 4 6 2 2 <b>7 9 9 7 8</b>	② 茜 龍 3	
Workspace X		
🖃 🛃 Default		
() Projec		
Commitation finished successfully		
Supracion finished successfully.		
Result / Find h Files /	11	×
Keady		

#### Restoring the DICOM Gateway

If the original state of the DICOM Gateway should have to be restored, perform the following steps:

- **1** The user should open the Caché Studio from the Caché cube located on the taskbar.
- **2** From the Caché Studio window, the user should open the Tools menu located on the Studio toolbar and select the **Import Local** option on the menu.

A Studio - LOCALTCP/DICOM-Defaultsystem	
Elle Edit View Project Build Debug Iools Utilities Help	
D, 2, 8 1 4 8 8 2 2 3 4 8 8	🗴 🖉 🏙 🛍 D
御鮮柿田 伝教 14	
×	~
Result / Find in Files /	<u>د</u>
Party	CAD

**3** The user should select the C:\MAGPATCHES\P147\M\MAG3\_0P147BACK.XML file located on the DICOM Gateway and then press the Open button.

Open		? 🔀
Look jn: 🔁 M 💽 🗸	🗏 🖻 (	r∰
MAG3_0P147BACK.XML		
Files of type: XML files (*.XML)	-	Cancel

**4** Make sure that the **Compile Import Items** option is checked and press the OK button.

lmport			×		
Select items you wish to import					
Item	Exists	Timestamp			
MAGDDR2.INT	Yes	2014-03-03 08:19:06			
MAGDDW2.INT	Yes	2014-03-03 08:18:29			
MAGDVRSN.INT	Yes	2014-03-03 08:18:03			
Add Imported Items to Project					
Compile Imported Items					
Select All Unselect All		OK Cancel			

**5** The backup routines have now been restored on the DICOM Gateway. The user may now close the Caché Studio window.