NX 3.0.22.00 / NX 4.0.22.00	Type 4406/303	No. 09
DR 100e	Type 6012	No. 25
DR 100s	Type 6013	No. 02
DR 400	Type 5520	No. 125
DR 600	Type 5530	No. 159
DR 800	Type 6010	No. 28
DR Retrofit	Type 5400	No. 101
DX-D 100	Type 5410	No. 121
DX-D 100 Wireless	Type 5411	No. 154
DX-D 300	Type 8207	No. 140
DX-D 400	Type 5420	No. 101
DX-D 600	Type 5430	No. 160
Mammo DR Retrofit	Type 5400	No. 08

Document ID: 71543188

Service Bulletin

NX 22.00 SU1 available

Task

Timing	Category	Scope
◉ **Next service as agreed with customer**	○ **Apply at all sites** ◉ **Apply at affected sites as listed below** ○ **Optional to improve functionality of product**	◉ **Problem Record:** **PRB2000253, PRB2000285, PRB2000324, PRB2000377, PRB2000392, PRB2000406, PRB2000413**

Task Tracking

After completion of your task the following entry in your Service Report is required:	71543188	*

* Insert the document number into the field "Comment" (SMS form).

Purpose of this document:

- This document introduces software update NX 22.00 SU1.

Affected systems: All systems are affected where NX 22.00 is installed.

The signatures on the approval page indicate the solutions described in this Service Bulletin have been reviewed and are NOT reportable because no actions are taken to reduce a "Risk to Health" according to our risk assessment process.

Version 1.0
03-2020

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1   Introduction

A software update NX 22.00 SU1 is available.
Purpose of the software update:
- Solve some software issues.
- Install some security patches.
- Introduce some new features.

1.1   NX 22.00 SU1 in a nutshell

- Solves several software issues that were introduced with NX 20.00, NX 21.00 and NX 22.00. For details refer to sections 1.5, 1.6 and 1.7.
- Contains a few new features. For details refer to section 1.8.
- Released for the same CR and DR systems like NX 22.00.
  For details refer to section 1.3.
- Can only be installed on top of NX 22.00.
- Installer can be run on an activated or non-activated system.
- New software on the Agfa Medimg Library:
  o NX 22.00 SU1 update installer
  o NX 22.00 SU1 Office Viewer (also included in NX 21.00 SU1 update installer)
  o NX 22.00 SU1 Offline Configuration Tool
- NX 22.00 SU1 installer is included in the installer created with the ELMS Software Collection Tool.
- New service documents on the Agfa Medimg Library:
  o This Service Bulletin
  o Application Note "Functional Changes in NX 22.00 and XRDI 21.0", Rev. 1, Document ID 68534240.
- NX 22.00 SU1 is installed in production on all systems, including SE+NX.
  Exception: NX 22.00 SU1 is not installed in production on
  DX-D 100 / DX-D 100 wireless.
- No new clean install USB flash drive.
- No new user manual.

1.2   Interoperability of NX 22.00 and NX 22.00 SU1

- NX In Room and CMS (Central Monitoring System) as well as Office Viewer must be updated with SU1. No software mix allowed.
- Configuration export files of an NX 22.00 SU1 system can be imported in the (online and offline) NX 22.00 Configuration Tool and vice versa.
- Natively exported images of an NX 22.00 SU1 system can be imported on an NX 22.00 system and vice versa.

1.3 Release status of NX 22.00 SU1 in the different CR and DR systems

NX 22.00 SU1 is released as a system component in the following CR and DR systems.

- NX 3.0.22.00 SU1 is released in the following CR systems*.
    - o NX workstation in a GenRad system connected to one of the following DICOM digitizers: CR 35-X, CR 85-X, DX-G, DX-M, CR 30-X 2nd, CR 30-Xm, CR 10-X, CR 12-X, CR 15-X.
    - o NX workstation in a GenRad system connected to the TWAIN digitizer CR 30-X 1st.
    - o NX workstation in a CR Mammography system connected to one of the following Mammography digitizers: CR 35-X, CR 85-X, DX-M, CR 30-Xm
- NX 3.0.22.00 SU1 is released for SE+NX for NX software updates*.
- NX 3.0.22.00 SU1 is released within the systems listed below.
    - o DR 100e Digital
    - o DR 100s
    - o DR 400
    - o DR 600
    - o DR 800
    - o DX-D 100 / DX-D 100 Wireless
    - o DX-D 300
    - o DX-D 400
    - o DX-D 600
    - o DX-D Retrofit
    - o Mammo DR Retrofit

* No additional Service Bulletin announcing the release is published for CR systems and SE+NX.

NOTE:
NX 22.00 and related SU1 is not released for DX-D 500 until further notice.

1.4 Released XRDI and Detector subcomponents

NX 22.00 SU1 is released together with XRDI 20.1 and XRDI 21.0. The released XRDI and Detector subcomponents depend on the XRDI version.

The released combinations are published in the Simplified ELMS DR Subproduct Interoperability Matrix, Document ID 35878296. The table below shows the release status in 02-2020.

XRDI 20.1	XRDI 21.0
• APC 3.3	• APC 4.0
• ASC 6.1	• ASC 8.0 / ASC 8.5
• CPI 2.1	• CPI 2.5
• DAP Controller SW 1.0	• DAP Controller SW 1.0
• GGC 1.0	• GGC 1.0
• GMP 2.0	• GMP 2.5
• RFBC 3.0	• RFBC 4.0
• SDL 2.1	• SDL 2.1
• Sedecal Console 5.8	• Sedecal Console 5.8
• SMS 2.1, SMS 2.2	• SPM 3.0
• SPM 2.1	• THS 1.5
• THX 1.0	• THX 1.0
Detector components	
• CDI 3.6	• CDI 3.6
• DMI 2.1	• DMI 2.1
• IRI 3.0	• IRI 3.0 / IRI 3.1
• TDI 2.1	• TDI 2.1
• TRI 3.0	• TRI 4.0 / TRI 4.1
• VDI 3.4	• VDI 3.4
• VRN 8.0	• VRN 8.0

NOTE:

- ASC 8.5 is only released for DR 100s. ASC 8.5 solves several software issues that only appeared in combination ASC 8.0 with THS 1.0. THS is the Technix Generator Component for DR 100s.

- SMS 2.1 and 2.2 is not released in combination with XRDI 21.0. SMS 2.2 allows combination with TRI 4.0.

- IRI 3.1 is mandatory for DR 10e / DR 14e / DR 17e with new flash memory.

- TRI 4.1 is released only for DR 600 and required for DTS (Digital Tomosynthesis) application.

1.5 Solved software issues in NX 22.00 SU1 – applicable for all systems

The following software issues may appear on all DR systems listed on the front page of this document, including CR systems.

1.5.1 Very sporadic MESS141, "Invalid NX license" message [PRB2000253]

Symptom   Very sporadically the NX shows MESS141 (Invalid NX license) at startup of NX.

This error can happen at any NX 20.00, NX 21.00 or NX 22.00, CR or DR system.

The issue was already reported to be solved by NX 21.00 SU1 (PRB2000113), but the solution proofed not to solve all issues.

Cause   Software issue.

Workaround   Reload the license file with the NX license manager.

Solution   Update to NX 22.00 SU1. There an integrated license service update solves the issue.

1.5.2 On some sites quickly added annotations disappear from the image [PRB2000285]

Symptom   On some sites it was reported that an annotation, which is added directly after arrival of the image, is removed again some seconds later. The user needs to add the annotation once more.

The issue is reproducible with each image.

The error was reported with NX 21.00 SU1 in combination with DR 10s / DR 14s DR Detectors only, but can happen with any NX version. The issue was not reported with other DR detector types.

Cause   Software issue: Post exposure parameters appear on NX with a delay time of a few seconds after the image. Non-saved changes to the image are cleared when the post exposure parameters arrive.

The delay time depends on the used hardware and the WiFi settings.

Workaround   Wait a few seconds before starting image manipulation.

Solution   Update to NX 22.00 SU1. There the issue is solved.

1.5.3 Additional steps required with "Force Operator ID" workflow [PRB2000324]

Symptom With **Force Operator ID** enabled in NX workflow management, the user enters the operator ID of a predefined list before each exam.

Normally the user selects the operator ID and clicks enter: The "Identify operator" pop-up window closes.

With introduction of NX 20.00, two additional steps need to be performed: The pop-up window needs to be closed and the initials need to be confirmed.

Cause Software issue introduced with NX 20.00.

Workaround Perform two additional steps to close the pop-up window.

Solution Update to NX 22.00 SU1. There the issue is solved.

1.5.4 NX Configuration Tool shows a memory exception [PRB2000377]

Symptom The NX Configuration Tool (online and offline) crashes with an out of memory exception, when using the function "Edit Exposure Modality Settings".

This happens for large exam trees only. NX 22.00 is affected only.

Cause Software issue introduced with NX 22.00.

Workaround To prevent the error in the NX Configuration Tool on NX on large exam trees: Perform the changes in the "Edit Exposure Modality Settings" window in several small iterations.

Solution Update to NX 22.00 SU1. There the issue in the NX Configuration Tool is solved.

In addition, download the updated Offline Configuration Tool NX 22.00 SU1, for usage on the Service PC.

1.5.5   Unable to close examinations after DAP Consistency activation [PRB2000392]

Symptom   With activated DAP consistency, closing an exam fails with error MESS310, if unresolved thumbnails are available in the exam. Unresolved thumbnails can appear if a RIS query results in missing protocol codes on NX. Unresolved thumbnails are indicated by a green question mark. The NX does not know which exposure should be used to perform the exam since its related protocol code is not mapped.

Cause   Software issue introduced with the "Diagnostic Reference Level (DRL)" function, which was introduced in NX 21.00. The DAP inconsistency check at "close and send" fails for unresolved thumbnails.

Workaround   Possibility 1: Workaround by the FSE: Map the missing protocol codes to a valid exposure via the NX Configuration Tool.

                 Possibility 2: Workaround by the user: Map the unresolved thumbnails manually in NX by selecting the unresolved thumbnail, and assign a valid exposure by the "add image" function. Or remove the unresolved thumbnail, if it is not intended to be used for the patient.

Solution   Update to NX 22.00 SU1. There the issue is solved.

1.5.6   Manually entered Operator ID is not taken [PRB2000406]

Symptom   With **Force Operator ID** enabled in NX workflow management, a manually entered operator name is not used for the acquisition but the last selected operator name from the preconfigured options list is used.

                 The issue happens with NX 22.00 only.

Cause   Software issue introduced with NX 22.00.

Workaround   Ensure all operators are preconfigured in the General > Configure Site Settings > Operators pane.

Solution   Update to NX 22.00 SU1. There the issue is solved.

1.6 Solved software issues in NX 22.00 SU1 – applicable for dynamic sequences only

1.6.1 A white image is displayed when modifying MUSICA parameters of a dynamic sequence [PRB2000413]

Symptom   Sporadically, when modifying MUSICA parameters of a dynamic sequence, the actual image is not displayed anymore. Instead, either the previous image or a white image or an error is shown (if no previous image is available).

After closing the "Modify MUSICA Settings" pop-up window, the parameters are applied on the correct image, and the correct image is shown.

The error appeared on NX 22.00 at inhouse tests, and may happen on DR 600 or DR 800. Dynamic sequences can be recorded on these two systems only.
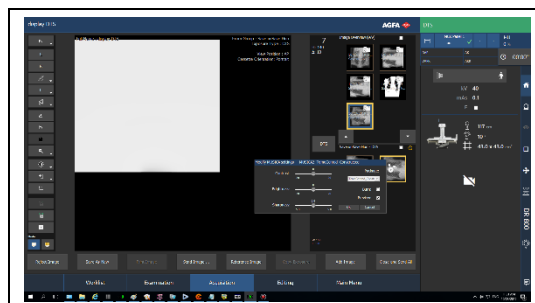

Figure 1

Cause   Software issue in dynamic image processing.

Workaround   None

Solution   Update to NX 22.00 SU1. There the issue is solved.

1.7 Additional solved software issues

- The NX 22.00 SU1 installer loads several patches to solve vulnerabilities in the following software components: Tomosynthesis, Visual C++ redistributable, SQL Server 2014 SP2, LAN Manager authentication level, Wibu software.
- In NX 22.00 it was possible to close DR 100s soft console using Alt+F4 (detected during verification).
- In NX 22.00 and earlier versions, in DR sequences with a very large number of exposures, MESS310 followed by an NX crash could appear (detected during verification).
- In NX 22.00 the Black Border density slightly differs depending on the selected MUSICA package (detected during verification).
- In NX 22.00 the Tomosynthesis reconstruction info got lost during DICOM export (detected during verification).
- In the NX 22.00 Configuration Tool (online and offline), the "Edit Exposure Modality Settings" function was lacking the "mA" column for Fluo exams.

- In NX 22.00 and earlier versions, when the exposure index between the partial Full Leg Full Spine (FLFS) images exceeded a certain limit, the gain factors were not computed correctly. This resulted in an inhomogeneous stitched image.
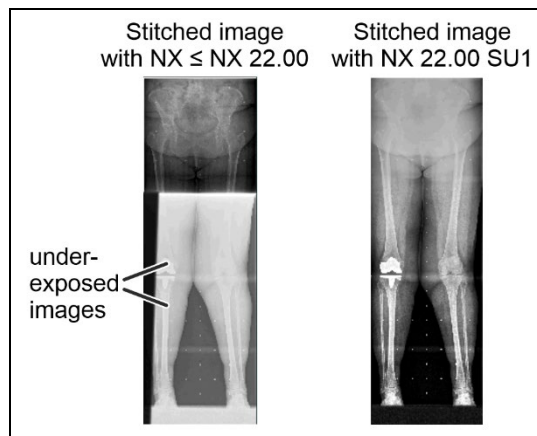

Figure 2

1.8   New features in NX 22.00 SU1

NX 22.00 contains the following new features. Note that the new features are partly available on Windows 10 systems only.

1. Improved auto collimation algorithm, based on feature request RITM0115698. This feature is available for DR images (without FL/FS) on Windows 10 systems only, and improves the rate, where the NX image processing algorithm automatically detects the collimation window. A large set of images collected the last years was used to improve the algorithm. At inhouse tests with 13.495 images, the error rate improved from 15.7 % to 3.4 %.
2. Support of Autorotate for body parts Chest, Abdomen, Ankle and Foot, in addition to body part Hand. This new feature is available on Windows 7 and Windows 10 systems.
3. Support of MUSICA Full Gradient functionality.
The related technical license NX_MUSICA2_V2_FULL_GRADIENT is part of the license option MAO1P. The MUSICA 3 Full Gradient processing offers additional flexibility with respect to the overall contrast of the image. At the level of the taste parameters Brightness, Contrast and Sharpness, a 4th slider named "GRADIENT" is implemented with a range from -5 to +5. This feature is available on Windows 10 systems only.

For details to the new features "Improved auto collimation algorithm" and "Support of Autorotate for additional body parts " refer to the updated Application Note "Functional Changes in NX 3.0.22.00 / NX 4.0.22.00", Rev. 1, Document ID 68534240.

MUSICA Full Gradient is described in the updated Application Note "MUSICA Image Processing", Rev. 2, Document ID 44232771. Publication is planned in Q2-2020.

2 Prerequisites

SOFTWARE:
- Download the following software from the Agfa Med Img Library:
  - o NX 22.00 SU1 installer, size ≈ 1 GB, Document ID 71921320
  - o Office Viewer NX 22.00 SU1, size ≈ 300 MB, Document ID 71921637 *
  - o NX 22.00 Offline Configuration Tool, size ≈ 350 MB, Document ID 71921012
- Obtain a new ALF (Application License File) for the NX workstation which shall be updated to NX 22.00 SU1.

As alternative, download the software from the global secure FTP server using an FTP client. For details see Service Information Bulletin "Global Secure FTP Server – Imaging Services Software Download", Document ID 36831163.

*Office Viewer NX 22.00 SU1 not mandatorily required as it is included in the NX 22.00 SU1 installer.

IMPORTANT:
The installation and service of the product(s) described herein is to be performed by qualified personnel who are employed by Agfa NV or one of its affiliates or who are otherwise authorized by Agfa NV or one of its affiliates to provide such services.

IMPORTANT:
Strictly observe all safety directions within the "Generic Safety Directions", Document ID 11849633.

3   Instructions

REQUIRED TIME:
- 10 minutes installation of NX 22.00 SU1
- 10 minutes verification

Installing NX 22.00 SU1

 (1)   Follow the readme which is part of the NX 22.00 SU1 ZIP file on the library.

NOTE:

If it should be required to uninstall NX 22.00 SU1 out of any reason, proceed as follows. These instructions are valid for Windows 7 and Windows 10 systems:

(1)   Open the Windows **Control Panel**.
(2)   Go to **Programs and Features**.
(3)   Click **View installed updates**.
(4)   Right-click **NX22.00SU1** and select **uninstall/change**.

When performing the uninstall process via "Apps and features" (Windows 10) or "Control Panel > Programs and Features > Uninstall or change a program" (Windows 7), the NX software will be uninstalled completely.

Note that the following items will not be uninstalled:

Upgrades / vulnerability patches of SQL Server, Visual C++ redistributable, CodeMeter, Wibu, Agfa Licensing Service, Tomosynthesis, LAN Manager authentication level

Installing Offline Configuration Tool NX 22.00 SU1

(1)   Recommendation: Uninstall the Offline Configuration Tool NX 22.00 on the Service PC.
(2)   Install the Offline Configuration Tool NX 22.00 SU1.

4   Verification

Verify the software update as described in the readme which is part of the NX 22.00 SU1 ZIP file on the library.

NOTE:
After the NX 22.00 SU1 update, the NX shows **Type 22.00 SU1** and **Build 22.0.1411**.

Figure 3

5   Keywords

NX 3.0.22, NX 4.0.22, software update

6   Version history

Version	Change	Date
1.0	Initial Version	03-2020

AGFA *Agfa*

Details as of PDF Creation Date

Document Metadata

Title:	NX 3.0.22.00 / NX 4.0.22.00 - SB09 - NX 22.00 SU1 available
Livelink ID:	71543188
Version#:	10
Version Date:	2020-03-11 02:42 PM CET
Status:	Approved on 2020-03-17 10:31 AM CET
Owner:	Arthur Hermle (exfha)
Created By:	Arthur Hermle (exfha)
Created Date:	2020-01-21 04:14 AM CET
PDF Creation Date:	2020-03-17 10:31 AM CET

This document was approved by:

Signatures:

1. Josef Wagner (agwj) on 2020-03-12 08:50 AM CET
2. Paul Merckx (amdag) on 2020-03-12 05:22 PM CET
3. Bart Biesemans (amajm) on 2020-03-12 11:01 AM CET
4. Rudolf Schrott (agsrf) on 2020-03-16 02:08 PM CET
5. Christian Stenzel (agszn) on 2020-03-12 05:49 PM CET
6. Jutta Niehoff (agnju) on 2020-03-12 09:53 AM CET
7. Lieven Lauwers (awibr) on 2020-03-17 08:49 AM CET

Detailed Approver History:

- **Approval Workflow started on 2020-03-11 02:49 PM CET**
  - ◦ Approval task originally assigned to and completed by Rudolf Schrott (agsrf) on 2020-03-12 02:25 PM CET
  - ◦ Approval task originally assigned to and completed by Jutta Niehoff (agnju) on 2020-03-12 09:53 AM CET
  - ◦ Approval task originally assigned to Veit Graml (agveg)
    - ▪ Approval task reassigned to Rudolf Schrott (agsrf) on 2020-03-16 11:25 AM CET
    - ▪ Approval task completed by Rudolf Schrott (agsrf) on 2020-03-16 02:08 PM CET

- ◦ Approval task originally assigned to and completed by Christian Stenzel (agszn) on 2020-03-12 05:49 PM CET
- ◦ Approval task originally assigned to and completed by Paul Merckx (amdag) on 2020-03-12 05:22 PM CET
- ◦ Approval task originally assigned to and completed by Josef Wagner (agwj) on 2020-03-12 08:50 AM CET
- ◦ Approval task originally assigned to and completed by Lieven Lauwers (awibr) on 2020-03-17 08:49 AM CET
- ◦ Approval task originally assigned to and completed by Bart Biesemans (amajm) on 2020-03-12 11:01 AM CET

Version & Status History

Version#	Date Created	Status
10	2020-03-11 02:42 PM CET	Approved - 2020-03-17
9	2020-03-11 02:42 PM CET	
8	2020-03-04 07:42 AM CET	Reviewed - 2020-03-11
7	2020-03-04 07:42 AM CET	
6	2020-03-03 07:04 AM CET	
5	2020-03-03 07:04 AM CET	
4	2020-03-03 05:54 AM CET	
3	2020-03-03 05:54 AM CET	
2	2020-02-24 09:57 AM CET	Reviewed - 2020-03-03
1	2020-01-21 04:14 AM CET	