# IMPAX

**Version 6.4**
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# Manufacturer Disclosure Statement for Device Security

## FOREWORD

This document consists of the Manufacturer Disclosure Statement for Device Security (MDS$^2$ form). The intent of the MDS$^2$ form is to supply healthcare providers with important information to assist them in assessing the VULNERABILITY and risks associated with protecting ELECTRONIC PROTECTED HEALTH INFORMATION (ePHI) transmitted or maintained by devices. Because security risk assessment spans an entire organization, this document focuses on only those elements of the security risk assessment process associated with devices and systems that maintain or transmit ePHI.

The MDS$^2$ form should:

(1) Be useful to healthcare provider organizations worldwide. While the form does supply information important to providers who must comply with HIPAA privacy and security rules, the information presented may be useful for any healthcare provider who aspires to have an effective information security RISK MANAGEMENT program. Outside the US, providers would therefore find the MDS$^2$ form an effective tool to address regional regulations such as EU 95/46 (Europe), Act on the Protection of Personal Information (Act No. 57 of 2003, Japan), and PIPEDA (Canada).

(2) Include device specific information addressing the technical security-related attributes of the individual device model.

(3) Provide a simple, flexible way of collecting the technical, device-specific elements of the common/typical information needed by provider organizations (device users/operators) to begin device information security (i.e., confidentiality, integrity, availability) risk assessments.

(4) HIMSS and NEMA grant permission to make copies and use this form.

Using the information in the MDS$^2$ form together with information collected about the care delivery environment (e.g., through tools like ACCE / ECRI's Guide for Information Security for Biomedical Technology), the provider's multidisciplinary risk assessment team can review assembled information and make informed decisions on implementing a local security management plan.

# Section 1
# INSTRUCTIONS FOR OBTAINING AND USING THE MDS$^2$ FORM

## 1.1 USING THE MDS$^2$ FORM (HEALTHCARE PROVIDERS)

### 1.1.1 Section 1 – Questions 1-19

Section 1 of the MDS$^2$ form contains information on the type of data maintained / transmitted by the device, how the data is maintained / transmitted, and other security-related features incorporated in the device, as appropriate. The field "Other Security Considerations" allows the manufacturer to add some general security considerations.

**PLEASE BE ADVISED—An indication of a device's ability to perform any listed function (i.e., a "Yes" answer) is not an implicit or explicit endorsement or authorization by the manufacturer to configure the device or cause the device to perform those listed functions.**

**It is important to distinguish between capability and permission. The questions contained on the MDS$^2$ form refer to device capability. Permission is a contractual matter separate from the MDS$^2$ form and is not covered by the MDS$^2$ form. Making changes to a device without explicit manufacturer authorization may have significant contractual, regulatory and liability issues.**

### 1.1.2 Section 2 – Explanatory notes

The optional section 2 of the MDS$^2$ form contains space for explanatory notes if the manufacturer needs more space to explain specific details to the answers on questions 1-19.

NOTE—Agfa HealthCare may elect to attach supplementary material if additional space for recommended practices or explanatory notes is necessary.

## 1.2 THE ROLE OF HEALTHCARE PROVIDERS IN THE SECURITY MANAGEMENT PROCESS

It is the obligation of the users of the MDS$^2$ form (e.g., the healthcare provider) to employ all necessary and appropriate safeguards to meet their regulatory and organizational requirements. The MDS$^2$ document is intended to assist healthcare providers in meeting their regulatory obligations regarding device security. The healthcare provider organization (e.g., a hospital) has the ultimate responsibility for providing effective security management. Agfa HealthCare can assist providers in their security management programs by offering information describing:

- the type of data maintained / transmitted by the manufacturer's product;
- how data is maintained / transmitted by the manufacturer's product;
- any security–related features incorporated in the manufacturer's product.

In order to effectively manage medical information security and comply with relevant regulations, healthcare providers must employ ADMINISTRATIVE, PHYSICAL and TECHNICAL SAFEGUARDS—most of which are extrinsic to the actual device

### 1.3 DEFINITIONS

**Administrative Safeguards**: Administrative actions, policies, and procedures to manage the selection, development, implementation, and maintenance of security measures to protect electronic Protected Health Information and to manage the conduct of the covered entity's workforce in relation to the protection of that information. [45 CFR Part 164]

**Anti-Virus Software**: See VIRUS SCANNER

**Audit trail**: Data collected and potentially used to facilitate a security audit [45 CFR Part 142]

**Biometric ID**: A biometric identification system identifies a human from a measurement of a physical feature or repeatable action of the individual (e.g., hand geometry, retinal scan, iris scan, fingerprint patterns, facial characteristics, DNA sequence characteristics, voice prints, handwritten signature). [45 CFR Part 142]

**Electronic Media**: (1) Electronic storage media, including memory devices in computers (hard drives) and any removable/transportable digital memory media, such as magnetic tapes or disks, optical disks, or digital memory cards. (2) Transmission media used to exchange information already in electronic storage media, including, for example, the Internet (wide open), extranet (using Internet technology to link a business with information accessible only to collaborating parties), leased lines, dial-up lines, and private networks, and the physical movement of removable/transportable electronic storage media. Certain transmissions, including of paper via facsimile and of voice via telephone, are not considered to be transmissions via electronic media because the information being exchanged did not exist in electronic form before the transmission. [45 CFR Part 160.103]

**Electronic Protected Health Information (ePHI)**: individually identifiable health information (IIHI) that is (1) transmitted by or (2) maintained in electronic media. [45 CFR Part 160.103]

**Individually Identifiable Health Information (IIHI)**: Individually identifiable health information is information that is a subset of health information, including demographic information collected from an individual, and: (1) Is created or received by a health care provider, health plan, employer, or health care clearinghouse; and (2) Relates to the past, present, or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present, or future payment for the provision of health care to an individual; and (i) That identifies the individual; or (ii) With respect to which there is a reasonable basis to believe the information can be used to identify the individual. [45 CFR Part 160.103].

**Personal Identification Number (PIN)**: A number or code assigned to an individual and used to provide verification of identity. [45 CFR Part 142]

**Physical Safeguards**: The physical measures, policies, and procedures to protect a covered entity's electronic information systems and related buildings and equipment from natural and environmental hazards and unauthorized intrusion. [45 CFR Part 164]

**Remote Service**: A support service (e.g., testing, diagnostics, software upgrades) while not physically or directly connected to the device (e.g., remote access via modem, network, Internet).

**Removable Media**: See ELECTRONIC MEDIA

**Security Risk Analysis**: Conducting an accurate and thorough assessment of the potential risks and vulnerabilities to the integrity, availability, and confidentiality of electronic protected health information. [45 CFR Part 164]

**Security Risk Management**: (1) The ongoing process of assessing risk, taking steps to reduce risk to an acceptable level, and maintaining that level of risk. [NIST SP 800-26] (2) Security measures sufficient to reduce risks and vulnerabilities to a reasonable and appropriate level. [45 CFR Part 164]

**Technical Safeguards**: The technology, policies, and procedures to protect electronic Protected Health Information and control access to it. [45 CFR Part 164]

**Token**: A physical authentication device that the user carries (e.g., smartcard, SecureID$^{tm}$, etc.). Often combined with a PIN to provide a two-factor authentication method that is generally thought of as superior to simple password authentication.

**Virus**: In general, computer code that is either:

(1) A type of programmed threat—a code fragment (not an independent program) that reproduces by attaching to another program. It may damage data directly, or it may degrade system performance by taking over system resources, which are then not available to authorized users.

(2) Code embedded within a program that causes a copy of itself to be inserted in one or more other programs; in addition to propagation, the virus usually performs some unwanted function. [45 CFR Part 164]

**Virus scanner**: A computer program ("ANTI-VIRUS SOFTWARE") that detects a VIRUS computer program, or other kind of malware (e.g., worms and Trojans), warns of its presence, and attempts to prevent it from affecting the protected computer. Malware often results in undesired side effects generally unanticipated by the user.)

**Vulnerability**: A flaw or weakness in system procedures, design, implementation, or internal controls that could be exercised (accidentally triggered or intentionally exploited) and result in a security breach or a violation of the system's security policy. [NIST SP 800-30]

ARCRONYMS

| | |
|---|---|
| **CD**: | Compact Disk |
| **CF**: | Compact Flash |
| **DVD**: | Digital Versatile Disk |
| **IP**: | Internet Protocol |
| **LAN**: | Local Area Network |
| **ROM**: | Read Only Memory |
| **SD**: | Secure Digital |
| **USB**: | Universal Serial Bus |
| **VPN**: | Virtual Private Network |
| **WAN**: | Wide Area Network |
| **WiFi**: | Wireless Fidelity |

# Manufacturer Disclosure Statement for Device Security

## Section 2
## MDS$^2$ FORM

**IMPAX**
**Version 6.4**

# Manufacturer Disclosure Statement for Device Security

## Manufacturer Disclosure Statement for Medical Device Security – MDS[2]

| Device Category † | Manufacturer † | Document ID | Document Release Date |
|---|---|---|---|
| Medical device software | Agfa HealthCare | | |
| **Device Model** IMPAX | **Software Revision** 6.4 | **Software Release Date** | |

| Manufacturer or Representative Contact Information: | Name | Title | |
|---|---|---|---|
| | Alex Reis | Software Architect - Product Architecture Group Lead | Waterloo Research and Development |
| | Company Name Agfa HealthCare | Telephone # 519 746 6210 x2369 | e-mail alex.reis@agfa.com |

| MANAGEMENT OF ELECTRONIC PROTECTED HEALTH INFORMATION (ePHI) *As defined by HIPAA Security Rule, 45 CFR Part 164)* | Yes No N/A | Note # |
|---|---|---|
| 1. Can this device transmit or maintain *electronic Protected Health Information* (ePHI)? | Yes___ | _____ |
| 2. Types of ePHI data elements that can be maintained by the device: | | |
| a. Demographic (e.g., name, address, location, unique identification number)? | Yes___ | _____ |
| b. Medical record (e.g., medical record #, account #, test or treatment date, device identification number)? | Yes___ | _____ |
| c. Diagnostic/therapeutic (e.g., photo/radiograph, test results, or physiologic data with identifying characteristics)? | Yes___ | _____ |
| d. Open, unstructured text entered by device user/operator? | Yes___ | _____ |
| 3. Maintaining ePHI: *Can the device* | | |
| a. Maintain ePHI temporarily in volatile memory (i.e., until cleared on by power-off or reset)? | Yes___ | _____ |
| b. Store ePHI persistently on local media? | Yes___ | _____ |
| c. Import/export ePHI with other systems? | Yes___ | _____ |
| 4. Mechanisms used for the transmitting, importing/exporting of ePHI: *Can the device* | | |
| a. Display ePHI (e.g., video display)? | Yes___ | _____ |
| b. Generate hardcopy reports or images containing ePHI? | Yes___ | _____ |
| c. Retrieve ePHI from or record ePHI to removable media (e.g., disk, DVD, CD-ROM, tape, CF/SD card, memory stick)? | Yes___ | _____ |
| d. Transmit/receive or import/export ePHI via dedicated cable connection (e.g., IEEE 1073, serial port, USB, FireWire)? | Yes___ | _____ |
| e. Transmit/receive ePHI via a network connection (e.g., LAN, WAN, VPN, intranet, Internet)? | Yes___ | _____ |
| f. Transmit/receive ePHI via an integrated wireless connection (e.g., WiFi, Bluetooth, infrared)? | Yes___ | 1 |
| g. Other _____ ? | _____ | _____ |

| ADMINISTRATIVE SAFEGUARDS | Yes No N/A | Note # |
|---|---|---|
| 5. Does manufacturer offer operator and technical support training or documentation on device security features? | Yes___ | _____ |
| 6. What underlying operating system(s) (including version number) are used by the device? Windows/Solaris | | |
| Client: Windows XP (x86) Professional SP3, Windows Vista (x86, x64) Home Basic, Home Premium, Business, Enterprise, and Ultimate SP1 | | |
| Application Server: Windows 2003 Server R2 SP2, Standard or Enterprise Edition | | |
| Impax Server: Windows Server 2003 (x86, x64) R2 SP2 Standard or Enterprise Edition, Solaris 10 update 10/08 | | |

| PHYSICAL SAFEGUARDS | Yes No N/A | Note # |
|---|---|---|
| 7. Are all device components maintaining ePHI (other than removable media) physically secure (i.e., cannot remove without tools)? | Yes _ | _____ |
| 8. Does the device have an integral data backup capability (i.e., backup onto removable media such as tape, disk)? | Yes___ | _____ |
| 9. Can the device boot from uncontrolled or removable media (i.e., a source other than an internal drive or memory component)? | No ___ | _____ |

| TECHNICAL SAFEGUARDS | Yes No N/A | Note # |
|---|---|---|
| 10. Can software or hardware not authorized by the device manufacturer be installed on the device? | Yes___ | 2 |
| 11. Can the device be serviced remotely (i.e., maintenance activities performed by service person via network or remote connection)? | Yes___ | _____ |
| a. Can the device restrict remote access to specific devices or network locations (e.g., specific IP addresses)? | Yes___ | _____ |
| b. Can the device log provide an audit trail of remote-service activity? | Yes___ | _____ |
| c. Can security patches or other software be installed remotely? | Yes___ | _____ |
| 12. Level of owner/operator service access to device operating system: *Can the device owner/operator* | | |





AGFA HealthCare

## Manufacturer Disclosure Statement for Medical Device Security – MDS[2]

| | | | |
|---|---|---|---|
| a. | Apply device manufacturer-validated security patches? | Yes___ | _____ |
| b. | Install or update antivirus software? | Yes___ | _____ |
| c. | Update virus definitions on manufacturer-installed antivirus software? | Yes___ | _____ |
| d. | Obtain administrative privileges (e.g., access operating system or application via local root or admin account)? | Yes___ | _____ |
| 13. | Does the device support user/operator specific ID *and* password? | Yes___ | _____ |
| 14. | Are access sessions terminated after a predetermined length of inactivity (e.g., auto logoff)? | Yes___ | _____ |
| 15. | Events recorded in device audit log (e.g., user, date/time, action taken): *Can the audit log record* | | |
| a. | Login and logout by users/operators? | Yes___ | _____ |
| b. | Viewing of ePHI? | Yes___ | _____ |
| c. | Creation, modification or deletion of ePHI? | Yes___ | _____ |
| d. | Import/export or transmittal/receipt of ePHI? | Yes___ | _____ |
| 16. | Does the device incorporate an emergency access ("break-glass") feature that logs each instance of use? | Yes___ | _____ |
| 17. | Can the device maintain ePHI (e.g., by internal battery) during power service interruptions? | Yes___ | _____ |
| 18. | Controls when exchanging ePHI with other devices: | | |
| a. | Transmitted only via a physically secure connection (e.g., dedicated cable)? | No ___ | _____ |
| b. | Encrypted prior to transmission via a network or removable media? | Yes___ | _____ |
| c. | Restricted to a fixed list of network addresses (i.e., host-based access control list)? | Optional | _____ |
| 19. | Does the device ensure the integrity of the ePHI data with implicit or explicit error detection/correction technology? | Yes___ | _____ |

[†] Recommend use of ECRI's Universal Medical Device Nomenclature System (UMDNS).

## Manufacturer Disclosure Statement for Medical Device Security – MDS$^2$

**2.1.1 RECOMMENDED SECURITY PRACTICES**

# Introduction

This is a cumulative effort based on past experience with earlier previous systems, Security Seminars and direct input from Military sites.

**System Hardening**

- Verify System Operation - Prior to Hardening
- Backup Procedure - Prior to Hardening
- Procedure – For Back out Purposes Only
- Database Hardening Procedures
- Manually complete remaining lockdown of script tasks
- Operating System Hardening Procedure
- Internet Information Server Hardening Procedure

**PASSWORD MANAGEMENT**

- Password protect the classes/admin directory
- Update Web services, system and user account passwords

**ACCESS CONTROL**

- Configure to auto logoff user
- Configure access to confidential information (VIP Studies via Confidentiality Code)
- Configure Web services for encryption

# Manufacturer Disclosure Statement for Device Security

## SECTION 2

**EXPLANATORY NOTES** (from questions 1 – 19)
**IMPORTANT: Refer to Section 1.2.2 of the Instructions for this form for the proper interpretation of information requested in this form).**

1. Communication between IMPAX Client and Server can be wireless. Receiving and transmitting data wirelessly is possible if enabled by the hardware… however, it is not a standard configuration.
2. Software can be installed on client workstations. No other software is allowed to be installed on servers.
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